DCP3 Disease Control Priorities

economic evaluation for health

Consensus Conference on Nutrition
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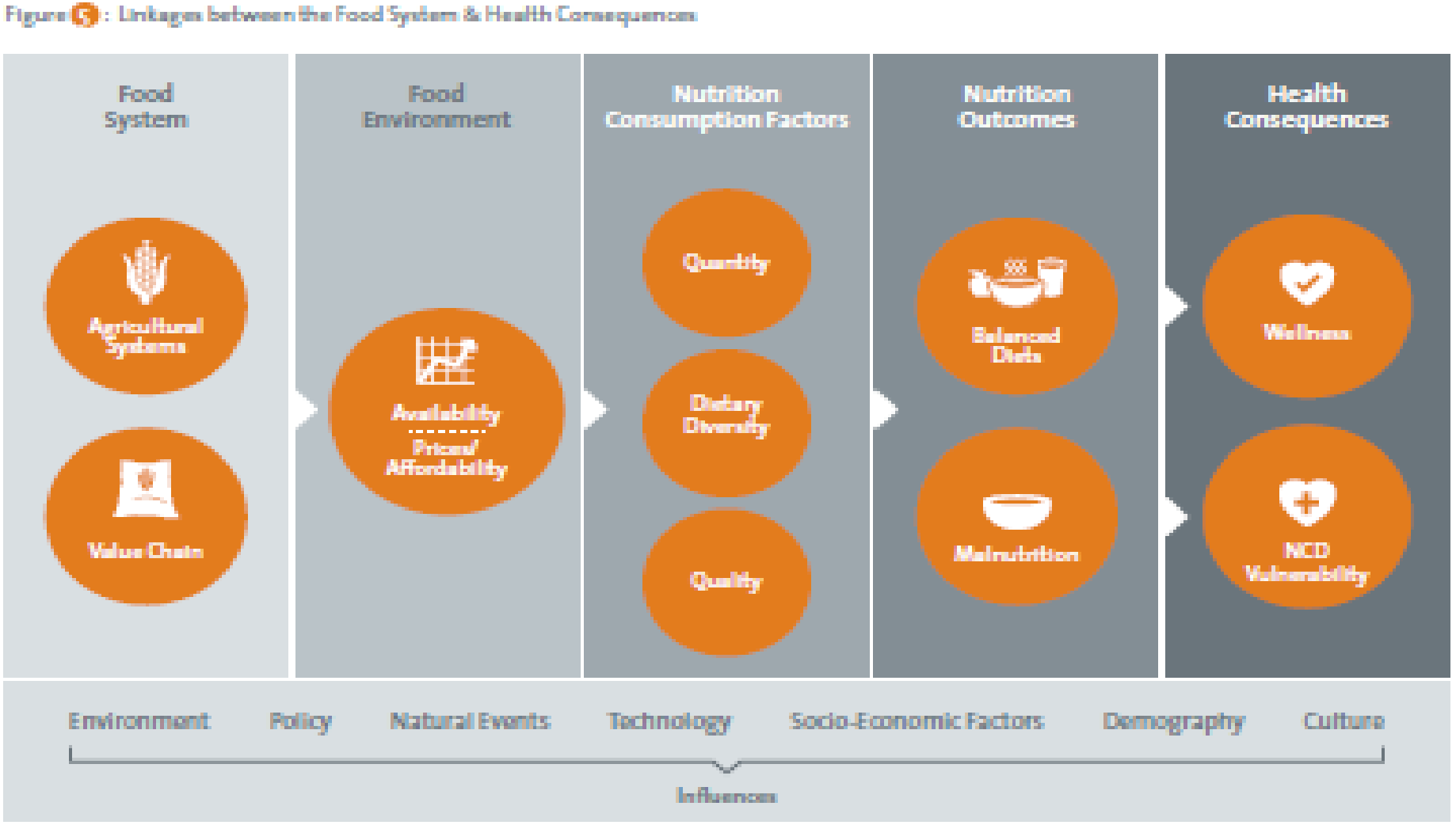
Agriculture for Improved Nutrition and Health

Rachel Nugent, Director, DCPN
University of Washington
Department of Global Health
Seattle, WA

