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COMMENTARY

Food as pharma: marketing nutraceuticals to India's rural poor

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This commentary sketches out the politics of the expansion of affordable, fast-moving nutraceutical products into rural India, with a focus on fortified foods and beverages. It examines the relationships between industry, government and humanitarian organisations that are being forged alongside the development of markets for nutraceuticals; the production of evidence and the harnessing of science to support nutraceutical companies' claims; the ways in which nutraceuticals are being marketed and distributed in rural areas; and the concepts of health and well-being that are being promulgated through those marketing campaigns. Lastly, it asks what kinds of impact fast-moving nutraceuticals are likely to have on the lives of India's rural poor. It concludes by questioning how smooth a transition to nutraceutical consumption Big Food marketing strategies can really facilitate and how readily low-income families seeking to feed their families and safeguard health will actually adopt concepts of wellness and internalise micro-nutrient associated risks.

Keywords: nutraceuticals; fortified food; India; bottom of the pyramid; humanitarian technology

Introduction

In 2009, GlaxoSmithKline began test marketing an affordable brand of Horlicks™, its ubiquitous malt-based drink, to be sold in 2.5 rupee sachets in villages across Andhra Pradesh in South India. In marketing the product, which it called Asha™ (hope, in Hindi), GlaxoSmithKline claimed it would provide poor rural consumers with an alternative to local cereal mixes of what they call 'uncertain quality', such as finger millet malt. In 2011, PepsiCo India launched a new salty biscuit product called Lehar Iron Chusti™, which it rolled out across Andhra Pradesh in 2 rupee packets, alongside a major education campaign on iron deficiency for women and teenagers. At the same time, in neighbouring Orissa, Coca-Cola was launching Vitingo™, a new sachet-based orange-flavoured drink fortified with 12 vitamins and minerals that it promoted as helping to combat blindness, anemia and other common diseases, in collaboration with a local NGO and self-help group.

These are all examples of what industry and marketing groups refer to as nutraceuticals: nutritionally fortified or engineered foods, beverages or supplements that are marketed for their health-giving properties. In recent years, Indian economists and market research agencies have championed the Indian nutraceuticals market as a potential engine of growth. With current growth rates exceeding 18% and market forecasts of a fivefold increase by 2020, nutraceuticals are celebrated as the most successful sector of

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the food and pharmaceuticals market (IKON Marketing Consultants, 2013; Indian Business News Agency, 2012). In 2010, revenues from the Indian nutraceutical industry were estimated at US \$ 2 Billion (Frost & Sullivan, 2011, p. 5). By 2017, they are expected to reach US \$ 4.2 billion (Techsi Research, 2013). The potential for expansion is deemed to be vast, with ‘an envisaged latent market of 148 million customers’ (Ernst & Young, 2012, p. 25).

Until recently, the nutraceutical industry had concentrated on responding to the rise in obesity and lifestyle diseases in India by marketing more expensive, higher margin products to India’s aspirant middle class. Marketing consultants celebrate this population as having a growing awareness of health and lifestyle diseases, rising disposable incomes and, increasingly, a ‘self-care ethos’ that is associated with a demand for preventative healthcare products. To market analysts, food and beverage companies appear to be dividing their urban portfolio into complementary segments of health and wellness on the one hand and indulgence on the other (Gupta, 2009). Health and wellness products include sports beverages, diabetic foods and child health products. GlaxoSmithKline’s Horlicks™ is seen as the market leader in this area, with diversification into ‘Standard’, ‘Women’s’ and ‘Children’s’ ranges, and securing 50% of the fortified beverage market in 2012. Horlicks™ is now the second-biggest selling beverage in India after bottled water and has double the sales figures of Coca-Cola and Pepsi combined.

But with intense competition in the urban sector, the focus of both domestic and multinational companies is now moving to the design of affordable nutraceutical goods for consumers at the ‘bottom of the pyramid’; Indians who live on less than \$2 a day (Pralhad, 2009). This is a largely rural population whose anticipated purchasing power is based on an economy of speed and scale rather than the size of individual incomes. Where the penetration rate of nutraceuticals in urban areas is 22.51%, in rural areas it is currently only 6.32%. For the growing nutraceutical industry and those seeking to make new acquisitions in this area, this presents a huge ‘latent market’ that could ultimately account for a third of the market scope (IKON Marketing Consultants, 2013).

