



Aligning the Food System
to Meet Dietary Needs:

**Fruits &
Vegetables**

Making the Case for Fruits and Vegetables

Fruits and Vegetables: Making the case

► Why invest in F&V?

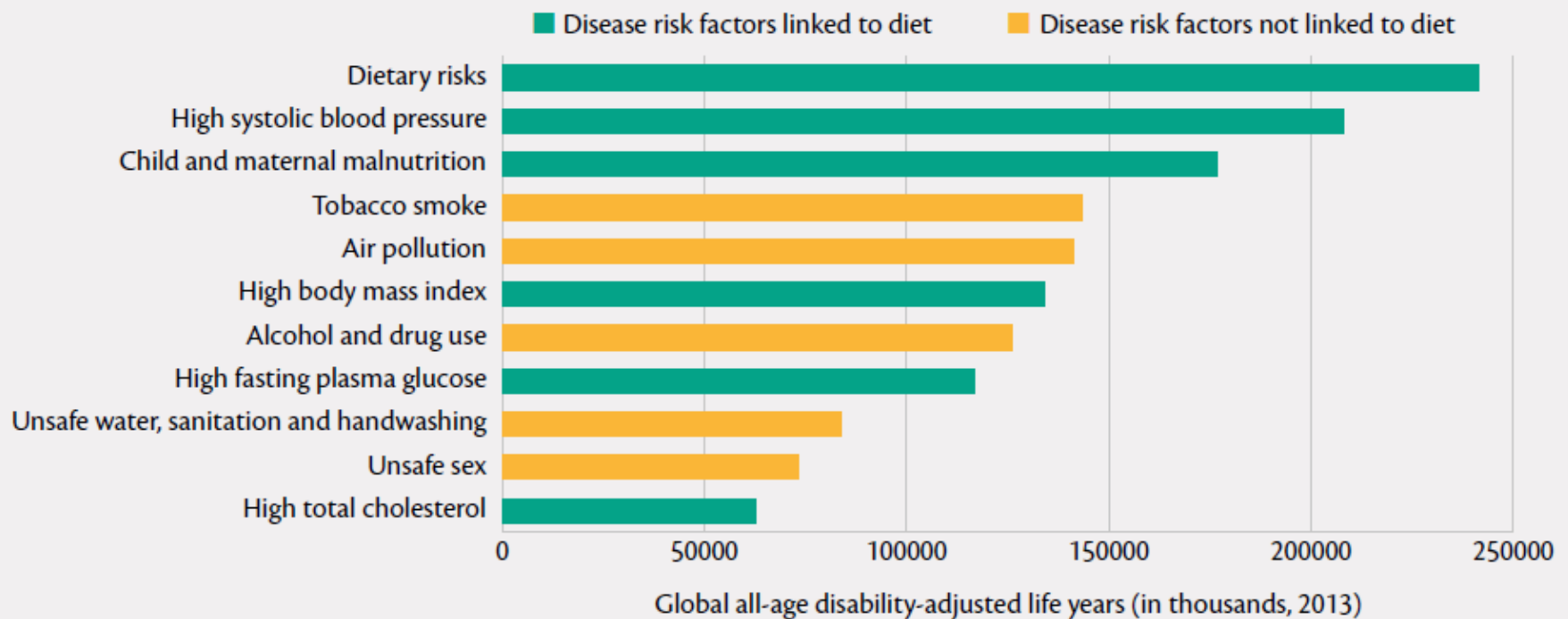
- Because they're all the rage
- Because they're good for you
- Because they're good for the livelihoods of farmers and value chain actors
- Because we can: the odds are surmountable!



Photo: Partnership for a Healthier America

Fruits and Vegetables: The health case for investment

- ▶ Diet is linked to 6 of the 11 leading disease risk factors:



Source: Global Burden of Disease Study 2013 Collaborators (2015), Figure 5

Note: The graph shows global disability-adjusted life years (DALYs) attributed to level 2 risk factors in 2013 for both sexes combined.

Fruits and Vegetables: The health case for investment

- ▶ F&V address both undernutrition and overweight/obesity:
 - Contribute to micronutrient adequacy and dietary diversity
 - Reduce risk of coronary heart disease, overweight/obesity, and certain cancers
- ▶ Almost 2 in 3 of the world's obese people live in low- and middle-income countries

Fruits and Vegetables: The case for agricultural investment

- ▶ Food-based dietary guidelines uniformly recommend increased F&V consumption
- ▶ 74% of the world's population does not consume adequate F&V (400g/person/day)
- ▶ Production vs. recommendations especially low in LMICs

→ Lots of room for increasing market share!!

