

Business & Development

DISCUSSION PAPERS

Business action to fight micronutrient deficiency

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Micronutrient deficiency undermines the potential of billions of people worldwide, limiting both their physical and mental growth during the vital years of childhood. It has rarely featured as a priority on the development agenda and the problem remains pervasive among poor population, but solutions do exist, notably through food fortification. Innovative multisectoral approaches, engaging the private sector along with government and civil society, are delivering encouraging results and demonstrating the potential to end this debilitating deficiency in a cost-effective way.

The private sector and the issue of micronutrient deficiency — the absence of key vitamins and minerals from the diet — appear odd bedfellows. Yet the food industry, as the growers, producers and distributors of food, is naturally aligned with access to good nutrition. In addition, as the private sector becomes increasingly involved in international development issues it is recognizing opportunities to positively impact the regions in which it does business through food fortification and to service untapped markets. If multisectoral partnerships are successful in helping business address market barriers, and helping the public sector resolve distribution barriers, there is great potential to reduce the impact of micronutrient deficiency and positively effect national economic growth.

Sustainable and equitable international development is predicated on individuals who are able to live long healthy lives, be innovative, work, and contribute to society. Proper nutrition, particularly during childhood, is essential

to foster normal growth and healthy development. Micronutrient deficiency is a hidden epidemic that leads to low birth weight, impaired cognitive development, impaired immunity, reduced earning potential and compromised life expectancy. These concealed outcomes have a disastrous effect on human capital, which is a key to improving both individual lives and to fostering the growth of national economies. The Asian Development Bank (ADB) projects that of five countries that it analyzed, the ten-year productivity loss due to their populations' iron deficiency alone is over US\$25 billion.

Micronutrient deficiency is clearly widespread and devastating, but it is a problem that has been largely eradicated in the developed world through food fortification. Leading economists have ranked the reduction of micronutrient deficiency second only to HIV/AIDS control as the development investment with the greatest potential pay-offs. Success would contribute directly to achieving the Millennium Development Goals (MDGs), a blueprint for development by

Figure 1: Common Vitamin and Mineral Deficiencies and Their Potential Impacts

<i>Vitamin/Mineral</i>	<i>Impact of deficiency</i>
Vitamin A	<ul style="list-style-type: none"> • night blindness • dry eyes • blindness
Iodine	<ul style="list-style-type: none"> • cretinism • goiter • low birth weights • vulnerability to disease • decreased brain development in children
Folate	<ul style="list-style-type: none"> • birth defects of the spine (spina bifida) and/or brain (anencephaly) • at risk for strokes as adults
Iron	<ul style="list-style-type: none"> • increased risk of dying while giving birth • severe deficiency, brain damage
Zinc	<ul style="list-style-type: none"> • pregnancy-induced hypertension, pre-eclampsia and placental abruption, pre-term delivery and hemorrhaging • hair loss, growth retardation, inflammation of the eyelids, and recurring infections among school age children. • delayed sexual development, decreased sperm count and lower levels of testosterone, as well as skeletal abnormalities, short stature and anemia, among male adolescents. • chronic non-healing leg ulcers and recurring infections among the elderly

2015 agreed to by UN member countries and the leading development institutions. Yet action is not easy to coordinate. Historically, micronutrient deficiency and its attendant consequences have been viewed as an issue for governments alone — particularly those parts of government overseeing public health. While governments have a key role to play, other sectors are now getting involved, particularly with respect to micronutrient fortification in developing countries. This reflects rising awareness of the impact that micronutrient deficiency has on all spheres of society. These sectors work individually and collectively to accomplish the goal of ensuring that staple foods are affordable, accessible, and nutritionally adapted to local contexts.

A Case for Business Engagement

There has been a long-standing relationship between government and the food industry, with the latter sometimes acting as what Professor Ray Goldberg at Harvard Business School has termed a “quasi public utility.” However, a more proactive approach is required around food fortification, focusing on market forces and mechanisms as a driver for action.

The private sector, which is inherently dependent on both labor forces and consumers, is motivated to address the micronutrient issue in part because it directly correlates to ensuring a future work force and to building future markets. If clusters of workers are not reaching their potential, this can have a corrosive impact on the businesses for which they work. Though this may not be immediately evident, operating with persistent underperformance and low levels of productivity is not a viable, long-term business model. In addition, particularly for industries dependent on fine motor skills, the lack of a suitable work force could pose a problem when these industries expand to locations beleaguered with chronic under-nutrition.

In terms of markets, consumer purchasing power is directly correlated to earning power, which is, in turn, linked to education. If children are unable to adequately learn because of the health impacts of chronic vitamin and mineral deficiency, the potential for them to earn more as adults, and consequently spend more, is diminished. This trend has a long-term bearing on the demand for goods and the potential for growing markets in developing countries. In the shorter term, improved local understanding of the benefits of fortified foods can lead to increased demand for such products and open up new markets for both local and multinational firms.

