



# Agroecological Transition of Food Systems in Africa

## Agrobiodiversity strategies for improved food security, food diversity and nutrition

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# Food security, Dietary Diversity and Nutrition

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## Why is nutrition Important?

- Globally, poor quality diets are the **primary contributor to all forms of malnutrition** and the **leading cause of disease** worldwide (Hawkes et al. 2017).
- Malnutrition and disease burden have **massive economic and social impacts**.



## Why is nutrition Important? ...

### 2.0 Billion

People are affected by micronutrient deficiencies.

### 2.2 Billion

People are overweight or obese (40% of all men & women).

### 2.8 Billion

People cannot afford a healthy diet

### 1.2 Billion

People have increased blood pressure.

### 148 Million

Children < 5 are stunted.

### 0.5 Billion

People have diabetes.

**1 in 5** 

Lives could be saved each year by improving diets

Source: IFPRI Global Food Policy Report, 2024; SOFI 2024

## Multisectoral approach to addressing nutrition challenges

- ❖ Nutrition needs a multi-sectoral approach- health, agriculture, trade, education, etc (The Lancet Maternal and Child Nutrition Series, June 2013).
- ❖ Agrobiodiversity used and conserved in a livelihood context can directly contribute to nutrition, health, and income generation.
- ❖ Increasing biodiversity in home gardens (e.g. indigenous leafy vegetables) is a way to promote dietary diversity among producers & consumers
- ❖ Increase market opportunities for indigenous commodities



# CROPS 4HD

## Consumption of Resilient Orphan Crops & Products for Healthier Diets

### Neglected and underutilized species (NUS)

“Agricultural species that are not  
among the major staple crops”



### Pull

On the demand side, CROPS4HD works  
to influence factors such as individual  
behavior, markets, social organization  
and access to knowledge and  
innovation.

The implementation on the supply side  
works on Agroecology and on socio-  
economic factors.

### Push

### Policy

The policy implementation strategy's  
focus is to bring change to seed policy  
and legislation towards an 'integrated  
seed system'.

# **CROPS 4HD**

## **Participatory Research in Africa: Agroecology & Dietary Diversity of Women**

Women's dietary diversity using a 3-day recall period adopted from FAOs **minimum dietary diversity for women (MDD-W)** indicator (Chakona et al., 2017)

The survey included a wide variety of open-ended and closed-ended question **on socioeconomic factors** and **agroecological practices**.

Each farmer was personally visited by an enumerator and staff member of local partners.



Image source: FiBL@ bhittibhumi



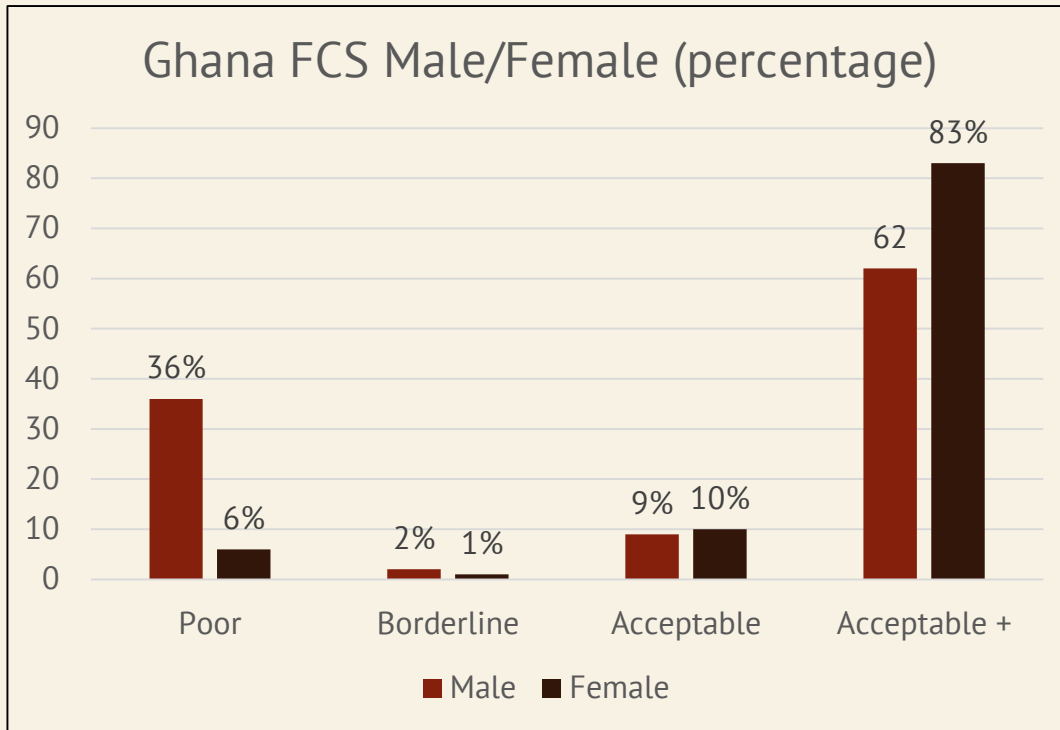
## Nutrition data collection- Baseline

- Household (HH) dietary diversity data collected - Food Consumption Score (FCS)
- Consumption Score (FCS) Standard process -7day recall of different foods consumed from food groups within HH
- Data collected from person cooking most of meals in HH (generally female in HH)
- Study conducted in Burkina Faso, Egypt, Ghana, Niger and Tunisia



