

Preface

Hidden hunger or micronutrient deficiencies continue to haunt the developing world. Micronutrient deficiencies have a debilitating effect on health, leading to onset of several diseases and disabilities causing not only distress but economic loss to an individual, his family and the country.

Micronutrient deficiencies have a profound impact on the socio-economic fabric of the country. The countries in South Asian region (SAARC member countries), one of the poorest in the world also has a dismal record with large sections of population suffering from micronutrient deficiencies. The problems are quite acute particularly in relation to the three most important micronutrients viz., iron, iodine and vitamin A. The human suffering and the economic losses could be totally avoided if the right strategies are followed.

Fortification of foods with minerals and vitamins is the most effective and least expensive method of eliminating micronutrient deficiencies. It is commercially viable. The cost to the government is minimal since the main responsibility for fortification has to be shouldered by the industry. The technology is proven since many countries particularly developed countries, started fortifying foods at least 50 years back. Fortified foods are acceptable to people since they are no different in appearance and taste from non fortified foods, do not require any change in dietary habits and have the added advantage of providing more nutritive value.

ILSI International and ILSI-India have devoted a great deal of attention to elimination of micronutrient deficiencies through micronutrient food fortification. The success of the "National Conference on Micronutrient Fortification of Foods" organized in Jaipur, India in 1999 and the type of lead given by Jaipur Declaration to industry, government, academia and research organizations prompted ILSI-India to organize similar activities in other parts of the South Asian region. The first in the series of conferences for South Asian region was organized in Kathmandu, Nepal on 20-21 October 2000 jointly with ILSI South Asia Nepal Committee and Department of Food Technology and Quality Control, Nepal. It was organized in association with Micronutrient Initiative (MI) and Federation of Nepalese Chamber of Commerce and Industry. The Conference was entitled "South Asian Conference on Micronutrient Fortification of Foods: Nepal Perspective".

The Organizing Committee for the Conference devoted a great deal of attention to drawing up a suitable agenda. Dr. Tika B. Karki, Chairman, ILSI South Asia Nepal Committee and Director General, Department of Food Technology and Quality Control and Mr. Basant K. Chaudhary, President, ILSI South Asia Nepal Committee and President & Managing Director, Chaudhary group of companies played the key roles in organizing this event in Nepal. Mrs. Teresa Beeman, Director, MI South Asia Region Office also provided valuable inputs. Ms. Bidya Manandhar, Food Research Officer, Department of Food Technology and Quality Control was the rapporteur for the conference.

It is hoped the summary of the conference and Kathmandu Declaration adopted at the conference will provide useful information to scientists and researchers, policy makers, industry and NGOs on "Next Steps" to be taken in the area of micronutrient fortification of foods. A Compendium on papers presented at the conference will be shortly published.

D.H. Pai Panandiker, Chairman, ILSI-INDIA
G.M. Tewari, President, ILSI-INDIA
Rekha Sinha, Executive Director, ILSI-INDIA

South Asian Conference on Micronutrient Fortification of Foods: Nepal Perspective

Kathmandu Declaration : The Next Steps

The South Asian Conference on “Micronutrient Fortification of Foods: Nepal Perspective” was held in Kathmandu on 20-21 October 2000. Over 120 delegates from Bangladesh, India, Nepal and Sri Lanka participated. The Conference was inaugurated by Hon’ble Tirtha Ram Dangol, Minister of State for Health, HMG, Nepal.

The Conference reviewed the micronutrient malnutrition status in South Asian region and initiatives taken by national and international organizations to identify and mitigate health problems resulting from micronutrient deficiencies. These issues were discussed in the context of the Nepal Perspective.

During the presentations and discussions the participants made the following suggestions and recommendations:

➤ **The Problem**

The majority of people in South Asian region are exposed to health disorders arising from micronutrient deficiencies. The critical micronutrients which should be given special attention are: iron, iodine and vitamin A. Deficiencies of these micronutrients have led to health disorders like anaemia, goiter, mental retardation, blindness, morbidity and high mortality particularly among women and children.

The health problems have affected productivity and resulted in loss of national income. It is estimated that nearly 3% of the GDP is lost because of deficiencies of the three critical micronutrients.

