

Ag2Nut Call: Making Value Chains Work for Food and Nutrition Security

Webinar Question & Answer Responses

What is the approximate cost of the bubble dryer? Was it compared to simple black plastic tarps for solar drying? If there is a report, great to have access.

MJ: The solar bubble dryer is the result of more than 20 years of research at Hohenheim University on low-cost environmental-friendly mobile drying technology. The cost for Kenya and Uganda ranges between USD 3k and 4k Duty Delivery Paid per unit depending on the size (25 or 50 meters long). Main benefits are, compared to traditional methods): Reduced drying time, reduced physical post-harvest loss, reduced contamination, reduced nutrient loss, which all leads to safer, healthier and more profitable products. The driers have been tested and validated for rice in collaboration with IRRI. CIAT and partners will test and validate the driers in Kenya and Uganda with beans, amaranth (leaves and grain), and maize. For more information and specifications please refer to:

<http://blog.ciat.cgiar.org/12382/>

http://grainpro.com/gpi/index.php?option=com_content&view=article&id=115&Itemid=1653

<http://irri.org/rice-today/the-bubble-that-dries>

<https://www.youtube.com/watch?v=brJYamNdYbI>

What are prospects for making non-nutritious value chains (for example, high-value cocoa, coffee) work for nutrition?

MJ: The driers could still be used to reduce contamination and post/harvest loss of cacao and coffee, at the same time improving/preserving functional ingredients, flavor, taste, which will lead to improved quality and income. In these value chain, following a multi-chain approach, additional emphasis could be put on the development of food crops in a diversified coffee or cacao based production system. Another entry point would be assessing the potential of using the additional income from cacao and coffee sales to diversify diets through purchase of food crops through local markets.

For Christine; I thought many buyers also buy from the local market or even directly from local hammer millers. I do not see this as part of the alternative.

CC: For the urban consumers, our study did not show purchase from local markets (open air market). Instead, we found that consumers purchase unpacked flour from wholesalers or mom & pop shops. This is flour that is milled at the hammer mills and packed in gunny bags so that the seller weighs quantities required by the consumers at the time of sale. Other consumers also process their own flour, meaning that they source their own raw material, clean them, and take them to the hammer mill for processing. This is reflected in our options as "own processing".

Which food groups (and perhaps which food items) were included in the improved flour? How is the porridge been consumed (only or in a composite dish for example)?

CC: Product development is still ongoing. What was tested during the market study was a prototype product which had 4 food groups: cereals, legumes, dark-green leafy vegetables, and other orange vegetables. The product formulation is still changing as we conduct further analysis including sensory testing and price analysis as we need to balance product acceptability by consumers, affordability, and nutrition quality. In both Kenya and Uganda, porridge is consumed as a meal mostly for breakfast. However, the Base of pyramid consumers also consume porridge in replacement of lunch or dinner without any composite dishes. This is mainly due to their inability to afford three complete meals a day.

How did you conduct willingness to pay? was it theoretical or you actually gave them money and then found out how they are willing to pay for the products?

CC: We conducted a revealed preference willingness-to-pay experiment using Becker-DeGroot-Marschak method. We had the porridge flour prototypes for the improved and conventional flours present during the experiment, and consumers were given money to participate in the experiment.

What is the thinking on compliance monitoring and the capacity strengthening of public sector especially if product is for thought to be for export?

Processing of the improved flour is going through the whole process of product development, including assessment of risks and safety during processing and obtaining clearance from the national bureau of standards as a safe product. Representatives from the bureau of standards also visit the processor's processing plant to ensure they are compliant in terms of safety and other requirements.

Thank you for the presentation! I was wondering who made the investment in the SBD, the farmer organizations or the processors?

MJ: Initially, the project is providing eight driers in Kenya and Uganda for farmer groups and SME to the research on testing and validation on different crops such as beans, amaranth leaves and grains, maize and groundnuts. Once the evidence is generated, results will be disseminated through the PABRA network of partners in 30 African countries

How did you frame the question for the WTP to get your results? They seem very high for the type of consumer we are targeting.

