Hidden Hunger

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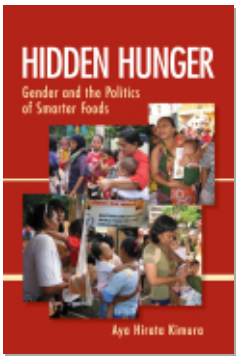

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SOLVING HIDDEN HUNGER WITH FORTIFIED FOOD

The World Bank is calling for the inclusion of nutrition schemes in every appropriate Bank project in order to combat deficiencies in Vitamin A, iodine and iron. Without these so-called micronutrients, development is hindered in many countries by the need to care for the more than 1m cases of blindness, mental retardation, learning disabilities and low work capacity, says a Bank report. The recommendation to devote more resources to these nutrients is contained in "Enriching Lives" published by the World Bank's human resources division, now the fastest growing sector in the giant multilateral lending institution.

—Nancy Dunne, *Financial Times,* December 17, 1994

Nutritional fixes such as protein-enriched food and vitamin A pills have had their day. The contemporary nutritional fix is *fortified food,* which became popular in the 1990s. The popularity of fortification is intriguing because there are many ways to conceive of solutions to micronutrient deficiencies. In the lexicon of nutritional science, "micronutrient strategies" refer to a set of public health interventions to combat micronutrient deficiencies. Typical micronutrient strategies suggested by international experts to Third World governments include supplementation and dietary diversification/education in addition to fortification (Underwood 1998; Maberly, Trowbridge, and Sullivan 1994).[1] The question is why fortification among these possible options? The answer lies not *within* fortification but *outside* and *around* it. Although the technical and biological merits of fortification tend to be seen as the reasons for its popularity, its political functions are no less important.

In this chapter, I address two important factors behind the fortification boom. The first is fortification's ability to simplify issues to technical matters, and consequently to avoid direct engagement with women. Women are the focus of micronutrient interventions because they are more likely to have micronutrient deficiencies and they influence children's micronutrient status during pregnancy and through nursing and feeding them. But convincing women to follow expert instruction and changing their behavior in terms

of diet and feeding practices presents a great challenge. In contrast, fortification does not involve convincing women to change their dietary and feeding behaviors. Nutrients can be added to products that people usually consume, and fortification can be designed exclusively by experts from the food industry, scientists, and policymakers. The second factor is fortification's fit with neoliberalism. While fortification can theoretically be carried out by governments, micronutrients are typically added to existing products such as wheat flour, formula milk, and margarine in the private sector. In the case of Indonesia, for instance, wheat flour fortification is mandated by the government, but the actual process of adding vitamin premix to wheat flour and marketing and distribution is carried out by the private sector. Voluntary fortification of baby formula is similarly done by formula companies. In this chapter I describe how multilateral lending institutions such as the World Bank and the Asian Development Bank (ADB) have played a critical role as the sponsors of fortification projects.

Arturo Escobar has discussed the process of the "economization of life" (1996, 331) in which international development accelerates the power of rationality and economic calculation espoused by development economists. Following his concept, I use the term "economization of nutrition" to show that neoliberalism has brought forth a particular framework of analysis and diagnosis that casts an economic gaze on food, health, and nutrition. The economization of nutrition refers to the processes through which capitalist economics is increasingly introduced into world nutrition problems. Explicit reference to theories and the use of calculative tools from conventional economics to gauge the efficacy of programs is an important epistemological requirement imposed by these multilateral banks on the global food and nutrition policy community.[2] One of the important consequences of this has been the construction of fortification as superior to other micronutrient strategies. By changing the interpretation of "advantages" and "benefits" of different micronutrient strategies, the economization of nutrition has critically shaped actual interventions into the food and body of the Third World.

These two issues—the absence of women and the prominence of the market under neoliberalism—are tightly interrelated. Experts' suspicion of women's ability to eat and feed properly has helped to legitimize market-based, corporate-centered strategies. While the market emerged as the provider of the solution to micronutrient deficiencies, women became merely victims of micronutrient deficiencies, and hence passive recipients of fortified food, rather than being considered as part of the solution. Such a gendered assessment of strategies to address problems of food security is linked to particular moments in international development.

Discovering "Hidden Hunger"

In the 1990s, micronutrients emerged as the new charismatic nutrients, and "micronutrient deficiency" became a central focus of the international nutrition community. The charisma of micronutrients was solidified and amplified by multiple international conferences that advanced micronutrient deficiency as the major problem of Third World food. These conferences include the 1990 World Summit for Children, the 1991 "Ending Hidden Hunger" conference (convened by the same group), the 1992 International Conference on Nutrition (ICN), and the 1996 World Food Summit (Underwood and Smitasiri 1999).[3] Pledging "to make all efforts to eliminate before the end of this decade…iodine and vitamin A deficiencies…and other important micronutrient deficiencies, including iron" (FAO and WHO 1992), these conferences set specific micronutrient goals to be addressed by global society. For instance, the 1990 World Summit for Children agreed to eliminate iodine deficiency disorders (IDD) and vitamin A deficiency (VAD) by the end of the century and to reduce iron deficiency anemia by one-third from 1990 levels. The charisma of micronutrients was further fortified with their incorporation in the Millennium Development Goal (MDG), which was agreed to by all the member states of the United Nations in 2000. The importance of micronutrients was similarly emphasized by the "World Fit for Children" declaration, endorsed by the 27th Special Session of the UN General Assembly in May 2002 (Rogers 2003). The World Food Summit in 2002 also targeted ending micronutrient deficiency as a goal, reflecting the growing international interest in micronutrients:

> We emphasize the need for nutritionally adequate and safe food and highlight the need for attention to nutritional issues as an integral part of addressing food security.…We recognize the importance of interventions to tackle micro-nutrient deficiencies which are cost-effective and locally acceptable. (FAO 2002a, 85)

The new charismatic nutrients started to attract a number of micronutrient-focused projects by international organizations. For instance, USAID started the Opportunities for Micronutrient Interventions (OMNI) project in 1993 to help countries meet the goals set by the World Summit for Children and ICN. Similarly, participants at the "Ending Hidden Hunger" conference established another organization called the Micronutrient Initiative (MI) to promote micronutrient strategies in developing countries. Another organization, Global Alliance for Improved Nutrition (GAIN), was established by the Bill and Melinda Gates Foundation, USAID, CIDA, and the World Bank to promote micronutrient awareness in developing countries. There have also been various coordinating programs for micronutrient

