

Lessons Learned from Flour and Salt Fortification

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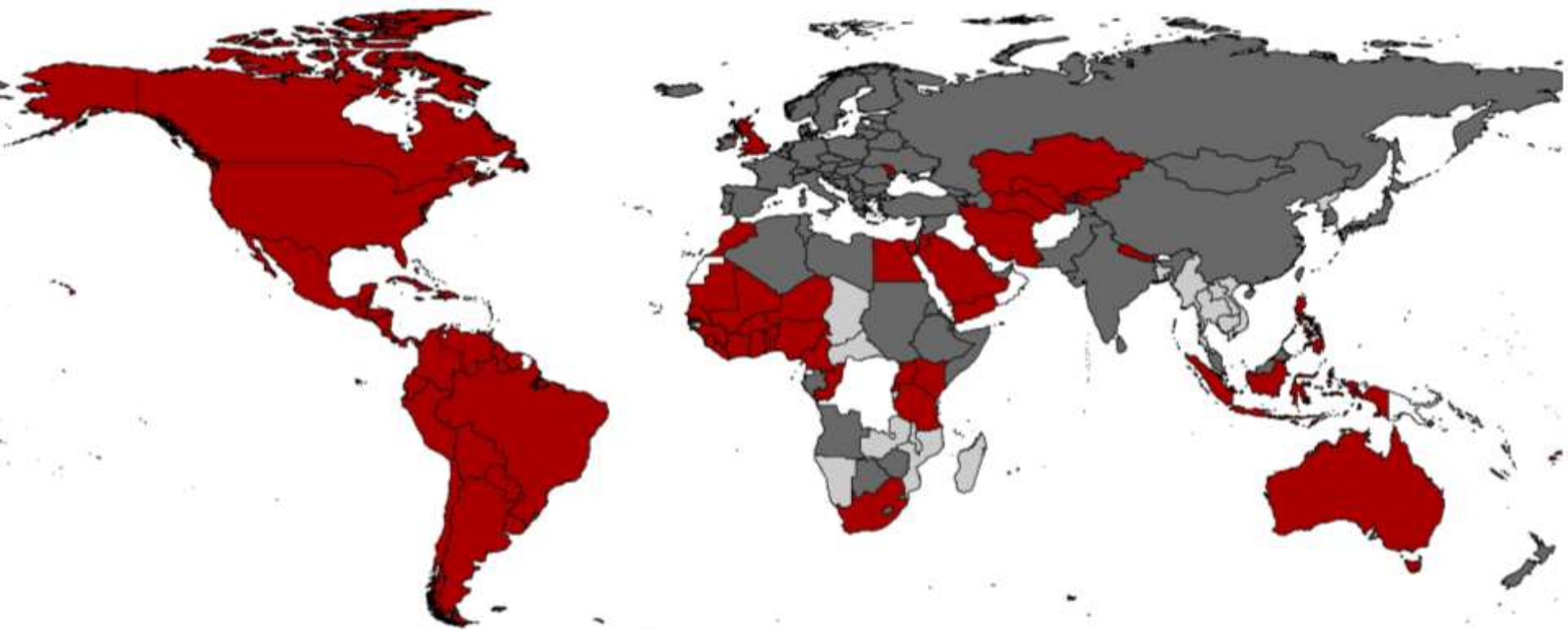
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Outline

- Overview of wheat flour of salt iodization programs
- Criteria of suitable fortification vehicles
- Program success factors
 - Legislation
 - Industry consolidation
 - Partnership and leadership
 - Evidence-based standards
 - Regulation and regulatory monitoring
 - Communication
- Summary