CC: The experiment was conducted using the standard procedure for revealed preference using Becker-DeGroot-Marschak method. The results show that consumers are willing to pay a premium on the improved flour, above their conventional flour. However, note that the indicated prices are the ceiling prices, meaning that those are the highest prices consumers would be willing to pay. Also what we find from our study is that the base of pyramid consumers are keen on nutrition and food safety besides price. And this is one of the reasons they are willing to pay a premium for the nutritious product.

I have two questions: how did you define 'mom & pop'? What was the criteria AND 2) what type of nutrition information did you provide to the consumers that increased their willingness to pay?

CC: Mom & pop shops were defined as shops that are larger than the traditional "Kiosks" in terms of size and food and non-food items sold, but they are not self-service stores. Self-service stores were defined as supermarkets. The nutrition information given was regarding the ingredients used in the flour composition, what micro or macro nutrients are contained in those ingredients, and what is the importance of those micro and macro-nutrients in human body.

Is composition of improved flour available? I would love to see the actual composition vs. the consumer perception.

CC: The project is in the initial stages of product development. The improved flour composition used in this experiment is only a prototype and it has since changed as a results of this study. Once the next composition is formulated then it will go through further testing, e.g. consumer tasting before arriving at the final product composition. So the final product composition is not available yet.

Follow up to Carla's question: What grain legumes, if any, were included in the multiple composite flour? Does the degree of nutrional improvement make a difference, based on different compositions? Any sensitivity to the composition?

CC: As indicated in my response above, the project is at the very initial stages of product development. What was used in the experiment was a prototype to assist in product formulation and pricing. The teams are still formulating the product as they get incoming research findings. As we continue with product formulation we will definitely look at the nutritional balance and at the same time ensuring affordability. Sensitivity analysis and consumer preference study will be conducted as we proceed with product development.

If the goal is to improve dietary diversity, one way is to increase the diversity of the ingredients of the porridge... What about increasing dietary diversity in general? Is this also taken into consideration in the projects?

CC: Increasing dietary diversity in general is absolutely one of the ways of improving diets. However, the base of pyramid consumers mainly rely on purchased foods, and they may not afford to diversify their diets. The approach therefore used by the project is to diversify ingredients of the porridge flour through developing a multi-composite flour which would deliver various nutrients to children or women.

For the solar drier is 3-4000 US \$ not too costly? and what is their capacity and how long will they take to dry?

MJ: The capacity depends on the product and on the drier size and should be around 500/1.000kg. The research will show a) the duration of the drying process vs. the traditional process, b) the level of additional income that will be generated through improved quality and reduced post-harvest loss, per target crops. Past research on the dryer shows that it dries at least 2 times faster than the traditional sun drying.

For the solar drying the mycotoxin problem relates primarily to maize and groundnuts, not common beans, cowpeas, etc.

MJ: for mycotoxins this might be true. However, we have identified a list of contaminants and nutrients (vitamins, antioxidants) per target crop that are sensitive to heat treatment and which we will assess vs. traditional drying during the research process. We would be happy to share the list and the research results with you if interested.

Is the intervention itself contained to the four areas sampled at baseline? If not, how did you arrive at your consumer sampling (for baseline and endline measures of diet diversity) given the wide-ranging and likely diffuse set of people that your intervention may reach?

CG: the four areas sampled for the study are the areas the project intervention will start. Afterwards the intervention could be spread to other areas, but project impact would mainly be measured in these four study sites where we have baseline data from.

Do you have a gender component? Are you going to look, how women are involved in this value chain program. Value chain and marketing has been linked to shift from income from women to men. Have to looked at that too?

CC: You are right, gender roles and decision making have a strong implication on household nutrition. The project has a gender component covering the entire value chain, and we will be studying the role of men, women, and youth along the value chain. Among other gender analysis, we are currently conducting a gender study at the farmer level to understand who conducts different activities at farm level and household level, who makes different decisions, who controls resources, etc. One of the project activities is geared towards ensuring that the project intervention does not result to shifts in gender roles leading to negative impacts on household nutrition.

Do you plan to measure the Behaviour Change through income generating interventions? if yes, how?

CC: We plan to capture behavior change among value chain actors. For, example, Starting with the farmers we will assess how they have changed their production, marketing, household decision making etc, before and after the project intervention.