- FCS results significantly different in male and female interviewees
- The person in the HH cooking the food is better placed to know what the family has eaten in previous week
- Important for study design and implementation

## Food security, Agrobiodiversity strategies and nutrition: Agrobiodiversity strategies for improved food diversity and nutrition



## **Supporting smallholder farmers in SSA to improve food security, livelihoods and climate change resilience by fostering nature-based solutions inspired by push-pull technology**

### **Integration of push-pull (PP) with vegetables and legumes**

- PP + Indigenous vegetables (Black nightshade, Spider plant), onions
- PP + Integration with legumes (pigeon pea, cowpea, beans)



Spider plant



Onions



Kales



Pigeon pea

### **Testing sustainable intensification strategies that aligns with agroecological principles**

*Promoting nutrition and mainstreaming healthy diets through integrated food system approaches – 10 food system labs (6 African cities)*

**Using existing systems**

- ❖ Community health Promoters- Kisumu, Kenya
- ❖ Volunteer Village Health Teams, Fort Portal, Uganda
- ❖ Community Based Organizations- Nairobi, Kenya
- ❖ Schools- Tamale, Ghana & Cotonou, Benin
- ❖ Health Facilities- Bahir Dir, Ethiopia



*Promoting nutrition and mainstreaming healthy diets through integrated food system approaches – 10 food system labs (6 African cities)*

*Multiple approaches used*

### Community Action Plan (CAP)

- ❖ Approach for community engagement
- ❖ A **participatory bottom-up approach** that helps the community to **make decisions and take actions** aimed at improving diets





***Multiple approaches used for nutrition education (NE)- 10 food system labs (6 African cities)***

**Cooking demonstrations**



**NE in Group sessions**



**NE in Community  
events**



*Multiple approaches used for nutrition education- 10 food system labs (6 African cities)*

Religious platforms

- ❖ Door-to-door engagements
- ❖ Cultural events e.g. Orugali in Uganda
- ❖ Use of media-e.g. KRC Radio in Uganda
- ❖ Community gate keepers



***Sustainable production and consumption***

**Home/urban gardens**  
- FSLs- Kisumu and Nairobi, Kenya



- ❖ Home garden trainings by community health promoters, nutrition ambassadors and agricultural extension
- ❖ Trainings on production, use of organic pesticides, & agrobiodiversity in urban gardens
- ❖ 530 urban low-income households have set up urban gardens, in FSL- Kisumu, Kenya



***Sustainable production and consumption***

**Aquaponics**

- FSL-Kisumu, Kenya (primary School & women group) and
- FSL- Accra, Ghana



***Food safety within the food environment***

**Fish and vegetables marketing**

- FSL-Kisumu, Kenya





### *Innovative products and processes*

- Forty-five (45) novel food products from indigenous and local underutilised fish and crop species were developed after engagement with some potential uptakers / stakeholders.







## ***Developing Innovative Nutritious Products and Processes***

- These products included legume-based foods, cereal-based foods, soup-based powders, nutritive spices/seasoning, fish products among others.

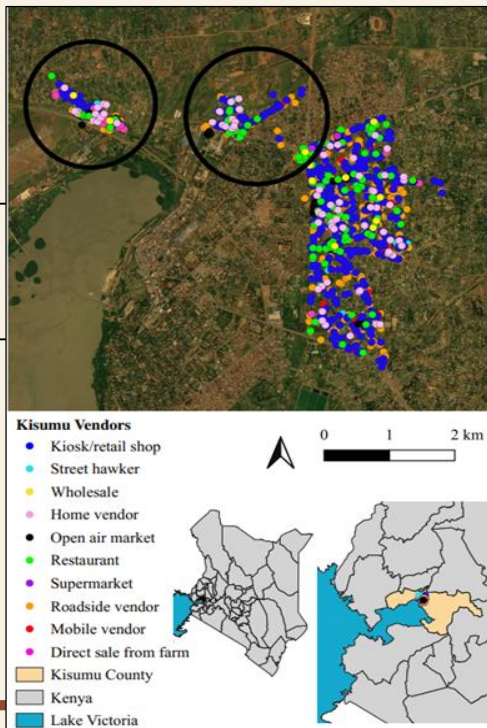


*Multi stakeholder engagement, policy and advocacy*

- ❖ This was important in implementation of all HFA project components
- ❖ Engaged various stakeholders and policy makers
- ❖ E.g. Kisumu & Nairobi County governments, Kenya; Fort Portal City Authority, Uganda