Wheat Availability and Fortification Legislation



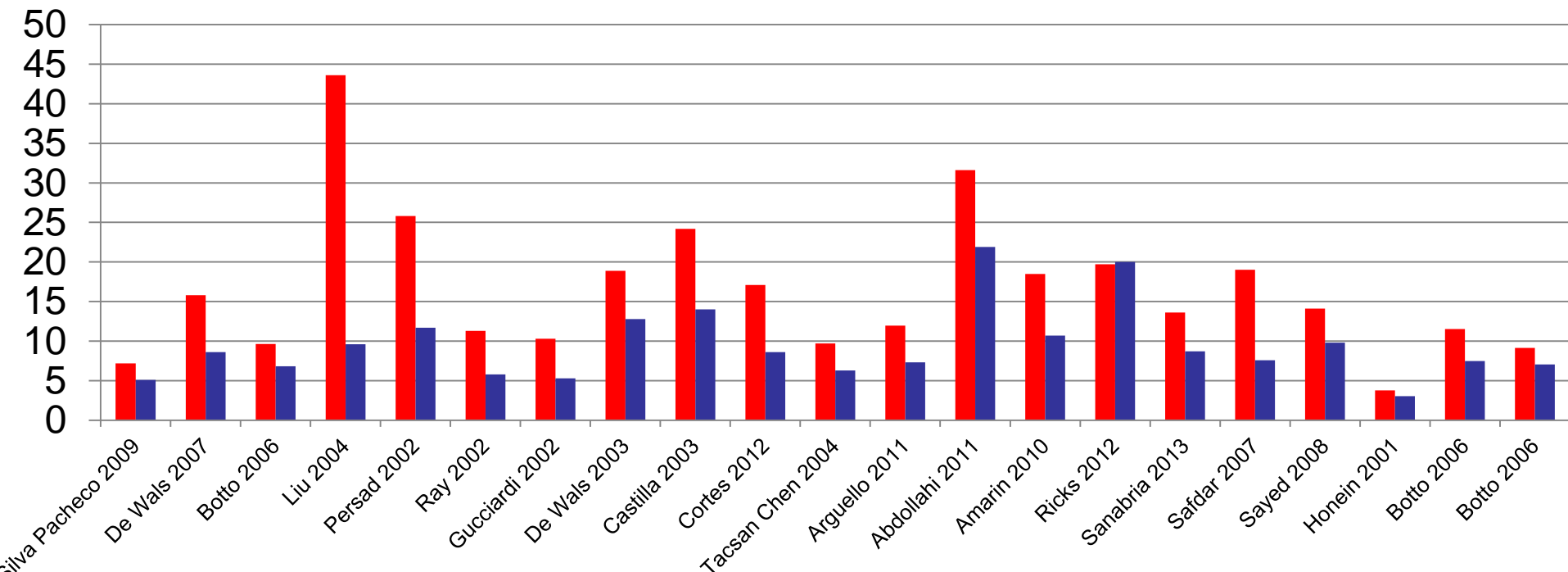
* Legislation has the effect of mandating grain fortification with at least iron or folic acid. This does not reflect how much grain is available in that country. Grain availability data from the Food and Agriculture Organization (2009). Legislation status from the Food Fortification Initiative (www.FFInetwork.org).

