



**FEED<sup>THE</sup>FUTURE**

The U.S. Government's Global Hunger & Food Security Initiative

# From Feeding to Nourishing a Growing World

Elizabeth Mitcham

Director

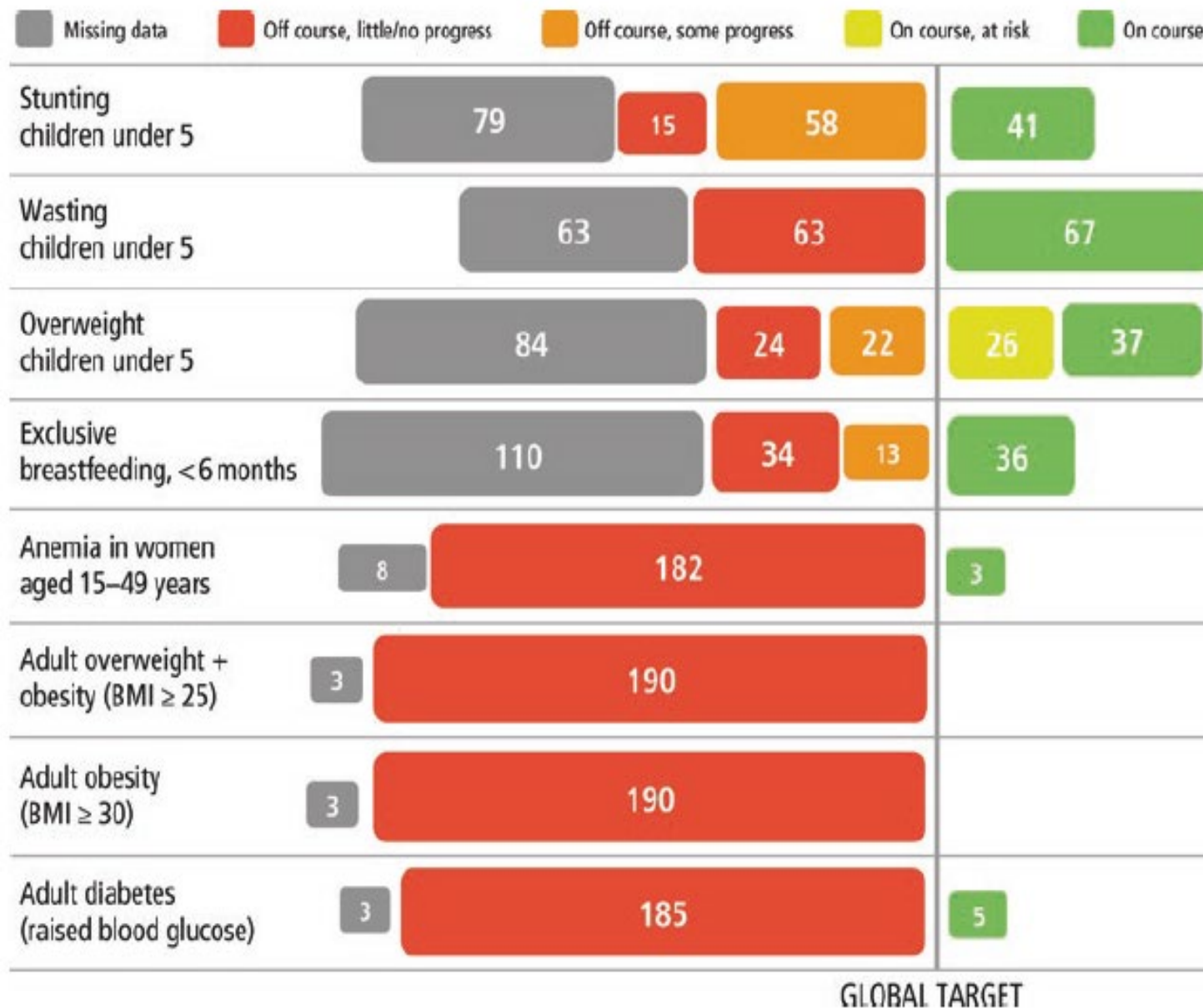
Horticulture Innovation Lab



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COLOR OF FRUIT AND VEGETABLE GROUPS	SOURCES OF ONE OR MORE OF THE FOLLOWING	FOUND IN ONE OR MORE OF THE FOLLOWING FOODS
<b>GREEN</b>		
	Lutein, Zeaxanthin, Indoles, Vitamin K &/Or Potassium	Turnip, Collard, Kale, Spinach, Lettuce, Broccoli, Green peas, Kiwi, Honeydew, Cabbage, Brussels Sprouts, Bok Choy, Arugala, Swiss Chard, Cauliflower, Leafy greens, Watercress, Endive
<b>YELLOW/ORANGE</b>		
	Beta-Carotene,  Vitamin A, Bioflavonoids, Vitamin C, &/Or Potassium	Carrots, Sweet potatoes, Pumpkin, Butternut  Squash, Cantaloupe, Mangoes, Apricots, Peaches, Oranges, Grapefruit, Lemons, Tangerines, Clementines, Peaches, Papaya, Nectarines, Pears, Pineapple, Yellow Raisins, Yellow Pepper, Bananas
<b>RED</b>		
	Vitamin C &/Or Anthocyanins	Cranberries, Pink grapefruit, Raspberries, Strawberries, Watermelon, Red Cabbage, Red Pepper, Radishes, Tomatoes, Cherries, Beets, Apples, Red Onion, Kidney Beans, Red Beans
<b>BLUE/PURPLE</b>		
	Anthocyanins, Vitamin C, &/Or Phenolics	Blueberries, Blackberries, Purple Grapes, Black Currants, Elderberries, Plums, Prunes, Raisins, Eggplant
<b>WHITE</b>		
	Allium & Allicin	Garlic, Onions, Leeks, Scallions, Chives



<http://www.pbhfoundation.org/>

<http://www.fruitsandveggiesmorematters.org/>





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OH  
snap



LET THE  
beet  
DROP

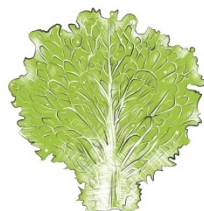


I DON'T  
carrot  
ALL



KICK  
SOME  