The migration of the nutraceuticals industry into rural markets has seen the industry shift away from the claim that their products can prevent non-communicable diseases associated with urban working lifestyles, such as diabetes, cardiovascular disorders and cancers, and towards the claim that products specifically designed for the rural poor can tackle child malnutrition and save vulnerable lives. Such claims are couched in a language of humanitarianism and focused on a target that the food industry increasingly shares with the international development sector: micronutrient deficiency, its long-term health implications and its national and global economic cost.

Today, India’s ‘double burden’ of obesity and malnutrition is a double opportunity. With the rise of micronutrient deficiency as a development problem, an international consensus has emerged around the corporate laboratory and marketing agency as the solution (Kimura, 2013). Where government food programs in India have failed to address rural malnutrition, it is anticipated that Big Food, with its scientific, marketing and distribution capacities can succeed. Selling nutraceuticals to the rural poor, according to governments; the food industry, a global community of market consultancy agencies and accountancy firms; and the global development community, is a clear case of ‘doing well by doing good’.

This commentary sketches out the politics of the expansion of affordable, fast-moving¹ nutraceutical products into rural India, with a focus on fortified foods and beverages. It examines the relationships between industry, government and humanitarian organisations that are being forged alongside the development of markets for nutraceuticals; the

production of evidence and the harnessing of science to support nutraceutical companies' claims; the ways in which nutraceuticals are being marketed and distributed in rural areas; and the concepts of health and wellbeing that are being promulgated through those marketing campaigns. Lastly, it asks what kinds of impact fast-moving nutraceuticals are likely to have on the lives of India's rural poor. It concludes by questioning how smooth a transition to nutraceutical consumption Big Food marketing strategies can really achieve and how readily low-income families seeking to feed their families and safeguard health will actually adopt concepts of wellness and internalise micro-nutrient associated risks.

What are nutraceuticals?

The US physician, Dr Stephen De Felice, claims to have coined the term 'nutraceuticals' in 1989 as follows: 'A food or part of a food that provides medical or health benefits, including the prevention and/or treatment of a disease'. For De Felice, this category includes any food that we already eat, but which molecular and clinical research establishes as having a particular health benefit. In other words, according to this definition, a food can become a nutraceutical simply through the production of new scientific knowledge. As food science has developed in relation to advances in molecular biology, the term has more commonly come to refer to foods that have been transformed and enhanced through technological processes to have particular health-giving properties. Such processes include the fortification of foods with vitamins and minerals, the biofortification of food through plant breeding for nutrient-rich crops and the manufacture of dietary supplements.

Despite the wide circulation of the term and its inclusion in the Oxford English Dictionary, a review of the literature shows that nutraceuticals do not yet constitute a legal entity or specific object of regulation in any country. Instead, the term has largely been used and promoted by representatives from the global food industry, for whom the nutraceutical's association with scientific evidence and medicine generates additional economic value. Indeed, nutraceuticals might be defined as food products that have been created solely for the capacity to make health claims about them (Katan & Roos, 2004; Schneider, n.d.).

How did the privately manufactured and marketed nutraceutical product also become a cornerstone of the global development agenda? By the late 1990s, international development organisations such as UNICEF or the World Bank, had shifted from talking about hunger as a function of poverty and famine to talking about 'hidden hunger'. The focus was now on the quality as well as the quantity of food, and the qualities that foods have were monitored at a molecular level. Hidden hunger was defined as a lack of micronutrients – vitamins and minerals such as iron, zinc, vitamin A and iodine. As the food sociologist Kimura notes, over the course of the 1990s, the hidden hunger concept slowly accrued global authority through discussion at a series of international conferences on nutrition, global food security and child health, including the 1990 World Summit for Children, the 1991 Montreal meeting 'ending hidden hunger', the 1992 International Conference on Nutrition and the 1996 World Food Summit (Kimura, 2008). The global consensus that micronutrient deficiency is a high priority area is today indicated by its incorporation into the programs of bi-lateral and multi-lateral development agencies such as DFID and AUSAID and its inclusion in the first Millennium Development Goal.²

