

WN Feedback

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Governance. UN. Codex Alimentarius **How food standards are fixed**



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[Access February 2011 Editorial on RUTF here](#)

[Access February 2011 Michael Latham, Urban Jonsson et al on RUTF here](#)

[Access April 2012 Arun Gupta, Claudio Schuftan et al on RUTF here](#)

[Access May 2012 Annelies Allain on IBFAN and Halfdan Mahler](#)

[Access Nov-Dec editorial on standing up and taking sides here](#)



The UN Codex Alimentarius Commission, here in session in 2015. Created with the purposes of setting standards for food quality and safety, it is officially made up from UN member states, with observers from civil society groups, but delegations include a great number of industry representatives

What a joy it was to read the *WN* editorial in your most recent issue, on [*'Standing up and taking sides'*](#). Yes, our International Baby Food Action Network (IBFAN) has always been committed to direct action as one essential part of our work, in order effectively to protect and promote the public good.

After wallowing in a swamp awash with food and drinks industries working their agendas in late November at the UN Codex Alimentarius Commission meeting in Bad Soden, Germany, the *WN* editorial was a timely rescue. Affirmation that to be an agitator is to stir up consciousness is exactly what we working to protect healthy and rational infant and young child feeding need to hear.

Here is why. The UN Codex Alimentarius Commission is the global body that sets the standards and guidelines for food commodities and food products. It is the key international body that determines the nutritional quality; safety and labelling of industrially manufactured food products that fill our supermarkets. But its dual mandate of 'protecting the health of the consumers and ensuring fair practices in the food trade' inherently creates conflicts of how to balance these overarching decrees, and its structure and process rules are designed to favour corporate interests.

Despite years of working for public health in the adulterated Codex environment, our small IBFAN team continues to be shocked by the overwhelming presence of the food and drink product industries, their front groups, their lobbyists, their consultants, their researchers, their experts, their lawyers, their influence. On the agenda at Bad Soden were a number of important items for IBFAN. New Zealand had put forward a proposal to revise the standard for follow-up formulas. Other items included the development of a standard for bio-fortified foods, with how to define these modified foods on the current agenda. Plus there was a UNICEF proposal to develop guidelines for ready-to-use therapeutic food (RUTF).

A tool for Big Food

Codex is important. Its standards and guidelines are the benchmarks for the global trade in food products. Its harmonising processes ensure reduced trade barriers and favour global market penetration with ultra-processed food products including sugared drinks. Hence the heavy infiltration in a process that supposedly is also to protect public health. The massive financial, material and human resources of Big Food readily corrupt public health nutrition interests. Codex standards determine what ingredients, additives, contaminants, and industrial nutrients are allowed in food products, and what information is sanctioned on product labels. But there is little professional or public awareness of Codex processes and power.

At the Bad Soden meeting, (as shown in Box 1 below) 24 per cent of member states delegates were from industry, and of the 35 observer organisations only 4 represented public interest organizations, 4 represented disease/professional organisations, and 27 were industry fronts. Out of the 91 observer delegates, only 8 were independent, hence 88 per cent represented industry. These include the ubiquitous Nestlé, and Danone, Abbott, Coca Cola, Unilever, Fontera and Nutriset.

Box 1

Codex membership, Bad Soden meeting, 2015

Total number of UN Member States on Codex	66
Total number of delegates on member states delegations	191
Number of industry representatives on member states delegations	46
Delegates on member states delegations from industry	24 %
Total number of observer organisations	35
Number of industry associations	27
Number of research organisations receiving industry funds	4
Number of independent observer organisations	4
Total number of observer delegates	91
Total number of independent delegates	8
Observer delegates from industry and entities that receive industry funds	88 %
Observer delegates that are independent	12 %

Of the observer organisations, the two delegates of the Calorie Control Council were from Tate and Lyle. The Council for Responsible Nutrition was represented by Innophos, ‘a leading producer of specialty grade phosphate products for the food, pharmaceutical and industrial market segments’ and Proctor and Gamble. Also present was DSM, the leading manufacturer of ingredients for infant formulas.

And what about member states? Here is one example. In Bad Soden the process for the revision of follow-up formula was driven and chaired by New Zealand, the home of the giant milk products industry that has partnerships with baby milk industries in China. Given China’s revised one-child policy to two, the profit potential is vast. The International Code, WHA resolutions, and the WHO’s stated position, is that follow-up formulas are not necessary. However when a number of member states, WHO and IBFAN and its partners attempted to have this integrated into the definition of the product, the chair was quick to support New Zealand that this should not be part of the definition.

Why participate?

So why does the IBFAN participate in Codex meetings? To speak truth as we know it. As my colleague Maryse Arendt says, ‘We are the wall’. Former WHO director-general Halfdan Mahler explains why direct action from civil society is essential in the public interest, in a [W/N contribution by Annelies Allain](#). Protection of breastfeeding and optimal infant and young child feeding, the need for policy coherence between UN agencies, and the need for standards to be set using independent science, sustain our agitations. Above all we work to expose subversion of the human right to safe and adequate food, damage to the physical environment, and the endangering of the life and health of mothers and children by the corporate push for profit, increased markets, and manipulation of UN agencies and national governments and UN agencies. So, thank you *W/N*, and yes, we continue to agitate.

Box 1

The case of Plumpy'nut™



Elisabeth Sterken writes: The problems and dangers of ready-to-use therapeutic food are set out in the three WN contributions accessible above. I am a co-author of one of them

At Bad Soden the French delegation included three employees of the Nutriset company. Nutriset's simple solution to the complex problem of the treatment of severely acute malnutrition is the market-driven product approach called Plumpy'nut – a composition of peanut paste, sugar, milk solids and industrial micronutrients, shown above being devoured. On the agenda at Bad Soden was UNICEF's proposal for Codex to develop a standard or guideline for peanut pastes – which the UNICEF representative claimed was needed for the 17 million children suffering from severe acute malnutrition mainly in Africa and Asia.

UNICEF is the largest procurer of RUTF, having purchased more than 30,000 metric tonnes worth \$US 112 million during 2014. A Codex guideline, a stamp of approval to facilitate trade across borders, will make it more difficult for countries to refuse the product as India has done, preferring national initiatives and local culturally appropriate foods. India's delegate pointed out that severe acute malnutrition rates in India have declined from 6.4% in 2005) to 4.6% in 2013, while exclusive breastfeeding rates have increased during the same period. Similarly in Bangladesh and Nepal, acute malnutrition rates have declined. These three countries do not import RUTF for their national programmes.