asparag-ass

lettuce  
CELEBRATE



AWWW  
shucks



HOW TO MAKE A:

# KICKASSEROLE

INSTRUCTIONS ≡

- 1 FIND A RECIPE FOR A CASSEROLE.
- 2 ADD THE MOST KICKASS VEGETABLE KNOWN TO MAN.
- 3 WATCH AS YOUR CASSEROLE BECOMES A KICKASSEROLE.
- 4 MARVEL AT ITS AWESOMENESS.



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# Market Connections



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## Postharvest Handling in Developing World







## Examples of Shipping Containers Used in Developing Countries







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# Cardboard vs. Reusable Plastic Crates



- Support product
- Washable
- Resistant to moisture





# CoolBot Cold Rooms



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# Taking farmers further

Logistics service to sell farmer's fresh produce

Watch our story

Shyam Kumar  
9911911239

पिक-अप गाँव : किशन गंज  
मंडी : कायम नगर

Today's bookings : 8

रमेश कुमार CHA/004	170 kg
विकास सिंह CHA/009	230 kg





# Maintaining the Dry Chain

- Thorough drying of any dried product after harvest
  - Seeds, fruits, vegetables, nuts, grains, legumes
  - Challenging in warm humid environments
- Once products are dried to 60 to 70% moisture content, must be kept dry
- Must also prevent increase in moisture content in humid climates
  - Mold and insect activity
  - Aflatoxin contamination (anti-nutrient)





# Maintaining the Dry Chain

- Thorough drying of product after harvest
  - Seeds, tubers, roots, and legumes
  - Challenge: 10-15% moisture
- Once product is dry, maintain low moisture content, mold-free content in storage
- Must also protect product in humid climates
  - Mold and insect infestation
  - Aflatoxin contamination