FFI 2014

Folic acid fortification of wheat and maize flour reduces neural tube defects

Neural Tube Defects (per 10,000): Pre and Post Fortification with Folic Acid

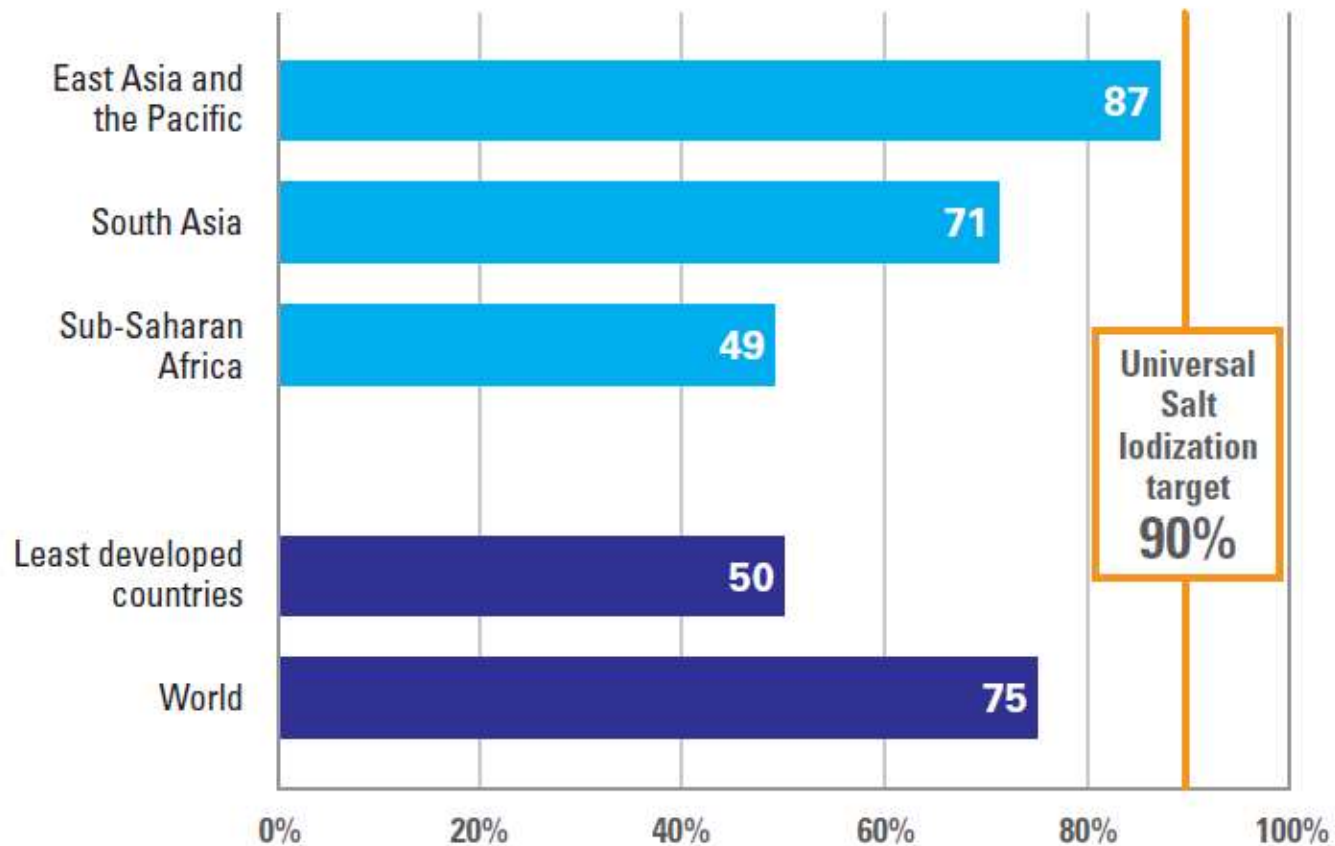
■ Prefortification NTD per 10,000 ■ Postfortification NTD per 10,000