The global distribution of micronutrient deficiency is now monitored, measured and mapped by a growing number of international organisations and academics.³ By all

these measures, India's rates of hidden hunger are alarmingly high. India alone boasts the world's largest undernourished population – over 200 million. Fifty-six percent of ever-married women and 70% of children under the age of five are anemic (International Institute for Population Science (IIPS) and Macro International, 2007) and at least 15% are at risk of iodine deficiency (Chakravarty & Sinha, 2002). In this context, the affordable nutraceutical that is designed for the rural poor is celebrated as a humanitarian technology, capable of relieving suffering and ameliorating the loss of life in contexts of crisis (Cross, 2013; Redfield, 2012).

The notion of hidden hunger has also been picked up by the international economic community, who draw on medical research about the effects of micronutrient deficiency on long-term health and mental development to make links between hidden hunger and human capital. It is the shift from 'general' improvements in health to the specified mental and physical benefits of micronutrients that has been significant for economists at institutions like Asian Development Bank (ADB, 2004) and World Bank (2006): well-nourished people, it is claimed, are able to 'work harder and be potentially more innovative ...' (Bekefi, 2006, p. 8). The link between micronutrient deficiency and economic development is rendered concrete and measured by disability-adjusted life years (DALYs), with a recent study suggesting that India lost 1000 DALYs to micronutrient deficiencies per 100,000 population (Muthayya et al., 2013, p. 8). Based partly on DALY estimates, the Copenhagen Consensus of 2004 convened by a panel of distinguished economists determined that after the control of HIV/AIDS, providing micronutrients had the best economic benefit-to-cost ratio of alleviating poverty in the developing world (Copenhagen Consensus Center, 2004).

The notion of deficiency in vitamins or minerals is not new. Governments have been providing vitamin and iron supplements, for example, to pregnant women since the 1970s. However, the growing prominence of the concept of 'micronutrients' as a scientific category and the concept of 'hidden hunger' as a major cause of ill-health and poverty in the development industry has coincided with, on the one hand, developments in food science that have enabled the isolation and transformation of individual bioactive components in foods (Kim, 2012, p. 7) and on the other hand, the growing consensus that food fortification is the best solution to micronutrient deficiency.

Like its counterpart, obesity, micronutrient deficiency has been 'artificially constructed' through epidemiological measures and economic algorithms in ways that shape its problematisation and subsequent interventions (Guthman, 2013). Since the 1990s, we have seen the demise of alternative solutions to micronutrient deficiency, such as supplementation, kitchen gardens or dietary education, in favour of the notion that the most effective and efficient point of transformation for established diets is the corporate laboratory (Morris, Cogill, & Uauy, 2008; Victora, 2009, p. 1124). As a World Bank report describes food fortification: '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' (The World Bank, 1994). Affordable fortified foods have emerged as the site of opportunity in which market growth, healthy economies and humanitarian ethics coincide.

Public-private partnership

With the shift from poverty and hunger to hidden hunger and micronutrient deficiency, government responses to malnutrition have expanded from direct humanitarian action through food aid to the creation of an 'enabling environment', in which affordable

fortified food markets can flourish. In India, the Integrated Child Development Scheme began in 1975 as a subsidised food program that distributes basic foods such as wheat and grain to poor families in *anganwadi* centres, village-level centres for government-funded social welfare programmes. Yet, 30 years after the establishment of the ICDS, the most recent National Family Health Survey reported that 48% of the country's children under 5 are stunted, 20% are wasted and 43% are underweight (International Institute for Population Science (IIPS) and Macro International, 2007). The state-sponsored food program has been widely criticised for its inefficiency and corruption. More recently, the influential development economists Abhijit Banerjee and Esther Duflo have argued that food subsidies, which are designed to ameliorate poverty-related hunger, are an inadequate response to micronutrient deficiency because they fail to address the fact that the poor can usually afford to buy enough food but *prioritise* better-tasting food:

Developing ways to pack foods that people like to eat with additional nutrients, and coming up with new strains of nutritious and tasty crops that can be grown in a wider range of environments, need to become priorities for food technology, on an equal footing with raising productivity. (Banerjee & Duflo, 2011, 40)

Packing better-tasting food with micronutrients is where the private sector is seen to have skills and resources that are not always available to governments. While the state is still thought to have a role in regulation and facilitation, the private sector is increasingly considered to have the intellectual property, manufacturing capacities and marketing skills needed to take food fortification the last mile (Kimura, 2013). Public–private partnership is now the favoured model for improving nutrition in developing countries for the World Bank, the WHO and the Millennium Project taskforce on Hunger.

In 2002, the UN established the Global Alliance for Improved Nutrition (GAIN) as a collaborative mechanism for business, civil society and governmental organisations to address micronutrient challenges worldwide. GAIN received funding from the Bill and Melinda Gates Foundation, the Canadian Development Agency, USAID and administrative support from the UNDP. It provides funding for public–private national fortification programs, for research to remove technical challenges in food fortification and to support market mechanisms for securing access to fortified foods. To obtain a GAIN grant, the organisation requires that each country establish a National Fortification Alliance, made up of government and corporate membership, to ensure that the appropriate foods are fortified and that they are made available through market mechanisms. GAIN aims to provide corporations with technical assistance to scale up access to their products through facilitating partnerships such as school feeding programs, joint awareness-raising and educational activities with organisations such as UNICEF and the Flour Fortification Initiative, assistance in social marketing and helping to promote food fortification through publications and reports. In 2008, GAIN opened an India office to assist NGOs and businesses to create and distribute ‘market viable’ fortified foods to the rural population.

With funding from GAIN and the World Bank Institute, the Business Alliance for Food Fortification was launched in Beijing 2005 to promote relationships between the food industry and the international development sector. The BAFF's purpose, as stated on their website, is to ‘identify new financial mechanisms and new business models, expand scientific knowledge and expertise in fortification, and catalyse joint action between companies, development partners, and government’. The private sector, it

states, is crucial in providing the products, technology and marketing for the creation of ‘market-viable and sustainable food fortification’. For multinational companies like Coca-Cola or Unilever, who are co-chairs of the BAFF, or Danone, who joined the GAIN board in 2006, these organisations create opportunities for collaboration and networking with representatives from government and development agencies, and access to public and philanthropic funding and political support. All these companies are seeking to expand their fortified foods portfolios in India.

Today, Coca-Cola, PepsiCo and GlaxoSmithKline each distribute and market their bottom-of-the-pyramid nutraceutical products in partnership with local NGOs and micro-enterprise organisations. In many cases, these NGOs have received funding from global organisations like UNICEF; in some cases, mediated by GAIN, to provide educational programs on micronutrients in rural areas. Educational campaigns by NGOs and development agencies that are run in concert with the rollout of new fortified food products prime a market for corporate access. Such partnerships are indications of the ‘creeping privatisation of health education’ (Powell, 2014). For their Nutristar™ drink fortified with patented triple-fortification technology for iron, vitamin A and iodine, for example, Proctor & Gamble partnered with UNICEF, who provided health education about micronutrients, at the same time as Proctor & Gamble distributed the product.

These partnerships have also been crucial to ‘last-mile’ distribution strategies. In Orissa, Coca-Cola partnered with the NGO BISWA to distribute Vitingo™ through self help groups; in Andhra Pradesh, GlaxoSmithKline developed a partnership with SKS Microfinance, a microcredit organisation, to distribute Asha™. The distribution of nutraceutical products in rural areas is being tied into direct-selling employment opportunities, with rural distributors being both personal consumers of the product and social conduits through whom companies can access wider social networks (Cross & Street, 2009). When GlaxosmithKline launched Asha™, it added 4000 sub-distributors to its existing 500 distributors in small towns (Kashyap & Raut, 2008, p. 552).