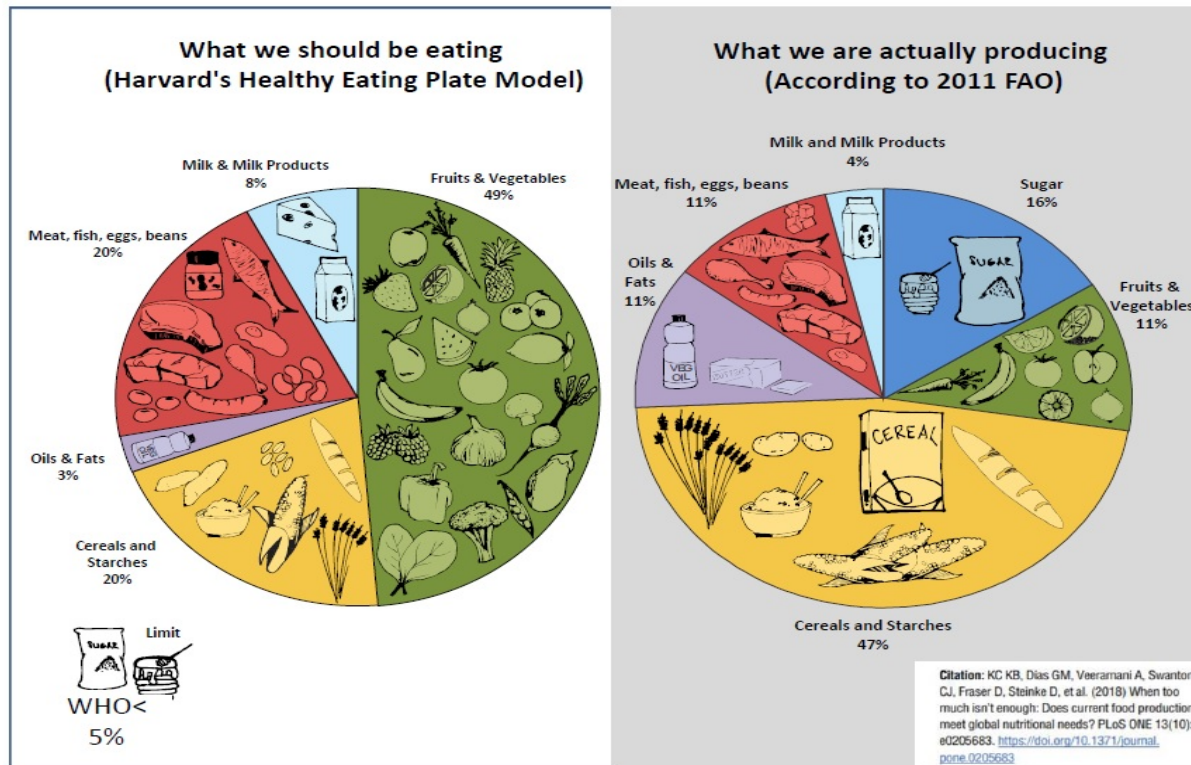


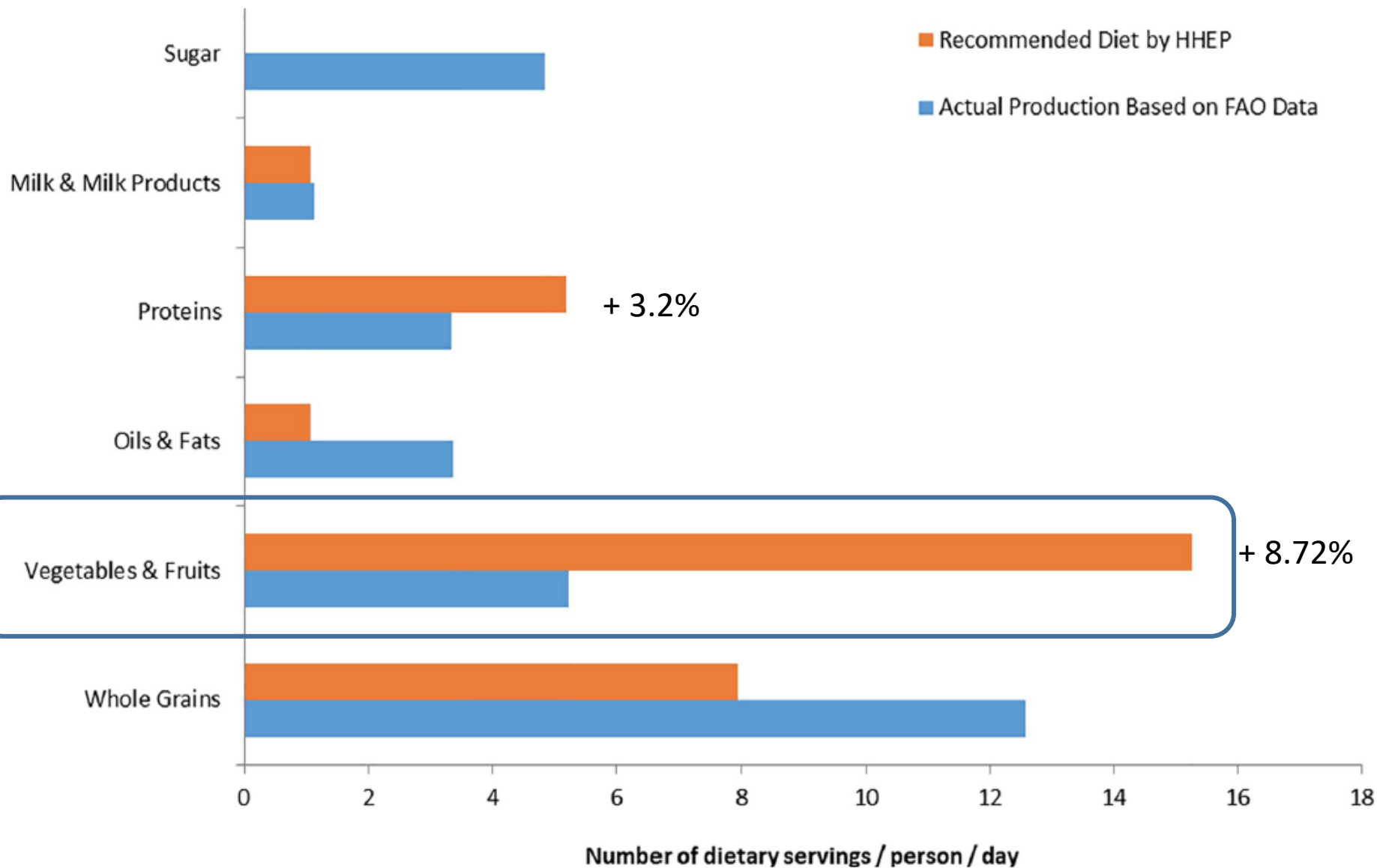
# Processing to Preserve the Colorful Harvest





# Politics matters: Aligning agricultural production priorities with healthy diets





Krishna Bahadur KCID et al., 2018



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# Variety Improvement and Evaluation



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# BT Brinjal in Bangladesh

## Fruit Borer Control





# Protected Culture

- Row Covers
- Nethouses
- Greenhouses



Without Nets

With Nets



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## Conservation Agriculture



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# Grafting of Vegetable Seedlings