Agriculture, Nutrition and Health Links



Source: Nugent, 2011. “Bringing Agriculture to the Table,” Chicago Council on Global Affairs

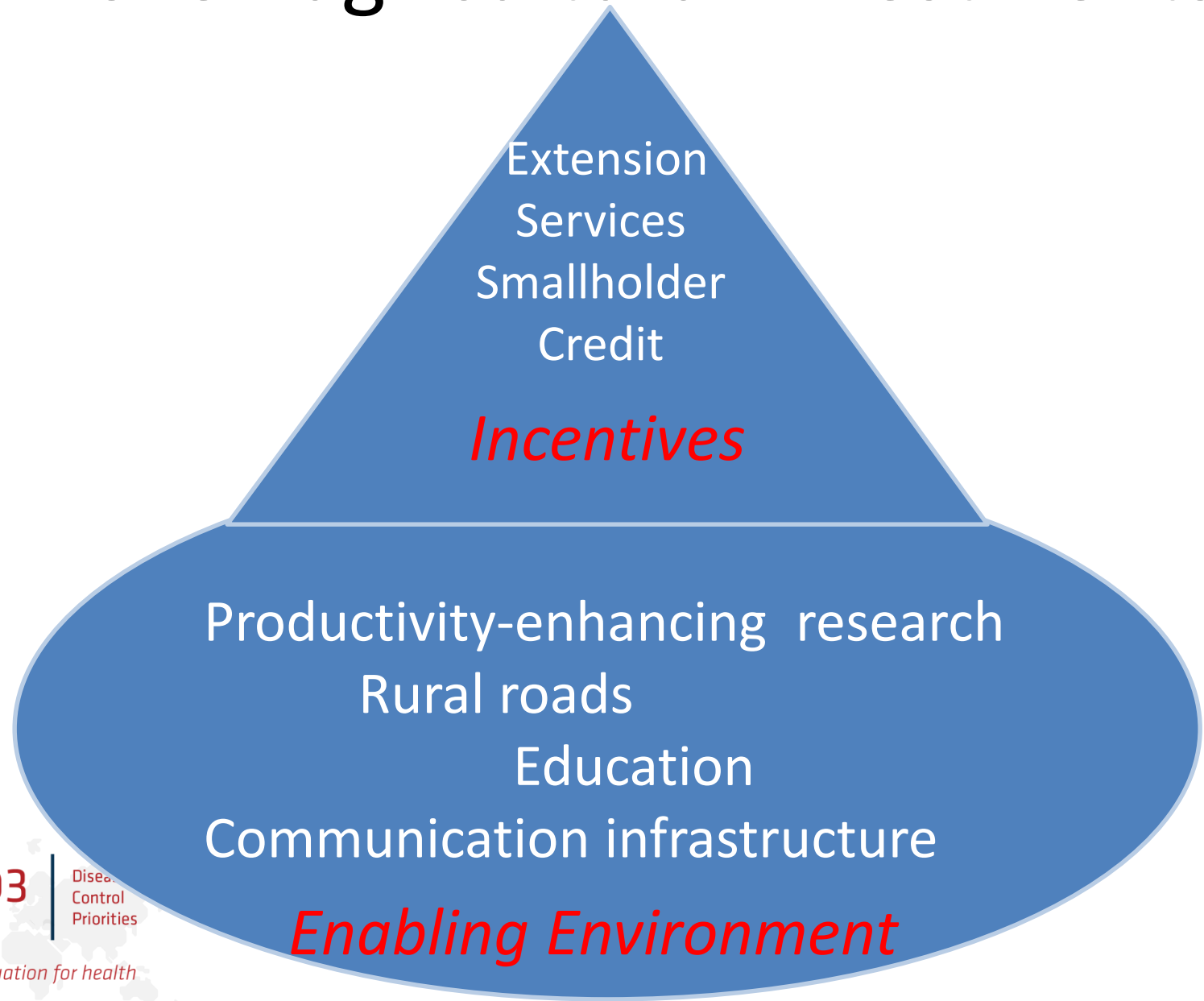
Main points

- The role of public and private ag investment
- Proven high-return ag investments
- Is agricultural investment socially beneficial?
- Using the nutrition transition to define investment needs
- Investments to support F&V production