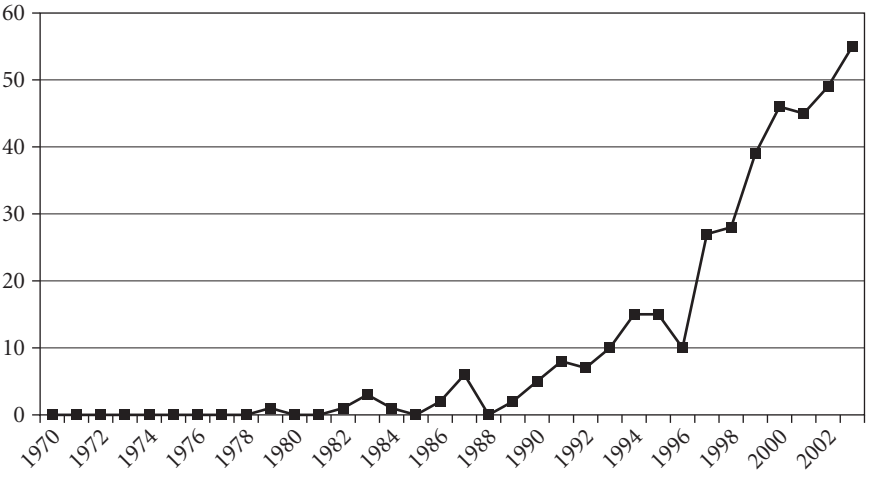

FIGURE 3.1. The number of publications with key word "micronutrient malnutrition." *Source:* PubMed, National Library of Health.

strategies, such as the Program Against Micronutrient Malnutrition (PAMM) at Emory University, which pays particular attention to IDD and fortification.[4]

The ascendancy of micronutrients into stardom in international development was accompanied by their rising popularity in academia. A search in the database of medical and nutrition journals at the National Library of Medicine (PubMed)[5] by the keyword "micronutrient malnutrition" indicates that the bulk of academic publications on micronutrients have been published since 1990 (fig. 3.1). The impressive list of prestigious global conferences and the rising number of academic publications attest to the rise of micronutrients as the new charismatic nutrients of the 1990s and into the 2000s.

Fortification on the Rise

When I did extended field research in 2004–5 in Indonesia, fortification was on many organizations' agendas. I interviewed international organizations, donor agencies, NGOs, nutrition and food policy experts, and government officials, and everyone seemed to be talking about their new "smarter" food products to be distributed in the country (see table 3.1). "Lost generation" and "hidden hunger" were catch phrases used by many whom I interviewed to communicate the dire yet little known consequences of micronutrient deficiencies and to shore up political support for fortification projects.

TABLE 3.1 Examples of international organizations' nutritionalized projects in Indonesia as of 2004

ORGANIZATION	PRODUCT TYPE	STARTING YEAR	CHARACTERISTICS
UNICEF/WFP	porridge	n/a	economic crisis emergency
Mercy Corps	porridge	n/a	economic crisis emergency
UNICEF/WFP	addition to porridge for children under two	2000	economic crisis emergency
HKI	sprinkles	n/a	experiments
IRD (USDA title II)	instant noodles	n/a	business development
Land O' Lakes	milk	1998	school feeding
WFP	cookies, instant noodles	2004	urban nutrition, postemergency
Mercy Corps (USDA)	soy milk	n/a	school feeding
government of Indonesia	complementary food	2001	nutrition program

The most visible example of a fortification program in Indonesia was food aid in conjunction with the Asian financial crisis that started in 1997. International donors from USAID to UNICEF distributed various fortified products.[6] For instance, the World Food Programme distributed a fortified complementary food for infants called Vitadele as emergency relief.[7] The program was started in 1999 and expanded in 2000 to cover 375,000 young children. Unfortunately, Vitadele's evaluation showed that mothers did not like the product because it had to be cooked with other food and took too much time and effort. The WFP then introduced a new fortified complementary food called Delvita. Delvita is a sachet of "sprinkles" containing microencapsulated iron and other micronutrients (Soekirman et al. 2005). The WFP distributed this product in urban Java, including Jakarta, Bandung, Semarang, and Surabaya, between 2000 and 2003. In 2004, although the most acute phase of the economic crisis was over, the WFP began another fortified food project to distribute fortified cookies made by Danone and instant noodles made by Indofood.[8]

It was not only international governmental organizations that were riding the fortification wave. Fortified food also was increasingly popular with international NGOs that worked in Indonesia. In 1998, Land O'Lakes started a school lunch program in Indonesia using fortified milk and instant noodle snacks. Another relief NGO, the Mercy Corps, distributed fortified Vitadele and soymilk with USDA funding.[9] A US-based nonprofit organization, International Relief and Development, started making fortified instant noodles using wheat flour donated under USDA's Title II program called Food for Progress. They also started to make noodles made from soy flour, and when I interviewed him, the

program officer was excited about another new product of fortified rice noodles and sweet soy sauce.[10]

The popularity of fortification is also evident in that an NGO that used to emphasize supplements is now experimenting with fortification. Helen Keller International (HKI) is an international NGO that has been particularly active in working with the Indonesian government to distribute vitamin A capsules since the 1970s.[11] But in recent years, HKI has started to emphasize fortification as well and has launched a fortification product called Vitalita. Vitalita is a sachet of multivitamin sprinkles that can be added to homemade baby food. It is manufactured by a multinational food producer, Heinz.[12]

In addition, the Indonesian government itself started a fortified food project. Since 2001, it has allocated the bulk of its nutrition budget to food assistance with fortified food. Fortified with micronutrients, the distributed baby food is made by a food conglomerate, Indofood. Initial funding came from the ADB, but after it ended, the government continued the distribution with its own money. The emphasis on this project was enormous; the budget for this fortified baby food program amounted to 65–70 percent of the total national budget for nutrition programs in 2002–4 (Soekirman et al. 2005). The government also passed Indonesia's first mandatory fortification law.

