

VITAMIN & MINERAL DEFICIENCY

VM deficiency saps the physical and mental health of nations.

Now is the time for the world's food companies to be, and be seen to be, part of the solution.

A CHALLENGE TO THE WORLD'S FOOD COMPANIES

unicef 

L'Initiative
pour les
micronutriments



The
Micronutrient
Initiative

“Fortifying foods with basic vitamins and minerals is both essential and affordable.”

Bill Gates, co-founder, Bill and Melinda Gates Foundation

“For nearly 40 years, food fortification has protected the populations of the United States, Canada, and many other countries. It is long past the time when the same protection was available to the peoples of the developing world.”

Nevin Scrimshaw, President, International Nutrition Foundation

“The case for the elimination of vitamin and mineral deficiency is compelling beyond description. The return on investment is without equal.”

Rolf Carriere, Executive Director, Global Alliance for Improved Nutrition

“Vitamin and mineral deficiencies deprive 1 billion people world-wide of their intellect, strength and vitality.”

The World Bank

“This is a vital economic and humanitarian cause and we in the food industry are uniquely positioned to help progress.”

Brendan Stewart, Chairman, Australian Wheat Board

“The cost is minuscule. The benefit enormous. We have acted on this issue both because it is right – and because it presents our business in a positive light.”

Philip Punarma, Chief Commercial Officer, Bogosari Flour Mills, Indonesia

“We now have the knowledge and the solutions that can protect the muscles, brains, and blood of whole populations at an extraordinarily low cost.”

Venkatesh Mannar, President, The Micronutrient Initiative

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VITAMIN & MINERAL DEFICIENCY

AN OPEN LETTER TO THE FOOD INDUSTRY

Dear Colleagues,

What does VM deficiency mean?

It means vitamin and mineral deficiency – the lack of tiny amounts of key vitamins and minerals in the diets of a third of the world's people.

It means the impairment of hundreds of millions of growing minds and the lowering of national IQs.

It means wholesale damage to immune systems and the deaths of more than a million children a year.

It means the deaths of approximately 60,000 women a year in pregnancy and childbirth.

It means the birth of 200,000 babies a year with birth defects like spina bifida

It means the large-scale loss of national energies, intellects, productivity, and growth.

The scale and severity of VM deficiency has only recently been recognised. As many as a third of the world's people are affected – in ways that debilitate the development of both people and nations.

The cheapest and most sustainable way to cut the problem down to size is to add essential vitamins and minerals to the world's most commonly eaten foods. This is what protects the people of the industrialised nations where VM deficiency once caused similar problems.

Now the time has come for the same protection to be afforded to the people of the developing world.

Each nation must devise its own strategy, with government setting standards, educating the public, and legislating where necessary.

But governments do not process and market food. Only the private sector has the products, the technology, the management and marketing skills to realise this colossal potential for improving human lives and strengthening national development efforts

The major players in this drama are therefore the world's food companies, large and small. And many such companies around the world are now acting on this extraordinary opportunity to see – and be seen to be – part of the solution to a major global problem.

This brief report on VM deficiency, prepared by the Micronutrient Initiative and UNICEF, is a challenge to all food companies to investigate how they too can march in this cause.



Venkatesh Mannar
President
Micronutrient Initiative
Ottawa



Kul Gautam
Deputy Executive Director
UNICEF
New York

It is a matter of urgency that the world should ask its food companies, large and small, to extent the benefits of food fortification to all.

THE FOOD COMPANY AS HERO

For 40 years, adding vitamins and minerals to food has helped to protect the people of the world's rich nations against vitamin and mineral deficiency. Today, fortified foods supply between a quarter and half of the additional Vitamin A consumed by Europeans and more than a quarter of the daily iron intake of Americans and Canadians.

By this almost invisible and taken-for-granted process, diseases have been eliminated, death rates lowered, and vitality and productivity protected.