Product promotion

Codex is not an appropriate place to promote the marketing of products for the treatment of SAM. Besides, evidence of the effectiveness of RUTF as a treatment for acute malnutrition remains weak when compared with other treatments as noted by Cochrane reviews. Also, prevalence figures to justify the RUTF approach are inflated – close to half of under-5 deaths are during the first month of life and would not be treated by RUTFs.

At Bad Soden, in order to get their request approved, UNICEF's promotional video for the use of the packaged peanut paste was repeatedly shown during committee breaks. With heavy backing by the chair, UNICEF's request was approved, to the delight of the Nutriset delegates, who rushed over to congratulate UNICEF people immediately afterwards.

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Global Nutrition Report **Development as empowering the people**



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Coca-Cola bottling plant in South Africa. Countries throughout the global South are now deeply penetrated by vast transnational corporations and their ultra-processed food and drink products

The focus of the 2015 edition of the *Global Nutrition Report* being on accountability, readers should expect clearly defined responsibilities for the world nutrition situation. But the report dilutes this responsibility among governments, businesses, civil society groups, foundations, multilateral agencies and concerned citizens, as pointed out by the *WN* November-December editorial (1). All these entities, says the report, should make new commitments for the Nutrition for Growth Summit to be held in Rio de Janeiro later this year.

In doing so, the report evades the issue. The responsibilities of these various stakeholders are very different in nature and in extent. The major responsibility and hence accountability should be attributed first to businesses and in particular food corporations, and second, to governments. Transnational corporations are major drivers of global epidemics of non-communicable diseases. By flooding global food supplies with unhealthy ultra-processed foods and drinks they displace local healthy diversified diets, causing a uniformly unhealthy consumption pattern worldwide.

Already in 2005, processed foods accounted for three-fourths of total world food sales (2). The medium and small businesses merely copy the Big Food model, adding often poor hygiene quality to the poor nutritional quality of these foods and drinks. One has only to wander over the local markets in low-income countries, even in the most remote rural areas, to realise the extent to which ultra-processed food products are present.

Being nice to the transnationals

But instead of confronting the Big Food corporations, the *Global Nutrition Report* accommodates them through an apparently objective analysis, putting in the balance their ‘positive’ and ‘negative’ actions. After a list of 11 positive actions, comes a list of 10 negative actions among which is listed, next-to-last: ‘Creating products that are unhealthy’. Hence, the action of producing unhealthy food, which is the major cause of the epidemics, is cited as a mere ‘negative’ action of the food industry. The food industry should be called to stop producing and marketing unhealthy foods, especially those for which scientific evidence for unhealthiness is clear. No compromise, period!

The second responsibility of the nutrition situation goes to governments. Their role is to protect consumers through the control of the whole food system (production, processing, distribution, marketing and retailing). Here again, the *Global Nutrition Report* is at fault when it bases its approach on the infamous ‘public-private partnerships’. Here, the report acknowledges:

A multitude of potential mechanisms exist to strengthen accountability – from legislative to voluntary to informal - but, given the relative capacities of some governments and large corporations, enforcement is likely to be weak.

The *WN* editorial is right in describing such a statement (and others in the report) as an ‘equivocal note of caution’. Should we expect more, when the report itself was supported by non-independent sponsors?

Telling it like it is

The role of governments has been brilliantly discussed by *The Lancet* Action Group in its fourth paper of the [series on non-communicable diseases](#). After a thorough examination of the various arguments about the so-called public-private approach, the paper delivered five key messages. *The Global Nutrition Report* ignored them. Here they are:

- Transnational corporations are major drivers of non-communicable disease epidemics and profit from increased consumption of tobacco, alcohol, and ultra-processed food and drink (so-called unhealthy commodities).
- Alcohol and ultra-processed food and drink industries use similar strategies to the tobacco industry to undermine effective public health policies and programmes.
- Unhealthy commodity industries should have no role in the formation of national or international policy for non-communicable disease policy.
- Despite the common reliance on industry self-regulation and public-private partnerships to improve public health, there is no evidence to support their effectiveness or safety.

- In view of the present and predicted scale of non-communicable disease epidemics, the only evidence-based mechanisms that can prevent harm caused by unhealthy commodity industries are public regulation and market intervention.

Continuing on the responsibility list, the report cites civil society groups, foundations, multilateral agencies and concerned citizens. But what can these stakeholders do, once corporations, with or without the control of governments, have already flooded the market with unhealthy foods? Ironically they can, when they are not themselves infiltrated by the Big Food corporations, assess the damage on global health!

Health and nutrition professionals are not included in the report's responsibility list. They should be, and they ought to be held accountable for their 'positive' and 'negative' actions towards improving global nutrition. Their research contributes to shape the health and nutrition education messages conveyed to the public. But these messages are sometimes discredited when conflicts of interest in the research process is revealed or when contradictory messages reach or are amplified by the media.

The *WN* editorial advocates the engagement of the people themselves. Rightly the editorial calls for community leaders to be part of the shapers and authors of the next *Global Nutrition Report*. The 2015 report has not completely ignored their role. The group 'concerned citizens' in the responsibility list could be understood as community leaders. In addition, Olivier de Schutter suggests various community-based approaches for a better involvement of the people, 'from local food policy councils to national-level consultative bodies', and innovative actions such as collective gardens, short food chains or responsible purchasing.

However, the involvement of the people in the process does not free the governments from their responsibilities. Marginalised, impoverished and vulnerable populations lack both the time and the capacity to face up to transnational corporations. Empowering them towards a greater involvement in the global nutrition arena can be achieved only if they are also empowered economically and politically, a long-term struggle whose success is not yet in sight.

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Principles. Concepts. Language
Aspiration is one more A



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[Access April 2015 José Luis Vivero Pol on Food as a public good here](#)

[Access November-December 2015 Editorial here](#)

[Access this issue Visions here](#)

Last month's *WN* editorial nicely and literarily portrayed what type of attitude public health workers and anti-hunger professionals should adopt in regard to food, hunger, malnutrition, the corporatisation of public nutrition and the commodification of food. We need to be activists against hunger, as academics, officials, journalists or entrepreneurs. We cannot remain neutral or detached.

