



FLOUR FORTIFICATION IN THE REGION



Flour Fortification Initiative
A Public-Private-Civic Investment in Each Nation

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FFI EAST ASIA SECRETARIAT

58 Countries with Mandatory Flour Fortification

Mandatory

Philippines
Indonesia

USA

Canada
Australia

UK

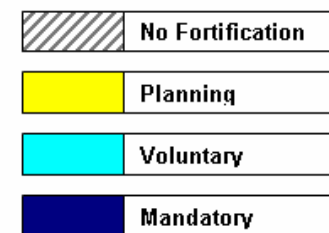
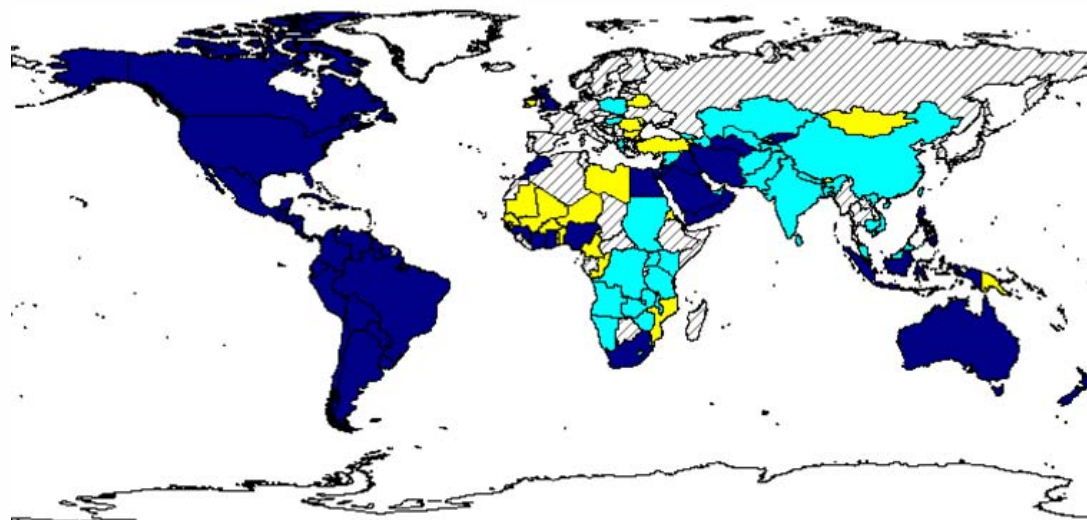
South Africa