The Indonesian situation reflects how fortification became popular in the international nutrition community and involved scientists, bureaucrats, NGOs, and food companies. Following the global declarations and agreements on micronutrients, the international development community started a number of micronutrient-focused projects, many of which were fortification projects. The Global Alliance for Improved Nutrition and the Micronutrient Initiative are good examples. GAIN was funded by the World Bank and other organizations with a specifically fortification-related mission: to build "momentum to end vitamin and mineral deficiencies through the fortification of staple foods and condiments" (GAIN 2005). Even non-nutrition NGOs have been lured into the fortification enterprise. In 2006 Grameen Bank and multinational food manufacturer Danone entered a joint fortification venture, Grameen Danone Foods, to produce fortified dairy products. Grameen Bank is, of course, the well-known pioneer of microfinance whose founder, Muhammad Yunus, received the Nobel Peace Prize in 2006. The joint venture's yoghurt, Shakti Doi, is fortified with micronutrients such as iron, zinc, and calcium.[13]

Fortification has also been incorporated as a national program in many countries (see table 3.2). In accordance with the "global consensus" outlined above, a number of developing countries have started national mandatory fortification programs with various vehicles since the 1990s (Darnton-Hill and Nalubola 2002). Various developing countries now mandate fortification of different

food items, such as iodization of salt, iron fortification of flour, and vitamin A fortification of sugar, oil, and margarine.[14]

TABLE 3.2 National fortification projects in developing countries

COUNTRY	ITEM	THIAMINE	RIBOFLAVIN	NIACIN	FOLIC ACID	FE	VIT A	VIT D	CA	ZN
Bolivia	wheat flour	X	X	X	X	X				
Brazil	dried skimmed milk						X	X		
Chile	wheat flour	X	X	X	X	X				
	pasta	X	X	X		X				
	margarine						X	X		
Columbia	wheat flour	X	X	X	X	X				
	margarine						X	X		
Costa Rica	wheat flour	X	X	X	X	X				
	sugar						X			
Dominican Republic	wheat flour	X	X	X	X	X				
Ecuador	wheat flour	X	X	X	X	X				
	margarine						X	X		
El Salvador	wheat flour	X	X	X	X	X				
	margarine						X			
	sugar						X			
Guatemala	wheat flour	X	X	X	X	X			X	
	pasta	X	X	X		X				
	skimmed milk						X	X		
	margarine						X			
	sugar						X			
Honduras	wheat flour	X	X	X	X	X				
	milk						X	X		
	margarine						X	X		
	sugar						X			
Mexico	milk						X	X		
	margarine						X	X		
Nicaragua	wheat flour	X	X	X	X	X				
	sugar						X			
Panama	wheat flour	X	X	X	X	X				
	sugar						X			
Paraguay	wheat flour	X	X	X	X	X				
Peru	wheat flour					X				
	margarine						X	X		
Venezuela	wheat flour	X	X	X		X				
	precooked maize meal	X	X	X		X	X			
	dried milk powder						X	X		

(Continued)

TABLE 3.2 *(Continued)*

COUNTRY	ITEM	THIAMINE	RIBOFLAVIN	NIACIN	FOLIC ACID	FE	VIT A	VIT D	CA	ZN
Nigeria	flour	X	X	X		X			X	
South Africa	maize meal		X	X						
	margarine						X	X		
Zambia	sugar						X			

Source: Darnton-Hill and Nalubola 2002.

Sponsors for Fortification

Who were the critical sponsors for fortification as the new nutritional fix? As we have seen, charismatic nutrients and attendant nutritional fixes often have powerful institutional connections and sponsors who effectively propagate the efficacy and charisma of a particular nutrient and the moral imperative for adopting a particular nutritional fix. In the case of fortification, the role of the World Bank has been crucial.

Needless to say the rise of fortification is attractive to the food industry. From the perspective of the food industry, the international embrace of fortified food means that products can be marketed as "healthy" and "necessary." This explains, for instance, why the International Life Sciences Institute has been particularly active in promoting fortification in developing countries. Although ILSI publishes a journal called *Nutrition Review* and looks like an independent academic research institute, it is actually an organization funded by the food industry with major transnational companies such as Nestlé and Kraft as its members. ILSI has hosted various workshops on fortification, often in collaboration with international organizations in developing countries. The food industry not only welcomes the spread of fortification advocacy, it also wants to shape the fortification policies in developing countries so that fortification standards are harmonized to ease the penetration of Third World markets. As one of the industry people I interviewed put it, "Corporations want the global recipe."

The food industry has not been the only engine behind fortification. The epigraph at the beginning of this chapter is revealing if we notice not only *what* was being called for (the micronutrient strategies), but also *who* called for it (the World Bank). Among international organizations, the World Bank has had a crucial role in seeing fortification as the "solution" for food problems. As is perhaps already is obvious from the above description of international micronutrient projects, many of which had the World Bank as a partner, the World Bank has been particularly central to the international fortification network. By

the 1990s, the World Bank explicitly expressed its commitment to micronutrients in its iconic publication, *Enriching Lives,* which was solely devoted to the analysis of micronutrient deficiencies in developing countries and argued that "the control of vitamin and mineral deficiencies is one of the most extraordinary development-related scientific advances of recent years." The text promoted micronutrient strategies, stating that "probably no other technology available today offers as large an opportunity to improve lives and accelerate development at such low cost and in such a short time" (1994, 1). It even sought to include a micronutrient component in any World Bank project implemented in countries with such problems (Dunne 1994). The World Bank has become a formidable powerhouse in pushing the fortification agenda in international development. The international institutional networking for fortification has depended on the World Bank's resources. For instance, the Bank was the key founder of the Micronutrient Initiative and GAIN. In addition, the Bank started the Business Alliance for Food Fortification in 2005, which is a partnership with the private sector to promote fortification. BAFF partners with the major players in the global food industry including Nestlé, Heinz, Ajinomoto, Dannon, and Unilever, and is chaired by Coca-Cola (GAIN 2005). Insisting that food fortification is "one of the most promising interventions for improving the nutritional status of the world's poorest and should be the first area of focus" in nutrition policy (BAFF 2005), BAFF campaigns for private-public partnerships for fortification in developing countries.

Another powerful multilateral lending institution, the Asian Development Bank, has also sponsored fortification initiatives. Hosting many conferences and workshops, it has been critical in the promotion of fortification in Asia. For instance, the ADB convened a regional fortification conference in Manila in 2000, which was cosponsored by the International Life Sciences Institute and the Micronutrient Initiative (ADB 2000b). After this forum, ADB, ILSI, and the Danish International Development Agency started technical assistance programs in six countries that examined ways to encourage food fortification by the private food industry (ADB 2000c). In addition, the ADB has hosted various fortification workshops and meetings such as its Workshop on Flour Fortification and Workshop on Cooking Oil Fortification in 2001 in New Delhi, its Workshop on Complementary Foods Technology and Workshop on Infant Feeding Practices in 2001 in Singapore, its Regional Dialogue on Food Fortification, Trade, and Surveillance in 2001 in Thailand, and the Investor's Roundtable in 2001 in Shanghai (Hunt 2001a).

