

Setting Standards for Business & Development

How legal Frameworks can support market-based Nutrition Partnerships

*Dr. Andreas Blüthner and Ref. iur. Leonie Vierck**

In May 2008, the Copenhagen Consensus (CC), a group of highly renowned economic experts, including 5 Nobel Prize winners, concluded that fighting malnutrition is one of the best investments in human development.¹ The challenge of vitamin- and mineral deficiencies affects the human rights to food and health. These rights can be fulfilled through a public-private partnership (PPP) engagement called food fortification (FF), with local food industry in the lead, but supported by the public sector. Industry – not governments – provides foods fortified with essential micronutrients and can market it even for the malnourished poor. However, only the public sector can create an enabling market environment so as to sustain industry's efforts.

This article highlights the relevance of standard setting, technical standards, and labelling schemes geared towards well-monitored regulation as a means of sustaining market-based PPP interventions, namely FF. Roles and responsibilities of public and private sector actors in FF initiatives are elaborated. The authors develop a four-tier standard setting concept, namely (1) Advocacy creation and multi-stakeholder dialogues, (2) Technical Standard Setting, (3) Development of a Labelling Scheme for Fortified-Foods, and (4) Legislation with Enforcement.

This legal process gradually progresses from soft towards hard law. Ultimately, the contribution of legal standard setting to sustainability in FF is illustrated through country specific best practices.

Unique features of the food legislation addressed include industry-led human rights fulfilment, a pro-poor business model, PPP engagement and a standard setting model allowing scale-up and sustaining FF initiatives as one of the most cost-effective investments in human development.

* Dr. iur. Andreas Blüthner, Global Coordinator, BASF Micronutrient Initiatives (www.food-fortification.com), Permanent Lecturer for International Economic Law, University of Mannheim, Ref. iur. Leonie Vierck, University of Münster – views expressed are strictly personal and must not be associated with any institution.

1 Copenhagen Consensus Center, Copenhagen Consensus 2008, Undated, <http://www.copenhagenconsensus.com/Files/Filer/CC08/Presse%20%20result/CC08_results_FINAL.pdf> (22 February 2009).

I. Food Fortification (FF) – definition, methods, and impact

FF offers a solution to vitamin and mineral deficiency (VAD), a special form of malnutrition. Often vividly referred to as “hidden hunger”, the affected individual does not receive the essential recommended intake of micronutrients.² It is estimated that worldwide more than two billion people suffer from micronutrient deficiencies.³ The fortification of staple foods with vitamins and minerals constitutes an effective, established, and cost-efficient developmental intervention in responding to the VAD problem. Micronutrient deficiencies affect foremost developing countries but also some developed nations maintain FF for special dietary issues or certain vulnerable groups.⁴ Lately, attention and funding have increased to combat micronutrient malnutrition in developing countries on a large scale.⁵

FF⁶ describes the procedure of adding micronutrients to a given staple food (such as flours, sugar,

fats, oils, and dairy products) so as to increase the added nutritional value of the product concerned, ultimately resulting in reducing micronutrient deficiencies at source scale. Food enrichment is sometimes used as an interchangeable term⁷ but rather refers to replenishing nutrients lost during product processing. The generic term for both concepts is then suggested to be nutrification.⁸

Even though several types of FF are being distinguished, they only refer to coverage and compliance features. Mass FF allows reaching the general population where an overarching public health problem prevails. Targeted FF makes fortified products available to specific population groups with certain needs such as children, women or victims of emergency situations.⁹ With a view to compliance aspects, voluntary and mandatory FF are being separated. The latter differentiation will be taken up later when turning to the process of standard setting.

Interventions other than FF for countering the devastating effects of micronutrient deficiencies include: micronutrient supplementation,¹⁰ “home

- 2 Gina Kennedy – Guy Nantel – Prakash Shetty, The scourge of “hidden hunger”: global dimensions of micronutrient deficiencies, Undated, Corporate Document Depository, FAO, <<http://www.fao.org/docrep/005/y8346m/y8346m02.htm>> (22 February 2009). See as well The Economist, Food and the poor – The new face of hunger, 17 April 2008, p. 387 for information in context and B. Koletzko – S. Koletzko, Vitaminmangel und Hypervitaminosen, in: Dietrich Reinhardt (ed.), Therapie der Krankheiten im Kindes- und Jugendalter, Berlin, 2007, pp. 225 as well as M. Leichsenring – H. J. Bremer, Ernährungsstörungen in den Tropen, in: Werner Lang – Thomas Löscher (eds.), Tropenmedizin in Klinik und Praxis, 3rd ed., Stuttgart, 2000, pp. 547 for the medical background.
- 3 Lindsay Allen– Bruno de Benoist– Omar Dary– Richard Hurrell, Guidelines on food fortification with micronutrients, p. xviii, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009).
- 4 See e.g. UK regulations on foods intended for use in energy restricted diets for weight reduction (Statutory Instruments: 1997 No. 2182) and infant and follow-on formulas as well as processed cereal-based foods and baby foods for infants and young children (Statutory Instruments: 1995 No. 77 and 2003 No. 3207). Likewise the USA count with standards on supplemental foods for specific vulnerable groups such as children or breastfeeding women (CFR, Code of Federal Regulations, Title 21, Food and Drugs, Ch. I, Part 167, Subpart D, § 246.10) as well as infant formulas (CFR, Title 21, Ch. I, Part 167, Subpart B, § 107.100).
- 5 Lindsay Allen– Bruno de Benoist– Omar Dary– Richard Hurrell, Guidelines on food fortification with micronutrients, p. xiv, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009). A good example for this trend sets the GAIN partnership fund fighting malnutrition created in May 2008 worth US\$ 800 million, see GAIN, <<http://www.gainhealth.org/gain-launches-a-new-partnership-fund-of-us-800-million-to-fight-increasing-malnutrition-due-to-escal>> (22 February 2009).

- 6 It is mentioned that FF dates back to Persian wine fortification for military use as early as 400 BC, see Luis A. Mejia, Fortification of Foods: Historical development and current practices, Food and Nutrition Bulletin 15 (1994), <<http://www.unu.edu/unupress/food/8f154e/8f154e03.htm>> (22 February 2009). Modern FF starts with the recommendation of salt iodization in France in 1831. First FF programmes date back to the 1920s in Switzerland, the USA, and the UK. See Reginald J. Fletcher – Ian P. Bell – Janet P. Lambert, Public health aspects of food fortification: a question of balance, Proceedings of the Nutrition Society 2004 (63), p. 606 and Lindsay Allen– Bruno de Benoist– Omar Dary– Richard Hurrell, Guidelines on food fortification with micronutrients, p. 14, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009).
- 7 See Codex Alimentarius Commission, General Principles for the Addition of Essential Nutrients to Foods, CAC/GL 09-1987 (amended 1989, 1991), 2.5 and Lindsay Allen– Bruno de Benoist– Omar Dary– Richard Hurrell, Guidelines on food fortification with micronutrients, p. 25, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009).
- 8 See Luis A. Mejia, Fortification of Foods: Historical development and current practices, Food and Nutrition Bulletin 15 (1994), <<http://www.unu.edu/unupress/food/8f154e/8f154e03.htm>> (22 February 2009).
- 9 Lindsay Allen– Bruno de Benoist– Omar Dary– Richard Hurrell, Guidelines on food fortification with micronutrients, pp. 26, 28, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009).
- 10 Such supplementation refers to a preparation intended to supply micronutrients missing or not consumed in sufficient quantity in a person's diet. For general information see Victor M. Aguayo – Denis Garnier – Shawn K. Baker, DROPS OF LIFE – Vitamin A Supplementation for Child Survival – Progress and Lessons Learned in West and Central Africa, UNICEF Regional Office for West and Central Africa, 2007.

fortification” through daily micronutrient powders,¹¹ biofortification¹², and in the long run dietary diversification.¹³ All these remedies work preventively – and do not compete but rather complement each other. The complementarities resulting from different target groups and timeframes for these interventions. It may e.g. be possible to reach those unable to buy fortified foods with “home fortification”. Yet, FF represents one of the most cost-efficient and immediately effective ways to control micronutrient deficiencies.¹⁴ In sum, supplementation can be characterized as a short-term intervention as opposed to dietary diversification in the long run. Furthermore supplementation as well as home fortification requires distribution and administration while FF represents a market-based concept. All interventions can thus be seen as complementary.