Role of Ag Investment

- Private sector requires
  - Competitive returns
  - Term-limited (usually short)
  - Capturable gains
- Public sector should produce
  - Social returns, broadly distributed
  - Over a long time horizon
  - “Enabling environment”
  - Aligned incentives
  - Avoid social harms

Proven agricultural investments



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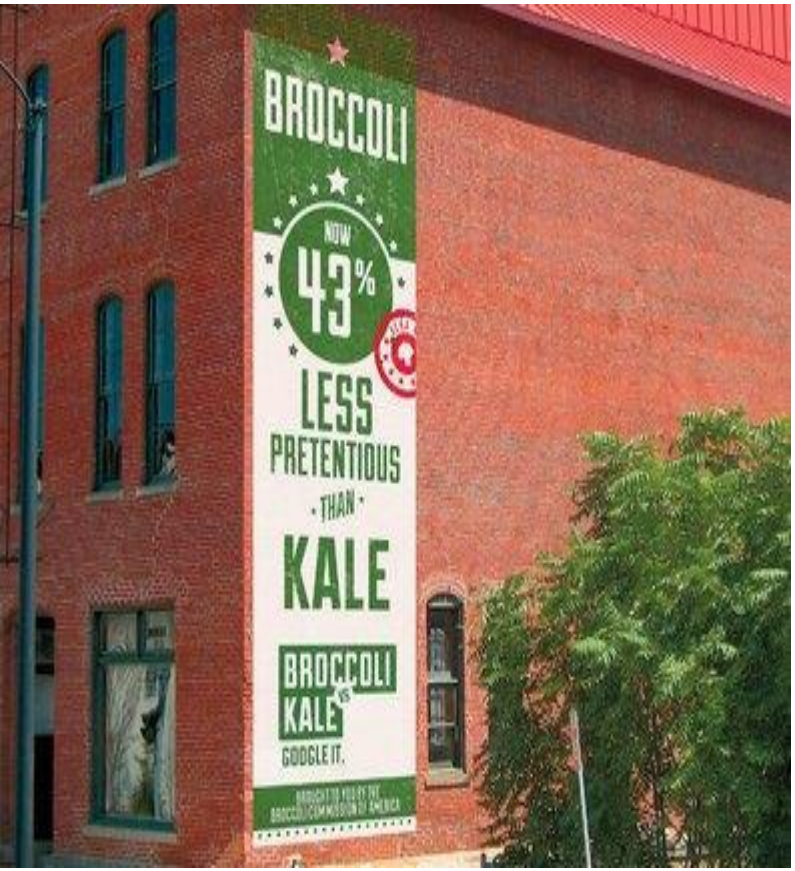
Expenditures on ag/food subsidies

- HICs spent $252 billion in 2011 on agricultural and food subsidies (EU, US, Japan, So. Korea).
- CAP *still* absorbs 40% of EU budget (Anderson et al, 2013)
- 2013 US Farm Bill: direct payments of $4-18 billion/year on commodity crops (corn, wheat, soybeans, cotton, rice), >$9 billion/year in crop insurance subsidies.
- Ag taxation shifting into ag subsidization (India, China)

Source: Anderson, K., Rausser, G. and J. Swinnen, 2013, "Political Economy of Public Policies: Insights from Distortions to Agricultural and Food Markets," *Journal of Economic Literature*, 51(2): 423-477.

Economic and health benefits of changing the food supply



Fruits and vegetables in U.S.

- Save 127,000 lives
- Reduce health care costs by $17 billion
- Produce $11 trillion in lives saved (VSL method)

Source: Union of Concerned Scientists, 2013

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Evidence-Based Population Strategies to Improve Diet

