

**Smarter Futures/FFI Meeting 2 – 3 December 2014, Cape Town
Celebrating and Equipping Progress Through Partnerships**

Estimating Fortification's Costs and Economic Benefits

Presented by: Quentin Johnson

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Food Fortification Initiative
Enhancing Grains for Healthier Lives



Multiple Rationales for Investment in Flour Fortification

- Moral
 - Humanitarian Imperative
- Good Governance
 - Obligation to Citizen Rights to Nutrition
- Economic Growth & Development
 - National Development Investment



Willie Sutton: Infamous Bank Robber in 1930's USA Depression Era.

Question: *Why do you rob banks?*

Answer: *"That's where the money is."*



Workshop Tool

- Excel software with multiple spreadsheets
- Fixed parameters used to determine **health** and **economic** related losses based on existing literature and economic studies.
- - Anemia, iron deficiency, NTDs
- Specific data for countries can be used based on country official data and statistics.



Rationale

- Development of cost benefit case for flour fortification.
- Advocacy to private sector, milling industry etc.
- Allows economists to compare flour fortification to other government programmes and health interventions
- Use as advocacy tool for policy makers in government ministries and Prime Minister Office



Methodology

- Workshop Structure based on 4-5 days
- Country teams representing Industry, Ministry of Health, Ministry of Trade and/or Finance
- Country team 3 – 7 people ideal
- Data collection by country teams prior to the workshop – essential!
- Country teams need to reach consensus on their own country data and statistics.



Workshop Process

Determination of Economic Losses

- Objective: Determine the costs of doing nothing
- Estimate and validate country health statistics
 - Iron: Iron Deficiency, Iron Deficiency Anemia
 - Folic Acid: NTDs and deaths
- Estimate Economic Losses
 - Iron deficiencies cause loss in economic productivity
 - Folic Acid deficiencies cause increase health care costs and economic burden on families for additional healthcare costs
- Review spreadsheet calculations and revise if required



Examples of Economic losses

The National Burden of IDA, VAD & NTD

1. Child Mortality Cost of VAD
2. Neo-Natal Mortality Cost of IDA in Pregnant Women
3. Maternal Mortality Cost of IDA in Pregnant Women
4. Mortality & Disability Cost of NTDs
5. Future Productivity Loss Due to Cognitive Deficits in Children
6. Current Productivity Loss Due to Anemia in Adult Women and Men
7. Summary: Money, Mortality

Source: Jack Bagriansky

IDA = iron deficiency anemia

VAD = vitamin A deficiency

NTD = neural tube defect



Flour Fortification: A Strategy to Lower the Burden

1. Coverage of Flour Consumption
2. Effectiveness Among Consumers
 - Flour Additional Rates
 - % RNI for Risk Groups
 - Projected Reduction in Baseline Prevalence
 - Explain why you chose that number
3. The Potential Benefits of Flour Fortification
 - Money and Lives
4. Cost of Flour Fortification
5. 10 Year Benefit Cost Ratio



Fortification For NTD Prevention

Examples of Health Impact

Meta-analysis published in 2010:

8 Included 8 studies published between 2002 to 2008 by 8 different authors

5 Reflected studies using sub-national data in 5 countries: Argentina, Canada, Chile, South Africa, USA

31 – 78% Neural tube defect reductions ranged from 31% to 78%

46% Overall reduction in risk of neural tube defects was 46%



Effectiveness of National Flour Fortification Programmes

National Programme Evaluations Prevalence of Iron Deficiency and Anemia

Country	Risk Group	Condition	Pre	Post	% Reduction
Venezuela	Children > 5yrs	Iron Deficiency	37.2%	15.5%	58.3%
		Anemia	18.1%	17.1%	5.5%
Costa Rica	Adult Women		18.4%	10.2%	45%
Kuwait			33%	24%	27%
Oman	Pregnant Women		49%	31%	37%



Large Scale Effectiveness Trial Darjeeling, India

Prevalence of Vitamin A Deficiency (Serum Retinol < 0.70 umol/l)

	Pre	Post	% Reduction
Pregnant Women	24.5%	23.2%	5%
School Age Children	34.5%	18.7%	46%
Adolescent Girls	30.1%	12.5%	58%
Pre-School Children	26.5%	22.5%	15%



Cost Benefit Workshops Completed

The following regions and countries have had CBA workshops:

- CEE and Eurasia
- Uzbekistan
- East Africa
- Participant responses have been very positive and the workshops have resulted in flour fortification being implemented



Cost Benefit Workshops Planned for Africa 2015 - 2016

- French language version for Francophone countries
- English language version for Southern Africa countries.



For More Information

www.FFInetwork.org

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E-mail: quentin@quican.com anna@annagram.nl
afidron@yahoo.com info@ffinetwork.org