Cost-effectiveness – as the determination of costs in order to achieve a specific outcome – and cost-benefits – as the comparison of costs and the monetary value of a specific outcome – are the means of analysing FF: Cost-effectiveness is frequently measured defining the outcome as “costs per death averted” and/or “costs per disability-adjusted life-year (DALY) saved”; the advantage of the latter being that mortality and morbidity outcomes are merged into one single indicator.¹⁵ Cost-benefit evaluations

meanwhile may reach beyond health outcomes setting FF policies in relation to other kinds of interventions. Critics may pinpoint that such an elaboration displays an economic commoditization of human life.¹⁶ However, this approach reflects far more the combination of economic and social benefits – a dual bottom line that will recur as a leitmotif later on.

The 2008 CC findings apply these methods when assessing malnutrition and hunger as one of the ten greatest global challenges.¹⁷ Still, the perspective paper also highlights, that more sound scientific evaluations for staple food fortification is desirable.¹⁸ The first Millennium Development Goal (MDG), that is to eradicate extreme poverty and hunger, mirrors the social implications of malnutrition. The MDGs aim at ending poverty through a series of targets by 2015.¹⁹ This demonstrates how micronutrient deficiencies affect a whole range of challenges: Poor nutrition and health leads to negative macroeconomic impacts in health system costs, educational opportunities, and employment productivity. Likewise, the economic situation of each individual may result in poverty. In sum, micronutrient deficiencies result in unsustainable livelihoods – this is normatively considered by the human right to an adequate standard of living.²⁰

11 Sprinkles™ are small sachets containing a composition of micronutrients in powder form that are easily sprinkled onto foods prepared in the home. The concept was developed by Prof. Stanley Zlotkin. The Sprinkles Global Health Initiative provides more information on the topic, see <<http://www.sghi.org/>> (22 February 2009).

12 Biofortification means generating genetically improved food crops that are rich in bioavailable micronutrients, either through conventional breeding or genetic modification, see Timothy Johns – Pablo B. Eyzaguirrea, Biofortification, biodiversity and diet: A search for complementary applications against poverty and malnutrition, *Food Policy* 32 (2007) p. 1. For a more critical appraisal see Vandana Shiva, *Monocultures of the Mind: Perspectives on Biodiversity and Biotechnology: Biodiversity, Biotechnology and Scientific Agriculture, Biopolitics*, Palgrave, 1998; Vandana Shiva (ed.), *Biopolitics: a feminist and ecological reader on biotechnology*, Palgrave, 1995; and Janet Cotter – Reyes Tirado, *Food Security and Climate Change: The answer is biodiversity, A review of scientific publications on climate change adaptation in agriculture*, Greenpeace Report 2008.

13 Dietary diversification aims to increase the consumption of vital micronutrients in the regular diet through education and promotion of a diverse diet, and by improving access to micronutrient rich and locally produced food. See Rosalind S. Gibson – Christine Hotz, *Dietary diversification/modification strategies to enhance micronutrient content and bioavailability of diets in developing countries*, *British Journal of Nutrition* (2001), 85, Suppl. 2, p. 159.

14 See Lindsay Allen – Bruno de Benoist – Omar Dary – Richard Hurrell, *Guidelines on food fortification with micronutrients*, p. 13,

2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009).

15 Lindsay Allen – Bruno de Benoist – Omar Dary – Richard Hurrell, *Guidelines on food fortification with micronutrients*, chapter 9, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009).

16 See e.g. Alessandro Pelizzari, *Die Ökonomisierung des Politischen*, Konstanz, 2001.

17 See Sue Horton – Harold Alderman – Juan A. Riviera, *Copenhagen Consensus 2008 Challenge Paper – Hunger and Malnutrition* (Draft May 11, 2008), <http://www.copenhagenconsensus.com/Files/Filer/CC08/Papers/0%20Challenge%20Papers/CP_Malnutrition_and_Hunger_-_Horton.pdf> (22 February 2009).

18 See Reynaldo Martorell, *Copenhagen Consensus 2008 Perspective Paper – Malnutrition & Hunger*, pp.6-7, <http://www.copenhagenconsensus.com/Files/Filer/CC08/Papers/1%20Perspective%20Papers/PP_Malnutrition_and_Hunger_-_Martorell.pdf> (22 February 2009).

19 <<http://www.un.org/millenniumgoals/index.shtml>> (22 February 2009).

20 See e.g. Asbjørn Eide, *The right to an adequate standard of living including the right to food*, in Asbjørn Eide – Catarina Krause – Allan Rosas (eds.), *Economic, social and cultural rights – A textbook*, 2nd ed., Dordrecht/Boston/London, 2001, pp.133.

II. Public private partnerships (PPP's)

1. Introduction: Why a PPP approach in FF?

Governments regularly do not produce foods fortified with micronutrients – it is the private sector that develops, produces, and distributes foods. On the one hand, the private sector develops, produces, and markets the food but voluntary efforts are difficult to sustain without a label and a regulatory framework providing a competitive level playing field. On the other hand, the public sector can bridge this gap with transparent labelling schemes based on industry standards and, ultimately, legislation. Thus, such a standard setting process is an integral part of effective long-term partnership FF programmes on a national scale, also reaching the poorest of the poor. Such PPP's can be established at the national and even regional levels. Ultimately, FF is an example on how standard setting becomes a contribution to the sustainability of PPP engagement into a developmental challenge.

2. Globalization, governance and corporations

PPP's represent the institutional concept of choice to tackle micronutrient deficiencies through FF in an efficient and sustainable manner. This institutionalization can be drawn from to recent theoretical developments, such as Habermas' discursive theory or Foucault²¹.

Yet, the specific features of PPP's cannot be grasped without some understanding of the concept of governance. Often enough, theoretical back-

ground questions – aloof as they might seem – influence lines of thinking and may so determine actions intuitively. The core question to be addressed is that of the interrelation between the public and the private sectors. Traditionally, political and economic responsibilities could easily be separated. Both spheres could strictly be divided, as it was the state's role to maximize economic freedom by minimizing regulatory activities.²² A company then engaging in what is now commonly known as corporate social responsibility (CSR) would merely be limited to “nice-to-have” charity.²³

This set of roles was largely dependent on an insulated nation-state allowing actions within manageable limits. With new worldwide linkages being established, the traditional concept of the nation-state lost its steering capacity to some extent, which resulted in a redefinition of the roles of actors and institutions. Beck speaks demonstratively about a world society without a world state and without a world government.²⁴ This process can also be conceptualized using the catchword globalization.²⁵ While the classic notion of non-interference between different societal functions granted legitimacy, a globalization of civic and democratic institutions has not immediately taken place while such demands have multiplied. This is why Habermas pinpoints the postnational constellation as the key challenge to democracy, detecting race to the bottom and regulatory vacuum effects.²⁶

A possible answer to this challenge includes a globalization from below.²⁷ The growing influence of civil society actors, especially NGOs, reflects this process.²⁸ In another line, intensification of CSR engagement needs to be mentioned – the challenge of malnutrition often being referred to as an illustrative example.²⁹ This highlights that especially

21 See Jürgen Habermas, *Die postnationale Konstellation*, Frankfurt a.M., 5th ed., 2006 and Michel Foucault, *Discipline and Punish: The Birth of the Prison*, New York, 1977.