Media and Education	• Sustained, multi-mode campaigns focused on specific foods/drinks, either alone (IIa B) or as part of larger multi-component strategies. (I B) †‡§
Labeling and Information	• Mandated nutrition facts, front-of-pack labels/icons, or menu labeling to influence *industry* behavior and product formulations. (IIa B) †
Schools	• Multicomponent diet and activity program including classes, teacher training, supportive policies, environmental changes, family components. (I A)† • School garden programs (IIa A)†; fresh fruit & vegetable programs. (IIa A)†
Workplaces	• Comprehensive worksite wellness programs for diet, activity, tobacco. (IIa A)† • Increased availability of healthier options and/or strong nutrition standards, combined with on-site prompts, labels, or icons. (IIa B)†
Economic Incentives	• Subsidy strategies to lower prices of more healthful foods/drinks. (I A) † • Tax strategies to increase prices of less healthful foods/drinks. (IIa B) † • Long-term agricultural and related policy changes on infrastructure to facilitate production, transportation, marketing of healthier foods. (IIa B) †
Bans and Mandates	• Restrictions on marketing of less healthy foods/drinks to youth on TV (I B)†, near schools and public places (IIa B)†, and on packages (IIa B)†. • Direct bans (e.g., sodium, trans fat) or mandates (e.g., vegetable oils). (I B)†§

Mozaffarian et al, AHA Scientific Statement, Circulation 2012

Fruit and Vegetable (F&V) Supply, Need, and Supply:Need Ratio, Overall and by Country Income Level

	n	Supply	Need	Supply:Need Ratio
Full Sample, all countries	170	1.15 (0.01 – 524.25)	1.90 (0.02 – 282.50)	0.78 (0.05 – 2.01)
Low Income	34	0.97 (0.05 – 7.50)	2.36 (0.13 – 30.18)	0.42 (0.05 – 0.99)
Lower-middle Income	43	1.01 (0.01 – 142.51)	1.49 (0.02 – 241.62)	0.63 (0.19 – 1.72)
Upper-middle Income	50	1.52 (0.01 – 524.25)	1.71 (0.02 – 282.50)	0.87 (0.24 – 2.01)
High Income	43	1.60 (0.04 – 71.63)	1.64 (0.05 – 64.59)	1.02 (0.55 – 1.86)

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Notes: All numbers provided as median (range). Supply and Need are reported in billions of kilograms of fruits and vegetables. Country Income Level defined according to World Bank categories

Siegel et al (Unpublished)

Policy Framework for Investment in Ag

- Investment policy
- Investment promotion and facilitation
- Human resources and skill development
- Trade policy
- Environment
- Responsible business conduct
- Infrastructure development
- Financial sector development
- Taxation

Leveraging the private sector for smallholder participation in markets

Enabling conditions to scale-up producer organizations

Value chain financing

Source: NEPAD-OECD (2011)

Locally-determined Investment Needs

Stage of Transition	Infrastructure	R&D	Education and Training	Institutions	Financing	Technology
Pre-transition, low-income	Farm to market roads	Local varieties, tolerant to drought, flood, and biotic risks. Orphan crops. Nutrient dense foods	Nutrition-sensitive extension. Increased use of herbicides to reduce weeding.	Farmer coops	Microfinance, especially insurance and other risk management devices.	Pest control
Transitional, low-income	Climate change mitigation Improve cold chain and cold storage	Local varieties, tolerant to drought, flood, and biotic risks Nutrient dense foods. Orphan crops.	New crops. Increased use of herbicides to reduce weeding.	Farmer coops	Value chain financing	Mobile technology for market information, post-harvest fortification
Transitional, middle-income	Remove constraints on small investors. Improve cold chain and storage.	To develop packaging, branding, product differentation		Nutrition-sensitive agribusiness		Promote sustainable production, especially important for edible oil production
Post-transition, high-income		Align commodity priorities toward quality and diversity		Regulation and monitoring of food system outcomes		Promote sustainable production

What investments are needed for F&V Production?

Farm Level

- Labor or labor-saving mechanization
- Irrigation
- Agribusiness services: financing inputs, technical assistance
- Small-scale post-harvest storage and processing
- Risk management advice

Societal Level

- **R&D for productivity enhancement**
- Upgrade traditional markets
- Crop insurance
- Market infrastructure: distribution facilities, loans, **marketing programs**

Comparing Investments

Private Sector

R&D

$2 billion/year maize (Monsanto, DuPont Pioneer)

$181 million/year for 22 vegetable crops (Monsanto)