Food companies have therefore played a historic role – though one that is little acknowledged – in helping to defeat VM deficiency in the industrialised world. And now that the world-wide truth about VM deficiency and its consequences is becoming known, it is a matter of urgency that the world should ask its food companies, large and small, to extent the benefits of food fortification to all. Only the food industry has the products, the technology, the distribution channels, and the marketing skills to do the job.

An early success

The first major fortification achievement is already within reach. Over the last fifteen years, iodine has been added to almost two-thirds of the developing world's salt. As a result, an estimated 70 million new-borns every year are being protected against mental impairment.

Governments, aid, and agencies like UNICEF and MI have made this possible by lobbying and educating. But the actual job has been done by thousands of the world's salt producers, most of them private and many of them small.

A third of the world's salt is not yet iodised. And more than 50 million children a year are still being born at risk of mental impairment. But enormous progress has been made. In the words of UNICEF Executive Director Carol Bellamy, the campaign has *"had an impact on the lives and well-being of more people world-wide than any nutrition intervention ever before attempted."*

Inspired by this, the United Nations has set goals for progress against all forms of VM deficiency. At the 2002 *World Economic Forum* in Davos, Switzerland, UN Secretary General Kofi Annan cited the example of the world's salt producers in asking the private sector to help reach development goals.

First steps

Food fortification is now beginning to move in many nations, with producers starting to add iron and Vitamin A to products as varied as rice and maize, sugar and salt, sauces and condiments, margarine and cooking oil, chocolate powders and biscuits, fruit juices and tinned fish.

These are important beginnings. But they only scratch the surface of the potential that now exists for fortifying foods. Many questions and challenges remain. What foods are most suitable? What about people too poor to buy processed foods? Should fortification of some staples be made compulsory? How can fortification be regulated? And who pays?

Fortification is one of the cheapest nutrition interventions ever devised. Adding iodine to salt, for example, costs about 10 cents per beneficiary per year. Adding vitamins and minerals to other staples can add less than 1% to the final price.

But the costs must be looked at from the point of view of private sector profits as well as public health benefits. Private companies can be asked to fortify food products on the basis that it is better for the consumer and good for the company's image. But they are not charities. Their right to make a legitimate profit – and not put themselves at a disadvantage in the market place – has to be recognised.

The job of government is to create the conditions that make it commercially viable for food companies to take up the challenge of VM deficiency.

For example, governments can:

- Help build public demand for fortified foods through health and education services, and the print and broadcast media.
- Assist with start-up finance, technical training, product development, consumer testing, and marketing costs.

Private companies have a right to make a legitimate profit – and not put themselves at a disadvantage in the market place.

- Endorse approved food products, with official government seals or stamps for use in commercial advertising.
- Allow distribution of certain fortified foods via schools, hospitals, clinics.
- Specify fortified foods when placing food orders for schools, the armed forces, health service personnel, or for disaster relief and refugee feeding programmes.
- Reduce duties on imported vitamins and minerals, or on essential machinery and pre-mixes for flour fortification.
- Buy bulk supplies of vitamins and minerals using foreign exchange provided under aid programmes.
- Provide free storage, and release vitamins and minerals to the private sector as and when needed – at or below cost price.
- Make certain kinds of food fortification compulsory (as with iodised salt and iron-fortified flour). But producers need to know that the law will be enforced fairly and transparently, with penalties for non-compliance. And they need clear and consistent guidelines ('Tell us what we have to add, make it the same for everybody, and don't keep changing it').

These are the kind of public-private partnership deals can make it viable for food companies to invest in developing and marketing fortified products that will be available to the poor.

The detailed agreements made are likely to involve a nationally-specific mix of nutritional, social, legal, and commercial considerations. To avoid negotiations running into the sands of bureaucracy and mutual suspicion, it will usually help if there is a mutually agreed individual or sponsoring organisation. A well-respected 'champion' of food fortification may well be crucial to success.