The editorial, on attitude, saw the need to ally, advocate, activate and agitate. I would like to stress another A-ttitude urgently required in our rather pragmatic and bureaucratic nutritional setting: the need to aspire. We will not get rid of hunger solely producing science, developing technology, amplifying our outreach, advocating for better policies, activating our peers, and agitating minds and souls with ideas beyond those that are established. This is because we don't know how a hunger-free world looks like. Such a state has never existed and hence we have to imagine it. We need to dare to imagine a world with no hunger and malnutrition. This could be one in which different types of public policies distribute sustainably-produced food or create universal food schemes whereby everybody gets free food simply because it is a vital resource, just as the Irish now get free water in their homes, the Spaniards now get free health services, and the Belgians get free education, financed from general taxation.

Possible Utopias

This year is the 500th anniversary of the first edition of Thomas More's *Utopia*, published in 1516 in Louvain where I work now. Let's apply 'possible Utopias' as envisioned by [Erik Olin Wright](#) of the University of Wisconsin-Madison, to nutrition. After all, so many political and institutional developments were at their beginnings

'utopias' until they materialised. For example, voting rights for women were dismissed as impossibly utopian up to the end of the 19th century but then they were achieved in many countries in the first half of the 20th century. The abolition of slavery was never considered a possibility during the 16th century debates in Spain on whether Latin American Indians had souls or not. During the French Revolution, the goals of equal rights for men and women, the setting aside of unreasonable Church influence in favour of secular governance and human fraternity were some of the aspirations that mobilised the common people to rally against the old regime and to strive to build a new order.

Aspiring to end hunger

Here is an aspirational dream I was part of. In 2005, with José Graziano da Silva, current UN FAO director-general and then Brazilian president Lula's special advisor on food security, and Andres Botran, formerly Guatemala's state secretary on food Security, we launched an aspirational and decidedly utopian initiative to have the whole Latin America and the Caribbean region with no hunger by 2025.

Initially, it was just a dream. The three of us worked with no funds, a few contacts, and a committed attitude. We amplified our message through the presidents of Brazil and Guatemala. We advocated within FAO for which I then worked, and donors to get additional support, we activated colleagues from other Latin American countries, and we indeed agitated in several ministerial meetings and presidential summits by introducing sentences in their final statements defending the goal of having a [Hunger-Free Latin America and Caribbean](#) in 20 years. We finally succeeded in inserting the [zero hunger goal in the regional political declarations](#) and to export that [Zero Hunger Challenge to the UN](#) and, through the [Sustainable Development Goals](#), to the rest of the world.

José Graziano did a terrific job in convincing UN secretary-general Ban Ki-moon to endorse this aspirational yet possible utopia. Nowadays, from Guatemala to New York, there is now a road towards a future without hunger, guiding global food and nutrition policies.

We professionals should unleash our imaginations, and envision a more sustainable and fairer food system for all, based on the universal right to food, the [consideration of food as a commons](#) and current capabilities and knowledge to produce enough food to feed us all well. We should use the concept of aspiration more often, especially in political discourse. Our leaders need to be more inspirational to mobilise the people, and *World Nutrition* needs to be more aspirational to gather together a critical mass of professionals capable of setting aside the current broken food system in favour of a whole new one. Let's come together and envision a world with no hunger before 2030. Let's be sure that dreams can one day become true.

Vivero Pol JL. Aspiration is one more A. [Principles. Concepts. Language]. [Feedback]. World Nutrition January-March 2016, 7, 1-3, 125-126

Principles. Concepts. Language
Aspiring to a better world



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[Access November-December 2015 Editorial here](#)

[Access this issue Visions here](#)

Over and over again, it is evident that people are most content when they engage with nature, be it in its relatively untrammelled state as gardens, or as a contributor to sustainable food production. The definition of poverty is modulated by the extent of such engagement, as it is by the characteristics of communities. People can be rich in many ways while having and using relatively little money.

The 2016-2030 UN Sustainable Development Goals, successor to the 2000-2015 Millennium Development Goals, must take account of ecology as a prime consideration, along with the livelihoods ecological relationships enable. The question then is, how equitable can these be? The answer is, much more than at present, and most of all when places of abode are relatively stable and are not subject to oppression or conflict, and where social structure involves consensus, compromise and respect.

Let us all aspire

These are the requisites which remain available to us personally and as community members, in the face of climate disruption and conflict, to achieve food security and optimal health. We should welcome the spirit of aspiration within the United Nations system and national governments. Reaching high can transcend the oppression, greed and exploitation that is now all too often apparent. Let us all aspire to a better world.

Wahlqvist M. Aspiring to a better world. [Principles. Concepts. Language].

[Feedback]. World Nutrition January-March 2016, 7, 1-3, 127

The Visions editors respond:

José Luis Vivero Pol and Mark Wahlqvist are two of the 19 *WN* team members and regular contributors who have been part of our *Visions* initiative, brought together this month [in one grand summary](#). In his original piece, José Luis said

My greatest aspiration is to see food freed from being a mere commodity, just as people who were once slaves became free from being commodities two centuries ago because morals changed. The same must happen with food, and for similar philosophical reasons. Absolute privatisation of food is a social construct and hence it is in our hands to reverse it. So I envision a world in which food becomes and remains a common good for the commonwealth.

And Mark Wahlqvist said

Most valuable, is to define and achieve positive good health and well-being, whose determinants include personal and community security; basic needs met; avoidance of want; secure livelihoods; secure values; scope to hope and dream; and access to information. They also include stable and respectful social structures; essential infrastructure for hygiene, health care, education, transport, communication; localities with ecological integrity; and health literacy and resourcefulness. But the majority of the world's population cannot achieve or even aspire to these states. So the next question is, why is this? Two reasons need addressing. One is that there are too many of us humans on the planet. Another is that we humans now tread heavily on the environment, ecosystems and the biosphere.

Together with practically all our visionaries, José Luis and Mark point to the immensity of the ominous circumstances that confront humanity now, and to the need for courage – and yes, vision – within families, communities, nations and international settings. This includes an obligation to be sure that the road that is discerned and travelled is going in the right direction. In the [WN September-October editorial](#), the recent Rockefeller Foundation – *Lancet* report on *Human Health in the Anthropocene Epoch* is quoted as declaring

We have been mortgaging the health of future generations to realise economic and development gains in the present. By unsustainably exploiting nature's resources, human civilisation...now risks substantial health effects from the degradation of nature's life support systems in the future. Health effects from changes to the environment including climatic change, ocean acidification, land degradation, water scarcity, overexploitation of fisheries, and biodiversity loss...are likely to become increasingly dominant during the second half of this century and beyond.