To its champions, this partnership model for affordable nutraceuticals is celebrated as a mechanism for enabling access to vital health products and an engine of entrepreneurship and rural employment (Dolan, Johnstone-Louis, & Scott, 2012). Yet, its critics have highlighted the ways in which GAIN’s support for multinational companies crowd out local businesses, leading to the loss of local industry and employment opportunities. Meanwhile, nutritionists have raised questions about the nutritional quality of fortified foods that are also laced with sugar and salt i.e. where ‘better tasting’ also corresponds with being damaging to health (see Nestle, 2013) and social activists have queried the potentially dangerous marketing activities of GAIN partners such as Nestle, in relation to infant feeding and complementary foods for young children. In a decision that appears to suggest such concerns are taken seriously, in January 2013, the WHO decided to postpone formal relations with GAIN on the basis of its links to the food industry and the need for further information on its partners’ compliance with WHO nutritional policy (WHO, 2013).

Harnessing science

Key to the added value that fortification lends food is its scientific evidence base. This is also where multinational corporations have a distinct advantage over local competitors. The acquisition of nutraceutical portfolios has become increasingly attractive to corporations already invested in pharmaceuticals, such as GlaxoSmithKline. According to market analysts, pharmaceuticals have increasingly narrow profit margins, especially

in developing world contexts where generics are providing greater competition (e.g. Frost & Sullivan, 2011). Over the past three years, following consultant advice, GlaxoSmithKline has begun to shed its pharmaceutical portfolio and expand its nutraceutical portfolio in the BRIC economies. Nutraceuticals have lower profit margins than pharmaceuticals but require a fraction of the outlay on research and development (IKON Marketing Consultants, 2013). At the same time, nutraceuticals are seen as an opportunity for India's food industry and fast-moving consumer goods industry to increase revenues. Making claims about the health-giving qualities of particular products enables multi-nationals to sell more expensive products in a highly competitive, often locally dominated, marketplace (Bourne Partners, 2013). In a widely circulated newsletter, the accountancy firm Price Waterhouse Coopers (PWC) recently identified increased collaboration between the fast-moving consumer goods (FMCG) sector and the pharmaceutical industry as the primary opportunity for innovation in the nutraceuticals sector (PWC, 2013).

A clear sign of the pharmaceuticalisation of food is the establishment of scientific foundations and institutes by food and FMCG companies in India to generate the scientific evidence needed to market their products as nutraceuticals. For example, Coca-Cola established the Beverage Institute for Health & Wellness in 2004; Britannia established the Britannia Nutritional Foundation in 2009; and GlaxoSmithKline launched the Horlicks Nutrition Academy in 2011. These institutes conduct research to establish micronutrient deficiency in target populations and on the products developed to meet that deficiency. One effect of corporate-funded scientific research into micronutrient deficiency is that homemade food and established diets are considered inadequate and in need of fortification with commercial foods that can be better quantified and monitored in terms of their micronutrient content. As Kimura argues, 'nutritionism' – the reduction of food to its nutritional qualities – has shifted authority over food production and consumption from a domestic to scientific domain (Kimura, 2013). The Horlicks Nutrition Academy website, for example, features photographs of scientists in white coats and emphasises their expertise in nutritional science: 'Our panel of scientists, nutritionists and researchers are committed to provide you with the expertise and nutritional solutions to help you lead a healthier life'.⁴ Indeed, Kimura argues that fortified baby food is attractive to policy-makers precisely because of its 'potential to bypass mothers as the gatekeeper of babies' health' (Kimura, 2008, p. 234). Being a responsible mother in developing countries now entails 'choosing' food products that have undergone corporate fortification (*ibid.*, p. 251).

GAIN actively encourages governments to endorse products that make scientifically valid claims. And yet, as critics have pointed out, most of the scientific evidence for the efficacy of nutraceuticals is generated by the corporations themselves. Indeed, there is almost no regulation of the effectiveness and quality of nutraceuticals in India, precisely because they do not occupy a distinct legal category from food and beverages. It is therefore much easier to make health claims about fortified foods in India than drugs.

