

Ag2Nut Call - August 31, 2017  
Aligning the Food System to Meet Dietary Needs: Fruits and Vegetables  
10-11am, EDT

**Continue the discussion! LinkedIn Discussion page at:**

<https://www.linkedin.com/groups/4737415/4737415-6309050388033077250>

Topics covered in the Chat Box

**Production and Processing of F&V: Inputs and constraints**

from James Levinson to Everyone:

Thanks so much for this stimulating presentation. I'm wondering about the extent to which fruit and vegetable production, often being labor intensive, can help to generate employment and reduce household food insecurity in many of these countries. Should this factor - together with dietary intake and demand issues - be taken into account in policy decision making in these countries. If yes, do we need better - and better disseminated information on the labor intensity required in the production of specific fruits and vegetables.

from James Levinson to Everyone:

P.S. Some of you may recall the excellent Ag2Nut webinar presented by Chetana Mirle about the Asian Development Bank's project in northwest Bangladesh, and the problems which arose when labor intensity information was not available in efforts to increase fruit and vegetable production.

from Emily Ruppert to Everyone:

Distance to markets and lack of refrigeration is a concern for many in developing countries. How can we increase production to lower costs, and then preserve these foods so that as dried or preserved some other way they will last and be edible for longer. All of us are familiar with produce going bad, and it's expensive. A risk lower income hhs may not want to take.

from Thom Achterbosch to Everyone:

Processing of FV helps to reduce losses of product and at same time may reduce nutritional value. is there any evidence on how this trade-off plays out?

from Irmgard Jordan to Everyone:

Depending which nutritional value you look it. vitamins? minerals? bioactive compounds? fibre? we often tend to think in vitamins only. We do have standard estimations of loss in vitamins through processing.

from Jacqueline to Everyone:

F&V is big in Kenya, however we need to educate smallholder farmers on post-harvest loss technologies; this way, they can be able to store their produce and get prices for the same.

from Amanda Lewis to Everyone:

I recently participated in a horticulture learning activity in Tanzania, looking at how to move smallholders into higher-value vegetable production beyond kitchen gardens to market-oriented

production. The presentation today mentioned “low cost” technologies like drip irrigation – unfortunately many of these technologies are not actually “low cost” for smallholders. Supporting access to finance may be key, but many financial institutions don’t want to loan for horticulture, which is risky. This is an area that needs more exploration on how to support so that smallholders have the finance to invest in scaling up horticulture production.

from Jen to Everyone:

The family garden project we are working on is on raised beds gardens - which cuts the workload exponentially while at the same time increasing the harvest and food per square foot

In developing countries where water is scarce, is there much research showing the effectiveness of raised beds to help decrease the water needs?

from Teale Yalch to Everyone:

How does access to improved seeds for nutritious foods play a role in the supply?

### **Income generation from F&V production**

from Irmgard Jordan to Everyone:

Are there any publications available providing evidence to the income issues presented in slide 6?

- ▶ F&V typically generate greater income on smaller landholdings than cereals
- ▶ Production for household consumption and earned income ensure food and nutrition security
- ▶ Income is more likely to accrue to women with F&V production than with cereals/cash crops

from Edye Kuyper to Everyone:

I found one study re: income generation, although I believe there are many more: Ojiewo et al., The Role of Vegetables and Legumes in Assuring Food, Nutrition, and Income Security for Vulnerable Groups in Sub-Saharan Africa, DOI: 10.1002/wmh3.148

from Anna Herforth to Everyone:

To Reina's point about evidence about the economic benefit of health impacts: Maybe we also need better evidence on the returns to farmers?