Most of Gulf States
Most of Latin America

Proposing

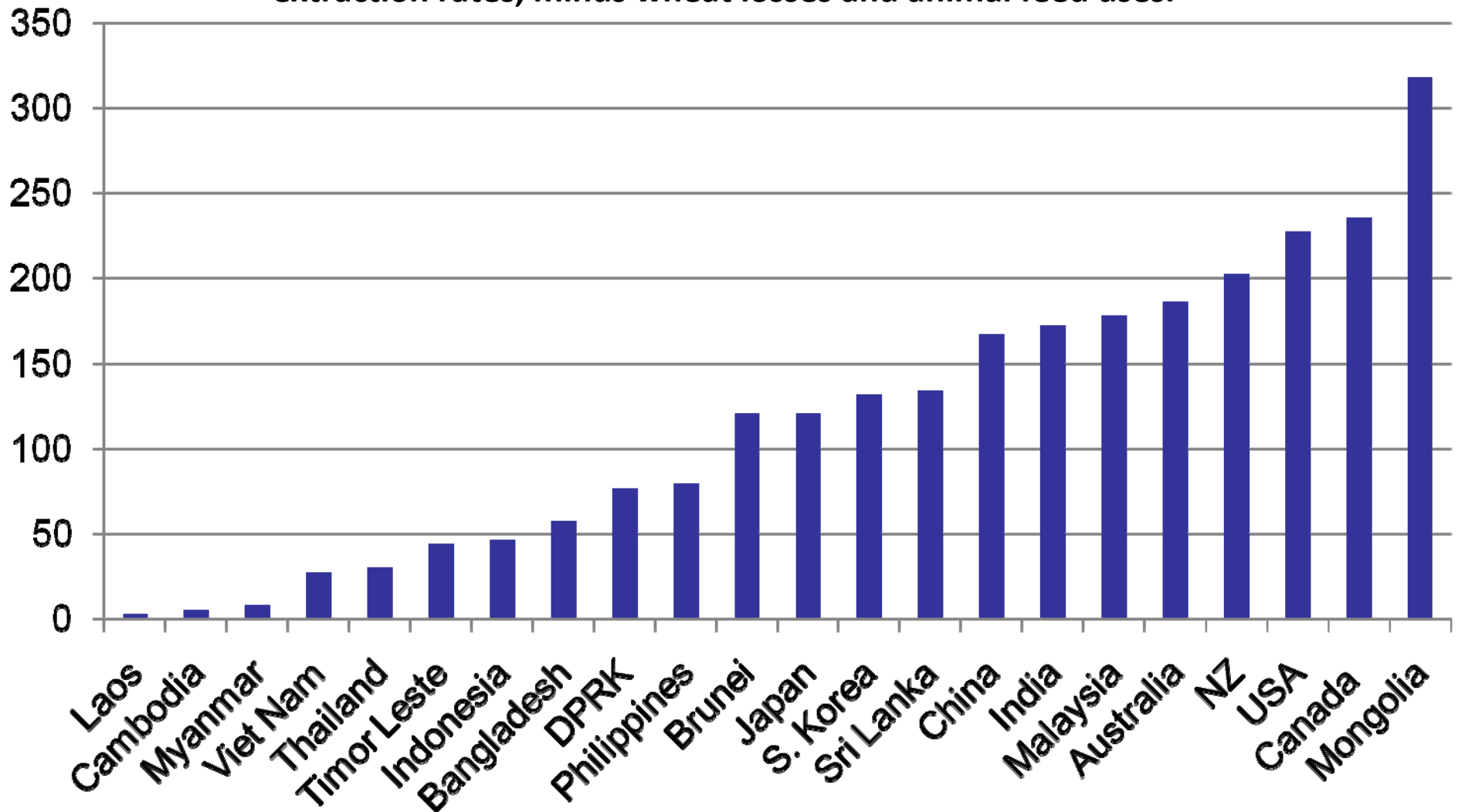
Malaysia
Sri Lanka
India (some states)