Mechanisms for Private Sector Engagement

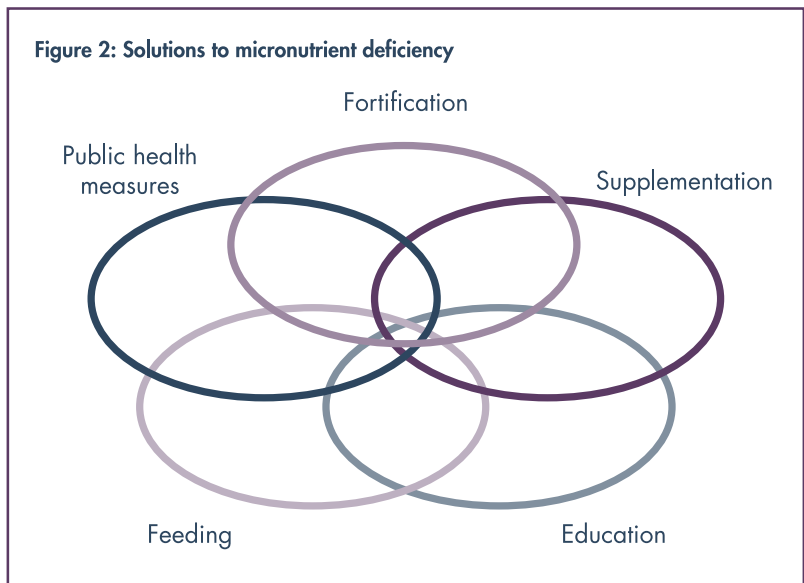
There are three immediate methods to address the issue and impacts of micronutrient deficiency:

- **Growing:** Biofortification, the process of plant breeding to develop staple food crops that are rich in micronutrients, is one means to reach populations who live on food from subsistence farming, thereby positively impacting the poorest of the poor. The Consultative Group on International Agricultural Research (CGIAR) is actively involved in and drives this work, for example helping introduce new sweet potato varieties in Africa to help combat Vitamin A deficiency.
- **Food-based micronutrient interventions (fortifying):** Adding vitamins and minerals to staple foods such as flour, oil, milk, and salt has been accomplished in the developed world, resulting in the almost complete eradication of a variety of deficiency-related diseases. In fact it is such standard practice that it is largely off the public radar screen. This method, which is both cost-effective and far-reaching, holds great potential for the developing world. Fortification is being undertaken in developing countries by flour millers and manufacturers of other foods that can be fortified, such as soy sauce and beverages.
- **Feeding:** Nutritionally balanced school feeding programs, also called food-based approaches, supported by governments and corporations are a way to access children. A wide range of corporate actors are supporting such work. Emergency feeding by such organizations as the World Food Program has also shown to have great impact.

These three solutions are linked directly to the agro-business industry, life science companies, and the

food industry. Beyond the growing, fortifying, feeding model, other private sector firms may become involved in the micronutrient issue by developing new fortified foods, using their supply chains to distribute either food or information, or engaging in cause-related marketing around the fortification issue. One solution to getting the most efficient and cost-effective outcomes is to offer a basket of options that includes fortification, supplementation, education, feeding, and public health measures. Different sectors and different firms can interface with these issues as necessary and appropriate.


The private sector is also influential in creating a positive business climate to encourage increased involvement in fortification. This includes lobbying for more effective legislation, trying to create a level playing field, and enforcement of current legislation in developing countries. Depending on the industry sector and local context, business can engage both directly and indirectly through their different spheres of influence to seek solutions to the issue of micronutrient deficiency. This can be done by individual firms — through core business activities, community and philanthropic work, engagement with public policy issues, and institution building — and/or collectively, with other companies within an industry, across industries, or across sectors.



Fortifying foods must be done by food companies, but leveling the playing-field to ensure that fortification does not render a company uncompetitive, requires oversight and enforcement by governments. It is hard for either party to be successful by working alone. There are now several public-private partnerships currently being undertaken to address micronutrient deficiency, including the Flour Fortification Initiative — engaging largely the grain and flour industries, certain projects of the Micronutrient Initiative, and the Global Alliance for Improved Nutrition’s Business Alliance for Food Fortification (BAFF). The BAFF is a strategic partnership network to strengthen private sector initiatives in food fortification for the poor in developing countries. BAFF partners, including the World Bank Institute, seek to identify new financial mechanisms and new business models, expand scientific knowledge and expertise in fortification, and catalyze joint action between companies, development partners and government.

The key to these initiatives is national level impact. For example, China Salt belongs to a group of Chinese state enterprises that works with provincial salt producers to promote salt iodization in China. The group partners with government agencies, NGOs, and development agencies to ensure affordable provision of iodized salt to the populations living in poor rural parts of the country, bringing immediate health benefits to these communities. China Salt is a good example demonstrating how low cost, low technology private-sector-led initiatives can have large health benefits for local communities.

The challenge is to scale up such successful examples and facilitate the multisectoral approaches that benefit business, government, and above all the populations they reach. According to the Asian Development Bank, “three billion people are prevented from achieving their full potential as students, parents, workers, and citizens due to micronutrient deficiencies.” This is

not sustainable, but with the private sector as a partner in tackling the problem, the prospects for large scale impact are now much brighter. 

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