22 See J. Elster, *The Market and the Forum: Three Varieties of Political Theory*, in J. Elster – A. Hylland (eds.), *Foundations of Social Choice Theory*, Cambridge 1986, pp. 103.

23 For the global umbrella CSR-initiative UN Global Compact and associated case studies of most of the leading corporate citizens see < <http://www.unglobalcompact.org/> > (22 February 2009).

24 See Ulrich Beck, *Was ist Globalisierung?*, 9th ed., Frankfurt a.M., 2004.

25 Appiah meanwhile makes a philosophical point in speaking about cosmopolitanism, and not globalization or multiculturalism. See Kwame Anthony Appiah, *Cosmopolitanism – Ethics in a world of strangers*, New York, London, 2006, especially p. xiii.

26 See Jürgen Habermas, *Die postnationale Konstellation*, Frankfurt a.M., 5th ed., 2006; also Andreas Blüthner, *Welthandel und Menschenrechte in der Arbeit: The Compatibility of Human Rights at Work with the WTO-System*, Frankfurt a.M., 2004, pp.230 finding only limited evidence for a race to the bottom in human rights at work in the context of trade liberalization.

27 See Ulrich Beck, *Was ist Globalisierung?*, 9th ed., Frankfurt a.M., 2004 and Anne-Marie Slaughter, *A new world order?*, Princeton 2005.

28 This deliberative democratic approach comes with all its problems, e.g. whether or not a grassroots level may grant legitimacy when only activists as those engaged take decisions. For a sound analysis see Henry J. Steiner – Philip Alston, *International Human Rights in Context – Law, Politics, Morals*, 2nd ed., Oxford, 2000 pp. 938.

29 See J. D. Margolis – J. P. Walsh, *Misery loves companies: Rethinking Social Initiatives by Business*, *Administrative Science Quarterly* 48 (2003), pp. 268.

multi-domestic companies assume new roles to be determined. In a negative way large companies can be depicted as passive, threatening responsibility bearers – so to say part of the problem. Constructively, such companies can be proactive participants – in other words, part of the solution - through taking over responsibility in the realm of global governance.³⁰

This paradigm shift entails a whole bunch of new features. Some argue excessively that corporations now are political actors.³¹ A more realistic approach rather demands a combination of economic attributes with new elements. Corporations then face a two-pronged approach: They embed their core business socially. In that line Mannar argues that there is indeed a business case for investments in addressing malnutrition.³² This relates to core business objectives such as revenues in the short run as well as to sustainable strategic growth in the long run. Analysts regularly pinpoint that the developing world must not be neglected as a market. While per capita income might be insufficient, sheer numbers of people may provide economies of scale. The base of the pyramid models provide answers for market access.³³

The interface-nature of PPP's is institutionally reflected in their hybrid private-public governance system³⁴ creating and realizing mutual win-win opportunities. Governance in this sense entails governmental institutions and non-governmental mechanisms.³⁵ PPPs create an institutional double bottom line in that two complementary partners strive for a common goal combining economic and

social aspects. In this case, micronutrient deficiencies are addressed through the provision of fortified foods in an economic and socially sustainable manner. Methods applied by each sector may then be merged: outcome oriented efficiency of the private sector would meet input related legitimacy of the public sector.

The challenge of micronutrient deficiencies offers a perfect case for such collaboration, which are less structure, but more process-oriented, dealing with often complex subjects beyond traditional public sector influence. In FF, the production of fortified foodstuffs is organized in a decentralized manner with private actors in the lead. States then automatically rely to some extent on business competence when engaging in FF.

3. In particular: FF PPPs

In the case of FF, PPPs are often construed in a way as to integrate public and private sectors on different levels: Micronutrient deficiencies constitute a global problem which allows for stakeholder integration on the international (including the UN system), transnational (with a view to development agencies such as the MOST programme by USAID), and regional (e. g. Mercosur activities) levels. In the one or other way, all actors engaged into FF are engaged in partnerships, even though all partners are driven by different, sometimes divergent values and principles. The public sector (with ministries and often dependent specialized authorities) can be

30 See the OECD Guidelines for Multinational Enterprises: Text, Commentary and Clarifications, <[http://www.oecd.org/olis/2000doc.nsf/LinkTo/NT00002F06/\\$FILE/JT00115758.PDF](http://www.oecd.org/olis/2000doc.nsf/LinkTo/NT00002F06/$FILE/JT00115758.PDF)> (22 February 2009), for a discussion of the role of corporations in global governance and the UN Global Compact, see Andreas Blüthner, "We, the Stakeholders of Globalization..." A Role for Business in New Forms of Global Democracy? Paper presented at the 4th Annual Kent State University Symposium on Democracy <http://upress.kent.edu/Nieman/We_Stakeholders.htm> (22 February 2009).

31 See A. G. Scherer – G. Palazzo, Toward a Political Conception of Corporate Responsibility. Business and Society Seen from a Habermasian Perspective, *Academy of Management Review* 32 (2007), pp.1096 and A. G. Scherer – D. Baumann, Global Rules and Private Actors. Towards a New Role of the Transnational Corporation in Global Governance, *Business Ethics Quarterly* 16 (2006), pp. 505.

32 Mannar pointed out that business can be seen as a partner in overcoming malnutrition, see Venkatesh Mannar. Why nutrition matters: the development case – The Micronutrient Initiative, Leadership Dialogue, Washington D.C., June 22, 2006 <<http://web.worldbank.org/WBSITE/EXTERNAL/WBI/WBIPROGRAMS/CGCSRLP/0,,contentMDK:20333979~pagePK:6415615>

8~piPK:64152884~theSitePK:460861,00.html> (22 February 2009).

33 Prahalad, C.K. and Hart, S.L., "The Fortune at the Bottom of the Pyramid" in: *Strategy & Business* 26, pp54-67; for a recent analysis and call for action Muhammad Yunus, *Creating a World without Poverty: Social Business and the Future of Capitalism*, Perseus Book Group, 2008. Case and success studies can be found at <<http://www.nextbillion.net/>> (22 February 2009).

34 This term is used as such in Andrew Crane – Abigail McWilliams – Dirk Matten – Jeremy Moon – Donald S. Siegel (eds.), *The Oxford Handbook on Corporate Social Responsibility*, Oxford, 2008, p. 441. The book's chapter on globalization and corporate social responsibility inspired some of the train of thoughts of this part. See also Harm Scheffel, *The Constitution of Private Governance – Product Standards in the Regulation of Integrating Markets*, Oxford and Portland 2005, p. 13, 24 who takes up the idea of spontaneous normative ordering as laid down by Friedrich August von Hayek, *Die Verfassung der Freiheit*, Tübingen, 1991.

35 This is very much a reflection on the de facto situation. How to grasp international companies de lege is likewise complex and not yet settled, see Volker Epping, in Knut Ipsen (ed.), *Völkerrecht*, 5th ed., 2004, pp. 108.

described as policy and/or law driven, while the private sector attributes are profits and efficiency, and civil society organizations are meant to be value oriented. Partnerships often include academia³⁶ and special forms of partnerships might be required for highly humanitarian engagement.