José Luis and Mark are right to say in effect that most of all in dark times, like now, it is all the more essential to see a light ahead – to be enlightened. At such times, despair is a worst enemy. Diana Parra, another one of our visionaries, quoted the poet WB Yeats – 'in dreams begins responsibility'. Yes, aspiration is essential. And yes, discerning the path upwards, which may well be steep and narrow, is also essential. The dominant forces now are not on that path.

Principles. Public and private goods **Can food be a public good?**



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[Access March 2015 George Kent on How to end hunger here](#)
[Access April 2015 George Kent on How to nourish society here](#)
[Access April 2015 José Luis Vivero Pol on Food as a public good here](#)
[Access November-December 2015 Editorial here](#)
[Access November-December 2015 José Luis Vivero Pol Vision here](#)
[Access this issue Visions here](#)

My colleague on *World Nutrition* José Luis Vivero Pol writes extensively about the idea that food ought to be viewed as a public good (1). He has done so most recently in his *Vision for this Century* in the November-December issue of *WN* (2), summarised together with 18 other contributions including my own in this issue (3). The idea is important. To grasp and share its meaning, we need to discuss and clarify the concepts of public good and private good.

Who pays?

To economists, a public good is one that provides value to the population generally and thus should be paid for by the public, often by government through devices such as taxation. Highways and waterworks, for example, are generally – though now not always – seen as public goods. In some countries in Europe, college education is still seen as a public good, paid for mainly by taxpayers through their governments.

By contrast, most things used or consumed by people individually, like food, are normally viewed as private goods, to be chosen and paid for privately, by purchasers personally or on behalf of their families. Saying ‘personally or on behalf of their families’ signals that private does not necessarily mean individual. In most households food is a family good. The children are not given a bill to pay at the end of each meal.

This thinking about how families function can readily be extended to the community level. In some communities there is a great deal of sharing of food, in many ways, ranging from enjoying mangoes together in company to elaborate festivals. People

individually and as family members provide the food that is to be shared, recognising that a well-nourished and convivial group or community benefits everybody. In such communities, as well as sharing food, there is likely also to be sharing of advice about gardening, shopping, and cooking.

The social good

To identify food as a public good is to recognise its value as nourishment and not just its value as a commodity. But it is not just nourishment to the people who eat the food. One defining characteristic of a good food system is that it strengthens the life and health of the community (4-5).

The key issue here, is not who pays. The idea of public good is not just an economic one. It is ethical and social. The key here is seeing that understanding that each person who is well nourished benefits the community. That is the public good.

So yes, it is clear how the idea of food as a public good works at the family and community level. But so far I have trouble in imagining how food could be a public good at population and at global level. Maybe a good start is to gain deeper understanding of how to perceive it and make it work locally, and then share this knowledge and experience everywhere (6). *WN* can play a part in this.

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[Feedback] World Nutrition January-March 2016, 7, 1-3, 129-130*

Editor's comment:

Yes, with support from José Luis, George and other colleagues, this journal will continue to publish on the fundamental concept of public and private goods. These relate to other vital matters of political philosophy such as human rights and food sovereignty. The book compiled by Inge Kaul and her colleagues referenced as (6) above, is a good start.

Malnutrition. Supplementation. Iron **Good food is best**



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[Access May 2010 Michael Latham on The great vitamin A fiasco here](#)

[Access Nov 2015 Ted Greiner on Badly nourished populations need good food here](#)



Examples of interventions of types that are now used indiscriminately on populations. (Left) micronutrient powder being poured into a child's complementary food, and (right) iron supplements

The science and practice of nutrition has changed a lot in this century. In most low-income and less resourced countries, the saying 'food security first, then nutrition' is being replaced by a more favourable term, 'food and nutrition security'. As a result, many countries are now part of the Scaling Up Nutrition (SUN) initiative. This has helped to mainstream nutrition, but addressing undernutrition with nutrients is being increasingly valorised over food.

SUN has resulted in more funding being allocated to addressing malnutrition, but has also lead to a metamorphosis of what we call nutrition. Programmes aiming to ensure adequate nutrition are being reduced to the distribution of multiple micronutrients through food supplements, home fortificants, or medicinal supplementation. These kinds of interventions improve the micronutrient status of individuals and communities, which is why they are being scaled up (1). Surely, they will do some good when given to those in real need. But problems can be created when supplements are given to those that already have adequate micronutrient intakes and status. Even in countries with high rates of micronutrient deficiencies, a significant proportion of the

populations still meet their micronutrient needs without any external interventions. Thus, in a country with a prevalence of iron deficiency of 40%, the remaining 60% are not deficient or are iron-replete.

Adverse effects are real

What happens when nutrient-replete people are given or take an added one or more required nutrient intakes through pills, food supplements, or fortificants? For most nutrients the adverse effects will depend on whether or not the upper limit is exceeded. But for other nutrients, vitamin A and iron as examples, deleterious effects can start well before reaching the upper limits. Following [Michael Latham's critique in W/N](#), the universal indiscriminate mega-dose vitamin A supplementation programme has been widely discussed in earlier issues of *W/N*, as referenced in [Ted Greiner's recent commentary](#). Here I focus on interventions using iron, designed to address anaemia.

First, not all anaemia is due to iron deficiency. Unfortunately, this is not well understood by most programme implementers, and the severe scarcity of information on the aetiology of anaemia is not helping either (2). Infections, genetic abnormalities, chronic diseases, and mineral and vitamin deficiencies including those of, vitamin A, folate, vitamin B12 and zinc, as well as of iron, all can cause anaemia (3). It follows that interventions targeting the specific cause of the anaemia would be more effective and more ethical – safer – than those blindly trusting in the supply and use of iron supplements.

Iron is not always safe

Most anaemia is due to iron deficiency, and thus supplying iron without investigating further to understand the aetiology of anaemia, can be argued to be cost-effective. This could be acceptable if iron was not a 'double-edged sword'. But while inadequate iron intakes are linked with lower physical and cognitive performance (4), and pregnancy complications (5), excess iron intakes can reduce growth of children (6); increase susceptibility to infections and thus increase morbidity and mortality (7,8), and can also lead to various oxidative stress-related chronic diseases (9).

Most adverse effects of iron are caused by medicinal supplementation. But fortification can also be a cause. In Africa, recent studies in Cote d' Ivoire (10) and Kenya (11) show that provision of micronutrient powders, particularly with forms of iron that are of low bioavailability, produce a more pathogenic gut microbiota and cause intestinal inflammation. These and other studies seriously question the safety of indiscriminate provision of iron and call for targeted interventions.

