FOOD FORTIFICATION:
Systems innovations to drive delivery and impact of fortified foods
No conflicts to disclose
ONE OF THE MOST COST-EFFECTIVE INTERVENTIONS

<table>
<thead>
<tr>
<th>FORTIFICATION</th>
<th>VACCINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat (iron &amp; folic acid) and salt (iodine)</td>
<td>All antigens</td>
</tr>
<tr>
<td><strong>27:1 benefit-cost ratio</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td><strong>16:1 benefit-cost ratio</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>$&lt;=$15 lifetime costs per person&lt;sup&gt;a&lt;/sup&gt;</td>
<td>$45 per fully vaccinated child&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Lives saved, significantly improved quality of life, billions in economic returns

---


YET COVERAGE RATES ARE NOT ON PAR

- Over-reliance on constrained governments to enforce programs.

- No incentive for food processing system to take on responsibility for health.

- Highly competitive markets, so tendency to reduce incremental cost.

- No culture of innovation in commodity businesses.

- No micronutrient elimination pathway around which to rally.

GAIN, FACT survey, 2015
Micronutrient manufacturers → Premix blenders → Millers → Wholesaler buyers and distributors → Retailers (govt/private) → Consumers

Government-issued fortification standards and enforcement

Systems innovations are needed to fundamentally alter incentives along the value chain
SYSTEMS INNOVATIONS THAT SHOW PROMISE

1. FULL SERVICE OFFERINGS to millers to fill gaps
2. RETAILERS AS ALLIES in enabling access to fortified foods
3. THIRD-PARTY WATCH-DOGS to augment oversight
1. FULL SERVICE OFFERINGS TO MILLERS TO FILL GAPS
FULL SERVICE MODEL BUILT AROUND PREMIX BUSINESS

Why does it show promise?

• Long term contract builds trust and steady demand.
• Bulk purchasing and local blending of micronutrients produces savings, which are passed onto millers and also support training.
• Leverages smart technology for quality monitoring.
• Working on both sides of the market: demand side community engagement reinforces supply-side work.
• Reframing from ‘compliance’ to ‘ownership’.
FULL SERVICE MODEL FOR RURAL MILLERS TO IMPROVE FORTIFICATION EQUITY

Why does it show promise?

- Creative business model for maize bag enables premix payment from millers.
- Remote monitoring of hundreds of mills makes fractured industry manageable.
- Network effect: Branded bag has catalyzed consumer demand and incentivized millers.
- Sustainability: Millers are issued a loan for dosifiers and pay outright for premix from maize bag savings.
HANDHELD DEVICE THAT ENABLES QUALITY CHECKS WITHOUT A LAB

Why does it show promise?

• Enables millers to actively manage quality: feedback and adjustments.
• Cloud-connectivity plans will enable transparency and trust along the value chain, and incentivize quality.
• Empowered regulators can redefine relationship with industry.
• Reduces pressure & cost to accredit labs for micronutrient analysis.
2. RETAILERS AS ALLIES IN ENABLING ACCESS TO FORTIFIED FOODS
ANNAPURNA BHANDAR PROGRAM IN RAJASTHAN, INDIA

TURNING GOVERNMENT SHOPS INTO ASPIRATIONAL MARKETS

Why does it show promise?

- Urban retailers expand markets to rural areas.
- Rural retailers generate additional income and receive retail management training.
- Rural consumers have an aspirational experience (more stock, quality branded products, choice) without added cost. Fortified products fit this experience.
- Fortified oil from urban areas put pressure on producers in rural areas.
- Model leverages trust between retailer and consumer.
RETAIL PROGRAM IN KYRGYZSTAN

EMPOWERING RETAILERS TO TEST FOR IODINE IN SALT

Why did it work?

• Leveraged consumer awareness of iodized salt.
• Involvement of most retailers posed a credible threat to millers.
• Low cost: Test kits for retailers, potassium iodate salt producers. Enables sustainability.
• Leveraged village health committees to underscore link to functional health; strengthened buy-in and sustained results.
EXPANDING CASH-BASED TRANSFER PROGRAM TO INFLUENCE NUTRITIOUS CHOICES

Why does it show promise?

• Target population: From ‘beneficiary’ to ‘consumer’ with nutritious offerings, choice, messaging.
• Spillover: enables retailers to market their more aspirational experience to non-voucher clients.
• Creates markets for suppliers of fortified products.
• Retail data enables faster understanding of consumption patterns and effectiveness of different approaches.
3. THIRD PARTY WATCH-DOGS TO AUGMENT OVERSIGHT
TRANSFORMING INDUSTRY BY SHEDDING LIGHT ON NON-COMPLYING FOOD MANUFACTURERS

Why does it show promise?

• Consumer-facing food manufacturers have the most to lose.
• In highly competitive markets, simple raw material input changes by one large manufacturer can catalyze the industry.
• Model shifts miller response from ‘compliance’ to ‘fulfilling demand’ from food manufacturers.
LEARNINGS

• Our efforts to advance the science & technology of fortification are at risk without a more robust and incentivized system of delivery.
• Systems innovations are powerful, underexploited levers to improve micronutrient health.
• New models often exploit within-industry partnerships and enlist larger industry as allies.
• Successful innovations tend to align supply and demand incentives using traditional business mechanisms.
• At their core, these innovations extend empowerment; business models and technologies support.