National or even local PPPs provide for the key type of ground level FF implementation. In order to reach deficient population groups, national or local producers of foodstuffs can be engaged through innovative PPP concepts. Concerted public-private strategies create the best solutions for sustainable and scalable FF programmes. In this line, MDG 8 calls for the establishment of global partnerships for development with UN Secretary Ban Ki-Moon explicitly encouraging combined efforts by the public, private, and civic sectors.³⁷

The GAIN partnering tool book³⁸ gives an idea of how to set up and administrate PPPs in food fortification. Major principles are identified as equity, transparency, and mutual benefit. It advises on different structural set-ups ranging from informal to formal ones, management options, communication obstacles, action planning, and reviewing.

III. Standard setting

1. Introduction: From soft Compliance to hard law

In as much as PPPs display an institutionalization of governance concepts and provide the means for implementation, standard setting rests at the heart of governance. Standard setting incorporates, in a very broad manner, norms, principles, and decision-making procedures and refers to an evolutionary, interactive process from the political deliberation process to soft and hard law.³⁹ The term reflects a multi-layered framework of norms that, in the case of FF, determines the production and marketing of

fortified foods. The ends of standard setting often are rules - definite and concrete - that can be distinguished from principles as wide and discretionary substructures.⁴⁰ Ultimately, hard and soft law interacts not only in sequences, but can form part of the same normative structure. Non-binding soft norms, such as an aspiration constitutional objective to end hunger, can help to interpret hard norms, provided there is a need for interpretation.

Standard setting allows flexible and situation tailored instruments integrating hard law and soft mechanisms. While hard law can set broad frameworks, soft tools influence concrete actions by interpreting, bridging gaps, and opening up future developments. Both structures are equally important for a fully fledged FF implementation. Illustratively, one might imagine zebra stripes⁴¹ to grasp the interaction of various mechanisms. Details are not definitely set in this concept, but this superficial disorder provides the means for achieving a long-term goal.⁴²

2. FF standard setting: A clockwise model

FF standard setting can be characterized as an open process of multiple stakeholders, including the government. It is noteworthy that the broad term of standard setting as described above may not be confused with the narrow technical term referring to legal norms only. Instead, the process described in this article embeds technical standard setting into a process of public-private policy making.

According to the clock model, FF standard setting starts, firstly, with a phase of public health advocacy driven by public sector actors. The following second "quarter" is geared towards technical capacity building for industry. The third sequence entails the technical standard setting as such. Fourthly, after a phase of voluntary industry-driven fortification, leg-

36 Schepel examines closely the connections between science and new forms of governance, see Harm Schepel, *The Constitution of Private Governance – Product Standards in the Regulation of Integrating Markets*, Oxford and Portland 2005, pp. 11.

37 See statement on <<http://www.un.org/millenniumgoals/bkgd.shtml>> (22 February 2009).

38 See GAIN, *The Partnering Toolbook*, <<http://www.gainhealth.org/system/files/partnering-tool-book.pdf>> (22 February 2009).

39 See Eibe H. Riedel, *International Environmental Law – A Law to Serve the Public Interest?*, in Jost Delbrück (ed.), *Trends in Inter-*

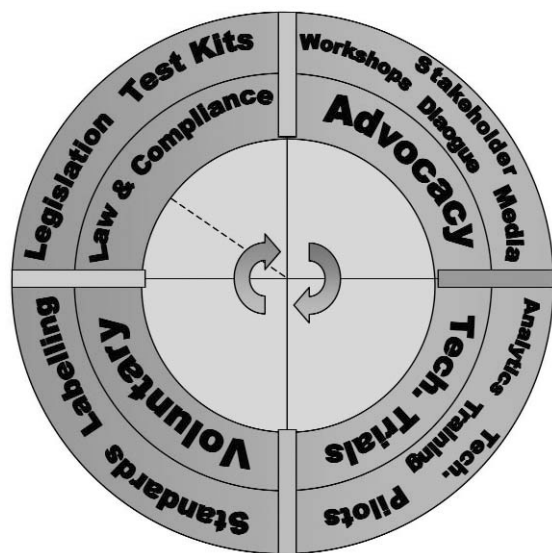
national Lawmaking – Legislation in the Public Interest, Berlin, 1997, p. 84.

40 See Ronald Dworkin, *Taking Rights Seriously*, Cambridge Mass., 1978, pp. 25.

41 See Eibe Riedel, *Standards and Sources – Farewell to the Exclusivity of the Sources Triad in International Law?*, EJIL 2 (1991), pp. 58.

42 For an example see Andreas Blüthner, *Welthandel und Menschenrechte in der Arbeit: The Compatibility of Human Rights at Work with the WTO-System*, Frankfurt a.M., 2004, pp.197.

islation can perpetuate the standard. For effective mandatory fortification, monitoring and compliance becomes an issue, as law does not enforce itself. In sum, this four-tier standard setting process composed of four phases as illustrated below:



The four phases are not to be understood as clear cut sequences, but overlapping and interacting components of a holistic process. In more detail, they regularly include the following activities:

- (1) During the advocacy phase the whole process of FF standard setting is taken up. Possible activities include stakeholder dialogues as well as media coverage. Media mobilization helps promoting individual, corporate, and political commitment. Media outreach can be combined with education activities and social marketing.⁴³ Advocacy provides for a soft, persuasive means of mobilization.
- (2) A technical trial phase then sets the path for the translation of FF principles into practice. On the public sector side, malnutrition data need to be applied in order to calculate the FF levels, especially data on nutritional status, dietary patterns, and daily intakes of micronutrients and the foods of interest.⁴⁴ On the industry level, technical feasibility assessments, technical trainings and ultimately pilot production of samples are at stake.
- (3) The phase of voluntary FF describes setting and applying technical standards as such. The Bureau of Standards, after consultation with stakeholders including the industry concerned drafts

a voluntary technical FF standard. The standard shares technical knowledge necessary for fortification and sets the appropriate nutrient levels. In order to incentivise companies that produce affordable fortified food, a uniform nation-wide logo should be part of the standard. Industry regularly responds to such a standard and logo with the production and marketing of fortified foods. The industry response can be scaled through social marketing activities raising awareness for the nation-wide logo.

- (4) Finally, the law and compliance phase introduces mandatory fortification, through well-enforced legislation. Easy-to-use devices, such as spot and field tests, can be used for the verification of fortified foods at the retail and household levels. Field test kits as self-regulatory tools have been successfully used with iodized salt and recently been developed for Vitamin A. Quality control and assurance at factory level and technical auditing are further elements of internal, external, and commercial monitoring.⁴⁵ Effective monitoring and quality control is a precondition for successful impact evaluation of mandatory FF programmes.

To some extent, this model outlines an ideal approach to FF standard setting. In practice, processes are as diverse as countries are that run nation-wide food-fortification initiatives at differing stages. The model, however, serves well for a principle conceptualization of the FF standard setting process. It allows assessing FF developments in given countries by the time it has reached at the clock. For example, nine o'clock stands for a country introduces mandatory sugar fortification but yet has no effective compliance scheme in place. The clock-

43 Lindsay Allen– Bruno de Benoist– Omar Dary– Richard Hurrell, Guidelines on food fortification with micronutrients, chapter 10, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009).

44 Lindsay Allen– Bruno de Benoist– Omar Dary– Richard Hurrell, Guidelines on food fortification with micronutrients, p. 139, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009).

45 Lindsay Allen– Bruno de Benoist– Omar Dary– Richard Hurrell, Guidelines on food fortification with micronutrients, p. 178, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009). A good example for such in-depth monitoring provides the Argentine law with Disposición 2280/2005 on wheat flour providing especially tailored questionnaires.

wise model must not be understood as rigid programming model and does not aim at that. It should rather be handled and applied with some flexibility. A standard setting process may well be introduced the other way round starting with a law that is subsequently advocated and allows for technical establishments during a transition period. Phases may also overlap chronologically and accelerate at different paces.