In making scientific claims, the nutraceutical industry has borrowed from the pharmaceutical industry its dominant product testing mechanism: the randomised controlled trial. The results of randomised controlled trials are converted into DALYs, which enable corporations to scale up the 'cost-effectiveness' of nutraceutical products to a national level. As critics have pointed out, however, randomised controlled trials take place in highly controlled environments and tell us little about the impact of nutraceuticals in places where compliance may not be high:

The types of delivery systems used, country characteristics, year in which the study was done, program characteristics, and costing methodologies contribute to the variability in cost estimates found in the literature. It is not clear whether these cost estimates include expenses necessary to attain such high compliance rates. (Berry, Mukherjee, & Shastry, 2012, p. 6)

What corporate-funded nutritional academics research and how, what is left out of those studies (e.g. the effects of poor nutritional content, such as sugar and salt, or the local availability of nutritional foods) and how evidence from those studies is subsequently drawn on to market corporate products or garner political support demand enquiry from social scientists equivalent to recent research on the politics of evidence in the pharmaceutical industry (McGoey, 2012; Will & Moreira, 2010).

Selling wellness

How do you make a nutraceutical market for the rural poor? As the rising costs of health care put it beyond reach of much of this population, investment analysts anticipate that they will become increasingly susceptible to notions of wellness and its associated products. And yet the cornerstone of ‘wellness’, the micronutrient, is not a familiar concept for much of the Indian population: ‘The Indian consumer’s awareness about conventional nutraceutical ingredients such as omega-3 fatty acids or lutein is severely limited, and nutraceutical manufacturers need to take up the cause and spread awareness about their products to the Indian masses’ (Frost & Sullivan, 2011, p. 5). The major challenge in this area is considered to be that of translating the established acceptance of alternative and herbal remedies and supplements in Indian ayurveda traditions into concepts of ‘wellness’ and ‘micro-nutrient deficiency’. The problem is how to make people think about their food and their bodies in terms of micronutrient content and the long-term health risks associated with micronutrient deficiency.

One of the reasons why Horlicks, and the fortified beverage market in general, does so well in India may be because the commodification of ayurveda tonics is already well established. Companies like Himalayan, for example, repackage ayurveda herbal preparations ‘in the symbolic forms of biomedical, “English”, medicine – brightly coloured capsules, plastic bottles, English labels – and [distribute] it by prescription through biomedical physicians’ (Cohen, 2000, p. 133). Indeed, companies like Horlicks achieve many of their sales through the prescription of their products by family physicians. As one marketing analyst report put it: ‘The existence of alternative medicine in India, and the Indian consumer’s belief in them, could provide a platform for the nutraceutical industry to capitalize on’ (Frost & Sullivan, 2011, p. 5).

Recent research on nutraceuticals in medical anthropology and sociology has concentrated on the ways in which the transformation of food into a micronutrient health product transforms people’s sense of self and their relationship to their body in ways that afford new techniques of health governance (Herrick, 2011; Powell, 2014). It is suggested that the introduction of nutraceuticals is associated with a growing concern with the ‘risks’ of living (Kim, 2012) and the fostering of individual responsibility for managing the risk of chronic disease. Food becomes another everyday space in which we monitor our health status and ‘a molecular understanding of foods ... expands into the social realm’ (ibid., p. 12; Rose, 2007).

The majority of this research, however, has been carried out in urban, middle class environments, often in middle- or high-income countries. As a consequence, there

remains little understanding of the concepts of ‘wellness’ that may be emerging in the context of nutraceutical products designed as humanitarian technologies for the rural poor. In rural India, corporations recognise the need to market their affordable products through associations with different aspirational teleologies from those they use to market products to urban consumers. Where the standard Horlicks is marketed on the basis of people’s aspirations for their children’s educational achievement and the prevention of future ‘lifestyle’ diseases, for example, affordable Horlicks was rebranded as ‘Asha™’, meaning hope. This was partly to avoid contamination of the Horlicks brand with ‘poor’ associations, but it also suggests that marketing agencies believe consumption in rural families, where poor health and hunger may already be the norm, is not oriented towards the prevention of ill-health, but rather a future where the health and prospects of their children may improve. The product sells the possibility for survival amidst the struggle to sustain life in the present.