➤ **Fortification – The Way Out**

While supplementation can be useful in respect of select target groups like pregnant women or school children, it is only food fortification that can have a wide reach to cover the total population.

The critical micronutrients Viz. iron, iodine and vitamin A can be delivered, looking at the food habits in South Asia, through vehicles like: wheat flour, bakery products, milk, salt, sugar and edible oils. Multiple vehicles should be thought of for fortification since food habits differ considerably within the region or even country.

It is also important to give special attention to rice, spices and other ethnic foods to deliver micronutrients to the people. Cost effective technologies need to be developed.

It is welcome that research initiatives in respect of double fortification of salt with iron and iodine have been undertaken.

Fortification can be an effective means because it is the least costly, imposes no burden on government and is within the purchasing power of the poorer sections of the society.

➤ **Facilitation of Fortification**

Governments, industry and R&D institutions, NGOs and international organizations have to take coordinated steps to promote and facilitate food fortification. In particular the following steps are vital:

1. Governments should create public awareness about micronutrients and the benefit of fortified foods, through social marketing with the support of international agencies.
2. Wherever public distribution systems exist or meal programs for school children are in place, fortified foods should be distributed.
3. Food regulations should be reformed in a manner that will enable and encourage food fortification. Nutritional labeling of fortified foods will help consumers make informed choice. Food regulations should also be brought in conformity with internationally accepted disciplines like Codex.
4. Fortified foods should be more favorably treated in respect of indirect taxes like excise duties, sales tax and other local taxes to bring them within the reach of poorer sections of society.
5. While food fortification will be commercially viable, industry should make special effort to reach rural areas through effective marketing.

6. While technologies in respect of fortification of products like salt, sugar, milk etc. are well established there is need for development of new technologies for fortification of products like spices and for multiple fortification for products like salt.
7. Large scale food industry in South Asia has taken initiatives to fortify foods. However, considerable processing of foods is undertaken by small industries which are not aware of the need for fortification or have no access to appropriate technologies. Government should give special attention to this sector and devise and support its fortification program.
8. Government laboratories should be upgraded to analyse fortified foods. International organizations should extend assistance for this purpose.
9. A forum should be constituted consisting of representatives of Ministries, R&D institutions, industry, and NGOs to deliberate on all food fortification issues.
10. A regional forum of R&D institutions dealing with nutrition and food safety issues should be formed to exchange ideas and experiences in respect of food fortification programs in countries of South Asia.

The Kathmandu Declaration was read by Mr. D H Pai Panandiker, Chairman, ILSI-INDIA and after endorsement by the participants was formally presented to Hon'ble P R Lital, Vice Chairman of Planning Commission for consideration and necessary action.

Executive Summary

South Asian Conference on “Micronutrient Fortification of Foods : Nepal Perspective” was held at Hotel Soaltee Crowne Plaza, Kathmandu on October 20-21, 2000. The conference was jointly sponsored by International Life Sciences Institute-India, ILSI South Asia Nepal Committee and Department of Food Technology and Quality Control, Nepal. It was organised in association with Micronutrients Initiative and with the co-operation of Federation of Nepal Chambers of Commerce and Industry (FNCCI). It was attended by 120 delegates from Bangladesh, India, Nepal and Sri Lanka representing government departments, R&D organisations, industry, academia and international organisations like Food and Agriculture Organization of the United Nations (FAO), United Nations Children’s Fund (UNICEF), World Food Program (WFP), ILSI and local non-governmental organisations (NGOs).

Objectives

The objectives of the conference were to :

- i) discuss scientific advancements made nationally and globally in food fortification to eliminate micronutrient malnutrition, particularly of iodine, vitamin A and iron
- ii) identify vehicles for fortification
- iii) study the commercial and technical feasibility of food fortification
- iv) find out supportive mechanism including social marketing and communication, regulations, monitoring and evaluation

- v) discuss the role of partnerships, such as participation of government, industry, academia, NGOs, scientific expert groups and consumer groups.
- vi) adopt Kathmandu Declaration outlining "Next Step"

A brief report on the conference is given in the following paragraphs.