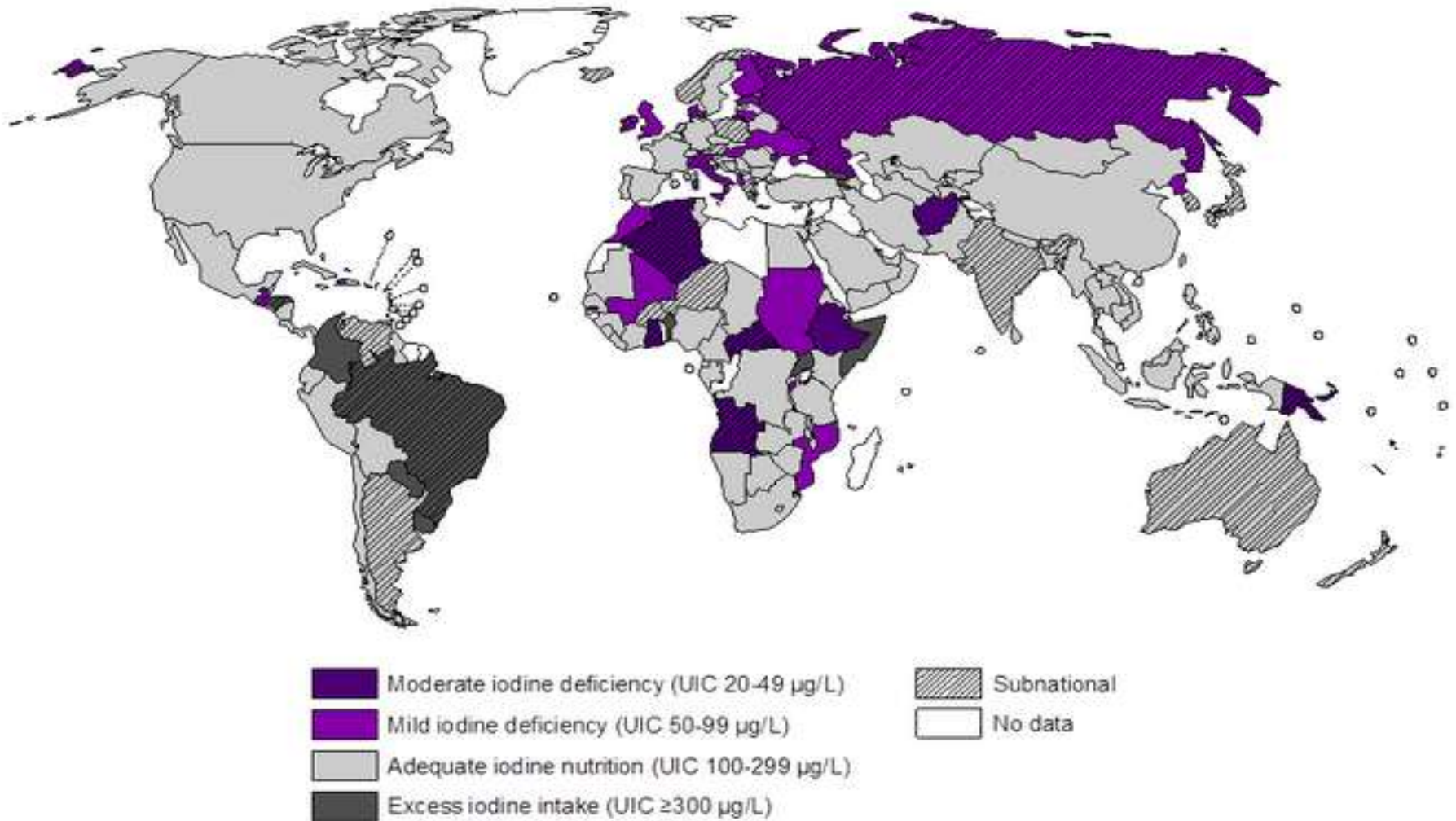
Brazil, Canada, Chile, Costa Rica, Iran, Jordan, Peru, Saudi Arabia, South Africa, USA

Adapted from FFI 2013. Folic acid in flour ranged from 1.2-2.2 mg/kg.