The details will vary. But the constant is the need to find ways of making it feasible and profitable for the private sector to co-operate, invest, and innovate in finding solutions to VM deficiency. *"Unless there is an enabling environment for the private sector to improve dietary quality through market-based solutions,"* says Christine Wallich of the Asian Development Bank, *"the problem will persist."*

Taking the lead

If governments provide a level playing field, recent history has demonstrated that most companies are willing to play their part.

A suitable case for treatment

What defines a food that is suitable for fortification?

It should be a food that:

- Is affordable and regularly consumed by a significant proportion of the population – including the low-income population
- Is not significantly affected by being fortified – in taste, smell, or appearance
- Does not react with the added vitamins and minerals in any adverse way
- Preserves the vitamins and minerals over the shelf-life of the product and throughout the cooking process

Does your company make, or could it help to develop, a fortified food product?

But there are many others who can offer crucial support – for example university departments, nutritionists, health professionals, and non-governmental organisations. Aid programmes and international agencies like UNICEF and MI can also offer their experience and contacts, help with the sourcing of products, and perhaps some initial financing.

Experience to date has shown that success usually depends on an energetic national alliance of all such potential partners – to advocate food fortification, identify the opportunities, plan affordable strategies, and act as a focal point for international expertise and assistance.

Where possible, all of the potential partners need to be involved from the beginning so that ownership is shared.

This still leaves the question of who should take the initiative.

The answer will again be different for each country. But where there are no existing plans for food fortification, the first step might be something as simple bringing together in the same room the people who can make a difference. The inescapable fact is that some individual or organisation must always take it upon themselves to take a lead. As Andrew Lindberg, Chief Executive of the Australian Wheat Board, puts it – *"Unless someone makes a great commitment to do something, not a lot happens."*

A lot *must* happen in the years immediately ahead. The problem of vitamin and mineral deficiency, which today saps the physical and mental health of nations, could be overcome in a relatively short time and at a relatively low cost. And the world's food companies have an unprecedented opportunity to be – and be seen to be – part of the solution. ■

NEXT UP IRON?

Success in adding iodine to two-thirds of the world's salt has fuelled hopes that iron deficiency can be tackled by adding iron to flour.

With the growing realisation that even mild iron deficiency is a more serious problem than anyone realised – affecting brain development, growth, vitality and productivity for perhaps a third of the world's people – a move is underway to bring the benefits of fortification to all flour-consuming nations.

Most countries in South and North America, and some countries in Europe, have been adding iron and folic acid to flour for many years. But in most of the developing world flour fortification is only just beginning.

Organisations like UNICEF and MI have long pressed the case for worldwide flour fortification. They are now joined by the Global Alliance for Improved Nutrition (www.gainhealth.org) and the recently-launched Flour Fortification Initiative (www.sph.emory.edu/wheatflour/Main.htm).

"Success can only come," says Glen Maberly, Professor of International Health at Emory University and co-ordinator of the FFI, "from having the wheat and flour industry organisations adopt this initiative as their own. We would like to see the benefits of flour fortification extended to most places in the world where flour is milled on a large scale. The costs are small, the risks negligible, the potential benefit to mankind enormous."

'SUPER SALT' BREAKTHROUGH

A breakthrough in 'double-fortifying' salt with both iron and iodine has been made by researchers at Toronto University, opening the way for a daily dose of iron to be added to the diets of billions of people.

Until now the problem has been that iron and iodine interact with each other and with impurities in salt. The breakthrough overcomes these problems by encapsulating the additives in a dextrin coating. Field trials have shown that the double-fortified 'Super salt' is as effective as a weekly iron supplement, while still delivering all the benefits of iodised salt.

Some problems remain. Salt suitable for double-fortifying has to be of a higher grade, and needs more water-resistant packaging. But the increase in cost is small for what may prove to be one of the most cost-effective interventions in public health history.

Following the technical breakthrough, the need now is for governments, salt producers, and food companies to make an equivalent 'marketing breakthrough'.

The Micronutrient Initiative, which has devoted approximately \$3 million to research into double-fortified salt, is now preparing to offer guidelines to governments and salt companies. India, Kenya and Nigeria are already moving into commercial production and several major salt companies are showing interest in the new product.