Opening Session

The Opening Session was chaired by Hon'ble Nirmal Pandey, Member, National Planning Commission, Nepal. Mr. Basant K. Chaudhary, President, ILSI South Asia Nepal Committee delivered the welcome address. While welcoming the delegates, Mr. Chaudhary highlighted that a large segment of population in the third world still suffered from deficiency of important micronutrients including iodine, iron and vitamin A. He further added that a cohesive national initiative was needed to face the challenge, and this conference would help to reflect a concord on cohesive approach to deal with issues relating to micronutrients deficiency and give the right direction to His Majesty's Government and other agencies.

Mr. D. H. Pai Panandiker, Chairman, ILSI-India presented the theme of the conference. In his introductory remarks he explained that micronutrients were vitamins and minerals that were needed in small quantities by the body. Their deficiency had debilitating effect on health. He informed that iron deficiency disorder was widely prevalent among women in South Asian region and he further emphasised that 20% pregnant women died due to iron deficiency. He also highlighted the situation of iodine deficiency disorder among school children in South Asian region. He said that there were various means to prevent micronutrient deficiency through adoption of appropriate strategies, viz. balanced

diet, vitamins and mineral supplementation, hybrid grains and genetically modified foods, as well as food fortification. Among these various strategies, food fortification was the most important and useful because of low cost and wide coverage. He also shared the experiences of Conference on Micronutrient Fortification of Food, held in Jaipur, India (1999).

The conference was inaugurated by Hon'ble Minister of State for Health, His Majesty's Government (HMG) of Nepal, Mr. Tirtha Ram Dangol. In his inaugural address, Mr. Dangol said that human resource development was the precondition for industrial revolution, which could be achieved only through the development in science and technology. He further emphasised that only healthy people could make healthy nation and in this endeavour addition of micronutrients to food could play an important role

Dr. M.N. Shreshtha, Secretary, Ministry of Agriculture and Cooperatives, HMG Nepal, in his address said that micronutrient deficiencies adversely affect many lives and hence economic development. He also stressed the need to keep the cost of fortification low.

Mr. Pradeep K. Shreshtha, President FNCCI, in his keynote address, thanked the organizing committee for selecting Kathmandu for this valuable conference. He further said that FNCCI was the apex body for industry in Nepal and food fortification was the hot topic for industry as well. He reiterated that food fortification was the best strategy to prevent micronutrient deficiency disorders as well as other health problems.

In his keynote address, Hon'ble Nirmal Pandey, Member, National Planning Commission, recommended that a committee should be set up for food fortification program to carry the output of the conference further. He also recalled the commitment made by International Conference on Nutrition organised by Food and Agriculture Organisation of United Nations and World Health Organisation in 1992 in Geneva to overcome micronutrient deficiency from third world countries. Dr. Pandey further emphasized the need to have necessary policy and regulations as well.

The Opening Session ended with a vote of thanks by Dr. T. B. Karki, Chairman, ILSI South Asia Nepal Committee.

Session I – Regional Overview

This session was chaired by Dr. T.P. Pathak, Executive Director, RECAST and Mr. R. Shreshtha, President, Nepal Biscuits Association.

Ms. Teresa Beemans, Director, Micronutrient Initiative, South Asia Regional Office (MI SARO) presented the overview on "Micronutrient Status in South Asian Countries". Ms. Beemans explained MI's approaches for eliminating micronutrient malnutrition such as information sharing, awareness and advocacy, partnerships and alliances, mobilization of resources for generating knowledge and technologies as well as adoption of innovative initiatives. While talking about the the general situation of micronutrients malnutrition in South Asia Ms. Beemans informed that South Asia was the biggest programme area in MI's global operations. The reason

being that South Asia had the highest rates of malnutrition among all regions in the world. South Asia, with less than 25% of world's population had 50% of the total number of malnourished children in the world. The levels of Iron Deficiency Anaemia (IDA) among pregnant women in South Asia was almost twice that of sub-Saharan Africa, the next worst region. The average birth weight of children in South Asia was only half of that in sub-Saharan Africa. She provided information on incidence of micronutrient deficiency in Bangladesh, India, Pakistan and Sri Lanka and the research projects on food fortification sponsored by MI, viz. fortification of sugar and edible oils with vitamin A in India. She further emphasised that women should be educated and empowered so as to solve the problem more easily.