More complexity arises when a state chooses to fortify more than one staple food. Then, the process may be driven with some kind of general law covering all kinds of FF⁴⁶. Or, the FF standard setting model is reintroduced food by food individually.⁴⁷ The clock model allows illustrating a vast array of variety without losing its basic propositions.

3. Voluntary and mandatory FF

One crucial point reflecting the interrelations between the public and the private sector is the distinction between voluntary and mandatory fortification. The clockwise model integrates both approaches.

Other models, such as the one of the MOST micronutrient programme, e.g. identify mandatory and voluntary fortification as different FF types rather than different sequences or evolutionary phases. This is reasoned with the fact that mandatory fortification would target staple foods and voluntary fortification would apply only to processed

non-staples, so-called “packaged foods”. The latter would regularly apply to highly processed luxury foods⁴⁸ and consequently miss reaching the target groups. At first glance this comes as a surprise because all other steps mentioned by MOST in order to build a FF programme do not essentially differ from the model developed here. Yet, the point of reference explains this contrast. Voluntary fortification as understood in the clockwise model is intertwined with possible later mandatory fortification. It relates to complementary approaches by different sectors (industry, civil society, and governance entities) and works with inclusive, nationwide standards and logos, which are essential for effective consumer recognition and awareness campaigns.

The current West-African FF initiatives serve as a good example of such a multi-stakeholder engagement. On the regional level, the West African Health Organization (WAHO) as the official health agency of the Economic Community of West African States (ECOWAS) assembling its member states health ministers set FF policies.⁴⁹ A 2006 resolution requires mandatory fortification of vegetable oil and wheat flour in the 15-nation ECOWAS. This resulted in public as well as private sector engagement. Many states of the region started introducing FF policies. For example Burkina Faso launched a PPP for the fortification of cooking oil, and Ghana is about to enact a law on mandatory fortification of wheat flour and vegetable oils.⁵⁰ Likewise, the regional industry concerned commits itself to food fortification. Already in early 2007 cooking oil producing companies from the eight Monetary and Economic Union of West Africa (UEMOA) countries established a partnership for the fortification of oil with Vitamin A. Now, 13 wheat flour millers of francophone West Africa met in Abidjan to fight vitamin and mineral deficiencies by fortifying flour. The effect is expected to be large scale taking into account that wheat flour represents one of the basic staple foods in the region. To this end, a professional association was established called AIM-UEMOA⁵¹ complementing AIFO-UEMOA⁵² as the association for oil millers.⁵³ This industry led fortification of staple foods serves as example for voluntary fortification as understood in the clockwise model.

Voluntary fortification as understood by MOST refers to regulated, but not mandatory fortification. It is also often called “market-driven fortification” in the sense that micronutrients are added to proc-

46 One of the most comprehensive examples would be the Republic Act No. 8976/The Philippine Food Fortification Act of 2000.

47 This is typically true for common law countries like the USA. But e.g. also Costa Rica follows this model.

48 See MOST – The USAID Micronutrient Program, Food Fortification – Need for a more proactive approach, <<http://www.most-project.org/PDF/fortification.pdf>> (22 February 2009).

49 See <<http://www.wahooas.org/anglais/programme/domaines/nutrition.php>> (22 February 2009).

50 See the official statement on <http://www.ghana.gov.gh/ghana/ghana_enact_law_compulsory_food_fortification.jsp> (22 February 2009).

51 AIM stands for the French “Association des Industries Meunières”.

52 AIFO abbreviating “Association des Industriels de la filière oléagineuse”.

53 See IRIN, West Africa: Region making headway on food fortification, Dakar, 14 August 2007, <<http://www.irinnews.org/Report.aspx?ReportId=73733>> (22 February 2009) and HKI, Fortify West Africa: Millers Commit to Combat Vitamin and Mineral Deficiencies, 5 September 2008, <http://www.hki.org/about/press_releases/West%20Africa%20Millers%20Commit.html> (22 February 2009).

essed foods within legally binding regulatory limits.⁵⁴ This form can be found most in industrialized and emerging countries with markets for such food-stuffs.⁵⁵

In conclusion, three types of FF approaches can be distinguished: voluntary fortification, regulated voluntary fortification, and mandatory fortification. These concepts interrelate and can overlap, they can apply to differing stages of regulatory development as they do to differing food types. While mandatory fortification is the means of choice sustainably to tackle micronutrient deficiencies in developing countries, regulated fortification applies mostly in industrialized countries. Voluntary and mandatory fortification are not contradictory models, but often reflect different sequences of a standard setting process.⁵⁶ While voluntary fortification is a private sector led FF initiative, mandatory fortification is government-driven intervention. In a multi-stakeholder environment both may be applied complementarily and on different levels of governance with even intermediate forms occurring.⁵⁷

4. Legal context of mandatory fortification

Mandatory FF requires legislative measures at the national level. National legal instruments do not

exist in isolation; they are influenced by a vast array of international norms, as briefly discussed below.⁵⁸

a. International level

Foremost, national legislation affecting international trade has to be in conformity with the rules set forth by the World Trade Organization (WTO), as discussed in more detail below.⁵⁹ In addition, standards of the Codex Alimentarius Commission (CAC)⁶⁰ influence national FF legislation. The CAC was created in 1961 by FAO and has been in charge of the Joint FAO/WHO Food Standards Programme since 1962.⁶¹ Its specific focus lies on food safety and hygiene by regulating through standards, guidelines, and codes of practice. FF is especially tackled through the Codex General Principles for the Addition of Essential Nutrients to Food⁶² and various instruments for nutritional labelling.⁶³ CAC instruments are often directly mentioned in regional and national FF legislation.⁶⁴ This is also due to the fact that CAC food-safety standards serve as a reference point for the WTO. Under the SPS agreement any measures taken that conform to CAC standards, guidelines, or recommendations are deemed to be appropriate and necessary.⁶⁵ The SPS agreement preamble also calls for further institutional harmonization in this area. Another area of technical influence constitutes the International

54 Lindsay Allen– Bruno de Benoist– Omar Dary– Richard Hurrell, Guidelines on food fortification with micronutrients, pp. 28-29, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009).

55 See e.g. the Canadian Food and Drugs Act and Food and Drug Regulations/Loi sur les aliments et drogues et du Règlement sur les aliments et drogues, - Part D, Division 3, Table- B.08.029/- B.13.010.1/- B.13.022/- B.13.052/- B.13.060 on voluntary fortification for specific foods or the Chilean Resolución exenta N° 393/02 which regulates voluntary fortification in a broad manner.

56 Lindsay Allen– Bruno de Benoist– Omar Dary– Richard Hurrell, Guidelines on food fortification with micronutrients, pp. 31-37, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009) however point in that direction.

57 Latin-American agreements, e.g. in Mexico, between governments and industry can serve as an example.

58 For an analysis of the interaction of different levels of governance see Leonie Vierck, Das Völkerrecht als komplexe Mehr-Ebenen-Struktur – Vom Völkerstrafrecht, dem Komplementaritätsprinzip und der Verbindung zum internationalen Menschenrechtsschutz, KritV 3/2008, pp. 247.

59 See *infra* section 5.

60 See <http://www.codexalimentarius.net/web/index_en.jsp> (22 February 2009).

61 See WHO/FAO, Understanding the Codex Alimentarius, revised and updated, Rome, 2005, <<http://www.fao.org/docrep/008/y7867e/y7867e00.htm>> (22 February 2009).