Such a leadership role by multilateral lending institutions in the area of nutrition begs the question of their motivations. Why did they particularly find fortification a worthy project for their support and advocacy? This question has to

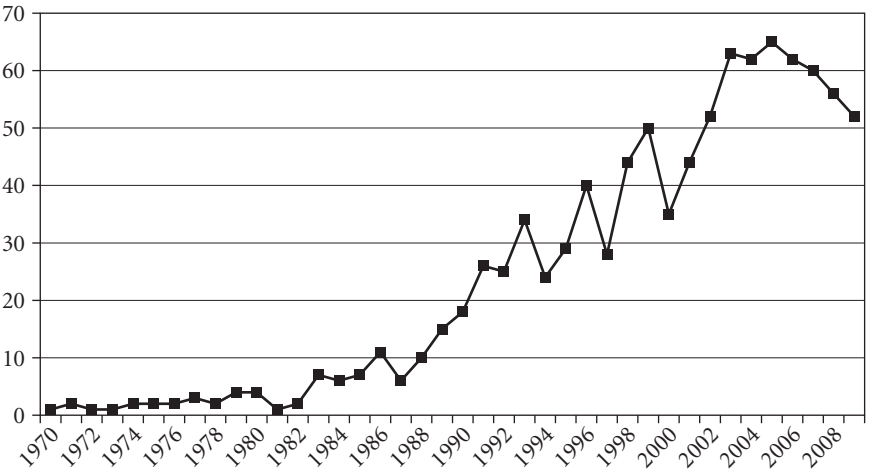

FIGURE 3.2. The number of newly approved World Bank projects with Health, Nutrition, and Population code.

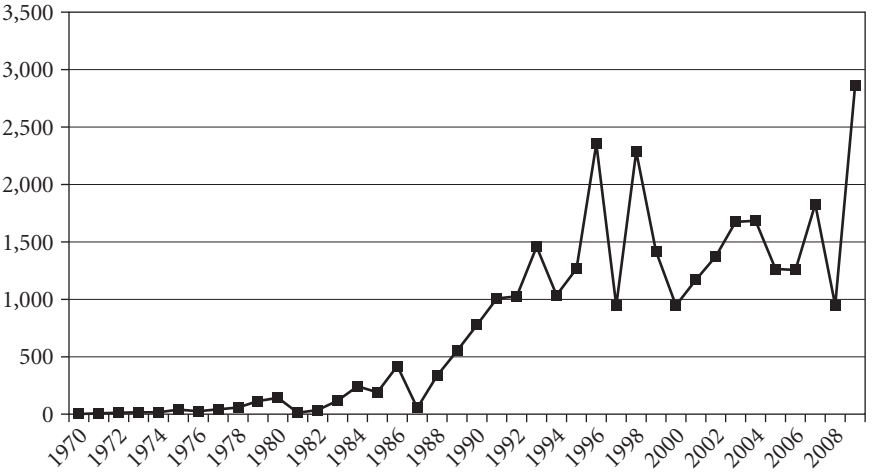

FIGURE 3.3. HNP sector commitments by the World Bank (in current millions of dollars).

be considered in a broader context of shifting involvement in the health and nutrition sector by these banks. In traditional development economics, health and nutrition did not count as a development program; they were thought of as a cost rather than an investment for development. Hence the multilateral lending institutions used to focus on large-scale infrastructure projects such as the dams, highways, and ports that were viewed as essential for "economic development" in

the traditional sense as measured in terms of GDP growth. Health and nutrition were not their priorities (Fair 2008). However, the importance of social projects was gradually realized. Theories of development started to emphasize the importance of "human capital" and "human development" as early as the 1960s. There was also an increasing amount of research that showed the economic consequences of malnutrition. Studies started to document productivity impacts of malnutrition (Basta et al. 1979; Karyadi 1973b; Alderman, Hoddinott, and Kinsey 2006). It became increasingly clear that an economic rationale could be made for nutritional lending.

Scholars have suggested that another factor might be structural adjustment policies (SAP) (see, e.g., Baru and Jesani 2000). When many developing countries faced massive debt problems in the 1980s, the multilateral lending institutions imposed strict conditions on assistance, such as currency devaluation and trade liberalization. In addition, they often called for public sector contraction, including privatization of state-owned enterprises and cuts in government jobs and social programs. Social activists saw this as a serious attack on social projects and criticized the World Bank for what they saw as the neglect of social development (Rich 1994). And the critique was not limited to radical social movement activists. The prestigious medical journal, *The Lancet,* for instance, had an unusual editorial in 1990 that denounced the contradictions of the SAP policies that forced cuts in government expenditures while recommending improvements in health services (Lancet 1990). Even international organizations such as UNICEF joined the critics, asking for "adjustment with a human face" (Cornia, Jolly, and Stewart 1987). UNICEF estimated that SAPs were associated with the deaths of five hundred thousand young children in a twelve-month period (UNICEF 1989, 16–17).[15] These negative health impacts of SAPs helped to accelerate a process of increasing funding for health and nutrition by the World Bank (Baru and Jesani 2000; Levinson 1993).

The multilateral lending institutions' engagement with issues of health and nutrition was at one time relatively insignificant. It's true that the World Bank had produced several publications on the subject of nutrition (Karyadi 1973b; Reutlinger and Selowsky 1975), and there was some nutrition-related lending. For instance, the Bank provided funding for UN nutrition activities, such as the Protein Advisory Group that was established in 1955 and the Administrative Committee on Coordination, Sub-Committee on Nutrition that was established in 1977. Alan Berg, who promoted multisectoral nutrition planning that was discussed in chapter 2, was a nutrition consultant for the Bank. Nonetheless, it was only in the 1990s that multilateral lending institutions became active sponsors of health and nutrition projects. The number of projects and the lending amount for the Bank's Health, Nutrition and Population (HNP) sector has increased

steadily since the 1990s (see figs. 3.2 and 3.3). HNP was only 1.6 percent of total World Bank lending in 1984, but it is now close to 11 percent.[16] In the 1990s, the World Bank even came to be considered "a heavyweight in international health" (Lee et al. 1996).

