

**Conclusions and Recommendations**  
**of**  
**Second ILSI-India Conference on**  
**New Developments in Food Processing**  
*Next Generation Technologies for Healthy Foods*

**October 5-6, 2007**  
**Fort Aguada Beach Resort, Goa, India**

**Sponsored By**  
**International Life Sciences Institute – India (ILSI-India)**

**Co-sponsored By**  
**Ministry of Food Processing Industries, GOI**

**In Technical Collaboration With**  
**FAO Regional Office for Asia and the Pacific**

## Background

---

**ILSI-India** had organized its first International Conference on “New Technologies in Food Processing” in December 1997 in Goa. Since then a number of developments have taken place in food processing and packaging technologies. The consumer has also become more health conscious and is looking for processed food products which will be more beneficial in promoting health and well being. Keeping these trends in view, ILSI-India organized the **Second Conference on “New Developments in Food Processing: Next Generation Technologies for Healthy Foods” on October 5-6, 2007 in Goa.** The Conference was co-sponsored by Ministry of Food Processing Industries, Government of India and was organized in technical collaboration with FAO Regional Office for Asia and the Pacific (FAO-RAP).

**The** Conference was addressed by 18 national and 4 international experts and was attended by 110 participants from India, Thailand, USA, Mexico, and Japan representing government, industry, R&D institutions, and international organizations.

**The** Conference discussed latest developments in food science and focused on innovations in food technologies, nanotechnology, and biotechnology, changes in lifestyle, consumer preferences and value addition of food products and their implications for food processing, food packaging and food labeling were highlighted. Benefits associated with novel foods like functional foods, pre-biotics and pro-biotics and foods for special category of consumers were discussed along with food safety issues including modern tools for food safety like risk assessment, evidence based guidelines for food safety and technologies for ensuring safety of foods.

**The Conclusions and Recommendations** of the Conference are enclosed. It is expected that these Recommendations will provide guidelines for future developments in all food processing industries.

## Conclusions and Recommendations

---

**The** food industry in India is yet to fully develop. Presently, only about 2 per cent of fruits and vegetables are processed. Other agricultural products processing does not go much beyond the primary stage. Looking at the potential, food processing industry can grow at more than 20 per cent per year.

**Accelerated** development of food industry will not come by itself and would not be qualitatively good unless positive steps are taken by all stakeholders. The Conference addressed these issues and made the following recommendations.

- 1- **Development** of food industry necessitates effective networking and constructive partnerships between industry and Government, agriculture and industry and industry and research organizations. The Ministry of Food Processing Industries should set up a small Committee with 10-12 members representing these interests to coordinate policies and activities.
- 2- **The** starting point of food processing is the availability of right quality of agricultural raw materials. Hence coordination with farmers in the use of seeds (including GMOs), fertilizers (including fortified fertilizers), pesticides (including bio-pesticides), post harvest handling of agricultural products etc. is extremely important
- 3- **Micronutrient** deficiencies are widespread and a business model should be developed to fortify foods. Food laws should be modified and Government should evolve guidelines for fortificants to be used and the extent of fortification to be undertaken in any product (as per cent of RDA)
- 4- **Government** had brought out a notification about nutrition labeling which is currently under further review. The new draft notification will be open to public suggestions in the light of which final legislation will be promulgated. Labels have to be clear, accurate, truthful, scientific, consumer friendly, practical and give all essential information to help consumer make his choice.

5- **Foods** should be healthy and nutritious. Hence:

- (a) Limits should be set for trans-fats and encouragement given to the use of omega 3 fatty acids
- (b) Fruits and vegetables contain important nutrients which have proved to reduce the incidence of many non-communicable diseases like cancer, cvd, diabetes, cataract, osteoporosis, etc. The food pyramid that prescribes ideal food intake composition should be reconstructed keeping in view the importance of fruits and vegetables.
- (c) Consumer education is vital. This is the responsibility of both the Government and industry.
- (d) Many new health foods like functional foods, nutraceuticals, pre and pro-biotics, etc. have great health as also market potential. More research in novel foods is required to use foods to improve health and prevent diseases.

6- **Food** safety is critical. In a globalised market food chain has become long and susceptible to chemical and microbial contamination. Hence every factory should adopt appropriate food safety risk management model including HACCP.

7- **Use** of radiation technologies should be more widespread and therefore necessary infrastructure facilities established by public and private sectors at a number of centres. Irradiation will also extend shelf life of products.

8- **Packaging** protects food from contamination and increases the shelf life of foods. Industry should give close attention to new materials and methods of packaging as also storage of foods keeping in view consumer convenience, consumer appeal and cost of packaging.

9- **Use** of right kind of enzymes improves quality, flavour, etc of fermented foods. It is necessary to have regulation on the lines of Codex Alimentarius for standards, methodology, etc. in the use of enzymes.

- 10- **New** technologies like non-thermal technologies (including radiation technologies), CMI, biotechnology, are already in commercial use by industry. The scope however is much larger and should be explored.
- 11- **Biotechnology** has extensive applications and should receive greater attention of food industry as also Government. To facilitate expanded use of this technology more investment in agriculture biotechnology is necessary and, for this purpose, transparent science based regulation needs to be adopted.
- 12- **A** futuristic technology with wide ranging applications for food industry is nanotechnology. It will eventually be used to produce designer foods. The requisite capacity building facilities should be in place to accelerate the use of nanotechnology in food processing.