"I am here to try to convince you that if we combine our efforts, we can make an extraordinary impact."

The following is an edited version of the speech delivered by Kul Gautam, Deputy Executive Director of UNICEF, to the International Grain Council Conference in London, June 25th 2003

At first, it might seem odd that a UN official – especially a representative of UNICEF, the United Nations Children's Fund – should be addressing this gathering of the world's major grain producers, millers, exporters and importers.

In fact, I am here to try to convince you that if we combine our efforts, we can make an extraordinary impact in the global fight against poverty, illiteracy, diseases and malnutrition in ways that few of us have imagined possible.

This is a large claim. Let me try to give it substance.

Hidden hunger

As well as proteins and calories, the human body needs very small quantities of key vitamins and minerals – such as iodine, vitamin A, iron, folic acid and zinc. Because the quantities needed are so small, they are sometimes called micronutrients. But let the term micro not mislead us; for they are indeed worthy of being called super-nutrients.

The lack of these essential vitamins and minerals affects more than a third of the world's people. It means that two billion men, women and children, mostly in the developing countries, suffer from a subtle and insidious 'hidden hunger'.

It is not the kind of hunger that you feel in the belly but the kind that strikes at the core of your health and vitality. It can cause blindness and brain damage. It can induce stillbirths and abortions. It makes people fatigued and lethargic. It can make killers of ordinary childhood diseases such as diarrhoea, malaria and measles. It contributes to high rates of maternal and child deaths. It can render investment in education less effective as children are unable to concentrate on their studies.

Further, the economic losses attributable to micronutrient deficiencies are huge. Silently, invisibly, micronutrient deficiencies trap people, communities and entire countries in a cycle of poor health, poor educability, poor productivity and consequent poverty, often without the victims ever knowing the cause.

How the grain industry can help

The relevance of all this to the International Grain Council is that the grain industry today delivers more food to more people in more parts of the world than ever before. And it is therefore in a position to help end micronutrient deficiency by fortifying cereal flours with essential vitamins and minerals.

A GLOBAL PARTNERSHIP TO END HIDDEN HUNGER

In particular, the fortification of flour with iron and folate can help to rid the world of the scourge of iron deficiency which affects as many as half of all the women and children of the developing world and brings incalculable losses in well-being and productivity. Indeed, eliminating iron deficiency can do more than any other single programme to achieve human development goals.

Fortifying flour with another micronutrient – folic acid – can also help to prevent more than 125,000 severe birth defects every year – including spina bifida. We have seen dramatic evidence of this effect in the USA and Canada which mandated folic acid fortification in the late 1990s. Birth defects in USA and Canada have since fallen by between 20% and 50%.

Such evidence provides us not only a health and economic justification, but a moral imperative for action.

Fortification

Let me try to outline how it would be possible for organisations like the International Grain Council, the United Nations, and other partners to make a significant impact in combating this pervasive hidden hunger.

Let us recall that over the past half a century, fortification of flour and other cereals has played a major role in delivering essential vitamins and minerals to consumers in the industrialised countries. This has helped eliminate nutritional deficiencies and contributed immensely to improving health and reducing death and disease.

Flour is a food staple in more than 180 countries. The major flour producers, many of whom are represented here, therefore have the power to offer this same protection to millions of consumers around the world by supporting the fortification of cereal flours with essential micronutrients.

The benefit of expanding flour fortification world-wide is clear. The technology is simple. The cost is pennies per metric ton. And the good news is that millers in about 30 countries are already fortifying their flour with one or more of these essential vitamins and minerals.

The time has therefore now come to support and expand flour fortification with essential micronutrients globally – through a strong collaboration between the grain and flour industry, governments, UN agencies and other partners.

Specific action

What, specifically, do we want the grain and milling industry to do?

We would urge the grain industry to become an active partner in making flour fortification – with iron and folic acid – a reality in developing countries. We would like to see fortification integrated into all existing large and

medium mills. We would ask you to dramatically expand the production of fortified flours.

