

International Life Sciences Institute-India

**Welcome Address of
Mr. D. H. Pai Panandiker, Chairman, ILSI-India,
at the Conference on
Micronutrient Fortification for Food:
Science Application and Management
January 7, 2011, New Delhi**

It is a privilege for me to welcome you to this Conference on Micronutrient Fortification of Foods organized by ILSI-India and cosponsored by the Ministry of Food Processing Industries and National Institute of Nutrition.

I am particularly indebted to Shri Ashok Sinha, Secretary, Ministry of Food Processing Industries, Government of India, for agreeing to present the keynote address. He has taken active initiatives to energize the food processing industry and develop technological infrastructure with institutions like NIFTEM. Food processing is critical to bring fortified food to all sections of society.

ILSI, as most of you know, is an international foundation having its headquarters in Washington and 15 regional branches across the globe. The main agenda of ILSI is Nutrition, Food safety, Biotechnology, Environment and Risk Assessment. ILSI has consultative status with FAO and non-governmental status with the WHO. ILSI India has been pursuing this agenda in the context of the special needs of India and other SAARC countries. We have organized a number of conferences and brought out quite a few publications which provide solutions to many of the public health problems. We have been working in close co-operation with the academic institutions, industry and, of course, government.

The title of this conference as you will notice contains three significant key words: Science, Application and Management. The science about the consequences of micronutrient deficiencies is well established. Science by itself is not enough. What is equally relevant is its practical application which will benefit the society, more particularly the weaker sections. That also implies that there is proper management of the system which will deliver micro-nutrients through appropriate vehicles to the people at risk. An effective combination of science, application and management makes a success story.

Starting with an International Conference in Jaipur in 1999 we organized 12 regional conferences in cooperation with the Ministries at the centre and the States. The object was three-fold: to sensitize State Governments, educate the consumer and, even more important, motivate food processing industry.

Micronutrient malnutrition had attracted the attention of Government as early as the sixties when steps were initiated to fortify salt to minimize the incidence of goiter and mental retardation, to provide dietary supplements of Vitamin A to children in order to minimize the incidence of blindness and iron supplements to pregnant women to reduce anemia and avoid maternal deaths. In spite of these early initiatives we have remained far behind many other countries. Today, micronutrient malnutrition in India is worse than even in Sub Saharan Africa. That is tragic.

Malnutrition is no doubt, associated with poverty. The BPL families cannot afford balanced diet and are prone to be exposed to major micronutrient deficiencies of iodine, iron, vit A, folic acid and zinc, as also macronutrient deficiencies, mainly of protein. The BPL families constitute about 22 per cent of the total population. But micronutrient deficiencies extend to a much larger section of people. For instance, the intake of iron and Vitamin A by more than 50 per cent of adults is less than 50 per cent of the RDA. The problem is as much due to poverty taking its toll as the wrong food habits that people have.

The health effects of micronutrient malnutrition have been discussed at length at the earlier ILSI-India conferences and I would not like to take time to dwell on them. I would however, like to draw your attention to the economic effect of malnutrition. A malnourished child grows up into a less healthy and less productive worker which consequently leads to lower income for the individual and lower contribution to GDP. Experimental studies have shown for instance, that anemia elimination increases labor productivity by 18-20 per cent. ADB has estimated that the loss in GDP from micronutrient malnutrition in India would be more than 3 per cent of the GDP which in rupee terms would translate into more than Rs.1500 billion at current prices. Nearly a half of the loss is from iron deficiency.

There are two practical nutrition strategies to tackle the problem of malnutrition viz. supplementation and fortification, leaving apart strategies like balanced diet which is possible only when incomes are high, and biofortification which will be operative only when safety issues are resolved. The last two strategies will therefore take time and are of long term interest.

Obviously, supplementation can be only for target groups. These groups include children, pregnant women, lactating mothers and adolescent girls. Even these target groups are quite large. Presently, children receive Vitamin A supplements and pregnant women and lactating mothers and adolescent girls receive iron-folate supplements.

