

The Need for Innovative Research Partnerships

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@FoundationFAR | @RockTalking

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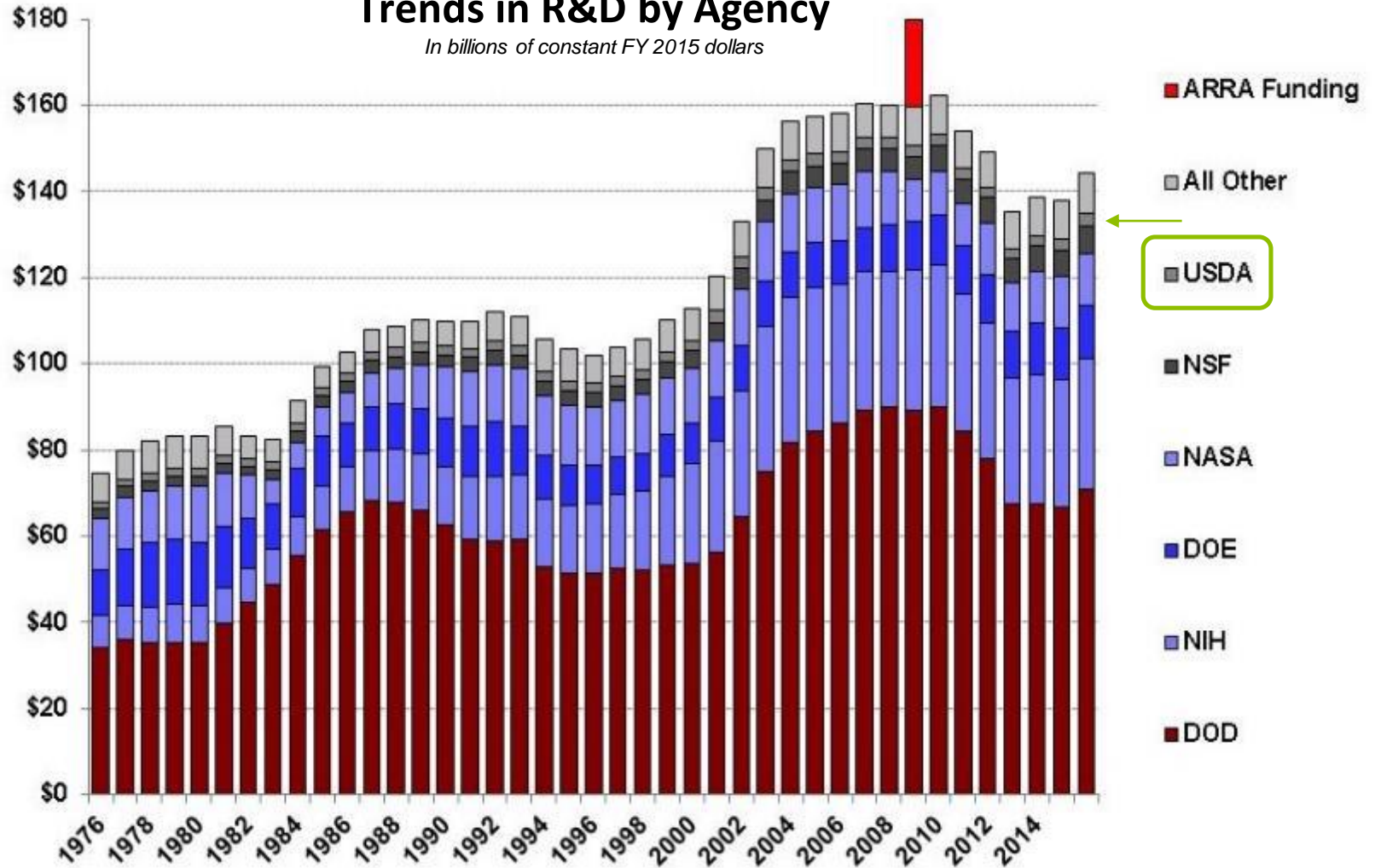
A vibrant collage of fresh produce. In the top left, there are several bright orange apricots. To their right are two ripe peaches with red and yellow skin. Further right is a bunch of fresh green basil leaves. Below these, there are several red tomatoes. In the bottom left, there are dark red cherries. In the bottom center, there is a red bell pepper and a green eggplant. The background is filled with crumpled brown paper, suggesting a grocery bag or market stall. A semi-transparent white rectangular box is centered over the image, containing the text.