Any public health nutrition intervention that tries to solve micronutrient deficiencies while at the same time being liable to harm the micronutrient-replete proportion of the population goes against its own principles. It is also not the best way to use taxpayers' money. Further, such misguided interventions can also create an artificial scarcity of supplies that deny those who would really benefit from interventions.

Targeting is not favoured by programme implementers, largely because it is more expensive. But is the additional cost of targeting higher than the possible harm caused by indiscriminate interventions? Inadequacy of existing micronutrient biomarkers is surely not helping, but is not a good reason to avoid targeting. Lack of capacity to implement efficient and effective programmes at grass-root level is further impeding the targeting of interventions. What is needed is a thorough understanding of the social, economic and environmental factors that affect the chances of success of interventions. This calls for the recognition and strengthening of a new form of nutrition science – one focusing on the science of delivery.

Micronutrient interventions should also attend to nutrition education and dietary diversification. Agriculture should be planned to revitalise food systems and supplies in ways that provide adequate nutrition for all. Such strategies do not require targeting, and when appropriately designed are safe and sustainable

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Baye K. Good food is best. [Malnutrition. Supplementation. Iron]
[Feedback]. *World Nutrition January-March 2016, 7, 1-3, 131-133*



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More and more I am interested in grass-roots and in tradition – ‘respect for the past’, as said in *WN*, and in spades. ‘The past’ represents the collective genius of humankind, which far exceeds the insights of named individuals. The big problems of agriculture were done and dusted by the time formal science arrived on the scene (turning wild animals into domestic livestock and plants into and cultivable, edible crops), and the concept of ‘craft’ is far broader than that of the intellectual engagement offered by science. The present role of science in practice is to replace craft with machinery and industrial chemistry, but what we really need is ‘science-assisted craft’. This applies in food science as much as in farming.

You kindly let me advertise the College for Real Farming and Food Culture in your previous issue, and [here is its prospectus](#) and [updated visual representation](#). The other area I want to stress in the College is that all the great disciplines, including those of science and moral philosophy, in the end are rooted in the uncertainties of metaphysics. As Sayed Hossein Nasr points out, this has gone missing from the western world, outside the particular confines of formal religion.

The *WN* emphasis on ‘coherent’ vision is spot on – economics, morality, ecology, all pulling in the same direction. The word ‘holistic’ is also pertinent, when properly applied: each part of the whole containing the whole, as in a hologram. Thus, economics must include moral philosophy and fellow-feeling with the biosphere.

Tudge C. Craft comes first. [Agroecology]
[Feedback]. World Nutrition January-March 2016, 7, 1-3, 134

Vitamin A supplementation **From fiasco to scandal**



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[Access May 2010 Editorial on vitamin A policy here](#)

[Access May 2010 Michael Latham on The great vitamin A fiasco here](#)

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[Access November-December 2015 Ted Greiner on vitamin A here](#)

Editor's note The first issue of *World Nutrition* in May 2010 included a long commentary by Michael Latham. This opposes the still-dominant global programme, backed by the UN Children's Fund (UNICEF), of universal supplementation of 6-59 month-old young children with massive doses of vitamin A. The responses above almost all support Michael Latham's position; as do John Mason and colleagues, Ashok Bhurtyal from Nepal, and Ted Greiner, recently in *WN*. In his letter here, Ashok Bhurtyal responds to Keith West of the Johns Hopkins School of Public Health, USA. In a letter quoted here, Keith West upholds the universal vitamin A supplementation programme in Nepal and worldwide, stating that it 'has likely saved the lives of more than 100,000 Nepali preschoolers since the mid-late 1990s'. By contrast, the case made here, by the *WN* contributors listed above, and others, is that supplementation is generally ineffective, and impedes and frustrates sustainable food based public policies and actions that ensure adequacy of vitamin A and other nutrients.



People living in the high mountains of Nepal, like these from Langtang, are well nourished by plant-based diets of cultivated as well as wild vegetables, grains, berries and other foods. None of the girls pictured here received vitamin A capsules

Prevention and treatment of nutritional deficiencies remains one of the most important public health nutrition priorities in Nepal, and worldwide. But by their nature, quasi-medical nutritional interventions such as supplementation programmes are not indefinitely sustainable. Also, they do not address the reasons why children, families and populations are impoverished and therefore liable to be undernourished.

This contribution concerns the still-vexed issue of the universal vitamin A supplementation programme, which remains the dominant strategy in my country of Nepal. It should now be replaced by food-based strategies.

Any dominant strategy should be indefinitely sustainable. This means protection and strengthening of plant-based food systems as the basis of abundant varied healthy diets. In action such a strategy will sharply reduce prevalence of various deficiencies so that they are no longer substantial public health problems, and will improve health and promote well-being of parents as well as children, throughout life. The permanent solution is to overcome the structural reasons for poverty. This should be the prime priority of legislators, officials and professionals in all countries where malnutrition in any form is prevalent.

The case of Nepal

Last year Dushala Adhikari and I wrote a *WN* commentary on the universal vitamin A capsule programme in our country (1). Nepal has been (2,3) and remains (4-5) a ‘model’ for this programme (6,7), and in Nepal over 90 per cent of all children between the ages of 6 and 59 months in countries identified as vulnerable are given massive doses of vitamin A, to prevent deficiency and – so it is claimed – to save lives on a grand scale. In our commentary we contest this claim, and conclude:

The vitamin A capsule programme is distracting attention from sustainable solutions for vitamin A deficiency and for general malnutrition in Nepal. A great deal of attention and resource is given to it, in our country where human and material resources are precious. This is despite having obvious alternatives, most of all healthy diets based on indigenous and local fresh foods... Yet... the 'donors' and managers show no signs of reconsidering vitamin A supplementation, despite it using up so much of our scarce national material and human resources. We see this as a scandal. It is time to replace high-dose vitamin A supplementation by strongly supported national and local food-based approaches, in the spirit of justice, equity, autonomy, and plain good sense.

Our commentary and its conclusions echo statements made by distinguished colleagues throughout the global South for many years now. What we advocate is also supported by statements and conclusions made in United Nations reports, and by previous statements from many parts of the world, some published in *WN*. Here follow some of these, from the Indian sub-continent. Coluthur Gopalan, founding director of the Indian National Institute of Nutrition, states (8):

Public-spirited citizens, together with the scientific community, must now ensure the scrapping of the massive-dose vitamin A prophylaxis approach. This will not only avoid the considerable unnecessary expenditure which the Indian and other governments are incurring on the programme but, more importantly, will save our children from undesirable side-effects.

