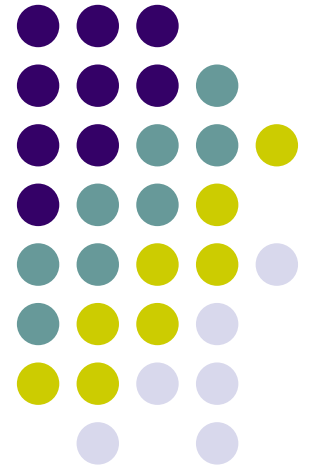


Support to Local Development of Nutritious Foods

Land O'Lakes Title II/Institutional
Capacity Building Grant

Sub-Activity 5.1

May 24, 2007



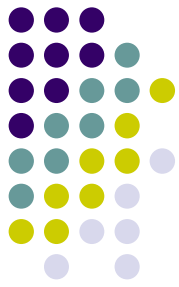
Background



- For over 25 years, Land O'Lakes International Development involvement with agriculture and economic development
- Focus on quality throughout value chain
- Dairy development: work with producers and dairy processors on marketing and quality
- Growing demand for new health oriented products

Land O'Lakes

ICB Sub-Activity 5.1



- **Activity 5.1:** Explore with local, private food technologists and processors the development and production of fortified, nutritious, affordable foods *using Title II commodities as components*. This will be done by reviewing the “docket” of available Title II commodities and selecting appropriate commodities; identifying a specific consumer segment, e.g. women of child-bearing age testing positively for HIV/AIDS, etc.; and creating innovative foods with improved nutritional content and increased wholesomeness that are customized to meet the unique nutritional requirements of the targeted vulnerable population.

Land O'Lakes

ICB Sub-Activity 5.1



- ***Activity 5.1 Output(s):*** This activity will lead to: a) increased awareness of the nutritional needs of specific vulnerable populations relative to the food commodities available for distribution through Title II; and, b) measurable improvements to the nutritional value, shelf life, preparation requirements (time, energy, and materials), and palatability of those commodities.



Initial Activities

- Literature review: nutritional requirements and products available to address them
- Convene technical review committee:
 - Dr. Kenneth Brown, University of California, Davis
 - Dr. Michael Latham, Cornell University
 - Dr. Hector Cori, DSM, Global Micronutrient Dir.
- Select priority target groups
- Initial protocol for nutritional requirements



Country Selection: Zambia

- Land O'Lakes existing Title II Program
- Working relationship with food processors
- Presence of priority target populations
- Presence Title II and other food aid distribution agencies
- Presence of local nutritional specialists
- Processing sector expertise in product development
- Processing sector capability to obtain local or imported ingredients

Stakeholders Workshop: Lusaka Oct. 05



- *Organizations represented full range of care for PLWHA presented current ground realities about food and nutrition.*
- *Worked toward consensus on high need target groups & regions*
- *Worked toward consensus on product design criteria*
- *Reviewed incentives for each organization to seek innovations and new approaches to nutrition and food*
- *Defined role of private Zambian industry in relation to food aid and food assistance. What is critical to humanitarian agencies obtaining the appropriate products for their programs that address HIV/AIDS and nutrition?*
- *Document and work toward consensus on parameters for foods formulated for people living with HIV/AIDS based on research, knowledge and experience of participants.*

Zambia Workshop Outcomes



- **Target groups:**
 - Pre-symptomatic & active AIDS:
 - BMI; Six months rations; Dependency ratio (socio economic capacity); ARV recipients; Patient's status in the household
 - OVC:
 - Age; BMI; Receive rations until they are empowered with productive skills; Family make-up
 - Patients in HBC:
 - BMI; 6 months rations; Dependency ratio; Type of rations determined by nutritional requirements/status; On ARV/TB drugs; Accept to be monitored; Socio economic status

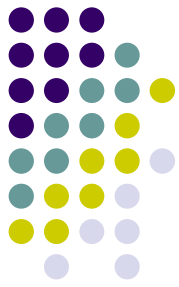
Zambia Workshop Outcomes



- **Product design criteria:**

- High nutrient caloric density (small stomach capacity)
- Ready to eat
- Ration sizes based on age
- Complete balance of macro/micro for age
- Meet 80 % of daily requirement for age
- Smooth texture (pudding)
- Not overly sweet
- Easy to open
- Clear labeling / instructions
- Probiotic

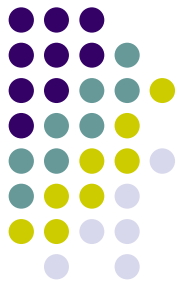
Zambia Workshop Outcomes



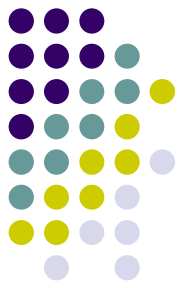
- **Logistics systems:**

- The more rural the more difficult: dispersed populations, poor infrastructure, few clinics, need longer shelf life, higher cost
- Urban: multiple channels, lower transport costs but higher storage costs, high population density, cash markets, greater potential linkages, less community assistance
- Collaboration on storage, needs long shelf-life

Zambia Workshop Outcomes



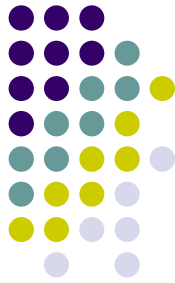
- **Local Procurement / Markets:**
 - UN System Central Supplier Database: registration, facility inspection
 - Establishment of product specifications
 - Tender process
 - Humanitarian decision criteria (see previous)
 - Commercial criteria:
 - Satisfying, taste, packaging, affordability, easy to prepare, safety and quality
 - Barriers:
 - Funding, fluctuating cost of inputs, import logistics



