

VITAMIN & MINERAL DEFICIENCY

Moldova has started taking bold action to prevent large-scale losses of national health, brainpower, energy and productivity. Other nations are still thinking about it.

A Damage Assessment
Report for
MOLDOVA 2006

LEADERSHIP BRIEFING

Chisinau, December 2006

THE PROBLEM

Vitamin and Mineral Deficiency (VM deficiency) is now known to be a more important problem than imagined even a decade ago.

For many years the lack of key vitamins and minerals, also known as micronutrients, has been known to cause the anaemia, cretinism, blindness and goiter that afflict many millions of the world's people. But recent research has shown that this is only the tip of a very large iceberg.

It is now known that even moderate levels of deficiency, with no clinical symptoms, can have devastating consequences. It also has become clear that 'moderate' VM Deficiency is so common, affecting perhaps a third of the world's people, that it threatens the energies, intellects and productivity of nations.

Some examples of what has been learnt about VM deficiency in the last decade:-

- It is the world's leading cause of mental impairment, lowering the intellectual capacity of nations.
 - It compromises the human immune system, leading to the deaths of approximately one million young children a year – and poor health and growth for many millions more.
 - It is responsible for the deaths of approximately 60,000 women a year in childbirth.
 - It causes an estimated 250,000 serious birth defects every year.
 - It is associated with a significant increase in deaths from heart disease and stroke.
 - It lowers the productivity of workforces – with estimated losses of up to 2% of GDP.
- "Vitamin and mineral deficiencies," says the World Bank "impose high economic costs on virtually every developing nation."*

All this means that the challenge is no longer one of identifying and treating those with symptoms of VM deficiency. The task today is to reach out and protect whole populations.

THE SOLUTION

VM deficiency has largely been brought under control in the industrialised nations. It could now be controlled world-wide by means that are tried and tested, available and affordable:-

FORTIFYING staple foods like flour, sugar and salt with vitamins and minerals. Fortified foods have long protected people in Europe and North America. It is now time that they did the same for the entire world.

SUPPLEMENTING diets with low-cost capsules, syrups, or tablets in order to get vitamins and minerals to women of child-bearing age and to the developing minds and bodies of young children.

EDUCATING communities about the changes in diet needed to increase the regular consumption of vitamins and minerals.

All three approaches are necessary. They need to be pursued together. The cost can be as little as a few cents per person per year. This is why the World Bank believes that *"Probably no other technology available today offers as large an opportunity to improve lives and accelerate development at such low cost and in such a short time."*

The countries that have controlled VM deficiency did so with less knowledge and technology than is available today. What is needed now is leadership to deploy these known solutions on the same scale as the problems. In particular, defeating VM deficiency depends on national alliances of government, food companies, universities and researchers, health and education professionals, and civil society leaders.

SOME NATIONS MOVING RAPIDLY

Damage Assessment Reports have been issued for more than 90 individual nations. Some of these nations have started moving rapidly against VM deficiency:-

- 49 nations in the developing world have already passed the 75% mark for salt iodization.
- 39 developing countries are reaching 75% or more of their young children with vitamin A supplements.
- 51 nations, including the USA and Canada, now require the fortification of flour with iron.
- 40 nations, again including the USA and Canada, are fortifying flour with folic acid.

For once
we are
confronted
with a
global
problem
for which
there are
available
and
affordable
solutions

VM deficiency: Damage Assessment for MOLDOVA

Data on VM deficiency are imperfect, and the seriousness of the problem demands better monitoring. Nonetheless, estimates of its overall impact are essential for national decision-making. Using best available data from a variety of sources, impact calculations have been made for more than 90 nations.