We want you to share your technical expertise and help transfer technology to the developing world. We would like to see your production, distribution and marketing skills applied to make flour and cereals fortified with iron and folic acid widely available to deficient populations in developing countries.

We are not asking you to do this alone. UN organisations like UNICEF, WHO, FAO, WFP, UNDP and the World Bank would be happy to partner you. Non-governmental organisations such as the Micronutrient Initiative (MI) and the Global Alliance for Improved Nutrition (GAIN) and a number of university-based institutions are eager to work you. We have the strong commitment of major bilateral donors such as the Canadian and US aid programmes, and the Centers for Disease Control, and others who are willing to be your partners in this effort.

Win-win

We believe that now, as the milling industry modernises and consolidates, as technology exchange and transfer proliferates, as changing food consumption patterns give more people access to centrally processed foods, the time has never been more right for an initiative aimed at fortifying all flour with essential micronutrients, especially iron and folic acid.

I believe this can be a “win-win” proposition. For the UN, it enables us to reach those who need help in achieving internationally agreed development goals. For you, it helps to enhance your products in the market place and your image as good global corporate citizens.

During this decade we would like to see the benefits of cereal flour fortification expanded from a few countries to the whole world. To achieve this goal, governments will need to adopt supportive policies, legislation and regulatory practices. And the grain trade and milling industry will need to adopt fortification as a global norm.

I hope every one of you will join us in the greatest challenge confronting humanity today – the fight against poverty, illiteracy, ill health and malnutrition – so essential to create a world fit for our children.

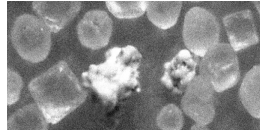
Thank you.

Kul Gautam

Deputy Executive Director
UNICEF
New York

VITAMIN & MINERAL DEFICIENCY A WAKE UP CALL

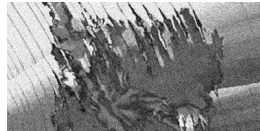
Vitamin and mineral deficiencies affect a third of the world's people – debilitating minds, bodies, energies, and the economic prospects of nations.



Iodine and iron in salt

IODINE DEFICIENCY – THE MAJOR CAUSE OF INTELLECTUAL DEFICIENCY ON THE PLANET

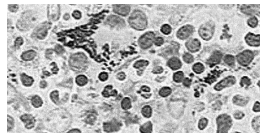
Until recently iodine deficiency was known as goitre and thought to affect only a minority. Today we know the truth. More than 60 developing countries have iodine deficiency rates that are associated with a 10% to 15% lowering of average intellectual capacity.



Retinol (vitamin A)

VITAMIN A DEFICIENCY – RESPONSIBLE FOR A MILLION CHILD DEATHS A YEAR

Until recently, lack of vitamin A was seen as a nutritional problem causing blindness in severe cases. Now it is recognised as one of the most common and devastating of all health problems – compromising immune systems, opening the doors to disease, and leading approximately a million children a year to their deaths.



Iron in blood

IRON DEFICIENCY – THE MOST WIDESPREAD HEALTH PROBLEM IN THE MODERN WORLD

Until the 1990s, iron deficiency was seen as little more than a debilitating nuisance. Now, lack of iron is known to impair the normal mental development of 40% to 60% of the developing world's infants. Iron deficiency also debilitates the health and energies of an estimated 500 million women, and leads to more than 60,000 childbirth deaths a year.

LOW-COST SOLUTIONS

The VM deficiency problem has largely been brought under control in the industrialised nations. It could now be controlled world-wide by essentially the same low-cost strategies – adding vitamins and minerals to staple foods, getting tablets and capsules or syrups to vulnerable groups, and educating the public about small changes to daily diets.

For once the world is confronted by a major problem which could be brought under control in a relatively short time and at a relatively low cost.

WHICH COUNTRIES ARE PREPARED TO DEPLOY BIOLOGICAL WEAPONS OF MASS PROTECTION?