Prof. Mamunar Rashid, Director, Institute of Public Health and Nutrition, Dhaka made a country presentation on Food Fortification for Elimination of Micronutrient Deficiencies of iron, vitamin A and iodine. He presented current micronutrient malnutrition status in Bangladesh and said that National Plan of Action of Nutrition (NPAN), Bangladesh had set a goal of total elimination of vitamin A deficiency (VAD) by the year 2000. According to eating habits in Bangladesh, best possible vehicles for fortification were oil and wheat flour respectively.

Mrs. Padma Mathema, Under Secretary, National Planning Commission, Nepal presented a country paper on "Overview of Food Fortification in Nepal". She spoke about National Nutrition Policy started during Eighth Five Year Plan period (1992-97). She also highlighted National Plan of Action on Nutrition (NPAN) and government's commitment to fulfil the national goals for eliminating micronutrient deficiency of iron, vitamin A and iodine. She said that various projects such as Universal Salt Iodization Program and National Vitamin A Program had been

launched to fulfil the goals. Mrs. Mathema recommended a comprehensive strategy for food fortification in Nepal. She suggested that research should be conducted to identify food vehicles, fortification of promising food vehicles should be conducted at pilot scale and food fortification in private sector food industries should be promoted by providing facilities including policy guidelines.

Dr. T.P. Pathak and Mr. Shreshtha gave the remarks from the chairs and Dr. Pathak appreciated the information and suggestions provided by the speakers which would be very useful to Nepal.

Session II – Issues and Initiative

This session was chaired by Dr. D.B. Shakya, Chief, Agro Enterprises Centre, FNCCI and Dr. G.M. Tewari, President, ILSI-India.

Presentations were made by a number of international organizations. Mr. Pragyan Mathema from UNICEF presented the malnutrition status among under-5 children. Mr. Mathema talked about various strategies to reduce micronutrient deficiency, such as community-based fortification and iron fortification of foods.

Ms. Rekha Sinha, Executive Director, ILSI-India gave a brief introduction of ILSI and ILSI-India activities on micronutrient fortification of foods. She said that ILSI provided the secretariat for International Vitamin A Consultative Group (IVACG) and International Anaemia Consultative Group (INACG). A number of meetings were organised by IVACG and INACG to discuss new approaches to fortification of foods. Further, ILSI had launched project entitled "Iron Deficiency Elimination Action" (Project IDEA) in 1997. Under this project, fortification activities had been launched in 12 countries. The project focussed on fortification of staple foods and

condiments. Ms. Sinha informed that in the near future two international meetings would be held – the IVACG meeting in Hanoi, Vietnam in February 2001, and International Conference on “Forging Effective Strategies to Combat Iron Deficiency” in Atlanta, USA in May 2001. She also informed that ILSI was also partnering with Asian Development Bank with an approach to promote fortification of foods and condiments with required micronutrients in China, India, Indonesia, Pakistan, Thailand and Vietnam

Mr. Laxman Gautam, Senior Officer, FAO highlighted the importance of food fortification. Mr. Gautam informed about the nutritional goals which had been committed in series of international food summits.

Mr. G.P. Bordignon, WFP gave comprehensive information about food distributed every year to school children, women groups and refugees of Jhapa district in Nepal. He further explained the various programs such as Food for Work Programme, School Feeding Programme, Save the Children Fund (SCF) and Maternity Child Health (MCH) programme etc. Foods distributed through the various programs were premixed with vitamins and minerals according to WHO and WFP standards.

After the presentations by international organisations, case studies were presented by industry. Dr. Max Blum, Switzerland presented “A Global Initiative in Food Fortification”. He explained that micronutrient deficiencies remained a major health problem in many of the developing nations. 250 million children suffered from stunted growth, impaired intellectual and physical development due to malnutrition and unbalanced micronutrient intake. Dr. Max Blum informed that in western countries, food fortification had been used for last 50 years as a key strategy to eliminate vitamin and trace element deficiencies. Substantial evidence of the efficacy of food fortification was available from both developed and

developing countries. He gave examples of fortified foods, including fortification of cereals and flour with B-complex vitamins and iron, milk and dairy products with vitamins A and D, vegetable oils and fat spreads with vitamin E, fruit juices with vitamin C, breakfast beverages with vitamins, calcium, iron and zinc etc. Dr. Blum further added that food fortification had been successfully introduced in Asian, Latin American and African countries.