Fortifying with at least iron and/or folic acid
March 2009



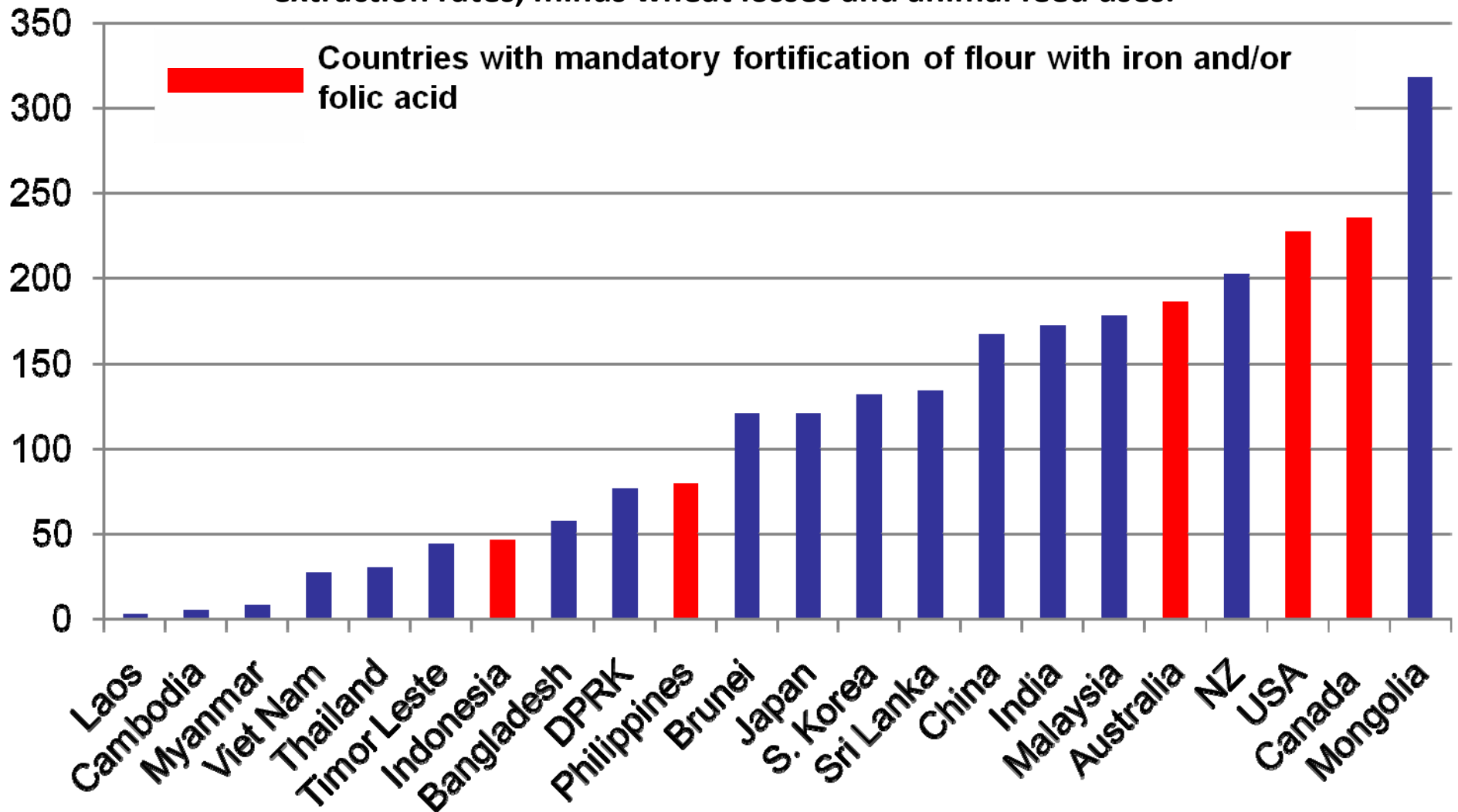
Wheat consumption in various countries (g/capita/day, Ref: FAO 2003 Food Balance Sheets)

NB. The figures denote total wheat consumption; estimated average wheat flour consumption is roughly 75% of total wheat consumption depending upon milling extraction rates, minus wheat losses and animal feed uses.