Commodity Marketing

$300 million/year for dairy and livestock

Public Sector

R&D

$121 million/year for maize

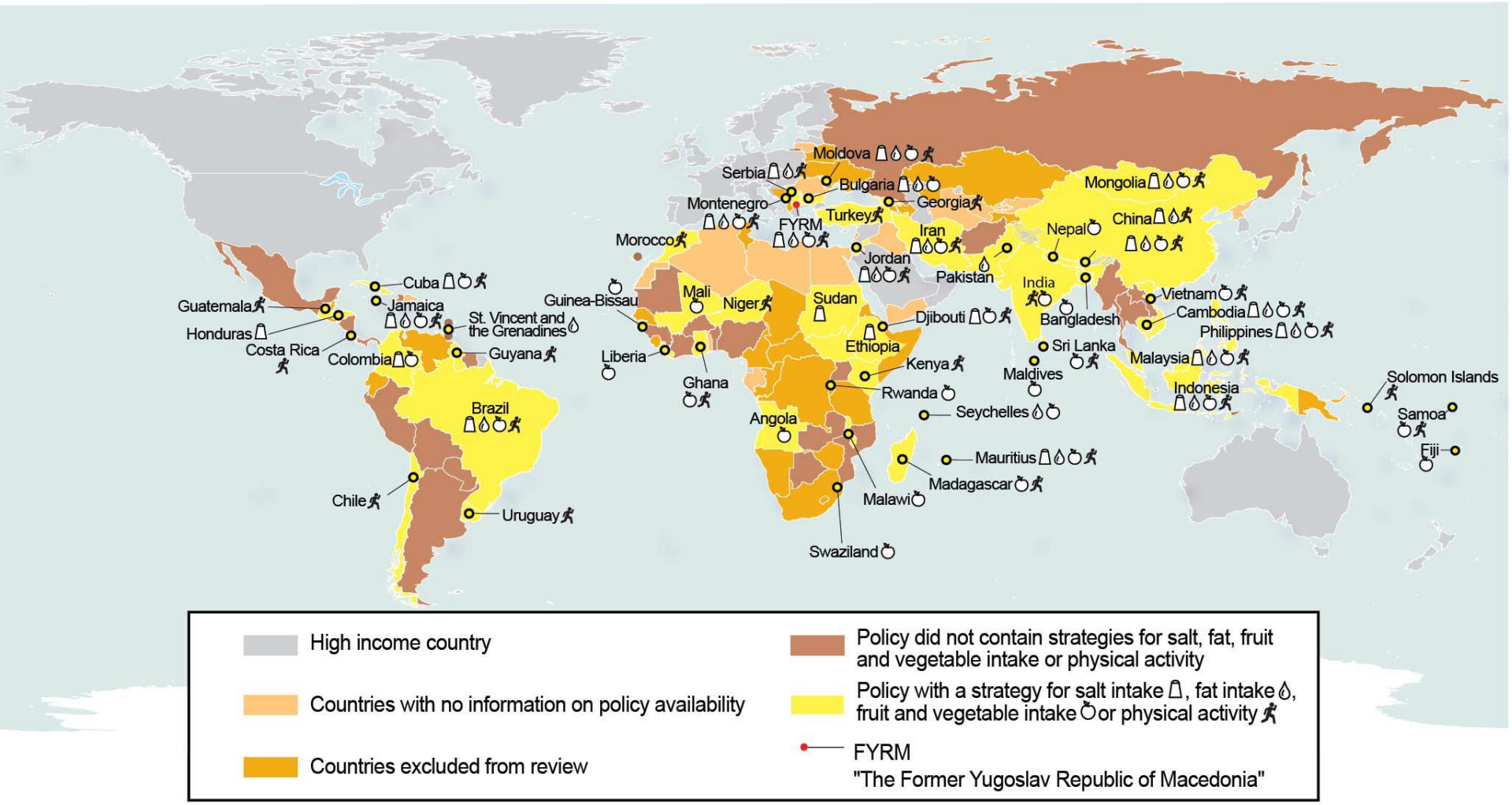
$13 million/year for green leafy vegetables

Commodity Marketing

5-a-Day

$7 million (est.) required for a major marketing campaign

P.A. and Diet-related Prevention Policies



Source: C. Lachat et. Al, PLOS Medicine, June 2013

Conclusions

- In the short-run, for health purposes, prefer nutrition subsidies to ag commodity subsidies
- In the long-run, need allocative shifts in ag (probably not with a health rationale, maybe a development one would fly)
- Move towards a “do no harm” stance
- Urge transparency in policies (politicians choose inefficient tools if they can be less transparent-EWG)