Case study on fortification of snack foods and bakery products with iron was presented by Mr. Arun Kelkar, Managing Director, Hexagonl Chemicals Pvt. Ltd., India. Mr. Kelkar informed that wheat flour (atta), flour and semolina could be used as suitable vehicles for fortification. Nutrients were lost during typical bread baking and the loss needed to be recovered by further addition of nutrients.

Dr. P.D. Virkar, Divisional Manager, Beverages, Hindustan Lever Research Centre informed the participants about research work on fortification of tea with vitamin A.

Mr. D. H. Pai Panandiker talked about the research, undertaken by National Institute of Nutrition in India, on double fortification of salt with iron and iodine. He also said that public awareness about micronutrient deficiency was very crucial. New products need to be identified. He talked about Jaipur Declaration adopted at the International Conference on Micronutrient Fortification of Foods organised by ILSI-India and MI in 1999 in Jaipur. He mentioned that several actions had been undertaken as follow-up by ILSI-India, Government of India, research organisations and industry. These include : setting up of Committee on Micronutrient Fortification of Foods by Department of Food Processing Industries,

Government of India to monitor implementation of Jaipur declaration, research project on double fortification of salt with iron and iodine, project on fortification of sugar with vitamin A by MI at Vasantdada Sugar Institute, launching of iron fortified wheat flour by industry etc.

Session III – Nepal Perspective

This session was chaired by Dr. S.K. Shreshtha, Joint Secretary, Ministry of Agriculture and Cooperatives, HMG, Nepal and Mr. P.P. Manandhar, Director General, Department of Standards and Metereology. Speaking from the chair, Dr. Shreshtha said that due to lack of nutritional knowledge, consumption of fortified food was inadequate. Mr. Manandhar suggested that new technologies should be adopted for mineral and vitamin fortification.

Dr. T. B. Karki, Director General, Department of Food Technology and Quality Control, Nepal, presented a paper on Legal Framework for Food Fortification in Nepal. Dr. Karki gave a brief introduction to Food Act and food Rules in Nepal. Food Act was promulgated in 1966 and Food Rules were enforced in 1970. Dr. Karki said that existing food regulations allow fortification of vitamins and minerals, and food industry could work out fortification levels. However, if a claim was made that a food was fortified with vitamins and mineral, then this had to be mentioned on the label. Talking about future fortification programs in Nepal, Dr. Karki said that it would be important to identify potential vehicles, develop fortification strategy as a component of Vitamin A and Iron Deficiency Prevention Programme and assess fortification levels. According to Dr. Karki, fortification of foods with important minerals and vitamins needed to be made mandatory. He reiterated the need for setting up food fortification committee which could recommend and suggest the requirements at the minimum mandatory level. Dr. Karki emphasised that Codex standards, guidelines and codes of practices should

be considered in developing food legislation including those selected for fortification. He also informed about a separate Act on iodized salt production and distribution promulgated in 1999.

Mrs. Sharda Pandey, Chief, Child Development Division, Ministry of Health gave a general picture of iodine deficiency disorder and made a presentation entitled "Universal Salt Iodization Program in Nepal : Current Status". To solve the problem of goitre and cretinism, universal salt iodization programme had been started in 1993 in 22 districts where iodised salt was being distributed. Mrs. Pandey also said that there were five iodization plants in Nepal as well. Mrs. Pandey talked about the constraints faced under universal salt iodisation programme and strategies to overcome them. She also mentioned about the social marketing campaign launched by HMG in Nepal in 1999. Radio, television and newspapers were used to create benefits of consuming packaged iodized salt with 'two child' logo. This led to 41% growth in sales of packaged salt.

Mr. M.R. Maharjan, National Programme Officer, MI, Nepal presented a paper on most potential food vehicles for micronutrient food fortification in Nepal. He said that sugar, cooking oil, biscuit, instant noodles, blended foods, salts and wheat flour would be most suitable vehicles for fortification since they were widely consumed, cost effective and technically feasible. Mr. Mahajan also mentioned that cooking oils and sugar could be fortified with vitamin A; wheat flour with minerals and vitamins; biscuits with vitamin A and iron; instant noodles with iron, vitamin A and iodine (as in Thailand); and salt with iron and iodine. Mr. Mahajan recommended next steps towards carrying out fortification of these products.