**Let food be thy medicine and
medicine be thy food.**

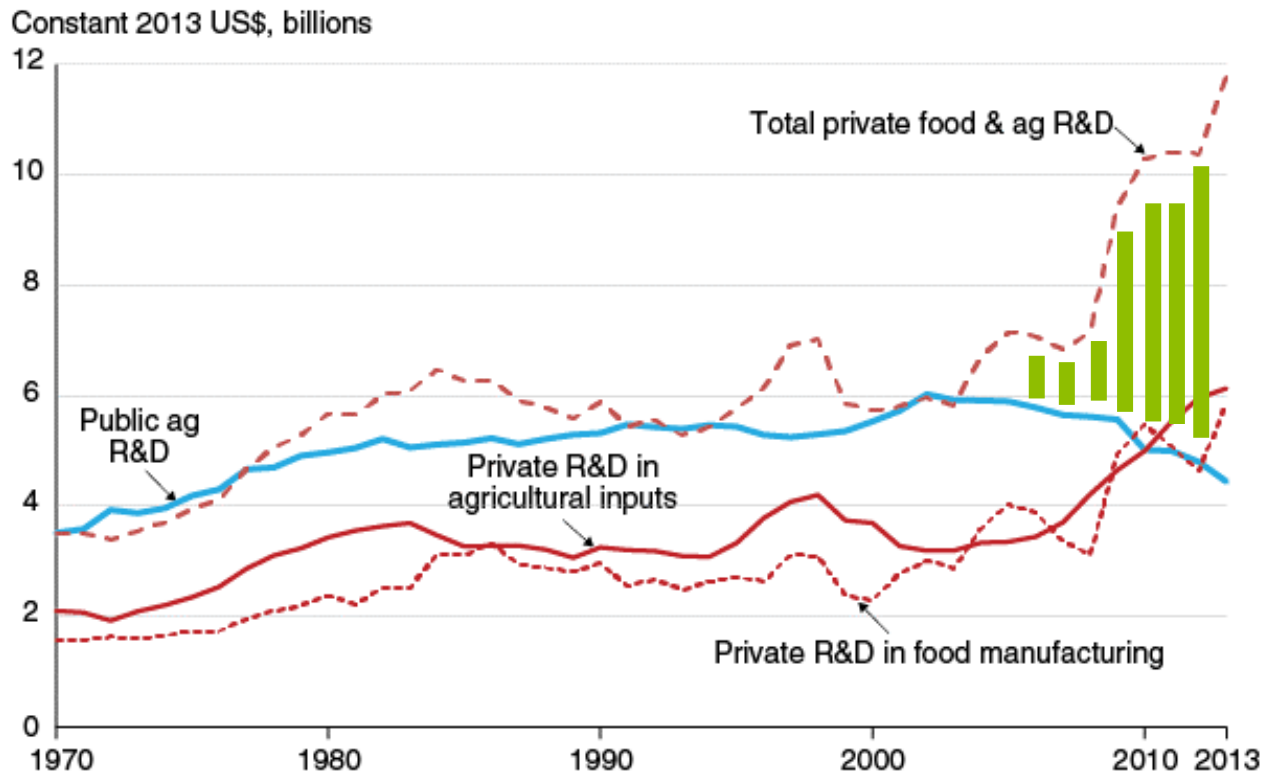
-Hippocrates

Trends in R&D by Agency

In billions of constant FY 2015 dollars



Public vs. Private Funding in Agriculture R&D



Opportunity

The FFAR Model

- **Established with bipartisan** congressional support in 2014 Farm Bill
- **Creates novel research partnerships** across the food and agriculture sector.
- **Works nimbly** to efficiently address emerging issues in food and agriculture.
- **Leverages public dollars** with private dollars to expand research impact.
- **Fills research gaps** to ensure great science supports thriving farms, reduces food insecurity, and supports better health.