As the World Bank's involvement with health grew, it increased its commitment to nutrition as well. Nutrition was one of several social sectors that the Bank had previously avoided. Until the early 1990s, its investment in nutrition programs remained quite low, averaging only $16 million per year (World Bank n.d.). Yet the commitment increased, and the Global Hunger Conference in 1994 and the Bank's *Strategy for Reducing Poverty and Hunger* (Binswanger and Landell-Mills 1995) even featured malnutrition as one of the Bank's critical mandates. The Bank's nutrition-related lending increased significantly to $140 million per year by 1995, and about half of its Social Funds projects included nutrition activities (World Bank n.d.).

However, there still remains a question: Of the myriad health and nutrition-related projects in developing countries, why is there particularly strong advocacy for fortification from the World Bank? Let us tackle this question by going back to the concept of economization of nutrition.

Nutrition as Investment and Malnutrition as Economic Loss

When I conducted interviews in Indonesia about fortification policy, it was hard to overlook a peculiar business-y vibe that was shared by many I talked with. Many were fluent in mixing development concepts with economic jargon to the extent that I thought they might have obtained an MBA before coming to the field of international development. Describing the fortification programs of his NGO as having "market multiplier effects, down the whole marketing chain, as well as generating income" and helping local factories increase operating capacity as well as having created "thousands of sustainable jobs," an American staff member was upbeat about these ostensible "nutrition" programs. Similarly, one staff member of an international organizations said of micronutrient programs, "We can easily calculate how much money we saved. It's in dollars.…I tell them, for every one dollar you spend on iron deficiency you get a hundred dollars back. Much more." This might not have been surprising if the man were a development economist. But he was a physician who also had degrees in health and nutritional science. His use of good "return on investment" and "money saved" in describing micronutrient strategies indicated something was going on in the discourse around malnutrition in developing countries.

As one might expect, the World Bank's espousal of micronutrition is significant for financial reasons, because these multilateral lending institutions' financial power is immense (Kickbusch 2000; Lee et al. 1996). As Lee et al. (1996) note, the Bank's unrivalled financial resources, which are used to provide low-interest loans and credits, makes the World Bank tremendously important for developing country governments, international organizations, NGOs, and other development agencies. The influence of the World Bank is not limited to its financial muscle, however. The addition of nutrition to the Bank's portfolio has been important not only in terms of the political economy of nutrition but also in terms of social understandings of it. As Goldman (2001) points out, the World Bank has a significant *epistemological* power to impose certain policy assumptions and frameworks onto other organizations and governments. This makes it imperative to examine how the World Bank approaches nutrition issues. How does it represent the food problem and its proposed solutions in the Third World? What are the implicit links that the World Bank draws among health, economy, nutrition, and food? How does it describe the reality, and how does it prescribe solutions?

From interviews that I conducted and my analysis of the Bank's publications, it became clear that the Bank's sponsorship of micronutrients and fortification is fundamentally linked with its economized view of nutrition, and rationalized in terms of economic efficiency, relative economic cost, and economic loss and gain. The most obvious rendition of the economized view of nutrition is the concept of "disability adjusted life years" (DALYs) (Murray and Lopez 1999). DALYs are used to calculate the monetary cost of ill-health and monetary benefits of health interventions by assigning different values to life lost at different ages. The value for each year of life rises from zero to peak at age twenty-five and then declines gradually. DALYs provides a concrete numeric representation to the economics of micronutrients and hail its economic significance. For instance, the Bank asserted in its 1994 publication on micronutrient deficiencies, *Enriching Lives,* that "most micronutrient programs cost less than $50 per disability-adjusted life-year (DALY) gained. Deficiencies of just vitamin A, iodine, and iron—the focus of this book—could waste as much as 5% of gross domestic product, but addressing them comprehensively and sustainably would cost less than 0.3% of gross domestic product (GDP)" (2). Indeed, *Enriching Lives* is full of such an economized view of nutrition. Repeated throughout is the description of micronutrient deficiencies and strategies from the vantage point of economic calculation:

> No other technology offers as large an opportunity to improve lives… at such low cost and in such a short time. (cover)

> The message is clear: the problem is huge, solutions are "on the shelf", and few countries can afford not to address micronutrient malnutrition. (cover)
>
> The control of vitamin and mineral deficiencies is one of the most extraordinary development-related scientific advances of recent years. Probably no other technology available today offers as large an opportunity to improve lives and accelerate development at such low cost and in such a short time. (1)
>
> Fortunately, all of these options are inexpensive and cost-effective. (2)
>
> Micronutrient interventions are among the most cost-effective investments in the health sectors. (5)
>
> The economic and social payoffs from micronutrient programs reach as high as 84 times the program costs. Few other development programs offer such high social and economic payoffs. (5)

Describing people as "consumers" and micronutrient strategies as "on the shelf," "cost-effective" and with high "payoffs," the Bank's interpretation of micronutrient deficiencies and policy options is resolutely grounded in the economized view.

While the idea that better nutrition leads to better productivity might not seem problematic, the underlying logic has profoundly disturbing assumptions. For instance, under the calculations based on DALYs, disabled or chronically ill people's lives are considered less valuable than those of normal people. Programs that do not result in cures or prevention can be viewed as too expensive. In addition, because of the way the DALYs are calculated, the very young, the elderly, and disabled people have little economic value. The calculation might conclude that very little of importance would be gained by addressing these people's needs (Murray and Lopez 1999).[17]

That the Bank's understandings of nutrition are based on economic calculations might not be surprising, but such understandings are increasingly powerful beyond the World Bank, as my interviews indicated. For instance, the Asian Development Bank's support for micronutrient projects takes place in a similar framework. The ADB maintains that micronutrient malnutrition is important because it "will cost the economy at least 3% of GDP annually," and food fortification must be promoted because it is the "most assured and least costly strategy" (ADB 2000b, 9). Even traditional health sectors such as WHO and UNICEF are not immune from such discourse. For example, UNICEF started a damage assessment report on malnutrition, which was a new effort to provide evidence

that malnutrition costs money to a country's economy. Explicitly trying to put a price tag on malnutrition, the damage assessment report mirrors the DALYs and replicates its economic logic. As Goldman (2001) has astutely observed, the Bank's epistemological influence is indeed far-reaching.