Session IV – Panel Discussion

This session was chaired by Dr. B.D. Chataut, Director General, Department of Health, Nepal and Mr. D.H. Pai Panandiker, Chairman, ILSI-India. The panellists were Ms. Sharda Pandey, Ministry of Health, Nepal; Prof. Mamunar Rashid Bangladesh; Dr. D. B. Shakya, FNCCI and Dr. Max Blum, Roche Vitamins, Switzerland.

Speaking from the chair, Dr. Chataut mentioned that biscuits could be fortified at low cost, and mentioned that JICA would establish a warehouse for iodized salt.

Mr. D.H. Pai Panandiker expressed the view that food fortification program could succeed only with adoption of co-ordinated approach by government, industry and academia. Multiple vehicles were necessary because food patterns varied within the region. He outlined the importance of the following measures for success of micronutrient food fortification program:

- Research on vehicles for food fortification
- Upgradation of laboratory
- Bringing alignment with Codex
- Creating public awareness
- Setting up a committee for food fortification

Prof. Mamunar Rashid shared his experience in Bangladesh and said that during check-up, the quality of iodized salt in government laboratories the iodine content

was not checked up, but only other impurities are checked. Dr. D. B. Shakya expressed the view that the industry was very enthusiastic about food fortification and they should be encouraged to come forward. Government should support industry in private sector to make it easier for them to fortify processed food. Dr. Max Blum suggested use of stamp on the fortified food packet, so that it could be easily identified. Ms. S. Pandey from Child Development Division, Ministry of Health, Nepal suggested more and more public awareness should be created with intensive monitoring of micronutrient level in food. Similarly, Mr. Jyoti Bania from Nepal Consumer Forum, explained about the need to subsidize fortified food .

Session V – Valedictory Session

Hon'ble P.R. Ligal, Vice Chairman, National Planning Commission, Nepal was the Chief Guest during the Concluding Session. This session was chaired by Mr. D.H. Pai Panandiker, Chairman, ILSI-India and Dr. T. B. Karki, Chairman ILSI South Asia Nepal Committee. In the session, Mr. D. H. Pai Panandiker reviewed the micronutrient deficiency scenario in South Asian region. He emphasized that fortification was the most suitable way to cover large population. For this, cost effective technology needs to be developed. Nutritional labelling was equally important and government laboratory needed to be upgraded.

Kathmandu Declaration

Mr. D.H. Pai Panandiker read the Kathmandu Declaration and after endorsement by the participants, formally presented it to Hon'ble P.R. Ligal, Vice Chairman of Planning Commission for consideration and necessary action.

In his valedictory address Hon'ble P.R. Ligal committed the incorporation of final Kathmandu Declaration in the programs of National Planning Commission.

Dr. G.M. Tewari, President, ILSI-India proposed the vote of thanks.

Appendix I

**South Asian Conference on Micronutrient Fortification of Foods :
Nepal Perspective**

Program

Day 1. Friday 20 October 2000

Opening Session

1000 – 1100 hrs.

Chief Guest: Hon'ble Tirtha Ram Dangol, Minister of State for Health

Chair : Dr. Nirmal Pandey, Member, National

Planning Commission, HMG

- Welcome Address
Mr. B.K. Chaudhary, President, ILSI South Asia Nepal Committee
- Introduction of Theme
Mr. D.H. Pai Panandiker, Chairman, ILSI-INDIA
- Inaugural Address by the Chief Guest
Hon'ble Tirtha Ram Dangol, Minister of State for Health
- Keynote Address
Dr. M.N. Shrestha, Secretary, Ministry of Agriculture and Cooperatives, HMG
*Mr. Pradeep K. Shrestha, President, Federation of Nepal Chamber of
Commerce and Industry*
- Vote of Thanks
Dr. Tika B. Karki, Chairman, ILSI South Asia Nepal Committee
- Tea Break 1100 – 1115 hrs.

Session – 1 : Regional Overview

1115 – 1420 hrs.