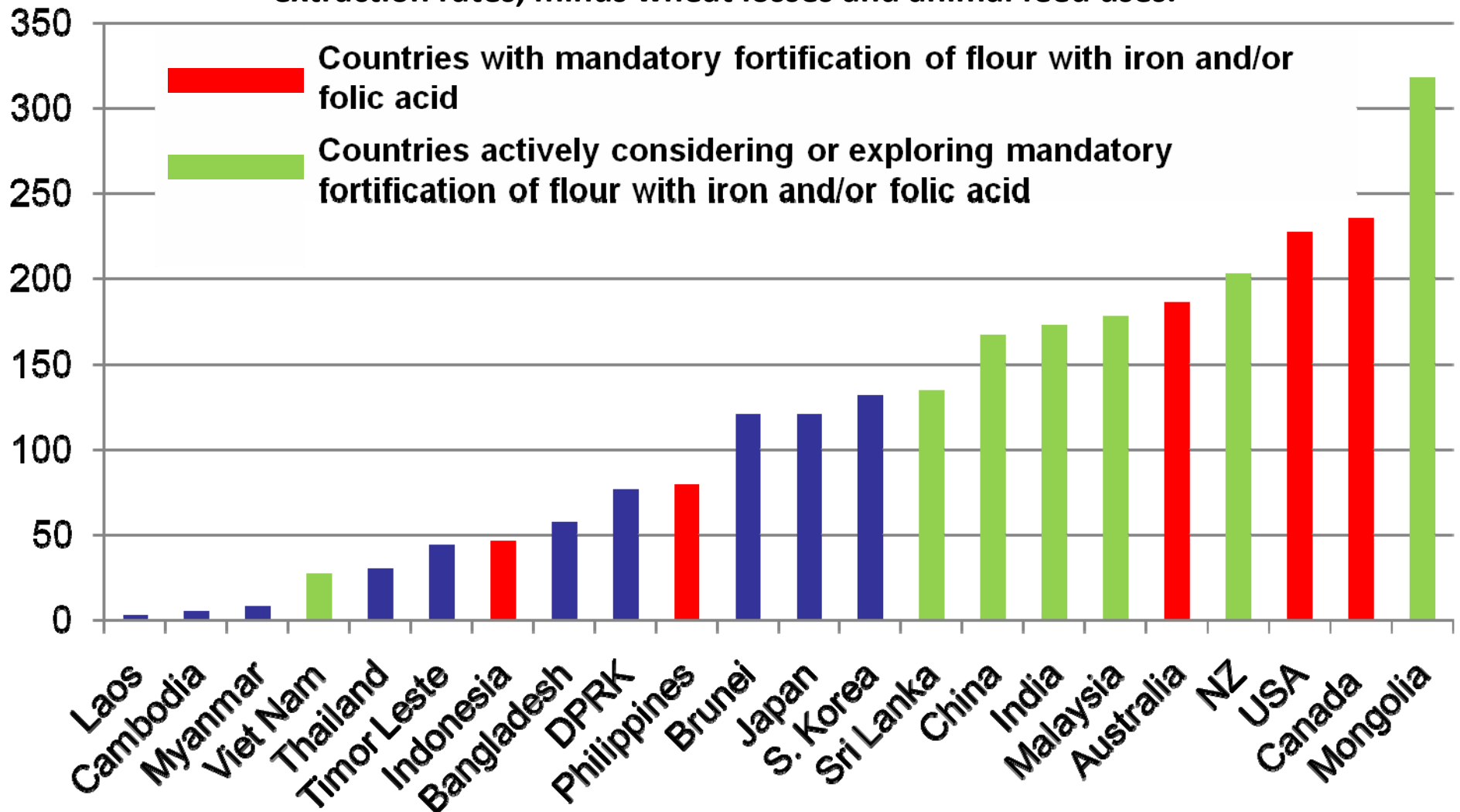
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