Harshpal Sachdev of the Institute of Science and Research, and Umesh Kapil of the all-India Institute of Medical Research, both in New Delhi, conclude (9):

On the basis of current evidence, universal vitamin A supplementation cannot be justified as a priority public health intervention for prevention of xerophthalmic blindness or childhood mortality in India. We recommend an immediate phasing out of this intervention, with a simultaneous shift of focus and efforts towards sustainable solutions, including dietary diversification and agricultural production, sanitation, immunisation, and prevention and treatment of childhood infections.

Vinodini Reddy, also a former director of India's National Institute of Nutrition, concludes (10):

Children who suffer from vitamin A deficiency lack other essential nutrients.. Emphasis on vitamin A should not obscure the need for a sustaining food-based approach to overcome multiple nutritional deficiencies. Milk and many vegetables and fruits are good sources of vitamin A and also of other micronutrients. Including adequate amounts of such foods in the diets of children is the best way to improve their nutritional status.

Support also has come from within the UN, from the Food and Agriculture Organization. Ezzeddine Boutrif, Brian Thompson and Leslie Amoroso state (11):

Much of the effort to control the three major deficiencies of greatest public health concern, of vitamin A, iron and iodine, have focused on supplementation. Supplementation is necessary for groups at high risk and as a short-term emergency measure, but it fails to recognise the root causes of micronutrient malnutrition, and does not assist communities and households to feed and nourish themselves adequately.

Supplementation cannot provide the overall long-term benefits that food-based approaches can deliver.

Furthermore, they state:

Food has social and economic significance which, for many people, especially those living in lower-income countries, is commonly mediated through agriculture and agriculture-related activities that sustain rural livelihoods. The multiple social, economic and health benefits associated with successful food-based approaches that lead to year-round availability, access and consumption of nutritionally adequate foods in terms of quantity, quality and variety are clear. The nutritional well-being and health of individuals is promoted, incomes and livelihoods supported, and community and national wealth created and protected.

The great vitamin A fiasco

These contributions were written in support of ‘The great vitamin A fiasco’ by the distinguished scholar Michael Latham of Cornell University, published in the first issue of *WN* in May 2010 (12). It can be accessed above. Michael Latham concludes by citing UN policy which, on vitamin A deficiency, as stated in the 1992 FAO-WHO International Conference on Nutrition *Declaration and Plan of Action*, is:

Ensure that sustainable food-based strategies are given first priority, particularly for populations deficient in vitamin A and iron, favouring locally available foods and taking into account local food habits. Supplementation of intakes on a short-term basis with vitamin A, iodine and iron may be required to reinforce dietary approaches in severely deficient populations utilizing, where possible, primary health care services...

Supplementation should be progressively phased out as soon as micronutrient-rich food-based strategies enable adequate consumption of micronutrients.

Michael Latham wrote two decades after the UN *Declaration*. *WN* received and published one letter that was hostile to his analysis (13). This came from Keith West and Alfred Sommer, eminent scholars from the Johns Hopkins School of Public Health, US, both closely associated with and champions of the worldwide universal vitamin A supplement programme (14-15). It was vigorous. It states:

Unfortunately, the only ‘fiasco’ here is the paper by Dr Latham.... It’s shocking to find that a new journal seeking legitimacy would publish, as its launch, such a meandering, opinionated, unscientific, 28-page diatribe that distorts the evidence on vitamin A and child mortality from over a half-dozen randomised trials reported in peer-reviewed journals, as it attempts to rewrite the history of one of the most successful nutrition-based, child survival strategies in the developing world.

We are Nepali public health professionals with direct lifelong knowledge of our country, including our national and local food systems and supplies and of relevant public policy initiatives. This of course does not mean that we are infallible, and we respect colleagues in Nepal and elsewhere with different well-reasoned opinions. But we do know long-term and first-hand what we are writing about.

More than a fiasco – a scandal

In our commentary we develop and update some of Michael Latham's points, and apply them to Nepal. We state (1):

It may not be well-known that today, the donors no longer donate the vitamin A capsules. The Nepali government buys the capsules from the suppliers with money which is now contributed by the parents of the children to whom the capsules are administered. The parents however have no say in policy, planning or decisions at any stage, while the 'donors', whose organisations are in other parts of the world, continue to recommend that the Nepali government continue with the programme of mass supplementation.

The vitamin A programme has been described as one of the most sustainable public health interventions in Nepal. In reality what is being sustained is dependence on the influence of 'donors' who no longer donate capsules, but who still effectively control the Nepalese vitamin A and other public health and nutrition interventions. This has been characterised as putting government in the taxi-driver's seat, while the non-paying passenger sits back and instructs the driver where to go.

So who are the 'donors' now, when the foreign capsules are bought with domestic money? As well as those mentioned already, they include the 'development' agencies of various wealthy countries, international financial institutions, and other influential organisations that are interested in getting the countries that are 'aided' with national public health and other programmes to see things their way. In Nepal they are called 'external development partners'.

The initial and subsequent claims made in favour of the vitamin A capsule supplementation programmes have never been substantiated by rigorously conducted and honestly reported research. For the past one and half decades, there has been no assessment of micronutrient deficiency prevalence among Nepali children. There are no national data on serum retinol levels among Nepali children. Any claim concerning vitamin A deficiency and its prevention is not founded on research findings....There is now no reliable evidence that vitamin A capsules reduce morbidity or mortality. Certainly, there is no good evidence in Nepal or indeed in South Asia.

Thus, our commentary amounts to additional observations on what seems to be a virtual consensus among authorities in many countries where the massive dose vitamin A supplementation strategy remains in force. We received a number of communications from various parts of the world, in particular from colleagues in Nepal and South Asia, thanking and encouraging us.

We also received a letter from Keith West, copied to a number of his co-authors (including of 3, 6, 7) and colleagues in Nepal, most of which follows:

I have read your commentary in *World Nutrition*... I found it to lack a public health perspective or an understanding of the efforts that have been underway in your country for the past 30 years to reduce childhood blindness and mortality by preventing vitamin A deficiency. I wish to bring to your attention the surveys, epidemiological studies and randomized trials that have been collaboratively conducted in Nepal in the 1980s up to the present day that form a scientific rockbed of evidence driving today's national, semi-

annual vitamin A supplementation program that has likely saved the lives of more than 100,000 Nepalese preschoolers since the mid to late 1990s.

