Rwanda is characterized by high prevalence of malnutrition resulting from complex interrelated synergies; poor household food and nutrition security, inadequate production, poor health care and health of environment and high prevalence diseases like HIV /AIDS and malaria. PABRA addresses nutrient needs of vulnerable communities through development of micronutrient rich bean varieties. Poor and food insecure communities are at a great disadvantage when faced with HIV/AIDS. Malnutrition is one of the major complications of HIV infection and is a significant factor in advancing the disease. In resource poor settings, HIV infection combined with pre-existing malnutrition places a tremendous burden on people's ability to remain healthy and productive. Malnutrition compromises immune function, increasing progression of HIV and other diseases. Restoration and maintenance of adequate nutritional status through food distribution is unsustainable. This project was designed to test the integration of agriculture, nutrition and health, transitioning from therapeutic feeding to production and utilization of micronutrient rich food baskets. **Objective:**

To influence prevalence of malnutrition and nutrition related disease in PLWHA and other vulnerable communities

**Strategy**

Functional partnership with the health sector

Effective incorporation of nutrition topics into agricultural extension

Linking agricultural extension with participatory learning and action in nutrition

Links with existing food based strategies and nutrition interventions

Nutrition Education with training on food combination and preparation

Demonstration of impact on nutrition and health

**Food basket**

- **Improved Beans For The Developing World**
- **Enhancing Nutrition&Health of PLWHA and Vulnerable communities.**
- **CIAT/ISAR/MOH/USAID, Rwanda**
- **Martha Nyagaya, Human Nutritionist, Africa. m.nyagaya@cgiar.org**

**Background**

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Malnutrition is one of the major complications of HIV infection and is a significant factor in advancing the disease. In resource poor settings, HIV infection combined with pre-existing malnutrition places a tremendous burden on people's ability to remain healthy and productive. Malnutrition compromises immune function, increasing progression of HIV and other diseases. Restoration and maintenance of adequate nutritional status through food distribution is unsustainable. This project was designed to test the integration of agriculture, nutrition and health, transitioning from therapeutic feeding to production and utilization of micronutrient rich food baskets. **Objective:**

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**Methods**

- Subjective and objective baseline food and nutritional security assessment.
- Short term feeding of families with severely malnourished individuals on a specially-designed fortified food basket assembled from locally available foods provided by farmer groups.
- Focal point demonstration gardens within health centers and hospitals in 5 provinces to feature selected micronutrient rich bean varieties, orange fleshed sweet potatoes, indigenous vegetables and improved yellow cassava varieties.
- Agricultural technology dissemination through training, seed multiplication and distribution coupled with agronomic guidance to improve production.
- Promotion of consumption and utilization through development and dissemination of technologies for processing, storage, post harvest value addition, dietary combination and meal preparation.
- Continuous nutrition education for farmer groups, agricultural extension workers, associations of PLWHA, community health workers and nutritionists facilitated through development of training materials and resources for trainers. Serial monitoring of food and nutrition situation at various levels

**Nutritional Indicative Outcomes**

**Improved Body Mass Index (BMI)**

- From an average of 18 to 24
- Mean BMI 23.4 (range 16.7-31.1)
  - 11% <20
  - 26% >25
  - 37% PLWHA still experienced weight loss
  - 46% experienced symptoms interfering with food intake

**Factors affecting magnitude of impact:**

Strong evidence that impacts depend on:

- Initial level of household vulnerability (assets, wealth)
- Sex & positioning of the deceased in HH
- Extent of environmental factors (soil fertility, climate)
- Characteristics of adults remaining in household (e.g. skills, education level)
- Seasonal variations in food access

**Implications!**

Affected households should be urged to:

- Use improved technologies/innovations
- Grow nutrient rich food crop varieties that are high yielding and drought resistant
- Use less labor intensive technologies (improved seed, minimum tillage, intercropping)
- Use processing and value addition techniques to improve nutrient density
- Diversify their diets

**Conclusion**

HIV/AIDS impacts on households beyond those suffering directly from the disease and as a result has profound effects on entire communities. For agricultural interventions to improve food and nutrition security, the intervention must have a well designed agricultural as well as nutrition component; mutually reinforcing. Food aid and supplementary feeding are essential interventions in rehabilitating malnourished individuals. Improving productivity with the right foods is key to ensuring sustainability of improved nutrition status and provides a malnutrition preventive safety net for vulnerable communities. For PLWHA the chain of cause and effect went both ways, return of good nutrition boosted productivity and capacity for work. It is important to consider such integrated interdisciplinary interventions for promotion of sustainable food security and alleviating malnutrition.