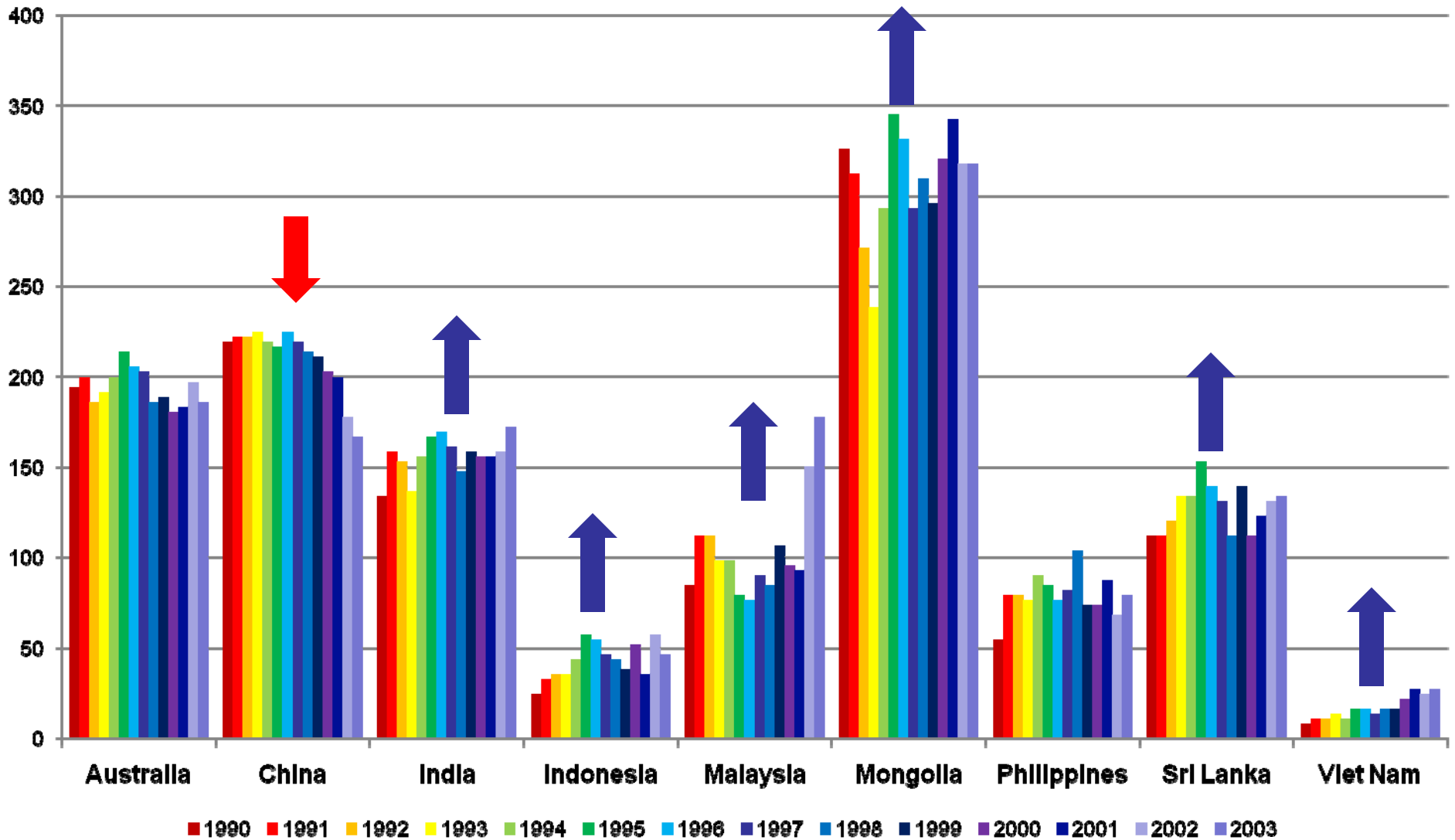