... Not a single paper [attached] claims that the vitamin A capsule program should go on forever, or that diet should not be improved. [But] it would be a public health crime for a life and sight saving national program to be withdrawn before there is clear evidence that you have done what you correctly assert is needed: to have a national dietary strategy that is providing adequate vitamin A intakes to young children living in rural Nepal. To suggest that giving a capsule with vitamin A to young children twice a year has derailed the country's efforts to grow and market more food is frankly ludicrous ...

It is not sufficient to proclaim that children should eat a good diet: it must be assured before you dismantle the safety net that supplementation provides, or those less fortunate will bear the consequence. I urge you both to do what you can to prevent vitamin A deficiency through diet, fortification, supplementation, biofortification, animal husbandry, gardening, etc in an evidence-based way, rather than opting for sensationalism.

This letter does make clear that advocates of the universal vitamin A supplement strategy accept that in future, strategies need to be food-based and sustainable. But how, and when? This transition should have begun a long time ago. It should begin now. It could begin if the executive director of UNICEF and the group at Johns Hopkins headed by Alfred Sommer of which Keith West is a senior member, in consultation with all affected national governments and other interested parties, make a real commitment.

This means an explicit and unequivocal widely circulated public statement that the universal vitamin A supplementation strategy is coming to an end. It should include a time-table as specified by national governments, for phasing out supplementation programmes, with dates. It should stipulate replacement by food-based strategies derived from authentic food systems and supplies. These must not include other strategies involving foreign-owned or controlled seeds, fertilisers or other agricultural inputs and technologies, or commercial exploitation of forest and wilderness species.

Meanwhile we ask Keith West for data that support his claim that since the mid to late 1990s, the lives of over 100,000 young Nepali children have probably been saved by the vitamin A supplement programme. We have not been able to find studies or other literature that support this claim, and would like to examine and assess them.

Finally, there is an issue of food sovereignty here. Which is better for Nepal and many other countries with little available public money? Is it better to welcome interventions controlled from outside the country which starve public funds and which by their nature cannot be sustained? Or is it better to give dominant priority to programmes whose effect is to sustain and strengthen national, regional and local food systems and supplies, and that valorise the enjoyment of freshly prepared meals, support family life, strengthen established social and cultural structures and customs, give secure employment to farmers and family businesses in rural and urban areas, and protect the living and physical environment? The answer is surely obvious.

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Bhurtyal A. From fiasco to scandal. [Vitamin A supplementation]
[Feedback]. *World Nutrition* January-March 2016, **7**, 1-3, 135-141

Editor's note. We have advised Ashok Bhurtyal that Keith West's note to him, being copied to colleagues, has the status of an open letter. We have seen the note and confirm that the extracts used above fairly represent all its points. Some time has passed between the WN commentary by Ashok Bhurtyal and Dushala Adhikari, the receipt of Keith West's note, and this response. A sufficient reason has been the earthquakes in Nepal and their after-effects, and relief and recovery work, which continue to be the main concern of Nepali public health professionals and volunteers. Ashok Bhurtyal confirms reports of others that established food systems in Nepal especially in the southern lowlands remain intact and abundant, and that arable land in the highland areas directly affected is being restored.

Vitamin A supplementation **Tipping the point**



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Access Geoffrey's profile [here](#)

[Access May 2010 Michael Latham on The great vitamin A fiasco here](#)

[Access October 2010 Keith West, Rolf Klemm, Alfred Sommer on vitamin A here](#)

[Access November 2014 IJE John Mason, Ted Greiner et al on vitamin A here](#)

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[Access January 2016 The Lancet John Mason et al on vitamin A here](#)

[Access January 2016 The Lancet Majid Ezzati et al on vitamin A here](#)

[Access this issue Ashok Bhurtyal on vitamin A in Nepal here](#)



This young child being given vitamin A from a capsule is on the cover of the first W^N in May 2010. This final item in the final W^N edited by the current team brings promising news. The campaign to replace capsules with nourishing food is winning



Champions of vitamin A capsules include (above), James Grant of UNICEF, George Beaton of the University of Toronto; Keith West, Rolf Klemm and Alfred Sommer of Johns Hopkins School of Public Health; and Martin Bloem and Saskia de Pee of the UN World Food Programme. Champions of plant-based diets rich in nutrients include (below), Michael Latham of Cornell University; Colothur Gopalan of the National Institute of Nutrition, India; Harshpal Sachdev of the Institute of Science and Research, India; John Mason of Tulane University, Ted Greiner of Hanyang University, South Korea, Roger Shrimpton, former chief of nutrition UNICEF and David Sanders of University of the Western Cape, and many others mostly from the global South

This note concerns the long *WN* series of commentaries, correspondence and other contributions on the nutrition of young children that focus on vitamin A. Latest news, a few days before this issue went on line, is that global policy to combat deficiency of vitamin A – officially estimated to affect 250 million preschool children mostly in Asia and Africa – may now start to change radically. First follows some background, with reference to *WN* and other publications accessible above.

Hot stuff

The issue is obviously important. It is also hot stuff, as we at *World Nutrition* have discovered. Since the early 1990s, those organisations and people who insist that the universal supplementation of all children in countries identified as at risk prevents deficiency and also saves lives on a grand scale, have been dominant. They include the government of Canada; UNICEF and the World Food Programme – two UN agencies close to the US government – and also the World Health Organization; and scholars from the Johns Hopkins School of Public Health, whose former Dean Alfred Sommer is the leading academic authority promoting the capsule strategy. Vast financial, material and human resources have been and are being spent on the capsule programme, in partnership with the governments of around half of all countries in the global South. The international public health job is being done – or so it has been widely agreed.

However, an increasing force of authoritative opinion opposes this official enacted policy, as cogently summarised in [Ashok Bhurtyal's Feedback letter](#) before this note. The first issue of *WN*, published in May 2010, carried a comprehensive commentary by Michael Latham of Cornell University, accessible above. This summarises the case against the universal supplementation programme. This includes evidence that the

capsules are far less effective than claimed; that the vitamin A deficiency disease xerophthalmia is now overall much less prevalent than it was 20-30 years ago; that vitamin A in massive doses is dangerous; and that the supplement programme blocks programmes that promote local foods rich in many nutrients which protect health throughout life. Michael Latham's position is supported by the UN Food and Agriculture Organization; and in *WN* by Ted Greiner of Hanyang University in South Korea, and many other scholars worldwide, including John Mason from Tulane University in the US and his colleagues, shown in the pictures above.

