



# Nutrition and Indigenous Vegetables in Urban and Peri-Urban Agriculture in Kenya

Bioversity International

Patrick Maundu, Judith Kimiywe,  
Maryam Mbumi, I. F. Smith, T. Johns,  
P.B. Eyzaguirre



# The Three Aspects of Malnutrition in Developing Countries

- Insufficient calories and protein in diets, people facing periodic food deficits
- Simplification of diets, and poor quality diets
- Simplification of ecosystems

# Global Food Systems - Features

- **High-Input High-Yield Agriculture**
- **Westernization of Cuisine**
- **Long Distance Transport**
- **Inexpensive Staples (cereals, sugar, edible oils)**
- **Cheap animal feeds, more animal protein**
- **Small-scale Agriculture, Urban Agriculture Neglected**
  - **Non-staples expensive**
  - **Diversity decreases**
  - **Cultural erosion of food habits**



# A Truly Simplified Meal



***False Assumption:***

Chronic diseases affect mainly rich people

**Reality: The poor are much more likely than the wealthy to develop chronic diseases, and more likely to die as a result**

**WHO Strategy for increased Consumption of Fruits and Vegetables**

**How can this be achieved for the majority of Africa's poor that live in urban and peri-urban areas?**



# Accessibility of Vegetables for Poor Households

- A rich diversity of African indigenous vegetables exist, when consumed they contribute to good nutrition and health.
- They are consumed in rural areas where they are grown and gathered,
- They are less available in urban and peri-urban areas where purchase of fresh vegetables is difficult for poor households..



# INDIGENOUS FRUIT AND LEAF VEGETABLES – SUPPLIERS OF ASCORBIC ACID, MICRONUTRIENTS (Minerals & Vitamins), ANTI-OXIDANTS





## Local vegetables appreciated but not always affordable or available

A survey of 800 Nairobi households (600 urban +200 per-urban) in 2007 indicated high value placed on local vegetables for perceived nutrition and health values. Common indigenous vegetables consumed:

- cowpea leaves (*Kunde*),
- Jute (*mrenda*),
- pumpkin leaves (*Seveve, malenge leaves*)
- *Amaranthus* (*Terere*)
- *Bacella alba* (*Nderema*)
- spider plant (*Saget, saga*),
- Black night shade (*Managu, osuga*),
- *Crotolaria* (*Mitoo*).

About half of those who consumed these vegetables also reported that the vegetables were bought and not adequate.



# There is an upsurge of trade and interest in local vegetables





Local food sources: shorter, more equitable,  
more transparent market chains





## Indigenous vegetables are a well-adapted choice in urban and peri-urban agriculture

- A significant proportion (34%) of the people living in urban and peri-urban Nairobi consume indigenous leafy vegetables. Consumption was based on ethnicity among other factors.
- Indigenous leafy vegetables were liked because they were nutritious and had a medicinal value attached.
- Major constraints to consumption of indigenous leafy vegetables were the cost, lack of time and knowledge in food preparation.
- This poses a challenge to promote production, utilization (preparation and processing) and commercialization of indigenous leafy vegetables. *Utilization and Medicinal Value of Indigenous Leafy Vegetables Consumed in Urban and Peri-Urban Nairobi*, Judith Kimiywe, Judith Waudu, Dorcus Mbithe<sup>1</sup> and Patrick Maundu. African Journal of Food, Agriculture, Nutrition and Development vol 7 #4, 2007
- Most indigenous vegetables are low input, fast growing, staggered or continuous harvesting by hand, suitable for urban household production



## Urban agriculture to meet growing demand

- African leafy vegetables are becoming a preferred choice (K.M-Shiungu & R.K. Oniang'o AFJAND 7,4. 2007)
- Poor infrastructure for transporting and handling indigenous vegetables is now greater constraint than market demand or price in urban areas.
- Increasing production in urban and peri urban areas along with improved seed production in areas of origin (western Kenya and Rift valley) and improved agronomic practices and guidelines for health and safety