### **Policy, research and development on F&V**

from Cecilia Acuin to Everyone:

Govt agricultural policymakers tend to be staple-centric - how can they be influenced to invest more on F & V?

from Anna Herforth to Everyone:

We need a much bigger international research center and budget for F&V. There is no CGIAR center dedicated to F&V...and AVRDC funding is miniscule compared to CGIAR & staple crops

from Robert Ackatia-Armah to Everyone:

Good point Anna. The question about CGIAR diversifying into F&V has been raised several times even @FAO. I think this should be discussed

from Florence Egal to Everyone:

Any linkages with Bioversity International?

from Edye Kuyper to Everyone:

Bioversity staff member Gina Kennedy presented at the June meeting; she and many of her colleagues are particularly committed to this topic!

from Miriam Yiannakis to Everyone:

any experience in implementing subsidies for F&V in low income countries?

from Anna Herforth to Everyone:

To add to Miriam's question - in addition to subsidies, is there experience in increasing extension support, seed supply, or other R&D into reducing constraints for F&V in low income countries?

from Miriam Yiannakis to Everyone:

Re Anna - good question... on supporting F&V production, markets, consumption etc. beyond backyard gardens.

from Edye Kuyper to Everyone:

I am aware of experience increasing extension support, but am not aware of data demonstrating the impact.

from Fragrance to Everyone:

Hi, I'm Fragrance. Currently working on a Fresh Food Voucher project that aims to improve access to nutrient dense foods (fruits, vegetables and animal source protein) for vulnerable populations (pregnant and lactating women and children under two years of age) in one of the regions with the highest stunting rates in Ethiopia. It is a form of subsidy. It is a pilot and we'll start implementation in October 2017. A huge component of the project is SBCC activities. The plan is to also have a rigorous M&E framework in place, as well as conduct an impact evaluation to test the impact of financial interventions on dietary diversity

Research note on the rising costs of nutritious foods (including fruits and vegetables) in Ethiopia:

<http://essp.ifpri.info/2017/07/14/the-rising-costs-of-nutritious-foods-in-ethiopia-2/>

from Miriam Yiannakis to Everyone:

Hi Fragrance, where in Ethiopia are you doing this work?

from Fragrance to Everyone:

Amhara region, in up to three of the districts (Woredas)

from Irmgard Jordan to Everyone:

This links to Robert and the question in regard to funding: if we want to work on slow growing fruit trees - we need at least to wait for more than 15 years - is there any research that long?

## Home gardening

from Rafael Merchan to Everyone:

'Home gardens' are often the preferred interventions to increase F&V availability in FSN development projects. Are there any robust studies that have looked at the impact of these garden in helping individuals get to that 400gr per day/per person consumption recommendation? Are they really the best way to promote F&V consumption?

from Regine Kopplow to Everyone:

There is evidence showing that the promotion of producing F/V in kitchen gardens increases the dietary diversity but I have not seen evidence on the quantities consumed.

from Cecilia Gonzalez to Everyone:

@Rafael's question: From my standpoint/observations, homegardens are a good complement, but not sufficient to achieve diet diversity. That's why including an income generation part it's a good strategy, so households can have some access to income to purchase what they cannot produce

from Regine Kopplow to Everyone:

I agree, kitchen gardens are not enough because too many food groups are linked to animal soured foods which cannot be accessed directly through promotion of gardens unless income is generated from selling F/V

from Cecilia Gonzalez to Everyone:

In addition to Regine's point, it's hard to produce so many fruits and vegetables... Seasonality doesn't make them available all year round

from Cecilia Gonzalez to Everyone:

Another aspect to consider for seasonality and availability of fruits and veggies is food preservation  
e.g. drying, canning

from Jen to Everyone:

When we have worked with family gardens - one of the pieces was on dehydrating and preserving the harvest - using dehydrators that could be used over an open fire

from Miriam Yiannakis to Everyone:

I don't think home gardens need to be expected to fulfill all F&V needs for the hh all year around ... they can definitely contribute to hh F&V needs ... but can also provide a source of income for other hh expenses. sometimes we don't get the balance right though - between growing for consumption and for trade.

from Innocent Chamisa to Everyone:

To answer Rafael on Home gardens: Have a look at what we are doing at FAO on this here:  
<http://www.fao.org/3/a-v5290e/v5290e04.htm>.

from Irmgard Jordan to Everyone:

We had wanted to work on kitchen gardens in Kenya, but the farmers refused - too much work...