Established supplementary food practices in rural India are seen by the nutraceutical industry as an opportunity to sell fortified foods. But how easily can one set of foods and practices be metaphorically extended to incorporate another? As education and marketing campaigns are rolled out alongside nutraceutical products, will women in rural Andhra Pradesh and Orissa internalise a notion of the molecular self? Will they see commercially produced nutraceuticals as better, more scientifically valid versions of the everyday foods that they give their children to promote vitality and growth? Or will nutraceuticals be received as overly expensive foods? The possibility that food marketing experiments, such as those of micropackaging or direct selling, that are explicitly designed to overcome obstacles associated with frontier markets in culturally unfamiliar and logistically difficult environments may be less successful than anticipated is suggested by the disappearance of Asha™ from the GlaxoSmithKline website and the absence of any publicly available information on the product since its test marketing stage in 2010.

The hegemonic power exerted by multinational food companies through integrated marketing techniques used to promote unhealthy foods is well documented (e.g. Jackson, Harrison, Swinburn, & Lawrence, 2014). How successful rural marketing techniques such as multilevel marketing are in promoting new concepts of health and wellness is, by comparison, relatively underexplored. This is where future in-depth, ethnographic research capable of detailing the rich worlds of food and health practices into which multinational companies seek entry for their nutraceutical products will be crucial.

Conclusion

On the one hand, new partnerships between international development organisations and the food industry and new strategies for accessing nutraceutical markets at ‘the bottom of the pyramid’ need to be approached critically. The increasingly dominant message that commercially fortified foods are the solution to hidden hunger obviates the importance of living conditions and structural impediments that may prevent families from creating a balanced diet. Indeed, we should be asking why fortified foods have replaced a balanced diet as the basis for nutritional health and what is at stake in such transitions when they are made in the name of humanitarianism. As the nutritionist Marion Nestle pointed out in 2002, ‘The complexity of food composition means that no single nutrient is likely to work nearly so well as a diet rich in the fruits and vegetables from which that nutrient was isolated’ (Nestle, 2013 [2002], Part Five).

On the other hand, it is important to bear in mind the logistical, economic and cultural limitations that multinational food companies face when they seek to make new markets for nutraceutical products. It is tempting to emphasise the ‘smooth’ segue of corporate capitalism into the world of humanitarian food (Errington, Fujikura, & Gewertz, 2012). But the amalgamation of the values of profit and humanitarianism in a single nutraceutical product is an achievement that must be actively and repeatedly brokered in the conference halls of the international development sector, the reports of marketing consultants and analysts, the pot-holed roads of India’s rural districts and the homes of rural distributors and Indian consumers. As research on analogous products, such as the selling of soap (Cross & Street, 2009) or solar lanterns (Cross, 2013) as public health goods has indicated, multinationals often encounter rougher social and physical terrain in rural markets than they anticipate. Just how far the nutraceutical can travel remains an important question for capitalists, development specialists, consumers and social scientists alike.

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Notes

1. Fast-moving consumer goods refer to products sold quickly, at a low cost and often in a small unit size.
2. Despite the apparent shift from quantity to quality, USAID’s food programs have recently been attacked by Medecins Sans Frontieres on precisely the basis that the agricultural surplus they are offloading onto poor countries through their food aid program fails to meet the United States’ own nutritional standards. See <http://www.msf.org/article/open-letter-us-government-about-quality-food-aid>.
3. See, for example, the World Health Organisation (WHO) database on anaemia <http://www.who.int/vmnis/database/anaemia/en/>; the wiki map of iron deficiency adjusted DALY’s using data from WHO, http://commons.wikimedia.org/wiki/File:Iron-deficiency_anaemia_world_map_-_DALY_-_WHO2002.svg; The World Bank’s regional table of DALYs lost by attributing to nutritional deficiencies (Caulfield, Richard, Rivera, Musgrove, & Black, 2006) and the micronutrient initiative’s overview of data limitations http://www.micronutrient.org/resources/publications/mn_report.pdf; and most recently, the creation of a hidden hunger index and its mapping in relation to DALY’s (Muthayya et al., 2013).
4. <http://www.horlicksnutritionacademy.com/AboutHNA.aspx>.

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