The increasingly pervasive economized view of nutrition critically changes how solutions to the Third World food problem are evaluated. More specifically, it has influenced the hierarchy of different micronutrient strategies, putting fortification at the top. Fortification's ascendancy is illuminating when one considers that supplements used to be the most utilized option among the micronutrient strategies. Strongly advocated by major international health organizations, such as UNICEF and WHO, and NGOs, such as Helen Keller International, the supplementation approach was the mainstream choice to tackle micronutrient deficiencies in developing countries. For instance, the WHO issued a recommendation in 1987 to distribute vitamin A supplements in conjunction with a national immunization day, and many countries followed this plan (WHO 2003). For other micronutrient deficiencies, such as iron deficiency anemia and iodine deficiency disorder, pharmaceutical solutions were the standard practice, rather than fortification. Governments distributed iron tablets to pregnant mothers and iron syrup and iodine syrup to children. In the economized language of nutrition and health that is increasingly prevalent, however, supplementation is rendered problematic because of its heavy state involvement. The procurement and distribution of supplements requires too many government resources or those of international organizations, and the execution is dependent on their capacity and commitment. In contrast, the argument goes, fortification is much more "efficient" because it needs less government involvement.

Fortification is also an ideal way to involve the private sector in the currently celebrated notion of "public-private partnership." Public-private partnership promotes the collaboration between the government and the private sector for social projects (Maberly 2002). While it draws on historical examples of social reform projects by charity organizations, as Miraftab (2004) points out, the concept has gained strength under neoliberal ideology. Public-private partnership is now seen as a way to reduce the role of government and government expenditures on public services, replacing the state with private firms, which are deemed more efficient service deliverers. Based on the belief that the market is better equipped to offer solutions to social problems, the Business Alliance for Food Fortification is emblematic of the Bank's commitment to public-private partnership as the basis for food reform in developing countries. This statement by BAFF underscores such ideology of private sector partnership for public policy purposes that lurks behind the Bank's sponsorship of fortification in general:

> The role of the private sector in creating market-viable and sustainable food fortification is integral due to its strengths in products, technology and marketing. The poor in developing countries constitute the largest population in need of vitamins and minerals. If they are to be reached, the private sector's strengths must be tapped into and expanded and the challenges it faces must be voiced. (GAIN and BAFF 2005)

Celebrated as a tool to tap into the private sector's know-how and technology, fortification comfortably satisfies the parameters set by the economized view of nutrition. Making other options seem antiquated or just inarticulatable in the age of the mandatory neoliberalization, economization of nutrition critically informs the construction of fortification's "advantages" and "superiority" as an intervention strategy for hidden hunger.

Shaped by neoliberal ideology, the economization of nutrition has had tremendous influence on what is to be done about "the food problem." Fortification's ascendance has not been simply inevitable due to its "scientific" superiority as a nutrition solution, but instead it is intimately linked with the increasingly economistic framing of nutrition and health in international development, promoted by multilateral lending institutions whose influence in the health sector has grown tremendously. Normalized by the new giant in the international health field, the World Bank, and increasingly pervasive beyond it, the economized view of nutrition was critical to making fortification look ideal as a way to address hidden hunger.

From Women to Market

Scholars of food studies need to ponder two further implications of the rise of fortification. First is the understanding of the market as the solution, rather than the problem. Noticeable within the prevailing discourse of fortification is the belief that governments and international organizations can reap monetary savings from properly using market mechanisms and that private corporations can provide the most efficient solution to the problem of malnutrition. This particular problematization was made possible by nutritionism. With its exclusive focus on nutrients, nutritionism makes the market the ideal mechanism to channel nutrients to the mouths of consumers. Such a characterization of the free market and private industry fails to acknowledge that neoliberal economic restructuring and increasing global "free trade" regimes has decreased, rather than increased, people's stable access to food. In addition, if nutritionally necessary food is to be provided in the form of fortified food sold via commercial markets, what happens when they become unaffordable due to market fluctuations? The food

crisis of 2007–8, when food price skyrocketed and food riots erupted in developing countries, is instructive. Among the hardest hit products were oil (used for cooking oil and margarine) and wheat flour, which were popular items in fortification programs. In Indonesia, for instance, within two months in early 2008, wheat flour prices increased by 15 percent (Meylinah 2008). Dependence on the market, and particularly on imported food for essential nutrition, is risky when one considers the volatile conditions of the market.

In addition, we have to note that the market's principal logic is profit and return on investment. Note what happened to the Indonesian fortification program during the 2007–8 food crisis. Citing the high price of wheat, the Indonesian milling industry lobbied the government to suspend the fortification requirement in order to allow for importing of wheat flour. As a result, the Ministry of Trade and Industry temporarily lifted the national fortification requirements on wheat flour in January 2008 (Meylinah 2008). It was precisely in this kind of crisis situation that fortification programs might be most helpful for the poor. However, when markets fluctuate violently and uncertainty about profitability gets heightened, corporations lose resources and motivation for fortification. Since by definition they must maximize profits for shareholders those goals come before the needs of the poor, malnourished citizens of developing countries.[18]

Dependence on fortification by the private sector leads to vulnerability to the volatility of global markets and corporate calculations of profitability. This casts significant doubt on a stabile market-based solution. The forces that promote fortification, however, tend to see the market solely as a solution, rather than as a problem. They continue to see the market as able to deliver missing micronutrients to the mouths of the poor in an efficient manner.[19]

The second implication, related to the first, is that as experts celebrate their new partnership with private industry, women have faded away as potential partners for solving the food problem. One important aspect of fortification's constructed advantage vis-à-vis other strategies is related to a particular view of women in the experts' discourses. Nonfortification strategies to combat micronutrient deficiencies, notably supplements and nutritional education, have been sidelined, not only because they do not fit the economizing vocabularies that have become increasingly powerful in the global domain of food, but also because of the view of experts that they have a severe "compliance" problem. For instance, supplements need to be taken by people once they are delivered. People need to be convinced of the need and efficacy of supplements. Compliance is particularly important in the case of iron deficiency anemia programs, since iron cannot be stored in the body and has to be taken regularly. Iron pills also can have numerous side effects, including stomach discomfort, which makes many women not take the pills as prescribed. Experts lament that women may either

not take the pills at all or take them sporadically. The World Bank in *Enriching Lives* (1994) stated:

> The actual uptake of supplements by the targeted populations requires trained, motivated health care workers who can communicate effectively with consumers to overcome their fears, misinformation, and ignorance. (20)
>
> Thus, for targeted populations—and for mothers in particular, who must obtain supplements frequently, sometimes daily—merely showing up for the injection or actually taking the pill or giving it to a child often implies a great accomplishment.... (health care workers must) explain the nature and importance of the capsules, pills, or injectables; to determine which family members need them and in what dosage and frequency; to tell when and where to get them; and to both warn and reassure the consumer about the supplement's possible side effects. (21)

Some studies have even documented that women will lie to researchers about whether or not they have taken the pills (Schultink et al. 1996).[20] Complaints about women abound. According to Viteri "the causes of failures of [supplementation programs]" were attributed to "mainly poor knowledge of the importance of adequate iron nutrition and anemia prevention, leading to late consultation and adherence to the supplementation regimen" (Viteri 1999, 17), and the failure of a supplementation program during pregnancy was ascribed to the "lack of compliance" (Lynch 2005, 334).

Experts see a similar problem with nutrition education and other related projects such as community and home gardening, which is theoretically another possible strategy to combat micronutrient deficiencies. For instance, in order to increase vitamin A intake, the consumption of dark green vegetables and fruits can be encouraged. For iron deficiency anemia, women can be educated about iron from animal and plant food. Since iron absorption is reduced by certain compounds in tea and coffee, women can be educated to reduce intake of them. Projects can help establish and manage community and home gardens that would grow diverse vegetables high in vitamins. Although nutrition education is almost always mentioned as part of "micronutrient strategies," it has never become the primary policy. In fact, the minority of nutrition experts who are in favor of such an approach lament that nutrition education and community-based projects only get lip service (Underwood and Smitasiri 1998). As we saw in chapter 2, experts' preference for quantifiable results might be one reason for this lack of enthusiasm. Nutritional education poses a significant difficulty in designing experiments and measuring the outcome of behavioral change. The

former secretary of the UN's Administrative Committee on Coordination, Sub-Committee on Nutrition, Leslie Burgess, however, hints at another source of experts' ambivalence about nutrition education:

> I think it was the feeding programmes which were a major problem, on the other side nutrition education was and to some extent is, viewed with suspicion by the conventional medical practitioner. You could persuade Mrs. X to eat less fat, or that she has to breastfeed her kids instead of [using] a bottle; it's all loose stuff. Whereas someone has produced a relatively new antibiotic which zaps a particular bug. So if you're in third world medicine, it's a lot more comfortable to go along with nicely defined things. If Mrs. X does not feed her kid well, and the kid dies, you feel responsible. (quoted in Ruxin 1996, 334)

In addition to being "loose stuff," Burgess's comment describes experts' frustration with having to (and often failing to) persuade women to stick to nutritional advice. Elaborate nutritional education workshops and training sessions can be devised, but the problem of compliance always lingers in the minds of experts and bureaucrats. Similar frustration with recalcitrant "Mrs. X" in developing countries is implicit in a statement from the World Bank (1994) that highlights the drawbacks of the nutrition education approach: "Consumers must believe that the desired change in their dietary behavior will bring tangible benefits. Vitamin A programs in four Asian countries could not persuade mothers to give green, leafy vegetables to their young children to avoid blindness, a malady too rare to compel a change in behavior" (33). Implicitly identifying these women as an obstacle for nutritional improvement, critics of nutritional education underscore the fact that women tend not to follow the advice given in nutrition education and that it is not possible to be sure that women's cooking and eating habits change *and* stay changed once experts' monitoring stops.

In contrast to these more complicated and competing micronutrient strategies, fortification is "better" from the perspective of many experts in that there is little need to rely on women's collaboration to control the intake of micronutrients. The key word here is *control.* Without having to ask women about their eating habits or to educate them about nutrition or to convince them of the efficacy of the solution that is being offered, fortification can nevertheless increase the amount of micronutrients circulated in the bodies of people. With fortification, selected nutrients can be added to whatever people already eat—be it cookies, instant noodles, or condiments. Hence, to experts, fortification involves less uncertainty and a greater sense of control. Technically, manufacturing fortified food may be complicated, but nutrition experts tend to share basic vocabularies, assumptions, and commitments with manufacturers, whereas

poor and uneducated Mrs. X may be difficult to work with. In an important way, fortification enables nutrition experts to *bypass women, rather than engaging with women* to tackle food problems. It's easier for these experts simply to work with experts from the industry side.

This erasure of women from the process is paradoxical, because in comparison with previous charismatic nutrients, the need for micronutrients seemingly involves greater gender consciousness. Women are often identified as victims of micronutrient deficiencies, as the FAO states in its "State of Food Insecurity in the World 2002": "Children and women are the most vulnerable to micronutrient deficiencies…women because of their higher iron requirements, especially during childbearing years and pregnancy" (FAO 2002b, 24). Pointing out that women bear "the heaviest toll from these dietary deficiencies" (Kennedy, Nantel, and Shetty 2003, 8), experts have rallied the world's support for micronutrient projects.

The relative prominence of women's needs is not accidental, as the 1990s saw an impressive amount of global development activities related to gender. Institutional integration of gender into international development was called for, and many international organizations responded by "mainstreaming gender" into all aspects of international development to rectify the previous separation and marginalization of gender issues.[21] People in charge of micronutrient projects often saw themselves as fitting into this larger trend, and they emphasized their consciousness of the necessity of empowering women in developing countries. Nutritional experts at the Asian Development Bank, for instance, touted the fit of micronutrient projects into the "gender mainstreaming" imperative by saying that "the educated and socioeconomically empowered Asian woman is the key to improving the nutrition and mental acuity of young children, and that such improvement sets in motion lifelong prospects for heightened learning and earning with benefit streams to families, communities, and nations.…*Mainstreaming gender concerns is essential* if nutrition programs are to succeed" (Hunt and Quibria 1999, iii; my emphasis).

Although salutary in its intent, gender mainstreaming has not been immune from criticism by feminist scholars. Some argue that international organizations often merely have introduced gender perspectives to existing policy programs without challenging the old paradigm. That is, gender issues have been added, but they have not led to a fundamental rethinking of mainstream approaches to development issues that could "reorient the nature of the mainstream" (Jahan 1995, 13). Or worse, some criticize that women are now to be used as the "agent-as-instrument of transnational capital's globalizing reach" (Spivak 1999, 201–2). Feminist radical politics are frequently sidelined vis-à-vis mainstream international development goals while projects that have higher resonance with mainstream international development get priority (Kabeer 1999; Jahan 1995).