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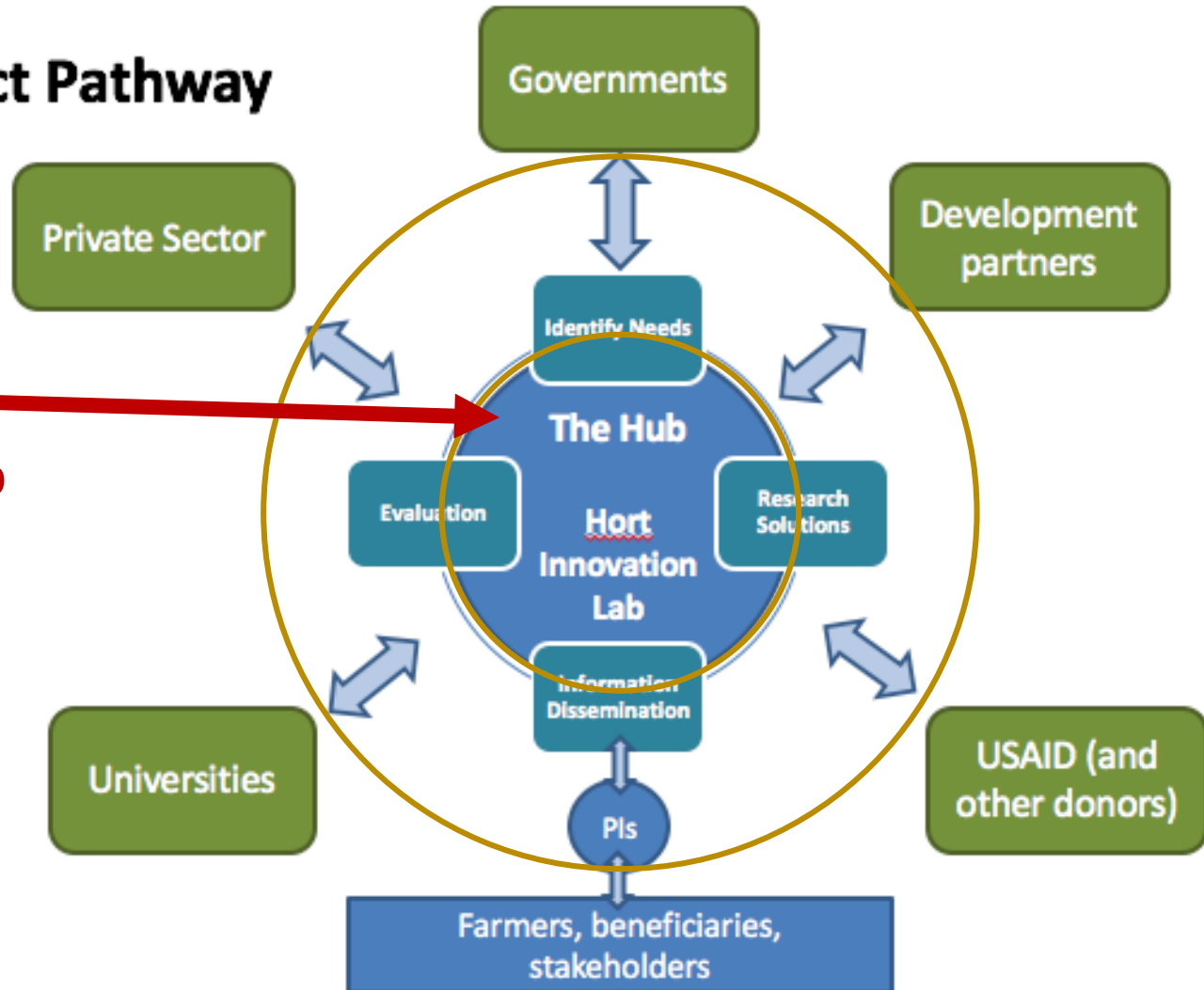
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## Impact Pathway

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Network

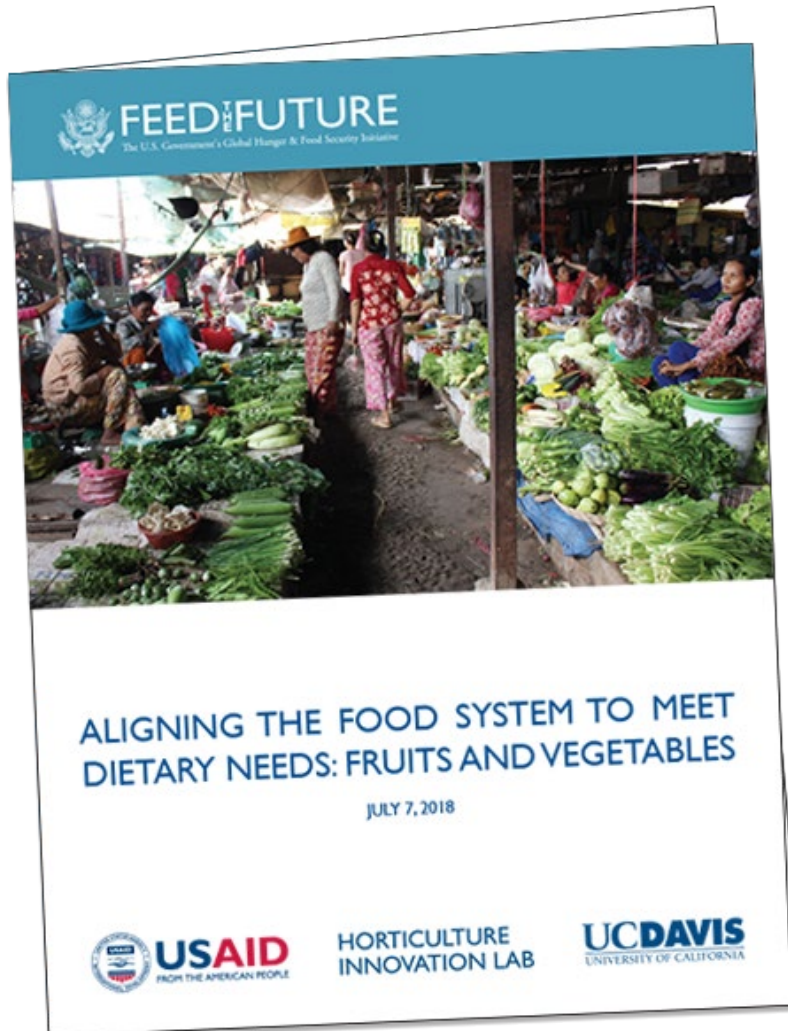


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# Aligning the Food System For Fruits and Vegetables