Product Development

- Fortify existing processed products with wide acceptability:
 - Sandwich cream biscuits
 - “*Maheu*” porridge drink
 - Synbiotic yogurt
- Processors with expertise, capacity to absorb risk, following positive workplace practices:
 - Sunrise biscuits, Trade Kings, Parmalat
- Build support within NGO sector
- Obtain additional funding: PEPFAR PPP

GO-POWER™
Enriched Nutrition Sandwich Biscuits™
- *The “FULL PLATE” Biscuit from Sunrise*



Another Quality Food from
Sunrise Biscuits Company Ltd.

a Zambian food business since 1966

Lukasu Road, Light Industrial Sites; P.O.Bbox 70506, Ndola – Zambia;
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TRADE KINGS LIMITED

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LUSAKA, ZAMBIA



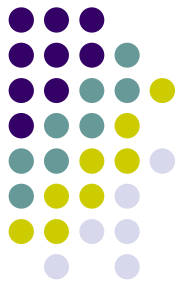
Serving Suggestions

Enriched Maheu can be drunk cold, room temperature or even hot to add variety!

	CHILD (5-9)			TEEN AGER (15-19)			ADULT (20-59)		
Amount of Maheu in Milliliters	300 ml		*Rec. Dietary Allowance	500 ml		*Rec. Dietary Allowance	500 ml		*Rec. Dietary Allowance
Nutrition Intakes	Actual	% of RDA	100%	Actual	% of RDA	100%	Actual	% of RDA	100%
Macronutrients*									
Fat grams (target=40% of daily kcal)	17.67	20%	88	29.5	25%	120	29.45	27%	109
Protein grams (target=13% of daily kcal)	11.01	17%	64	18.4	21%	88	18.35	23%	80
Carbohydrate grams (target=47% of daily kcal)	52.32	22%	233	87.2	27%	317	87.2	30%	289
Fiber grams	4.08	16%	25	6.8	18%	38	6.8	27%	25
Energy total Kcal (male) WFP**	412.35	21%	1980	687.3	25%	2700	687.25	28%	2460
Water	214.92			358.2			358.2		

*WHO **WFP - Assumes people living under stress

Current status: Product Development



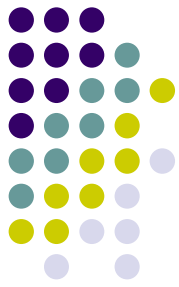
- **Go-Power** biscuits (Sunrise):
 - 2,000 samples with NZP+ & 1,000 samples with PCI and Kunyama Clinic (HBC); questionnaires provided and informal product reactions requested
 - Biscuits and formula forwarded to Technical Review Committee
 - Label and product brochure ready for printing, but on hold until receipt of questionnaires and expert panel responses
 - Technical development issues resolution in progress
 - Marketing Plan draft prepared and under discussion
 - Field test protocols are being drafted and will be fine tuned with Technical Review Committee and Zambia National Food and Nutrition Committee
 - Owner of Sunrise is impressed with progress and waiting to see performance in the market.

Current status: Product Development



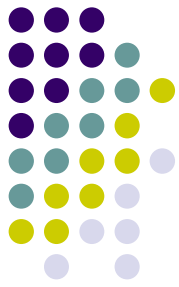
- Enriched *Maheue*: Trade Kings
 - Prototypes developed
 - Current testing for shelf life
 - Examination and advice being provided regarding technical issues
- Synbiotic yogurt: Parmalat
 - Agreed to participate in product development
 - Already produce similar product lines in S.A.

Processors have been the heroes!

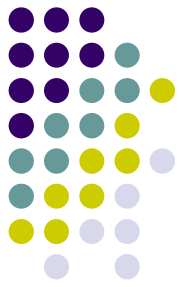


- Doing this with their own money and resources
- They have adopted the vision of better nutrition for their customers and people in need
- Have visited clinics, and understand the issues and potential for improving health and nutrition

Overcoming Issues & constraints



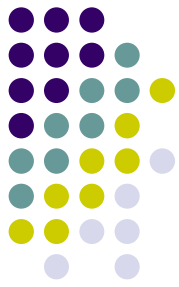
- ICB funds alone not sufficient to complete activity
 - Applied for and received PEPFAR PPP funds
- Concerns about support to “processed foods” versus “fresh market foods”
 - Foods will be used to fill gaps and supplement diets, *not replace diets*
- Humanitarian market uncertain
 - Build commercial markets to cross-subsidize for humanitarian markets



Building Markets

- Expectation: Secure sales via retail and institutional markets before humanitarian markets
- Targeting specific populations will work some, but not all of the time.
- Home use tests with NZP+ & Kunyama clinic HBC: feed back is positive.
- NZP+ is a big booster: will promote biscuits among their 20,000 members.

Outreach



- Meeting with World Vision, Counterpart International, PCI & WISHH to explore potential to expand this type of initiative
 - Discussion on potential development options (Tim Quick, Judy Canahuati)
- Potential to work in other countries, other target groups, other products, different approaches
- *Invite collaboration: ideas & experiences!*

Thank You

- Comments, questions & discussion

