



**ECOEFFICIENT AGRICULTURE FOR THE POOR**

# CONTRIBUTION OF AGRICULTURE TO NUTRITION AND HEALTH

Iron and zinc enriched Beans- Biofortified Beans

# Overview

- Introduction
- Objectives
- Methodology
- Results of Research and Bioavailability of Micronutrients
- Conclusion

# Introduction

- PABRA stands for Pan African Bean Research Alliance.
- It is facilitated by CIAT and focuses on bean research.
- High micronutrient deficiency in the following order, men (17%), women of child bearing age (27%), and children (70 %) (MDHS,2004)
- Required consumption (Fe):Women 200g/day; children (4-6 yrs) 100g/day; Children (1-3 yrs)

# Objectives

- Improving the nutritional status of most poor people using conventional breeding technologies:
  - Increasing the micronutrient density of beans, especially Iron and Zinc
  - Advocating for the growing and consumption of micronutritionally dense beans.

# Methodologies

- Breeding micronutritionally (Fe and Zn) dense beans.
- Advocating for farmers adoption of the improved beans, and consumption by the wider society in sufficient quantities.
- Issues of Concern during biofortification:
  - Can breeding increasing nutrient level enough to improve human nutrition?
  - Will the extra nutrients be bioavailable at sufficient levels to improve micronutrient status?
  - Will farmers adopt the beans and consumers buy/eat in sufficient quantities?

# Results of Research Work

- Nutritionally Dense bean breeds have been produced:
  - NUA 45 (Fe-102 ppm, Zn-35ppm)
  - NUA 59 (Fe- 110 ppm, Zn- 45 ppm)

# Using Research to Further Improve Nutrition and Health

- Need for multidisciplinary teams/platforms involving players from all sectors e.g.
  - Health sector promoting promote the consumption nutritionally dense foods crops.
  - Food industry would be important in developing processing techniques (value adding).
  - Agriculture sector would promote the growing of nutritionally dense food crops.

# Conclusion

- Development of nutritionally dense crops, in this case beans, is a positive contribution by CIAT to improved nutrition status for Malawi.
- **Thank you**