Fruits and Vegetables: The case for agricultural investments

- ▶ 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

Fruits and Vegetables: Responding to detractors

“They are too perishable”

- Technologies exist to vastly reduce postharvest losses

“They are too resource-intensive”

- Drip irrigation and conservation agriculture are examples of accessible technologies that reduce water, fertilizer requirements

“People won’t eat them”

- High-quality promotion efforts work, especially among children and individuals with disease risk factors



Photo credit: BFN Brazil

Photo credit: Edye Kuyper



Strategies to increase consumption of nutrient dense fruits and vegetables

- ▶ Availability
- ▶ Price
- ▶ Demand

Availability

- ▶ Production
 - Land utilized for F&V
 - Productivity (yields, climate change)
 - Meeting need for nutritious food
- ▶ Postharvest losses
 - Quantity and nutritional quality
 - Packaging, cold-chain, physical damage, market linkages
- ▶ Seasonal availability
 - Early/late varieties
 - Protected culture
 - Irrigation
 - Processing/stabilization
- ▶ Local availability
 - Food environment, peri-urban production



Price



- ▶ Increased productivity could reduce prices
 - Influence of climate change
- ▶ Consider subsidies for F&V, similar to cereals
- ▶ Balance price with smallholder needs for increased income
- ▶ Household income influences ability to purchase

Demand

- ▶ Education
 - Human nutrition
 - Benefits of F&V consumption
- ▶ Food preferences
 - Culture/habits
 - Desire for highly processed foods
- ▶ Nutrition guidelines based on locally available food
- ▶ Marketing and advertising
- ▶ Vouchers for F&V





Research gaps

- ▶ Production and Availability
- ▶ Accessibility and Affordability
- ▶ Dietary Intake and Demand
- ▶ Metrics

Production and Availability

- ▶ How to ensure sufficient supply of F/V to meet nutrition needs globally?
- ▶ What innovations or policy changes can reduce the cost of production?
 - What are the effects of subsidies on producers and consumers?
- ▶ How will climate change affect production and availability?
- ▶ What is the effectiveness, feasibility and cost-effectiveness of:
 - Strategies for reducing post-harvest loss, especially in LMICs?
 - Strategies for reducing food waste at different points in the food system?
 - Interventions to reduce the risk of contaminants, such as mycotoxins and pesticides in food?
 - New technologies for maintaining “cold chains”, “dry chains”, and other systems for ensuring quality and safety?

Accessibility and Affordability

- ▶ How to reduce the cost of F/V to consumers without negatively affecting producers?
 - What are the effects of subsidies?
- ▶ What is the effectiveness, feasibility, and cost-effectiveness of strategies to make F/V more accessible and affordable?
- ▶ What are the roles of formal vs informal markets in supplying F/V in LMICs?

Dietary Intake and Demand

- ▶ What are recommended dietary patterns? → Need for locally-relevant, evidence-based food-based dietary guidelines
- ▶ What is F/V intake globally and across different countries and age groups?
- ▶ How to increase consumer demand for F/V?
- ▶ What are the environmental, economic, and psychosocial factors that drive dietary choices?
- ▶ What is the impact of changing the food environment, instead of or in addition to SBCC, in promoting F/V consumption?
- ▶ Can fruits and vegetables be positioned as convenient foods in the snack food market?
- ▶ What is the nutritional impacts of processed foods that are “fortified” with nutrient-dense foods?

Metrics

- ▶ What aspects of diet and diet quality are most important to measure, and how do we measure those?
- ▶ What is the validity, precision, and reliability of metrics for monitoring availability, accessibility, and affordability of F/V?
- ▶ How do we capture the psychosocial dimensions of food access and food preferences?
- ▶ How are these metrics best used for policy decisions?
- ▶ “Implementation science”: What process indicators and monitoring systems should be built into program implementation to ensure quality and guide program improvements?



Next Steps

- ▶ Share benefits of and strategy to enhance consumption of F&V
 - Policy makers
 - Development agencies
 - Researchers
 - Implementers
- ▶ White paper on topic to be shared widely
- ▶ Encourage multidisciplinary research and programs