**800 million people
go to bed hungry
every day**

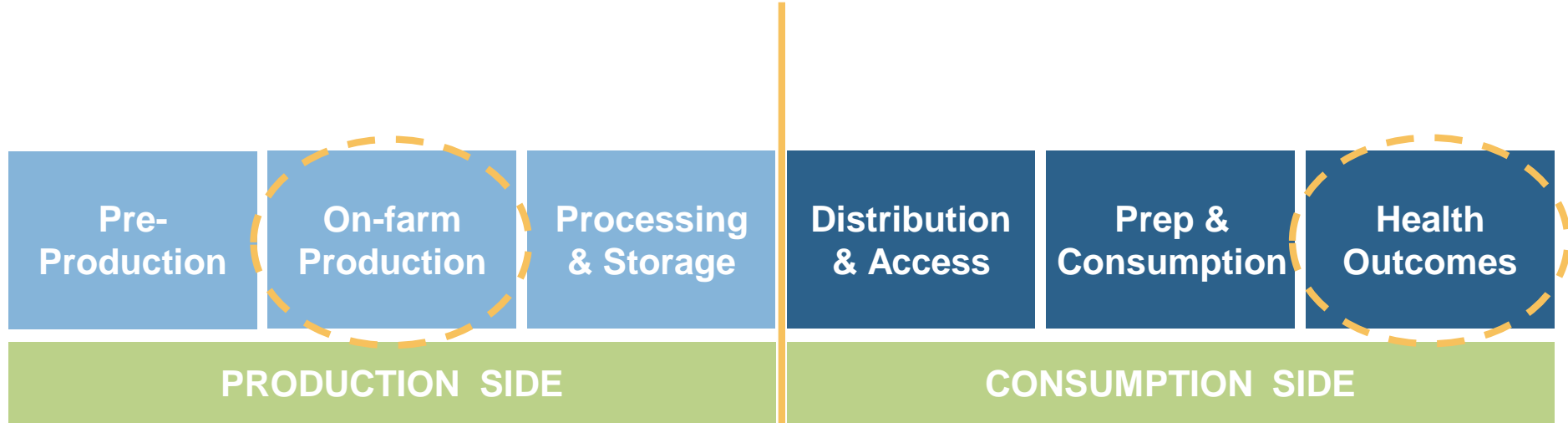


**1.9 billion people
are overweight or
obese**

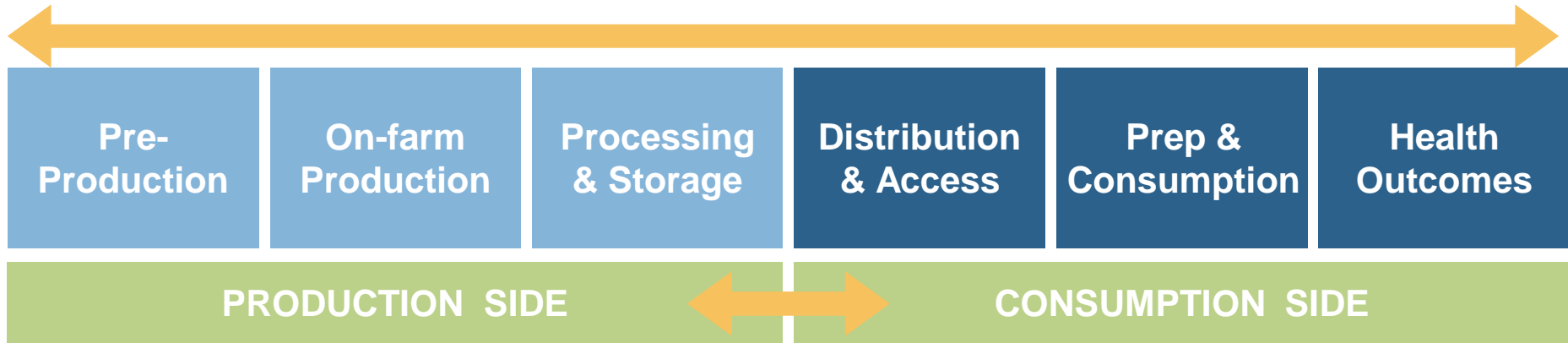


BOTH GROUPS ARE FACING MALNUTRITION

How We Usually Study the Food System



How We Should Study the Food System



Food is Medicine

- Just beginning to tie together food production and health
- New Working Group on the Hill
 - Led by Congressman Jim McGovern
 - Bipartisan working group within the House Hunger Caucus



Partnerships

*Advancing solutions to complex problems – **TOGETHER***

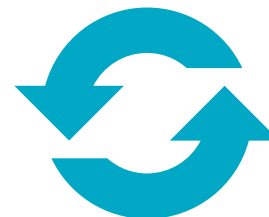


**COMPLEX
PROBLEMS**



COLLABORATION

- **POOLED RESOURCES**
- **POOLED KNOWLEDGE**
- **SHARED RISK**



**CHANGE
TO BENEFIT
HUMANITY**

Public-Private Partnership Incentives

Private sector incentives:

- Corporate social responsibility
- Rapidly overcome obstacles to advancement
- Cost savings
- Direct access to fundamental research
- Access to academic expertise
- Cultivate future employees



Public Sector incentives:

- Address real-world problems
- Transfer research quickly to the economy
- Access to resources and data otherwise unattainable
- Access to expertise

How to Make Public-Private Partnerships Work

- Shared Goals and Values (honesty)
- Agreement on responsibilities and rules of engagement (including IP)
- Transparent value proposition for each partner (trust)
- Synergy (goals cannot be achieved by any partner working alone)
- Skin-in-the-game from all partners
- Joint celebration of successes
- Shared responsibility for failures



A top-down view of a wooden cutting board surrounded by fresh vegetables. In the top left is a green cucumber. Next to it is a red bell pepper. To the right are two orange carrots and a bunch of green parsley. In the top right corner is a red tomato. On the left side, there are two more red tomatoes on a vine. At the bottom left is a bunch of green thyme. At the bottom center is a large orange carrot. To its right is a light green bell pepper. At the bottom right is a bunch of green rosemary and a red tomato. On the right side, there is a yellow bell pepper and a green pepper.