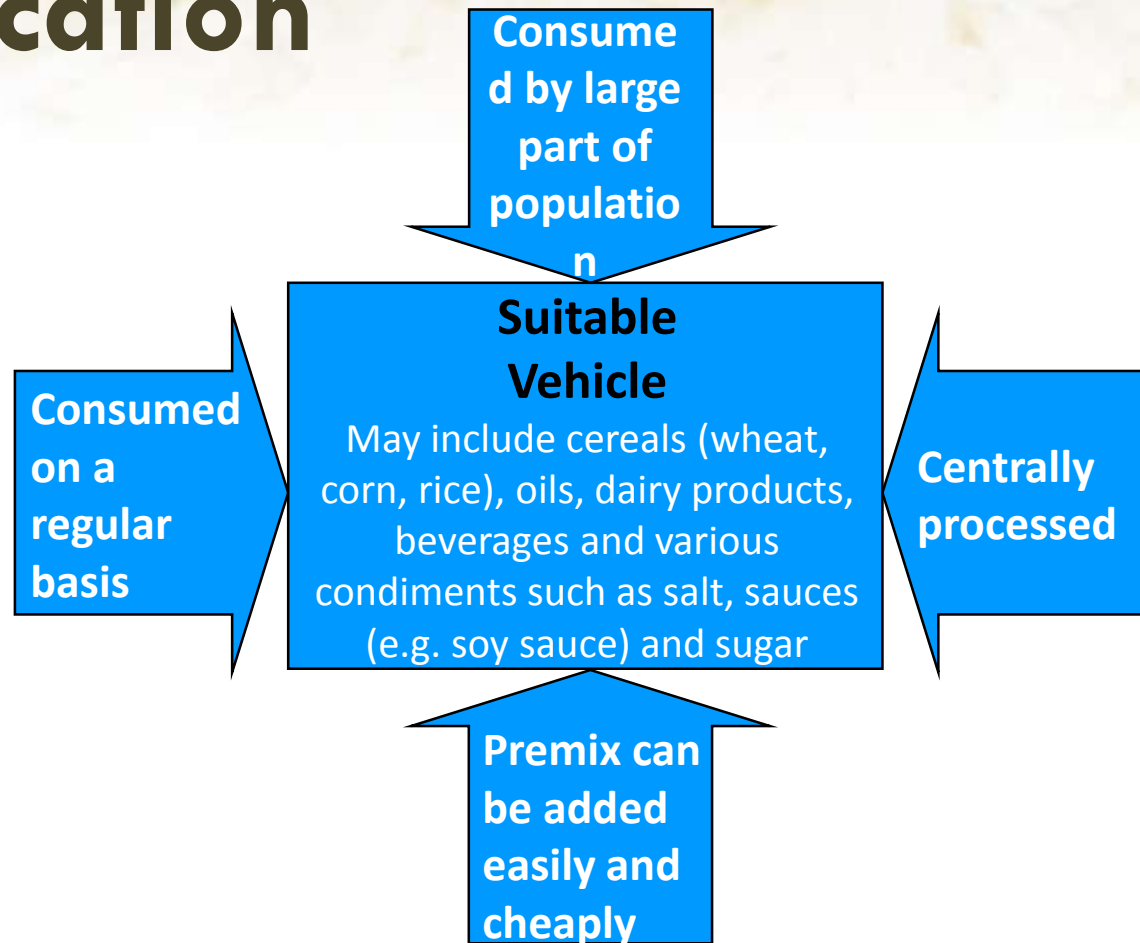
Globally, three out of four households consume adequately iodized salt



National Iodine Status, 2014



Selection of vehicles for fortification

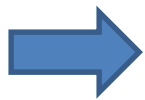


Program success factor: Legislation

Mandatory legislation:

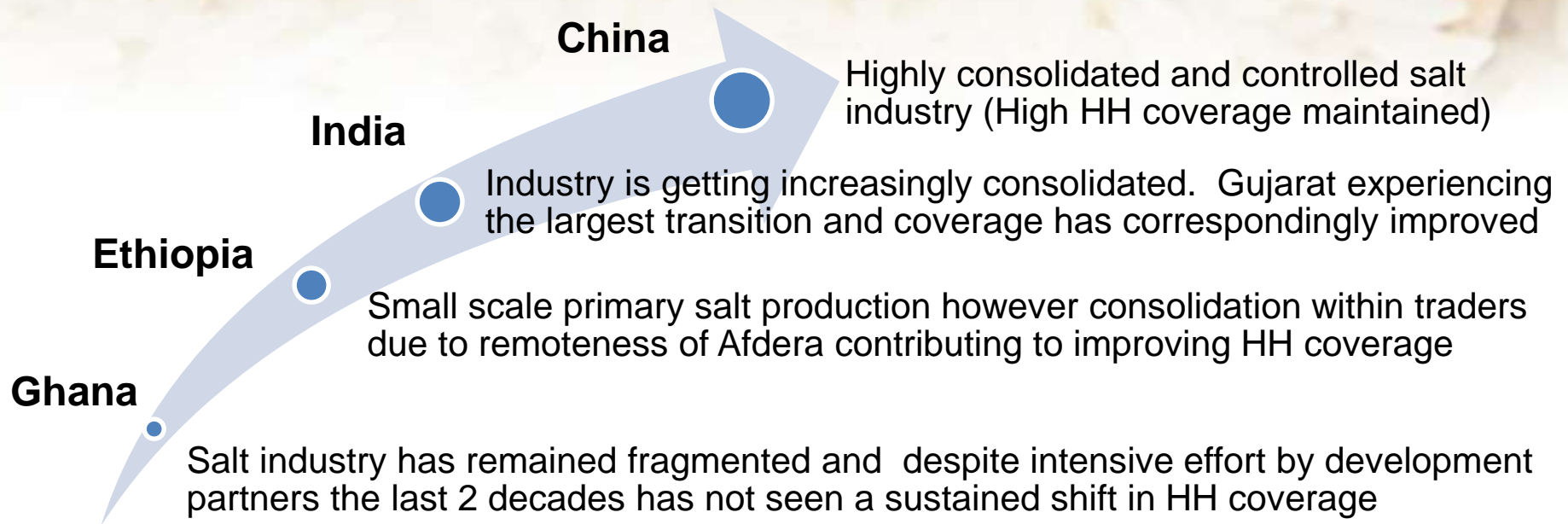
Compared to voluntary legislation, it

- provides a higher level of certainty of establishing a sustained source of fortified food
- achieving a public health benefit among target populations



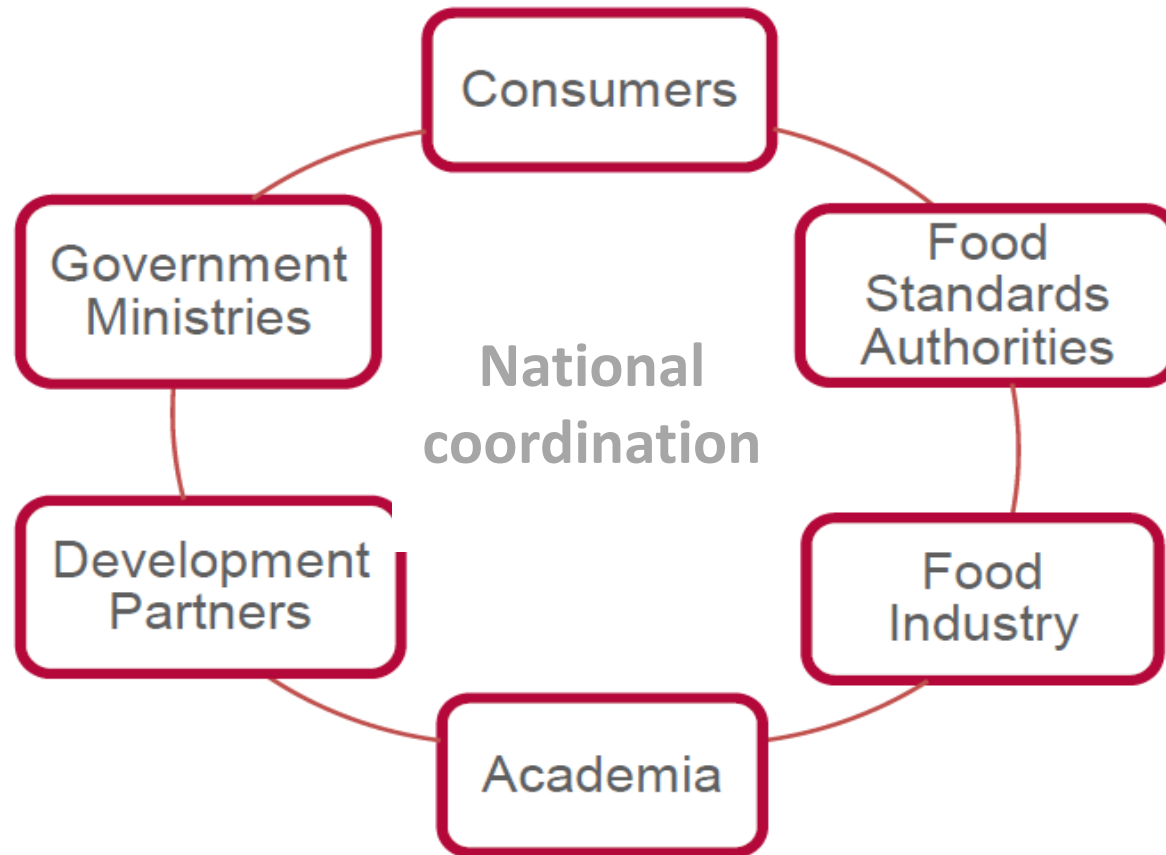
Mandatory legislation promises to achieve greater public health impacts than voluntary fortification