THANK YOU

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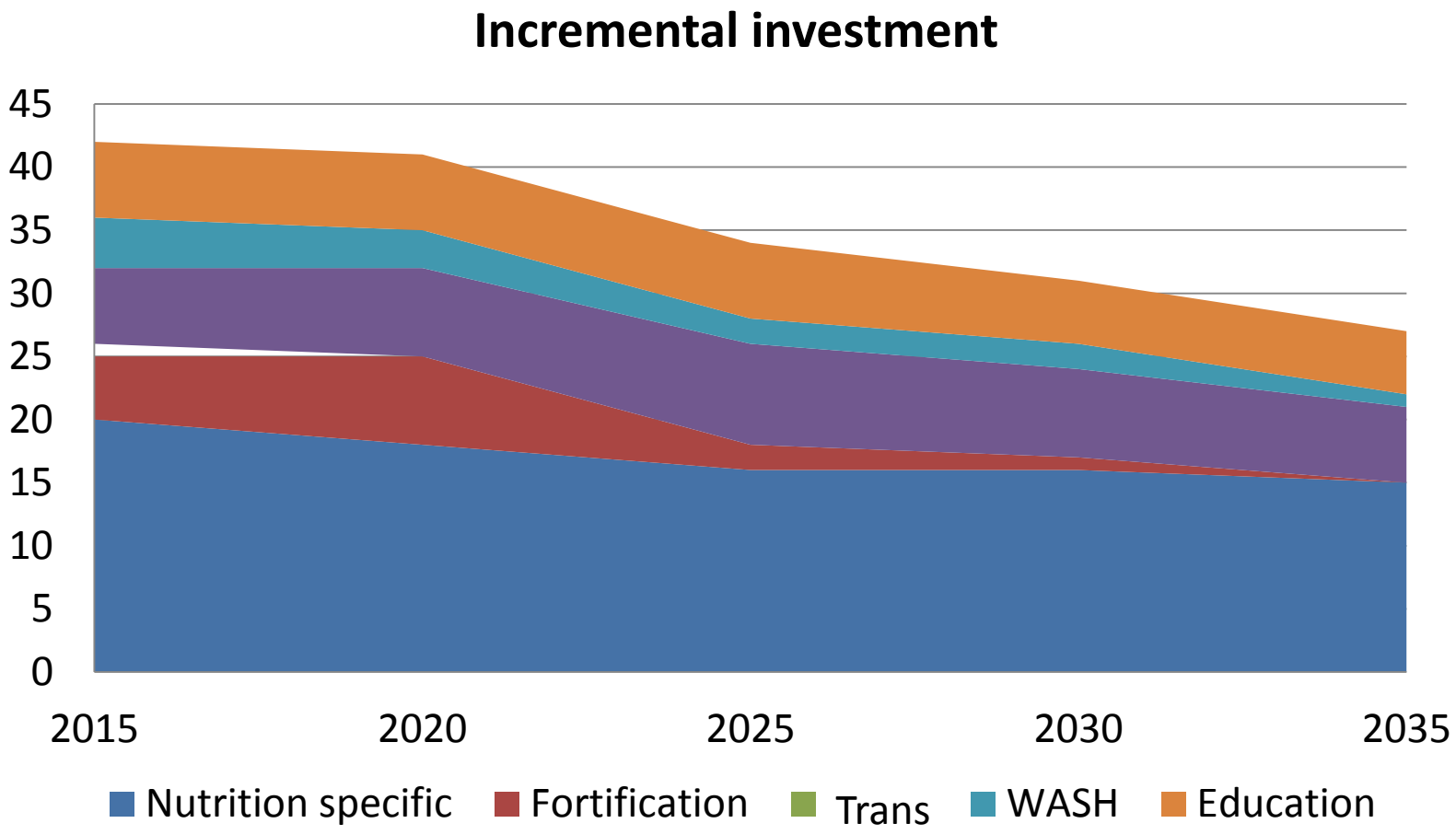
Making the Investment Multi-sectoral



Source: FAO, State of Food and Agriculture, 2012