## **Wild and Indigenous F&V**

from Anna Herforth to Everyone:

I wonder how much wild and indigenous fruits and vegetables add to the usual availability statistics...in addition to home gardens, forests and other wild areas can be an important source of such foods, especially where there are poor links to market and lack of cold storage.

from Irmgard Jordan to Everyone:

Great question Anna. We noticed that when we ask for wild vegetables many respondents will not give correct answers as they do not want to tell that they collect fruits from the wild especially if it is collected from protected forests and grave yards. Often respondents think in "orange, mango or kale" and not in wild berries and fruits and vegetables.

from Anna Herforth to Everyone:

Very informative experience, Irmgard. Sounds like in some settings, wild vegetables tend to be sidelined by respondents; as well as by researchers and programmers.

from Florence Egal to Everyone:

Also support to traditional fruits and vegetables collection and consumption practices (e.g. shepherds in Somalia)?

from Jen to Everyone:

There is an NGO called ECHO which has done a ton of work with indigenous and underutilized plants in all different climates. They are based in Florida, but reproduce the climate for areas all over the world to test different seeds and crops - they would be a great resource for anyone interested.

from Cecilia Gonzalez to Everyone:

I work for ECHO now, you can find many resources at [www.ECHOcommunity.org](http://www.ECHOcommunity.org)

ECHO provides agriculture technical resources for those working in the tropics. We focus a lot on underutilized nutritious crops. If you have questions, you can submit them to our Technical Response Unit [tru@echocommunity.org](mailto:tru@echocommunity.org)

## **Encouraging consumption of F&V**

from Robert Ackatia-Armah to Everyone:

What is the role of the fruit and vegetable value chains in encouraging consumption? thoughts welcome

from Edye Kuyper to Everyone:

To Robert's question re: the role of value chain actors in promoting consumption: this seems related to the issue of food environment. In the US, we have data demonstrating that retail-based promotion efforts work. VC actors can help make F&V desirable (not bruised, etc.) easily seen, affordable (subsidies an example), but I'm not aware of evidence in LMIC settings that demonstrate the impact of these efforts.

from Robert Ackatia-Armah to Everyone:

We have a bit of experience from our OFSP work that SBCC is key for changes in adoption of F&V.

from Jen to Everyone:

It seems like these questions would have very different approaches and answers when dealing with looking at the US vs international

from Emily Ruppert to Everyone:

Hi Jen, I think the issues do have differences depending on country context, but as I came away from this conference, I realized that food preferences/culture and cost of fruits/vegetables are common constraints especially among lower income populations in every country.

from Jen to Everyone:

Absolutely - and it differs so widely country to country, as well as even within different areas/climates of the same country.

from Thom Achterbosch to Everyone:

My observation of literature is that understanding of consumer choice on FV in Low middle income countries is limited. few validated scales and metrics on psychosocial drivers and other demand factors; do you agree? what are priorities?

from Emily Ruppert to Everyone:

In my fieldwork in Afghanistan and elsewhere in developing countries, during the hungry season, people were able to see plenty fruits and vegetables in the markets, but they hadn't enough income to purchase it. Markets in many places are having the desired food diversity, but economic access year-round is a key constraint in my experience/research.

## Resources Shared

From Edye Kuyper to Everyone:

<http://horticulture.ucdavis.edu/event/nutrition-2017/>

The above link contains materials from the workshop led by the UC Davis World Food Center, Horticulture Innovation Lab, and Program in International and Community Nutrition in June 2017.

from Anna Herforth to Everyone:

Here is an article that shows evidence of the low supply : need ratio for fruits and veg globally:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0104059>

From Innocent Chamisa to Everyone:

On Production, I would like to share with you The FAO'S Save and Grow approach - ECOSYSTEM-BASED AGRICULTURE: KEY TO ACHIEVING THE SUSTAINABLE DEVELOPMENT GOALS. Producing more with less. You can find more here : <http://www.fao.org/ag/save-and-grow/en/index.html>

from Cecilia Gonzalez to Everyone:

here is an article written by one of my colleagues about "Linking Smallholder Farmers to Markets" that might be helpful, <https://www.echocommunity.org/en/resources/df8b7b32-a4fc-4275-852b-2e041d2b2b82>

from Innocent Chamisa to Everyone:

With micro-gardens, urban poor "grow their own" Find out more here - FAO - <http://www.fao.org/ag/agg/greencities/en/microgardens/index.html>

from Florence Egal to Everyone:

A lot of work has been done in France. Rémi Kahane, CIRAD and Paule Moustier would be good contacts.

from Fragrance to Everyone:

Research note on the rising costs of nutritious foods (including fruits and vegetables) in Ethiopia: <http://essp.ifpri.info/2017/07/14/the-rising-costs-of-nutritious-foods-in-ethiopia-2/>

from Cecilia Gonzalez to Everyone:

Here's a resource about Tree Gardening that might be useful

<https://www.echocommunity.org/en/resources/734c6cce-5224-4ff5-b2e4-c305cf541d03>

from Cecilia Gonzalez to Everyone:

Another helpful resource, on seed systems: Strengthening Informal Indigenous Seed Systems in Southeast Asia <http://edn.link/paf4xe>

from Cecilia Gonzalez to Everyone:

And I've found this article also very helpful Introducing New Seeds Overseas <http://edn.link/hdj9kr>

from Cecilia Gonzalez to Everyone:

If anyone is interested in urban and peri-urban gardening/food production, here are some good resources <https://www.echocommunity.org/en/search?q=urban+periurban>

from Jen to Everyone:

There is an NGO called ECHO which has done a ton of work with indigenous and underutilized plants in all different climates.

from Cecilia Gonzalez to Everyone:

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from Anna Herforth to Everyone:

Here was a blurb in HarvestPlus's newsletter yesterday: Alternative Crops To Boost Food Security: In Kenya, farmers are being urged to look beyond traditional crops like maize and beans if they hope to improve their income. The demands for various crops have shifted, leading to changes in profits for each crop as well. The consumption of beans has been rising steadily, according to the FAO. Shifting to growing crops that are in higher demand will help empower farmers economically.

<https://www.standardmedia.co.ke/business/article/2001252847/go-for-alternative-crops-expert-urges-farmers>

from Regine Kopplow to Everyone:

Concern Worldwide and IFPRI did a 5-year research project called RAIN in Zambia that promoted F/V production. In the study group receiving agriculture and nutrition support +gender activities we were able to increase the HDDS and decision making by women around agriculture. These changes were stronger in the agr+nut+gender group than in the control group.

<https://www.concern.net/resources/final-report-rain-project-zambia> and

[https://doj19z5hov92o.cloudfront.net/sites/default/files/media/resource/rain\\_endline\\_survey\\_report\\_final\\_version\\_may\\_2016.pdf](https://doj19z5hov92o.cloudfront.net/sites/default/files/media/resource/rain_endline_survey_report_final_version_may_2016.pdf)

from Edye Kuyper to Everyone:

Link to Hort Lab projects: <http://horticulture.ucdavis.edu/main/projects.htm>

from Innocent Chamisa to Everyone:

How can we produce more Hort- produce with less? If you have on farm / ground case studies you would like to share with us ...

Join the Forum on sustainable intensification of Horticulture Crop production (mainly Vegetable, Fruits, root and Tiber Crops)

To participate please register here <https://dgroups.org/fao/scpi-hortcrops>.

You can share your contributions directly in the platform or send them to:

SCPI-Hortcrops-admin@dgroups.org.

All messages circulated within the DGroup are stored in the Discussion section. Under the library tab, you have access to all the contributions already received and all files stored in the Library can be downloaded by all members of the DGroup.