Program success factor: Industry consolidation



→ A consolidated salt industry is a key driver of successful salt iodization programs

Program success factor: Partnership and Leadership



Government leadership
Committed food industry

Program success factor: Evidence-based standards

WHO/NMH/NHD/MNM/09.1



**World Health
Organization**

Recommendations on Wheat and Maize Flour Fortification Meeting Report: Interim Consensus Statement

ANNALS OF THE NEW YORK ACADEMY OF SCIENCES

Issue: Technical Consideration for Rice Fortification in Public Health

WHO, 2009

Proposing nutrients and nutrient levels for rice fortification

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de Pee, 2014

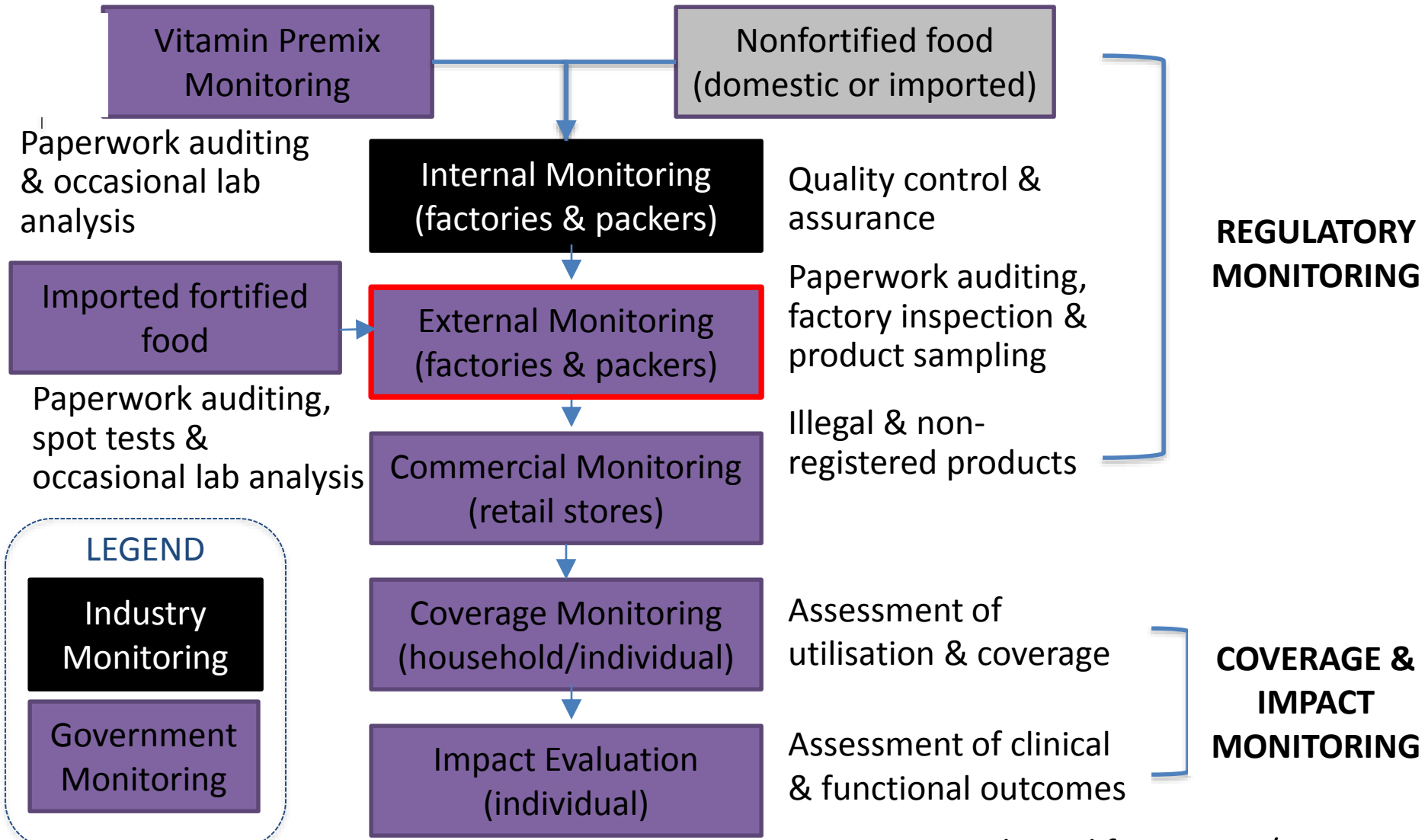


Program success factor: Regulation

Governments are responsible for ensuring that the combination of the food vehicle and the fortificants will be both *efficacious* and *effective* for the target group, yet safe for target and non-target groups

→ All forms of food fortification should be appropriately regulated

Program success factor: Regulatory monitoring (design)



Adapted from WHO/FAO, 2007

Program success factor: Regulatory monitoring (implementation)

Total quality approach:

- Industry documents the process and regulators inspect the records, with product sampling and testing relegated to a validation role
- Fortification quality processes should be nestled within ISO, Good Manufacturing Practice, Hazard Analysis and Critical Control Points (HACCP) guidelines

Punitive measures must be appropriate in the case of repeated non-compliance