Admissible evidence

So who is right? Why such diverse opinion, sometimes vehemently expressed, on a matter of science? Well, rational decisions and actions are not automatically generated by facts and information. The same data sets can be used as the basis for conflicting conclusions. Much also depends on what is counted as admissible evidence, and what weight is given to different types of evidence. Typically, there are also big differences between those who work by induction and base their judgements and conclusions on data sifted from accumulated measurements, and those who support deductive methods, and begin with ideas, concepts, experience and principles then tested by appropriate investigation. Differences are also between representatives of 'Big Science' who rely on 'hard' quantitative knowledge gathered in the past, and those who see the need to conserve resources, and who also rely on 'soft' qualitative judgements of future prospects and alternative approaches. In all these and many other respects, nutrition science is not neutral. Far from it! Nor for that matter is any other science or form of organised and structured initiative and activity whose purpose is more than merely descriptive.

For us at *World Nutrition* (of which [*I cease to be editor*](#) after this issue) the outstanding example is the vitamin A story, which is one of conflict. Entrenched on one side are the insider 'establishment': the governments, other policy-makers and scholars who believe in supplementation of young children with massive doses of vitamin A. Taking aim on the other side are outsider 'rebels': the rapidly increasing number of policy makers, scholars and civil society organisations who believe that the universal supplementation programmes are overall a disaster, blocking protection and strengthening of local food systems and supplies that are naturally rich in nutrients.

Many on both of the opposing sides express their views cautiously, with nuance. Others are assertive, vehement and combative. Some of these may even 'play hardball' and break unstated and stated conventions of serious discourse, openly or behind the scenes, as we at *WN* have discovered after publishing Michael Latham's commentary. The two UN agencies most involved in the strategy did not respond. We published letters from the UN Food and Agriculture Organization in support of Michael Latham's thesis. Keith West and Alfred Sommer of Johns Hopkins, with Rolf Klemm, courteously responded to our request for a rebuttal, with a strong commentary that seeks some common ground.

Power players

We at *WN* are reasonable people, always willing to publish various and conflicting reasoned arguments. This stated, we support the 1992 UN International Conference on Nutrition *Declaration and Plan of Action*, which states that the supplementation programme should be temporary, and phased out in favour of healthy appropriate food systems and supplies. This is also the position of the UN Food and Agriculture Organization. But the established order has seemed to be adamant – until recently.

The classic theory of change, popularised by Malcolm Gladwell in his *The Tipping Point*, is that when evidence accumulates against any established position nothing shifts, and when entrenched interests are in charge policies stick for a long time, but that eventually the edifice suddenly collapses. Vitamin A may now be on a tipping point. Here is why. Last September *The Lancet Global Health* published a new pooled analysis of the epidemiology on vitamin A deficiency worldwide, whose calm and apparently cautious conclusions are actually explosive. Thus (*italics are mine*):

In the two worst-off regions of south Asia and sub-Saharan Africa, vitamin A deficiency accounted for around 2% of child deaths. The number of deaths attributable to this risk factor has decreased by more than 50% since 2000, mainly because child deaths from diarrhoea and measles have declined. These decreases are probably because of improvements in general nutritional status and water and sanitation (for diarrhoea), and vaccinations (for measles), although vitamin A supplementation *might have played a part*.

and

Improvement of vitamin A status in south Asia and sub-Saharan Africa to replicate the reductions in deficiency seen in east and southeast Asia and in Latin America and the Caribbean will probably need an improvement in the overall nutrition of the population, including through dietary diversification and improved access to vitamin-rich foods, and improved access to treatment for infectious diseases. Until this happens, large scale or targeted supplementation or fortification strategies *will probably have some beneficial effect* on mortality in these regions.

‘Might have played a part’. ‘Probably have some beneficial effect’. Insiders and informed outsiders read these finely honed phrases as devastating – or exhilarating – stuff. Look at the professional power politics. First *The Lancet*, where it is published, as edited by Richard Horton, a mighty man, is immensely influential and politically canny. Second, the study was funded notably by the Gates Foundation, and Grand Challenges Canada – the agency that advises on national public health strategy – whose interest in benefaction is never merely benevolent. Third, the authors include two World Health Organization officials, scholars from Imperial College London and the Harvard School of Public Health; and also Robert Black of Johns Hopkins, former head of its Department of International Health, who is another mighty man. His sign-off on the *Lancet* paper may well prove to be the kiss-off for his colleagues in the Hopkins School of Public Health. So well may be the engagement of Grand Challenges Canada, whose advice now goes to a new Canadian government with no special ties to old policies that spend a lot of public money.

And there is more! In December *The Lancet* published a letter from John Mason, Ted Greiner, Roger Shrimpton and David Sanders, with their colleague Joshua Yukich, correcting a reference to their published work, stating:

We advocated a prudent phase-over away from vitamin A capsules to more physiological and locally appropriate methods. We did not advocate ‘large-scale or targeted supplementation’. In our paper, we suggested that no more than 2–3% of deaths in children younger than 5 years might be prevented by intermittent high dose vitamin A... There must be higher priorities than distributing enormous numbers of high-dose vitamin A capsules every 6 months (we estimate 8 billion to date!), which even if effective would have only a small effect on mortality in children younger than 5 years.

To which some of the *Lancet* authors, including the principal investigator Majid Ezzati of Imperial College, and also Robert Black, replied:

Our reference to the work of Mason and colleagues was in a sentence that stated that ‘until this [an improvement in the overall nutrition of the population, including through dietary diversification and improved access to vitamin-rich foods, and improved access to treatment for infectious diseases] happens, large scale or targeted supplementation or fortification strategies will probably have some beneficial effect on mortality in these [south Asia and sub-Saharan Africa] regions’. This approach, whose ultimate aim is regular intake, largely through diet, is not inconsistent with the prudent phase-over approach outlined by Mason and colleagues.

Notwithstanding the ‘ultimate’ and the double negative, insiders and outsiders alike read this as meaning ‘We agree’. But there is a sting in ‘ultimate’. Perhaps the vitamin A story has not yet got to the point. To be continued...

Cannon G. Tipping the point. [*Vitamin A supplementation*]
[Feedback]. *World Nutrition* January-March 2016, 7, 1-3, 142-146

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How to respond

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