The issue of gender has been brought into development policy as a means to an already established goal, not as a means to redefine the goal, or gender equality as a goal itself.

Contradictory gender projects also have emerged with micronutrients and fortification. On the one hand, it has brought "women" as a topic into the discussion of micronutrients, and women's micronutritional status has become a salient rallying cry for those who want to introduce fortification. At the same time, fortification schemes have tried to improve women's nutritional status by bypassing, rather than by engaging with, poor malnourished women themselves. The possibility of giving more power and autonomy to these women goes against nutritional experts' long-standing doubt about women's capacity to act in accordance with modern nutritional knowledge. Instead, uneducated poor women are often identified as the bottleneck of schemes to improve the nutrition of the global South.

Therefore, the featuring of women in discourses surrounding micronutrient deficiencies suggests much to be considered by feminist scholars. Of course, women menstruate, carry children until their birth, and do the most to feed them in early years, hence, their nutritional status affects children's as well. Yet we must consider the implications of women being marked as a "vulnerable" population in relation to micronutrient deficiencies. I suggest the concept of *biological victimhood* to understand the complicated visibility afforded to women in contemporary food policy discourses. As noted in chapter 1, biological victimhood refers to a delimiting perspective within the medical and food policy circuit that affords a space for women in food reform debates based on their biological propensity to a particular group of diseases, disorders, and disasters. It gives women visibility in food policy, but only as a biologically sexed group of likely "victims."

The visibility brought by biological victimhood is tricky, and echoes Wendy Brown's observation on the politics of "identity of injury" in which "the language of recognition becomes the language of unfreedom . . . a vehicle of subordination through individualization, normalization, and regulation, even as it strives to produce visibility and acceptance" (1995, 66). Although such a political move intends to recognize women's past injuries and embodied vulnerabilities, Brown worries that such projects, although well-intentioned, ironically reenact the very effects of power that they try to overcome.

Some feminist scholars researching international development have echoed Brown's concern, noting that the blanket identification of women as "vulnerable" can backfire and produce unintended consequences that ultimately hinder feminist ideals (Parpart 1995; Enarson and Meyreles 2004; Fulu 2007). They do not deny that women have certain vulnerabilities and historically and culturally constructed handicaps. Bringing visibility to gendered impacts of development

interventions is a step in the right direction after the previous approach, which neglected gender as an important variable in policymaking. But a universalizing statement about women as biologically determined victims has serious political consequences.

Following these scholars, I argue that in the case of hidden hunger, several layers of this feminist paradox must be recognized. First, while visibility of women might be a welcome improvement from the previous neglect, the universalizing categorization of "women = vulnerable" obfuscates the fact that vulnerabilities are dependent on a complex interplay of factors, including gender, class, ethnicity, and age. We need to recognize that the different positionalities of each woman produce different vulnerabilities (Fulu 2007). In contrast, biological victimhood depends on the "abstract individuation" that has been criticized by feminist philosophers (Sprague 2005, 16–18). Biological victimhood's abstracted frame of analysis cannot adequately describe the everyday constraints and needs of women in facing the food problem because it does not account for complex intersectionality (Collins 1998).

Second, to notice that the visibility accorded to women under nutritionism assigns them to biological victimhood is important because of its political consequences; women are seen this way as the victims of their own biology but not the victims of politics or social positionality. Paradoxically, the universalizing categorization and overdetermination of women as victims throws the responsibility for poor health onto individuals by making their vulnerability essentially a biological one. For instance, women's iron deficiency anemia is understood to be a simple function of women's bodily functions, such as menstruation and pregnancy. Such a biology-centric analysis effectively masks the fact that vulnerability is also a derivative of political and social factors. How did these women become malnourished in the first place? Why are they deprived of means to address the problem? Social relations that critically constitute vulnerability become obfuscated.[22]

Furthermore, women's identification as vulnerable victims of micronutrient malnutrition has relegated them to the position of passive *recipients* of food aid and nutritional expertise. Such a depiction of women as passive and needy victims risks reinforcing a gender stereotype that portrays women as inherently weak and powerless. Scholars have observed that expert-driven, state-sanctioned interventions are made in the name of women's disadvantage and vulnerability, but actually they neglect women's capacities, resources, and longer-term interests (Fulu 2007; Clifton and Gell 2002). The governments and experts become the active, benevolent "doers" of things, as they further reach into the lives and bodies of women.

Ultimately, biological victimhood in tandem with nutritionism brings women into food politics not as individuals embedded in the context of social

relations with differing needs and priorities but as abstracted members of a biological group with inherent nutritional disadvantages. This then allows experts to take charge of defining needs and wants rather than compelling them to give opportunities to women to decide for themselves. Women's experiences and hopes for future directions are presented as already known by science—the first is their suboptimal nutritional status and so the second must be additional nutrients. Without obvious symptoms discernible to lay people's eyes, "hidden hunger" is the quintessential example of such a naturalized imposition of victimhood. The paradox of the visibility of women under nutritionism is that attention to the victimhood of women does not lead to an imperative to listen to them, because women's victimhood is seen in terms of biology, so their "needs" are clearly known by scientists, even better than by themselves.[23]

It is precisely this lack of space for women to determine their own problems and prescriptions that Wendy Brown highlights when she differentiates the "problem of the good" from the "problem of the true" (1995, 49). Brown points out that while experts might assume that they know the "truth" about women (such as their "nutritional status"), the real politics should be about what women want for themselves. Women need a space "for discussing the nature of 'the good' for women" (49) rather than having it dictated by experts. Indeed, if we think about vulnerability in broader terms, an often neglected feature of vulnerability is a lack of participation and involvement in decision making and policy processes. Yet the prevalent "women = biologically vulnerable" equation ironically blinds us to this key social dimension of vulnerability.

Although useful in making women visible in food policymaking, the universalizing identification of biological victimhood hinders a more feminist strategy for increasing women's participation in food policymaking under conditions other than dependency. Nutritionism's paradox lies in the obfuscation of women's capacity to construct their own understandings of food and nutrition, while purporting to bring women to the much-deserved attention of international development experts.