**How do we use research
partnerships to improve
health through nutrition?**

1) Understanding how food impacts health

Invest in research to understand the gut microbiome and how what we eat influences gut health, which impacts overall health



Holscher (left) is a 2017 FFAR New Innovator

**Hannah Holscher, Ph.D.
University of Illinois**

- Studying how foods high in fiber impact the gut microbiota and health.
- Results will provide health recommendations and help consumers make food choices.
- Interdepartmental research team from biotechnology to community health.

2) Making food better for you

Can we make the food you eat more nutritious? Can we provide precision nutrition?



Precision Indoor Plants Collaborative

FFAR is developing a pre-competitive collaborative to advance efforts to grow specific, high-value crops indoors: **a combination of environmental control (inputs) and plant genetics.**



Production-based Traits

- Crop architecture
- Production time
- Yield
- Light techniques



Consumer-driven Traits

- **Nutrition**
- Pre-cursors for industry
- Medicinal

3) Making healthy food more accessible

How do we make sure everyone has access to healthy, nutritious foods?



Tipping Points

- **Goal:** To use computer modeling to understand how multiple nutrition programs interact to improve community health and economic development.
- More than 38 companies, organizations, and universities involved in five U.S. cities: Austin, TX; Flint, MI; Albany, NY; Cleveland, OH; Denver, CO





We can do more

TOGETHER

than alone.

Public-private partnerships are key to
improving health through food.

Thank You

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