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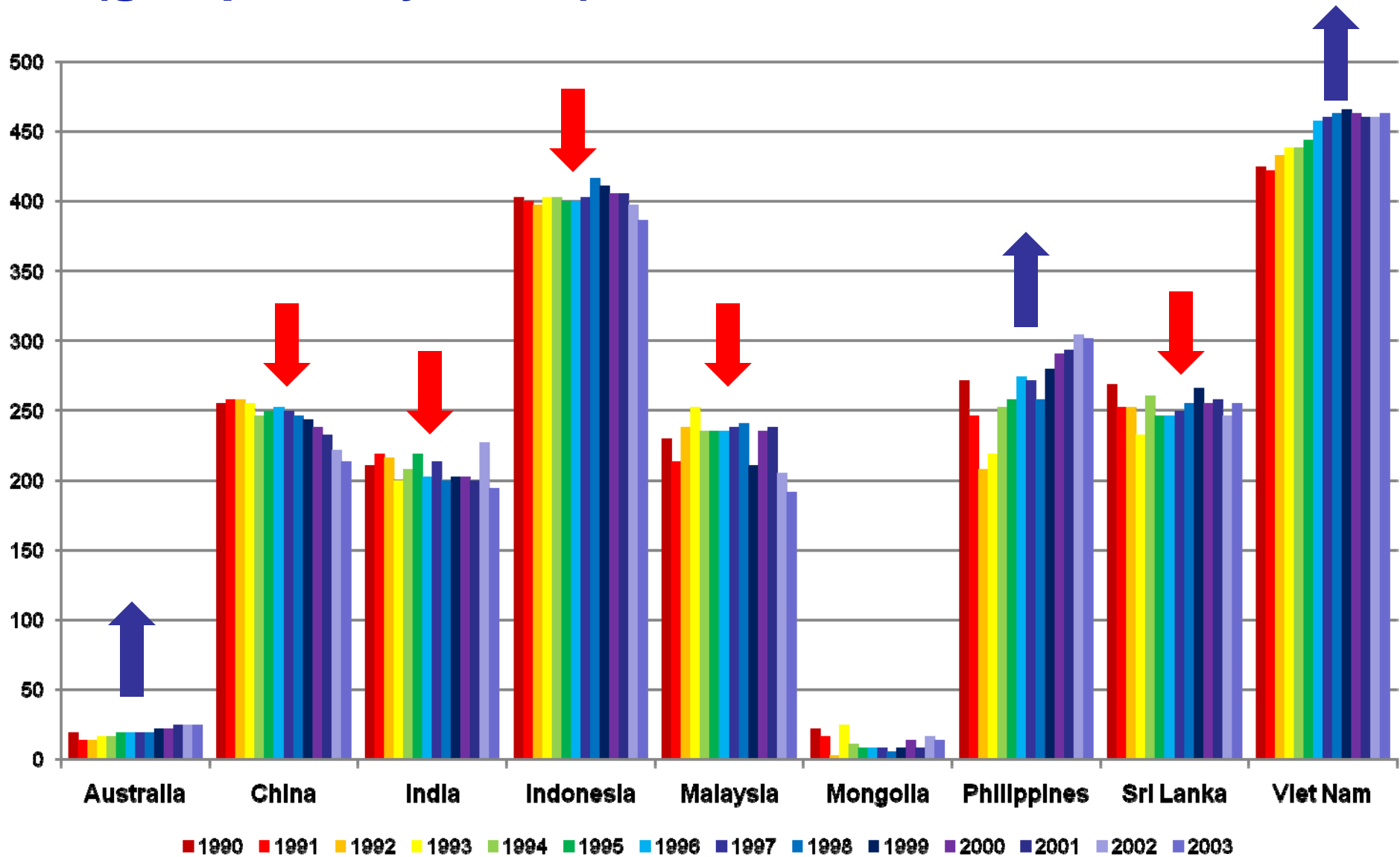
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Wheat consumption, 1990-2003 (g/capita/day, FAO)