White paper summarizes  
2017 conference at UC Davis,  
co-hosted by



**Program in International  
and Community Nutrition**



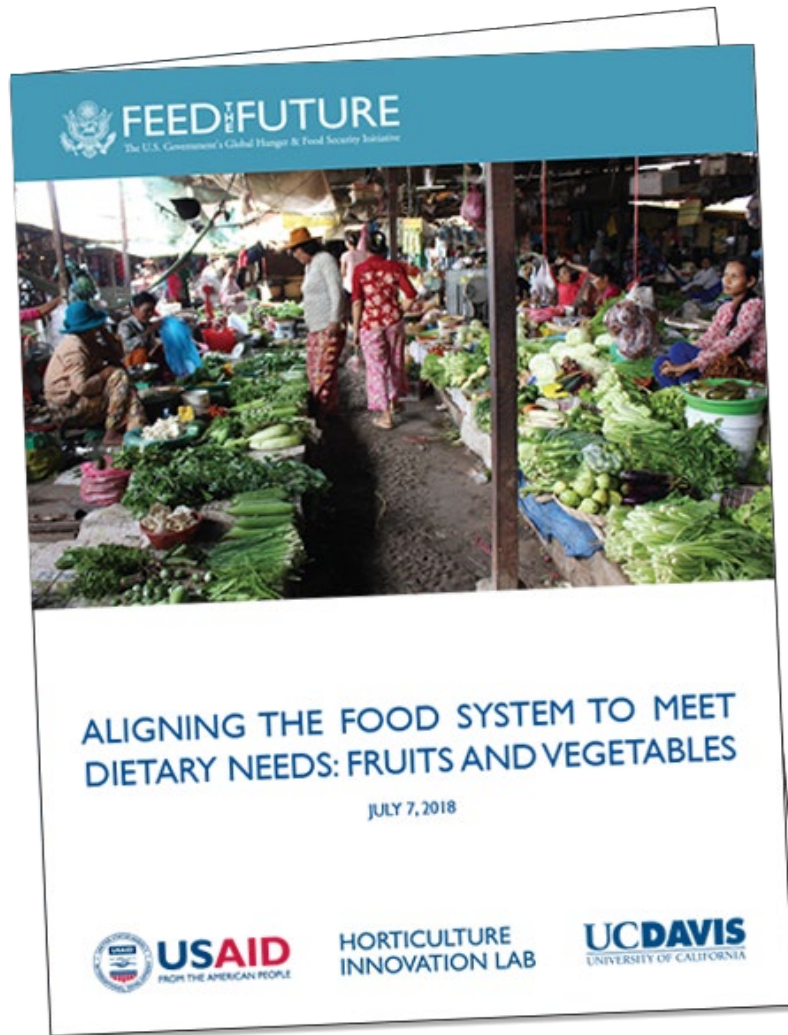
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[horticulture.ucdavis.edu/event/  
nutrition-2017](http://horticulture.ucdavis.edu/event/nutrition-2017)





## Sections:

- Health case for investing in fruits and vegetables
- Economic case for investing in fruits and vegetables
- Strategies to increase consumption
- Questions and topics for further research
- References list

[horticulture.ucdavis.edu/event/nutrition-2017](http://horticulture.ucdavis.edu/event/nutrition-2017)



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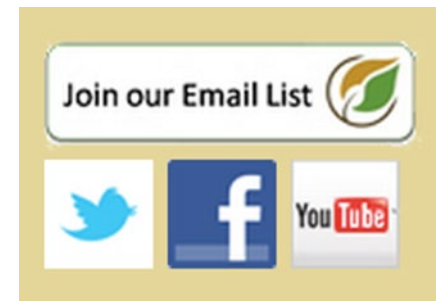
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## Thank You

For more information:

<http://horticulture.ucdavis.edu>

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