The two strategies have different time dimensions. Supplementation gives immediate benefits. Fortification is slower and the benefits will be revealed only in the medium term but is more sustainable over time.

Micronutrient fortification has other advantages. First, no diet change is necessary; second, fortified food can deliver a significant part of the RDA; and third the intake of micronutrients can be on a continuous basis over long periods. There are many success stories in different countries about how deficiencies have been rectified through fortification of commonly consumed products, like iron in soy sauce or wheat flour, vitamin A in sugar and milk, iodine in salt, and so on. Most countries have depended on fortification as the eventual means of correcting micronutrient malnutrition.

Two questions obviously arise. In spite of the government's early initiatives, why are we still the most malnourished country? And, if we need to correct malnutrition fast, what really needs to be done?

The efforts made so far in India have not been consistent. That is because the initiative is with the state governments. Some of them do not have the necessary political will or have not instituted the kind of delivery system which can ensure results. The ICDS program and mid-day meal scheme for school children, could have been used more effectively to reduce, if not eliminate, micronutrient deficiencies. No doubt, some states, like Gujarat, where the governments have been sensitive to the health needs of the people, have shown good results though there is not enough data to measure the extent of success.

The reason for slow progress is not funds but priority. At today's prices supplementation would cost Rs.6 per person while the benefit it would give is Rs.340. The monetary return on this investment in human capital would be more than 5000 per cent. This would possibly be an investment with the highest return; but it is possibly also an investment which is among the most neglected. The total funds that are required would be only a minor part of the present provision for health in the Union Budget. It is not often recognized that prevention of disease is as important as cure and, what is also relevant, is less expensive.

We have emphasized management in the title of the conference because that is the key to success. There have been shortcomings in management and functionaries, training and communication, monitoring and supervision which have delayed progress. While the Centre provides the whole of the funds required, the program is actually implemented by the States. That makes control distant and therefore weak.

The progress in respect of fortification has been slow partly because the development of food processing has not picked up fast enough. Less than 50 per

cent of the salt is iodized in spite of mandatory requirements. Fortification of most other foods has been less than 1 per cent in respect of iron and Vitamin A and none at all in respect of folic acid and zinc. Partly, it is the lack of demand for fortified foods because of lack of awareness and purchasing power on the part of the consumer.

The Prevention of Food Adulteration Act also came in the way. The manufacturer was always in doubt whether fortification would infringe the provisions of the Act. For a medium term solution, conditions will have to be created for making fortification commercially attractive for industry. The Food Safety and Standards Act can make considerable difference to promotion of fortification. FSSAI must be a little pro-active and indicate which foods to be fortified, which fortificants should be used and in what proportion. That will make it easier for industry to fortify foods.

Since iron deficiency is critical, more particularly among the poorer sections of society, an easy and inexpensive way of delivering iron to these people would be to distribute fortified wheat flour in place of wheat under public distribution system. That will deliver iron in required doses to more than 300 million people. ILSI-India has been drawing attention of governments to this strategy but the change is yet to take place.

The technology for fortification is simple. All it needs is to add a pre-mix to the product at the final stage before packaging. The Ministry of Food Processing Industry has initiated an incentive scheme to facilitate purchase of equipment. But unless there is demand for fortified food, industry will not be tempted to fortify. Some of the companies have used fortification as a means to differentiate their product and create a niche market for themselves. But to universalize fortification it is necessary to generate demand and for that the consumer must be made aware of the benefits of fortified foods. This can be done through electronic media which has tremendous impact on consumer behavior. Once the consumer demands fortified food, industry is bound to produce it. Support from the Ministry of Food Processing to consumer awareness programs will go a long way in food fortification.

Eradication of malnutrition has to have high priority in health care. Given the urgency and the necessary science and its application it is imperative that the public-private management system dealing with supplementation and fortification is geared up to give quick results for better health and higher incomes for all.