The damage being inflicted by VM Deficiency on the people and the Republic of Moldova in 2006 is estimated as follows:

- **More than 30% of Moldova's 6-to-24 month-old children are at risk of disrupted brain development. Cause: iron deficiency**
- **The deaths of 75-to-100 newborns every year shortly after birth. Cause: severe anaemia in pregnant mothers**
- **Approximately 50 severe birth defects annually, including infantile paralysis. Cause: folate deficiency**
- **Suspected increase in deaths among adults from heart disease and stroke. Cause: folate deficiency**
- **More than 5,000 babies are born each year with intellectual impairment caused by iodine deficiency in pregnancy**
- **Lowered productivity of the adult work-force. Loss to Moldova estimated at US\$ 21.4million each year, or 0.7% of GDP. Cause: iron and iodine deficiency**
- **At the time that they enter primary education, a significant proportion of the school children in Moldova, particularly in rural areas, show evidence of past growth stunting. Cause: nutritional deprivation during pre-school age. This does not prepare the child well for vigorous learning and future earning.**
- **A significant but unmeasured burden on the health services, educational systems, and on families and society caring for children left disabled or mentally impaired.**

VM DEFICIENCY PROTECTION AUDIT FOR REPUBLIC OF MOLDOVA

SALT IODISATION

About two of every three newborns in Moldova are currently being protected against mental impairment by the use of iodised salt in their households when their mother was pregnant.

IRON SUPPLEMENTS

Repeatedly, surveys show that about one third of the adult women and young children in Moldova have anaemia. Despite iron supplementation in pregnant women, no evidence is available of progress to reduce anaemia in Moldova. Only fortification can tackle the problem at the required scale.

FLOUR FORTIFICATION

Moldova is not among the 51 nations in the world that have enacted mandatory legislation that flour should be fortified with iron. The Republic is therefore missing the opportunity to protect the mental and physical health of its people and to increase the nation's productivity.

Moldova is not among the 38 countries in the world that require the fortification of flour with folic acid. Thus, up to 50 babies with folate deficiency-associated severe birth defects, including infantile paralysis, continue to be born each year. It is strongly suspected that fortifying flour with folic acid also reduces the risk of death among adults from heart disease and stroke.

“It is no longer a question of treating severe deficiency in individuals. It is a question of reaching out to whole populations to protect them against the devastating consequences of even moderate forms of vitamin and mineral deficiency.”

Carol Bellamy, Executive Director, UNICEF

“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 beyond equal.”

Rolf Carriere, Executive Director, Global Alliance for Improved Nutrition

“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

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

The World Bank

“The road to regional health and life-long productivity cannot be passed without removing the obstacle of vitamin and mineral deficiency.”

Joseph Hunt, Health and Nutrition Advisor, Asian Development Bank

“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, Micronutrient Initiative

A MESSAGE TO LEADERSHIP

This Damage Assessment Report is being presented to national political leaders, to major print and broadcast media, to food industry CEOs, and to leading figures in health, education, and consumer affairs.

No permission is required for the wider distribution of this Damage Assessment Report by print or electronic means.

VM DEFICIENCY – THE BREAKDOWN

Iodine deficiency is the leading cause of preventable mental impairment. It significantly reduces mental capacity and work potential. In pregnancy, it causes babies to be born dead, physically disabled, or with severe brain damage.

Iron deficiency reduces activity levels and productivity in whole populations. In children 6 to 24 months, it disrupts the normal development of the brain. Effects on children include stunting, sickness, poor school attendance, and lower levels of concentration and memory. Severe anaemia also causes higher death rates in childbirth.

Folate deficiency before and during early pregnancy is a major cause of serious birth defects. In adults it is associated with a higher rate of deaths from heart disease and stroke.

Zinc deficiency can restrict physical growth, impair mental ability, damage immune systems, and boost diseases like malaria, diarrhea, and respiratory infections. It affects probably a third of the world's population, in some degree, and is thought to be responsible for almost 1 million deaths a year world-wide.

A problem not only for the poor:

Iron deficiency still affects up to 10% of the population in Western Europe and the United States.

Iodine deficiency remains a matter of concern in countries like Germany, Spain and the United States.

Folate deficiency is still causing birth defects in Europe, where flour is not fortified with folic acid.

World-wide, VM Deficiency is to be found not only in poor and remote rural areas but also in the middle class suburbs of capital cities.

**This Damage Assessment Report was developed for:
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