Use 'third party' testing to put pressure on industry and government

Program success factor: Regulatory monitoring (implementation)

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Use 'third party' testing to put pressure on industry
Government

Ensure appropriate resourcing for monitoring and enforcement

Program success factor: Communication

Voluntary legislation

- ↑ Awareness
- ↑ Demand
- Influence purchasing behavior

Mandatory legislation

- ↑ Awareness
 - consumers
 - policy makers
 - regulatory agencies
- ↓ Misconceptions

Focus on providing consistent messages to target audiences

A universally recognized logo is one tool to identify fortified products



Summary

Lessons Learned from Flour and Salt Fortification

Wheat flour and salt iodization have achieved remarkable public health success worldwide

Industry consolidation is a key driver of success

National partnership and long-term industry and government commitment underpin successful programs

Mandatory legislation, based on evidence-based standards, yields best results but needs to be accompanied by adequate regulatory monitoring

Communication is important but cannot replace regulatory monitoring in the context of mandatory legislation



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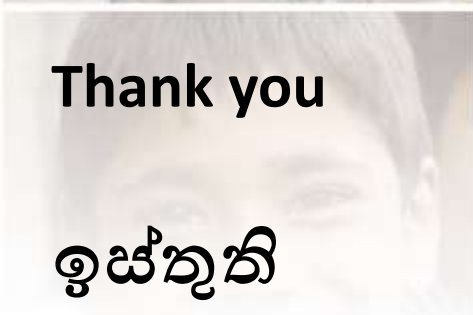
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Thank you

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Terima kasih

Salamat Po



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Bangkok, September 16-19, 2014