62 Codex General Principles for the Addition of Essential Nutrients to Food, CAC/GL 09-1987 (amended 1989, 1991).

63 Codex General Standard for the Labelling of Prepackaged Foods, CODEX STAN 1-1985 (Rev. 1-1991); Codex General Standard for the Labelling and Claims for Pre-packaged Foods for Special Dietary Use, CODEX STAN 146-1985; Codex Guidelines on Nutritional Labelling, CACA/GL 2-1985; and see as well Lindsay Allen– Bruno de Benoist– Omar Dary– Richard Hurrell, Guidelines on food fortification with micronutrients, pp. 172, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009).

64 See accordingly e.g.: Reglamento Técnico de Harina de Trigo Fortificada, R-UAC 67.01.15:02 of the Centralamerican Tariff Union which specifies that it is adopting the Codex standard on wheat flour for fortified wheat flour; the Australia New Zealand Food Standards Code – Standard 1.3.1 on Food Additives refers to the CAC Procedural Manual as a guide; and in Uganda The Food and Drugs (Food Fortification) Regulations, 2005 (Statutory Instruments 2005 No. 2), Regulation 6 (2) (b) incorporates the CAC General principles for use of food additives for FF quality control principles.

65 Art. 3 (2) SPS in conjunction with Annex A, 3 (a), Art. 2 (4) SPS and i.p. Art. XX (b) GATT, on the SPS-Agreement with regard to CAC standards see Quick, Reinhard/Blüthner, Andreas, “Has the Appellate Body erred? An Appraisal and Criticism of the WTO Hormones Case, in: Journal for International Economic Law 2(1999) 4. pp. 603.

Organization for Standardization (ISO), an NGO comprising national standard bodies.⁶⁶ Although so far no international FF technical standards have come into existence, ISO also provides advice on standard matters. Internationally and transnationally, reference is also made to several pharmacopoeias in national legislative instruments ranging from the International WHO one to national ones.⁶⁷ This paragraph demonstrates once more how technical cooperation indispensably fosters acceleration of integration that can be expanded to other areas.⁶⁸

b. Regional level

At the regional level, some organizations have developed instruments to either coordinate national approaches or due to restraints in their member states. The EU as a supranational entity governs FF policies Europe wide as part of regional economic integration, health and consumer protection policies.⁶⁹ The CARICOM standard on wheat flour⁷⁰ is an interesting example of regional legislation. WAHO policy approaches have been discussed above. Likewise, the Pan-American Health Organization (PAHO),⁷¹ as the specialized health agency of the Inter-American system and at the same time WHO's regional office, engages in the formulation of FF policies.⁷² Like states, regional organizations also focus on research aspects: PAHO together with the Central American system of integration established the Instituto de Nutrición de Centro América

y Panamá (INCAP).⁷³ INCAP has not only taken a leading scientific role in regionally widespread sugar fortification, but also approves products and suppliers. Sometimes FF policies are undertaken conjointly but less institutionalized: FF in Central Asia⁷⁴ is promoted by a cooperation of UNICEF, the Asian Development Bank, and the Kazakh Academy of Nutrition. This demonstrates influence by regional entities from soft policy intentions to scientific investigation and hard law.

c. Country level

On the country level, especially legislation on the fortification of fats and cereals was introduced on a larger scale during the 1970s in some countries,⁷⁵ so that FF legislation is not a brand-new phenomenon. The legal design differs from country to country – much depends on the legislative culture.

Latin American countries with strong presidential systems often combine a constitutional clause or a general law⁷⁶ with sets of administrative decrees and technical norms.⁷⁷ Constitutions including economic, social, and cultural (ESC) rights often refer to the right to the food as much as the right to health.⁷⁸ General laws work as umbrella legislation institutionalizing FF within the executive branch, often relating to the Ministry of Health of Agriculture, sometimes involving even the Head of Government⁷⁹. Such general laws authorize the administration to regulate FF in more detail and establish for-

66 See <<http://www.iso.org/iso/home.htm>> (22 February 2009).

67 As such e.g. the Zambian Food and Drugs Act, Chapter 303 makes a specific reference to several pharmacopoeias. The US Pharmacopoeia, <<http://www.usp.org/>> (22 February 2009), and the UK one, <<http://www.pharmacopoeia.co.uk/>> (22 February 2009), are often especially cited.

68 See for an example Maurice Schiff – L. Alan Winters, Regional cooperation, and the role of international organizations and regional integration, The World Bank Policy Research Working Paper Series, No. 2872, 31 July 2002.

69 See Regulation (EC) No 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods; Directive 2002/46/EC of the European Parliament and of the Council of 10 June 2002 on the approximation of the laws of the Member States relating to food supplements; Regulation (EC) No 108/2008 of the European Parliament and of the Council of 15 January 2008 amending Regulation (EC) No 1925/2006 on the addition of vitamins and minerals and of certain other substances to foods; and Regulation (EC) No 1925/2006 of the European Parliament and of the Council of 20 December 2006 on the addition of vitamins and minerals and of certain other substances to foods.

70 Caribbean Community (CARICOM) Standard Specification For Wheat Flour, 1991.

71 See <http://devserver.paho.org/hq/index.php?option=com_frontpage&Itemid=1> (22 February 2009).

72 See <<http://www.paho.org/spanish/AD/DPC/NC/cmn-obs-pol-cor-est-caso.pdf>> (22 February 2009).

73 See <http://www.sica.int/incap/incap_breve.aspx?IdEnt=29> (22 February 2009).

74 See <<http://www.kan-kaz.org/newsite/e0601.html>> (22 February 2009).

75 See. i.a. Administrative Order No. 243, 1975 (Philippines) on margarine, and the Chilean technical standard NCh1229.Of1976, 1976 on cereals.

76 See in Nicaragua: Reglamento de la Ley General de la Salud, Art. 186-191, 445; Decreto 394, Art. 69; Acuerdo interministerial 1999; Norma técnica No. 03 029-99 for an example on different regulative levels of sugar FF.

77 See Jorge Carpizo, Derecho Constitucional Latinoamericano y Comparado, Anuario Iberoamericano de Justicia Constitucional, núm. 10 (2006), pp. 73.

78 See e.g. Art. 49 and 65 of the Constitución Política de Colombia 1991.

79 See e.g. in Argentina Ley 25.630, 22/08/2002 on wheat flour which was announced by the presidential Decreto 1563/2002.

mal mechanisms of implementation. Administrative acts then fill this legal framework.⁸⁰ Such a combination of laws and administrative acts allows enhanced flexibility on details of FF, as it is easier to revise administrative regulations than laws.⁸¹ Administrative acts may also include technical details on FF but these are more often included in technical standards.⁸²

Many states with a common law legal system hold, in most general terms, some similarities in common. Some countries also mingle all legislative aspect into one document. Such common law countries tend to resort to detailed statutes sometimes linked with so-called food specifications, a term used synonymously for technical standards.⁸³ Others tend to combine a general act with according administrative regulations and/or technical standards alike to the Latin American structure explained above.⁸⁴ Section 27 of the 1996 South African constitution even contains a right to health care, food, water and social security. Atop of the legislative hierarchy a general Food and Drugs Act is commonly found.⁸⁵ The Philippines even work with a single act for FF.⁸⁶

Technical standards often include scientific data on reference daily intakes (RDIs),⁸⁷ set methods of determining the micronutritional value of a certain product,⁸⁸ labelling⁸⁹ and logos.⁹⁰ Special attention is often paid to fortified food for groups with special needs laying down requirements for infant formulas etc.⁹¹ The FAO/WHO guidelines on FF elabo-

rate in detail how to set technical details of such legislation.⁹²

5. WTO- law aspects

Voluntary and mandatory FF initiatives also can involve a WTO law dimension, as far as they foresee differential treatment of like food products and concern international trade. The question arises, under which conditions such differential treatment of foods, in particular, a differentiation between fortified and non-fortified foods, complies with world trade law. This section will provide a brief overview, to what extent such practices, firstly, violate basic norms of world trade law, and, secondly, can exceptionally be justified for reasons of protecting human life and health.

a. Sales ban or increased tariffs for non-Fortified Foods

Technical FF standards and legislation demanding mandatory enrichment of staples such as sugar, flour or edible oil can result in differentiation between domestic and imported foods. This is, for example, the case in Central American countries with mandatory sugar fortification, where the sale of non-fortified sugar is banned by law. In fact, this ban foremost affects importers, who do not yet own capacities for sugar fortification. In voluntary forti-

80 See e.g. the Paraguayan Decreto N° 20830 on wheat flour.

81 See Gregory D. Orriss, Food fortification: Safety and legislation, in Food and Nutrition Bulletin, Volume 19, 1998, p. 115.