Rice consumption, 1990-2003 (g/capita/day, FAO)





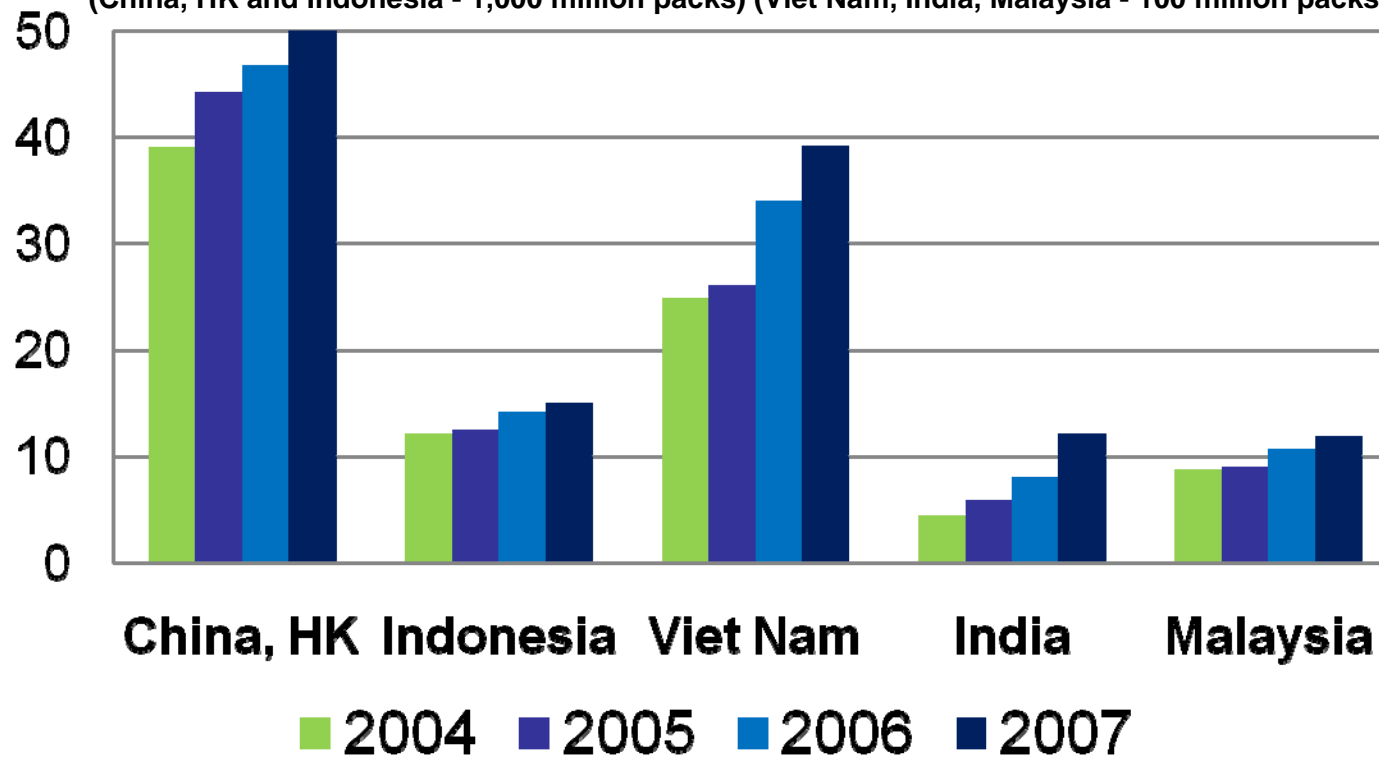
Instant Noodles

- 2002-2007: 66% increase in global production
- Convenient, low cost food → urban staple food
- Most significant growth expected in rapidly developing, urbanizing countries eg. Indonesia, Viet Nam







National Trends in Instant Noodle Demand

(China, HK and Indonesia - 1,000 million packs) (Viet Nam, India, Malaysia - 100 million packs)



Flour Mills in Attending Countries

Country	No of Mills
China	9,800*
India	1,000*, 800**
Mongolia	28
Viet Nam	21
Philippines	16
Malaysia	13
Indonesia   	9
Sri Lanka 	2

* Greater than 50MT/day, ** 20-40 MT /day

Philippines and Indonesia: Experiences with Mandatory Flour Fortification

- **Philippines:**
 - Legislation in 2000; full implementation in 2004
 - Flour, sugar, oil and rice (salt – ASIN law)
 - Iron and vitamin A
- **Indonesia:**
 - In effect since 2001
 - iron, folic acid, zinc, B1 and B2
- All mills fortifying
- No problems reported: milling industry, consumers
- Weaknesses:
 - No impact data available
 - Problems with quality assurance systems and enforcement
 - Insufficient communication between millers and government

Malaysia and Sri Lanka: Working Towards Cabinet Decision on Mandatory Fortification

- **Malaysia:**
 - Started process July 2007
 - Proposal approved within MOH, support of EPU and MODT
 - Final details before submission to Cabinet
 - Issues on standards and safety of folic acid fortification
- **Sri Lanka**
 - Recent decision for mandatory flour fortification in Sept 2009
 - Support of Minister and Secretary of Health
 - Committee to consider all issues and draft paper for Cabinet
 - Only two mills, one already fortifying on voluntary basis

China, Viet Nam and Mongolia

- Strong interest from some and lots of discussion
- Final political decision to go ahead still not achieved
- Voluntary fortification
- Issues:
 - Can all imports be fortified?
 - What about small mills?
 - Can we ensure compliance?
 - What about consumer choice?
 - Will this significantly improve nutrition?

India

- 80% of flour milled in small 'chakki' (village) mills; remaining 20% in 'organized' (commercial) mills
- Government decisions on food fortification made at State level
- However public distribution systems for food cover 30-40% of poor population
- Several states, where wheat is staple food, have adopted fortification of state-controlled flour – public distribution system, school lunch programmes, ICDS etc.
 - Gujarat
 - Tamil Nadu
 - West Bengal
 - Kerala
 - Chandigarh
- Additional states also proposed

Existing Flour Fortification Standards

- Existing standards do not conform to WHO recommendations
 - Iron often not specified and elemental iron (reduced or electrolytic) most commonly used
 - Levels are lower than recommended (folic acid, zinc)
 - Folic acid not included in one country

WHO/UNICEF/FFI Meeting on Implementation in Asia of the Recommendations on Wheat Flour Fortification

[Click here to return to the Manila Meeting Summary](#)