Chairs : Mr T P Pathak, Executive Director, Research Center for Applied Sciences and Technology, Tribhuvan University
Mr. R. Shrestha, President, Nepal Biscuits Association

- Observations by Chair 1115 hrs.
- Overview on Micronutrient Status in South Asian countries 1120 hrs.
Ms. Teresa Beemans, Director – South Asia Regional Office, MISARO
- Country presentations on Food Fortification for Elimination for Micronutrient Deficiencies of iron, vitamin A and iodine
 - Bangladesh 1140 hrs.
Prof. Mamunar Rashid, Director, Institute of Public Health and Nutrition, Dhaka
 - Nepal 1200 hrs.
Mrs. Padma Mathema, Under Secretary, National Planning Commission, HMG
- Lunch 1240 – 1340 hrs.
- Discussions 1400 hrs.

Session – 2 : Issues and Initiatives **1420 – 1620 hrs.**

Chairs : Dr. D.B. Shakya, Chief, Agro Enterprises Centre, Federation of Nepal Chamber of Commerce and Industries
Dr. G.M. Tewari, President, ILSI-INDIA

- Observations by Chair 1420 hrs.
- (A) Presentations by International Organizations** 1425 hrs.
 - Food and Agriculture Organization of the United Nations
Mr. Laxman Gautam, Senior Officer, FAO
 - International Life Sciences Institute
Ms. Rekha Sinha, Executive Director, ILSI-INDIA
 - United Nations Children's Fund
Mr. Pragyan Mathema, UNICEF

- World Food Programme
Mr. G.P. Bordinon, WFP

(B) Case Studies by Industry

- Global initiatives in Food Fortification
Dr. Max Blum, Switzerland
- Case Study on Fortification of Snack Foods and Bakery Products with Iron
Mr. Arun Kelkar, India.
- Case Study on Fortification Tea with Vitamin A
Dr. P.D. Virkar, India

- Discussions 1600 hrs.
- Tea Break 1620 hrs.

Session – 3 Nepal Perspective

1630 – 1730 hrs.

Chairs: Mr. P.P. Manandhar, Director General, Department of Standards and Metereology, HMG
Dr S K Shrestha Joint Secretary, Ministry of Agriculture and Cooperatives, HMG

- Observations by Chair 1630 hrs.
- Presentations by 1635 hrs.
 - Legal Framework for Food Fortifications in Nepal
Dr. Tika B. Karki, Chairman, ILSI South Asia Nepal Committee
 - Universal Salt Iodisation in Nepal
*Mrs. Sharda Pandey, Chief, Child Development Division
Ministry of Health, HMG*
 - Potential Food Vehicles for Micronutrient Food Fortifications in Nepal
Mr M.R. Maharjan, Micronutrient Initiative (MI), Nepal

- Discussions 1720 – 1730 hrs.

- **Cocktails and Dinner 1930 hrs.**

Day 2. Saturday 21 October 2000

Session – 4 : Panel Discussion **1000 – 1100 hrs.**
Forging Government, Industry and Academic
Partnership and Create Public Awareness

Chair : Dr B D Chataut, Director General and Chief, Department of Health Services, HMG
 Mr. D.H. Pai Panandiker, Chairman, ILSI-INDIA

Panelists : Dr. Max Blum, Roche Vitamins, Switzerland
 Mrs. Sharda Pandey, Chief, Child Development Division, Ministry of Health, HMG
 Prof. Mamunar Rashid, Director, Institute of Public Health and Nutrition, Dhaka
 Dr. D.B. Shakya, Chief, Agro Enterprises Centre, Federation of Nepal Chamber of Commerce and Industries

- Discussions
- Tea Break 1100 – 1115 hrs.

Valedictory Session **1115 - 1200 hrs.**

Chairs : Mr. D.H. Pai Panandiker, Chairman, ILSI-INDIA
 Dr. Tika B. Karki, Chairman, ILSI South Asia Nepal Committee

- Kathmandu Declaration
 - Mr. D.H. Pai Panandiker, Chairman, ILSI-INDIA
- Valedictory Address (Nepal)
 - Hon'ble P R Ligal, Vice Chairman, National Planning Commission, Nepal
- Vote of Thanks
 - Dr G M Tewari, President, ILSI-INDIA

- Lunch