82 See on the one hand for instance the Indonesian Administrative Order No. 132s. 1970, and on the other Ugandan Standards 510, 511, and 561. For a more general picture see Harm Schepel, The Constitution of Private Governance – Product Standards in the Regulation of Integrating Markets, Oxford and Portland 2005, and Guillermo Arroyave – Omar Dary, Manual para la Fortificación de Azúcar con Vitamina A, partes 1-3, 2nd ed., which also gives a good account on how technical quality enhances the overall scope of an FF program.

83 As e.g. in Canada, India, and the USA.

84 See e.g. in Indonesia: Act of the Republic of Indonesia No. 7 of 1996 on Food, Art. 21, 27; Government Regulation No. 2812004 dated October 5, 2004; Decree 153/MPP/KEP/5/2001; Regulation 69/1999; MOH decree no. 632/Menkes/SK/VI/1998 AND; National Standard, No.153/MPP/KEP/5/2001 and 323/MPP/11/2001; and DG of FDA decree No. 02240/B/SK/VII/91 for wheat flour and margarine.

85 See i.a. The Prevention of Food Adulteration Act and Rules in India, The Food, Drugs and Chemical substances Act and Regulation in Kenya or Chapter 303 of The Food and Drugs Act in Zambia.

86 Republic Act No. 8976/The Philippine Food Fortification Act of 2000.

87 See e.g. in Canada the Food and Drugs Act and Food and Drug Regulations/Loi sur les aliments et drogues et du Règlement sur les aliments et drogues, Part D, Division 1, Table 1 / Division 2, Table 1.

88 See e.g. the Argentine Disposición 2280/2005 on wheat flour.

89 See e.g. the Mexican standard NOM-147-SSA1-1996- 5.3.1 on wheat flour, No. 11 (etiquetado).

90 See for a very illustrative example The Food and Drugs (Food Fortification) Regulations, 2005 (Statutory Instruments 2005 No. 2) of Uganda, especially the third and fourth schedule.

91 See e.g. the Colombian Resolución 11488, Agosto 22 de 1984, Art. 13 or in the USA CFR Title 21, Ch. I, Part 167, Subpart B, § 107.100.

92 Lindsay Allen – Bruno de Benoist – Omar Dary – Richard Hurrell, Guidelines on food fortification with micronutrients, chapter 11, 2006, WHO and FAO, <http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf> (22 February 2009).

fication environments, additional tariffs for non-fortified products can be introduced as means to encourage FF.

Both approaches violate basic norms of the General Agreement on Tariffs and Trade (GATT), namely either Art. I:1 GATT (most favoured nation clause) or Art.III:4 GATT (national treatment).⁹³ Differentiation between fortified and non-fortified foods treats imported “*like products*” less favourably than those of domestic origin.

This is, because otherwise identical fortified and non-fortified foods are “*like products*” according to the three so-called border tax criteria applied by WTO-dispute settlement⁹⁴. Namely, they only slightly differ in (1) “products properties, nature and quality”, as far as they contain fortificants fortifiers. However, this is not only a marginal quantitative difference in terms of ingredients, but invisible for e.g. customs inspectors. Regarding the other two criteria (2) “end-use” and (3) “consumers tastes and habits” fortified and non-fortified products do not differ significantly, as consumers in the countries concerned neither use fortified foods differently, nor developed specific preferences. They are often not even aware of micronutrients and their favorable effects on health.

Less favourable treatment results from the differentiation between fortified and no-fortified foods. Less favourable treatment does not require discrimination of imports *de jure*, which would not be the case in mandatory fortification, as all foods irrespective its origin has to be fortified. However, Art. I and III GATT also cover *de facto* discrimination, provided it negatively affects the competitive situation of imports or their market access.⁹⁵ The latter will regularly be the case, as domestic producers

according to their large share in their home market will more easily absorb the fixed cost of fortification, such as equipment or labelling, rather than importers with marginal market shares.

In sum, mandatory fortification may favour domestic producers, or in technical terms, result in less favourable treatment of imports. Therefore, it conflicts with basic rules of world trade law, namely Art. I:1 and Art. III:4 GATT.

Justification can be provided by Art. XX:b GATT to measures “necessary to protect human [...] life or health”. Well administrated fortification programmes can qualify for this exception, once they meet two criteria: FF firstly protects human life and health from malnutrition. Secondly, the so-called necessity test has to be met. This demands policy-makers to choose the least trade restrictive means that can be expected to employ with regard to the policy objective at stake.⁹⁶ The necessity-test does not judge on the selected policy objective or the chosen level of protection. With regard to mandatory fortification programmes, a ban of non-fortified foods can be the only means t effectively employed. Domestic industry can hardly expected to fortify sustainably while facing competition with cost-advantages from free-riding imports. A level playing field including imports can be seen as essential for an effective, sustainable fortification programme. A programme that –according to our clock model - gradually develops from a technical standard with a labelling scheme over tariff measures towards a well-monitored sales ban of non-fortified foods will therefore be justified under Art.XX:b GATT.⁹⁷

To sum up, well-designed mandatory fortification programmes are consistent with GATT.

The Agreement on the Application of Sanitary and Phytosanitary Measures (SPS-Agreement) is not applicable to FF programs. According to SPS-Agreement, Annex A, 1 sanitary measures are applied

(b) *to protect human or animal life or health within the territory of the Member from risks arising from additives, contaminants, toxins or disease-causing organisms in foods, beverages or feedstuffs;*

[and]

(c) *to protect human life or health within the territory of the Member from risks arising from diseases carried by animals, plants or products thereof, or from the entry, establishment or spread of pests.*

93 Raising tariffs is not allowed for so called bound tariff positions according to Art.II:7 and Art.II:1(a) and ultimately also violate Art.I:1 GATT

94 Working Party Report Border Tax Adjustments, BISD 18S (1971), p.101, para.18, regular application in WTO-dispute settlement, e.g. Appellate Body Report “EC-Asbestos”, WTO-Doc. WT/DS135/AB/R v. 12.3.2001, p39, para. 101.

95 Appellate Body Reports “US-Gasoline”, WTO-Doc. WT/DS2/R, p.27, para. 6.7; “Korea-Beef”, WTO-Doc WT/DS169/AB/R, p.39, para.134

96 Panel Report ,Thai-Cigarettes”, GATT-Doc. DS10/R, p.21, para.75

97 The chapeau of Art.XX GATT limits justification to measures that neither constitute an “arbitrary or unjustified discrimination”, nor a “disguised restriction of international trade”. Both criteria concern the non-discriminatory application of the measure with a view to the policy objective pursued, but regularly will create no obstacle for uniform and coherent mandatory FF programs.