- Food environment studies



**Research studies (Baseline and endline)**

*Fish & indigenous  
vegetable value  
chain studies*



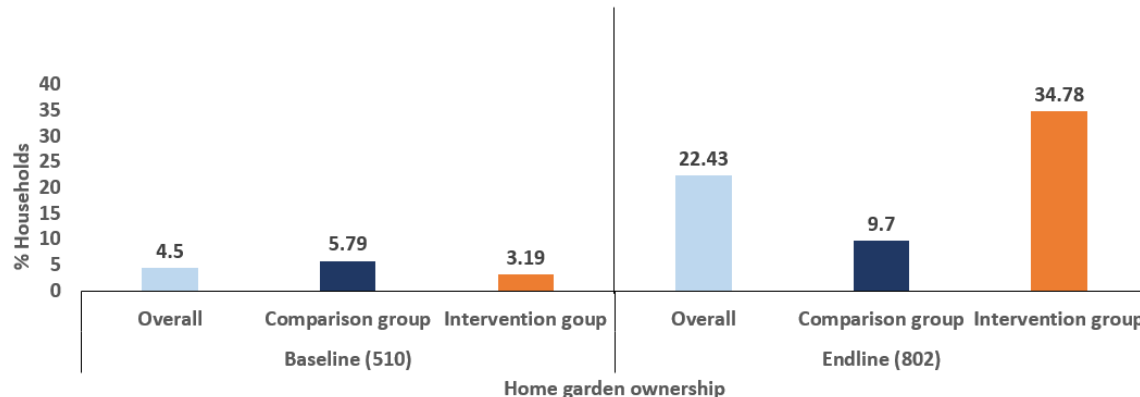
*Consumer/household  
studies*



*Research studies (Baseline and endline)*

- Households that own home gardens **overall** increased from **4.5% to 22.4%** between baseline and endline studies
- Home garden ownership among **intervention households** increased by **32%**

*Home garden ownership*

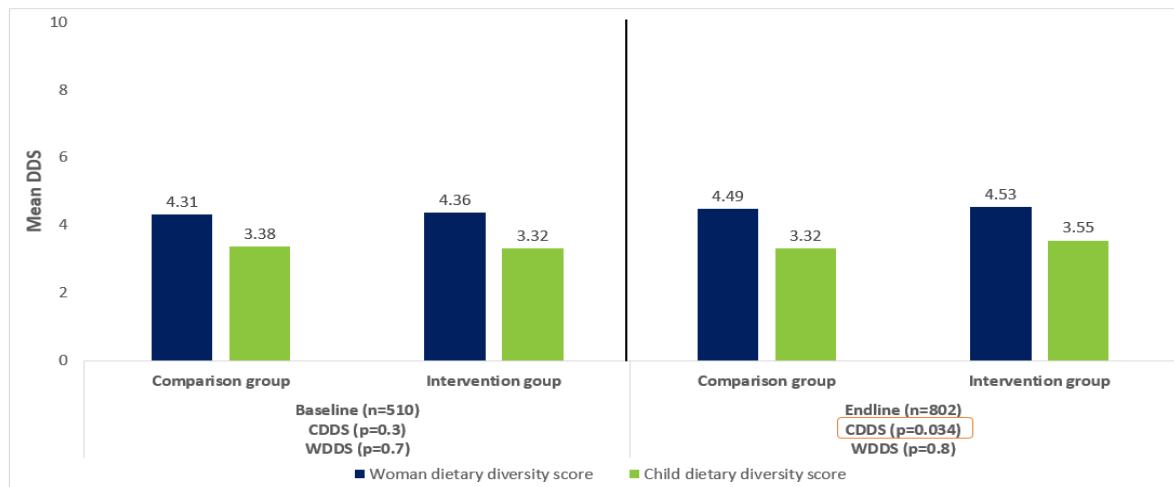




- Studied dietary diversity score for children 6-23 months(CDDS) and women of reproductive age (15-49 years)-WDDS
- At the endline, CDDS for intervention group was significantly higher than the comparison group

## Research studies (Baseline and endline)

### Dietary diversity (Baseline vs endline)





## Conclusions

- ❑ Addressing nutrition and diet challenges needs to be multisectoral
- ❑ Need to use existing systems in implementing project interventions-instead of designing project-based systems
- ❑ Policy engagement and advocacy is important for sustainable implementation of interventions
- ❑ Conducting trainings once may not be sufficient for behaviour change- repeated trainings are needed
- ❑ Given the understanding of the importance of the agriculture nutrition nexus, nutrition should be appropriately included in all new agriculture programmes

# Thank you!

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<https://www.healthyfoodafrica.eu>