Both alternatives deal with measures that protect domestic populations from *sanitary dangers*, i.e. products that spread pests or otherwise negatively affect human life or health. In particular, para. b) illustrates, that imports are not concerned because of “risks from additives”, but at best public health risks from “a lack of additives”, namely vitamins and minerals in food. It is also doubtful, whether fortifiers are to be understood as food additives, such as colorants.⁹⁸ In any event, measures affecting non-fortified foods, that do not as such have a direct negative effect on health, do not fall under the SPS-Agreement, but GATT.

b. Labelling based on technical standards

The WTO Agreement on Technical Barriers to Trade (TBT Agreement) sets forth requirements for technical standards, so that they do not become unnecessary trade barriers. Successful FF initiatives depend on technical standards that assist industry to apply fortification safely and properly. Such standards contain good manufacturing practice, define minimum and maximum fortification levels by nutrient, require basic food safety standards such as certifications for quality control, define food types suitable for fortifications and may reward compliant companies with a non-discriminatory nationwide-label. Ultimately, standards can develop into technical norms, which are mandatory for all producers, are properly monitored and enforced and form the basis for trade-relevant measures, such as tariffs, sales regulations or tax law.

Per definition by TBT Annex A, the agreement is applicable to mandatory (technical regulation) and voluntary (“standard”) technical norms:

1.) Technical regulation

Document which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labeling requirements as they apply to a product, process or production method.

2.) Standard

Document approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for products or relat-

ed processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labeling requirements as they apply to a product, process or production method.

For technical norms dealing with FF, firstly Art.4.1 TBT asks government to ensure the application of the Code for Good Practice for the Preparation, Adoption and Application of Standards (CGP). According to Art. D CGP, the basic rules of most favoured nation and national treatment apply. Different to Art. III GATT, Art.D CGP does not require non-discrimination *de facto*, but only *de jure*.⁹⁹ Requiring *de facto* non-discrimination would mean technical standards and labelling must not differentiate. But as they aim to lead consumers’ choices, *de facto* non-discrimination would make e.g. labelling schemes meaningless. Accordingly, Art.D only requires *de jure* equal standards applied to imported and domestic food products, e.g. when granted with a FF logo. Furthermore, Art. J and L CGP set forth minimum requirements with regard to transparency of standard setting. Ultimately, Art.E CGP prohibits technical standards, which create “unnecessary obstacles to international trade”. According to Art.2.2 TBT, this means technical standards must be “not more trade restrictive than necessary” with regard to their objective “taking into account the risks their non-fulfilment would create”. Taking into account the importance of the public health objective FF standards regularly strive for, well designed FF standards will regularly be able to pass this necessity test.

In sum, FF measures will regularly be able to pass the requirements set forth by world trade law even though they may – if strategically applied – in fact favour domestic producers over importers. However, some might see justified protection as appropriate compensation for industry delivering on own expenses on a public health objective, namely controlling vitamin- and mineral deficiencies.

⁹⁸ “Vitamins” and “food additives” are also part of separate tariff classifications

⁹⁹ Andreas Blüthner, Welthandel und Menschenrechte in der Arbeit: The Compatibility of Human Rights at Work with the WTO-System, Frankfurt a.M., 2004, p.489

6. Human Rights dimension

Whereas the classical notion of economic, social, and cultural (ESC) rights dismisses them as merely positive, broad, and hence somewhat indefinable rights, more progressive approaches interlink all sets of human rights. In this modern concept each human right entails obligations to respect, protect, and fulfil.¹⁰⁰ This idea becomes even more visible with a view to the right to food, an ESC right addressed i.a. in Art. 11 of the International Covenant on ESC rights (CESCR). Taking FF into account, the right to food can be very well traced down to concrete parameters establishing micronutrient deficiencies as a possible violation of this right.

Micronutrient deficiencies are covered by the right to food not only by a strict food-based approach but also taking into account the livelihood approach. In this sense the right to food founds the premises for overall sustainable livelihoods – a thought reflected in the CESCR by including the right to food into the right to an adequate standard of living.¹⁰¹ As discussed earlier on, micronutrient deficiencies entail adverse effects on the whole outline of life. This is why they are basically covered by the right to food and not the right to health taking into account spill over effects precisely to the right to health but also the right to education with a view to schooling programmes on nutrition etc.¹⁰² The human right to health is of particular importance regarding maternal and child health with its impli-

cations for micronutrient deficiencies. Both groups are especially vulnerable, as they need specific micronutrient intakes.

State obligations regarding the right to food and aspects of micronutrient deficiencies very much centre on the question of fulfilment. The fulfilment type of obligation here entails a strong dimension to facilitate. This means *de lege* that the state needs to set incentives for the production, conservation, and distribution of adequate foodstuffs. The adequacy of food refers not only to the quantity of food but also to the nutritional quality. This is where questions of micronutritional value of foods enter the floor. Although critics are right in pinpointing that the term adequacy is a wide one, it is scientifically possible to lay down reference daily intakes very neatly, even reflecting country situations or special needs.¹⁰³ This allows for a gradual but precise determination of adequacy: This is further demonstrated by technical laws in many countries that set exactly these standards, yet granting discretion for future changes.¹⁰⁴ Yet, the matter remains how a state can especially influence the production of food. Food production, apart from subsistence economy,¹⁰⁵ is industry led. This implies that on the ground level the facilitation of the right to food is very much industry led.

This entails a whole bunch of problems with a view to the relationship between business and human rights. Industry was long being considered solely as beneficiaries of human rights. Later, their role as violators of human rights was discussed. Here, businesses appear as *de facto* facilitators of human rights fulfilment. This opens a different angle of perspective, relating also to the above highlighted new roles and responsibilities of businesses.

IV. Summary

In conclusion, FF forms one of the best investments into development and human rights fulfilment. FF depends on well-coordinated private and public sector engagement. Standard setting is essential for long-term sustainability, as it provides a public framework for private sector engagement into reducing vitamin and mineral deficiencies through fortified staple foods.

Taking into account all aspects of standard setting, this article lays out a clockwise model. Accordingly, FF initiatives are brought up in an advocacy

100 For an overview see Magdalena Sepúlveda, *The Nature of the Obligations under the International Covenant on Economic, Social and Cultural Rights*, Antwerpen, 2003, pp. 157-248.

101 For in-depth overviews see Matthew C. R. Craven, *The International Covenant on Economic, Social, and Cultural Rights: A Perspective on Its Development*, Oxford 1998, and Henry J. Steiner – Philip Alston, *International Human Rights in Context – Law, Politics, Morals*, 2nd ed., Oxford, 2000, pp. 237.

102 See for an overview Birgit Toebes, *The Right to Health*, and Manfred Nowak, *The Right to Education*, in Asbjørn Eide – Catarina Krause – Allan Rosas (eds.), *Economic, social and cultural rights – A textbook*, 2nd ed., Dordrecht/Boston/London, 2001, pp.169 and 245.

103 See by contrast on the one hand New Zealand Food Act 1981, 11C, Standard 1.3.2, table to clause 3, the Chilean Resolución exenta N° 394/02, and on the other hand the Colombian Decreto 3863, Octubre 02 de 2008.

104 See the part on technical standard setting for more information.

105 In this case home fortification with micronutrient powder (“Sprinkles”) as described above provides another solution for fighting micronutrient deficiencies.

phase, followed, secondly, by a technical trials sequence. Thirdly, industry, incentivised by a logo, leads voluntary implementation. Mandatory laws and compliance, fourthly and finally, close the circle.

Well designed voluntary or mandatory fortification schemes can lead to competitive advantages for local food industry. Even though basic non-discrim-

ination rules can be affected, programs will be justified under WTO-law exceptions as necessary for human life and health.

From a human rights angle, FF is a practical example for a public-private sector contribution to realize the right to food, helping to eradicate hunger through FF as cost-effective solution to one of most important humanitarian challenges worldwide.