

## **THE SPS AGREEMENT: TRADE IN FOOD PRODUCTS**

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Food quality and safety issues have entered into a new era of evolution as it involves integrated effort linking production to consumption in the entire food chain. The traditional domain of inspecting and analysing the end product does not necessarily meet the requirement of emerging trade regime of WTO and related agreements such as the SPS and the TBT Agreements.

Food control system practiced in the developing countries, especially in the South Asian Association for Regional Cooperation (SAARC) countries was evolved over a 5-decade period. Its basic framework does not cover the full range of food chain. It usually addresses only the final product. Hence there is a need to review and update current food legislation in the countries of the Region.

Human resources development is another crucial issue that needs to be addressed to implement integrated approach on food quality and safety. Participatory approaches where all stakeholders such as the primary producers (farmers), fishermen, food processing entrepreneurs, food handlers, law enforcing agencies and consumers at large, take part in the decision making process need to be evolved to meet high and changing standards of food safety and quality assurance in the food supply chain.

This chapter reviews Nepal's situation in this area and identifies areas of improvement. It starts by reviewing the SPS Agreement to identify main issues facing the developing countries. It is followed by discussing some safety issues on food trade. The third Section identifies gaps and deficiencies in standards. The last Section is devoted for conclusion and recommendations.

### **THE SPS AGREEMENT AND THE KEY FOOD-SAFETY ISSUES**

#### **An overview of the SPS Agreement**

Article 20 of the GATT 1994 allows governments to regulate trade in order to protect human, animal or plant life or health, provided such actions do not discriminate or are used for disguised protection. The SPS Agreement was developed in the Uruguay Round to elaborate rules for the application of the provisions of the GATT 1994 which relate to the use of sanitary or phytosanitary measures of Article 20. The purpose is to establish a multilateral framework of rules that discipline the development, adoption and enforcement of sanitary and phytosanitary measures with minimum negative effects on trade. In a nutshell the main objectives of the SPS Agreement are the following.

- Protect and improve the current human health, animal health, and phytosanitary situation of all Member countries; and

- Protect Members from arbitrary or unjustifiable discrimination due to different SPS standards.

The SPS Agreement reinforces the right of WTO Member countries to apply measures necessary to protect human, animal and plant life and health. Its Annex A, which is an integral part of the Agreement, defines sanitary and phytosanitary measures as any measure applied to protect animal or plant life or health within the territory of the Member from risks arising from:

- the entry, establishment or spread of pests, disease, disease-carrying organisms or disease-causing organisms;
- additives, contaminants, toxins or disease-causing organisms in foods, beverages or feedstuffs;
- carried by animals, plants or products thereof, or from the entry, establishment or spread of pests; or
- prevent or limit other damage within the territory of the Member from the entry, establishment or spread of pests.

The SPS measures include all relevant laws, decrees, regulations, requirements and procedures including end product criteria; processes and production methods; testing, inspection, certification and approval procedures; quarantine treatments including relevant requirements associated with the transport of animals or plants, or with the materials necessary for their survival during transport; provisions on relevant statistical methods, sampling procedures and methods of risk assessment; and packaging and labelling requirements directly related to food safety. Yet, their applications have to be such that they restrict arbitrary or unjustifiable discrimination on trade between countries where the same conditions prevail. Also, such measures shall not be applied in a manner that would constitute a disguised restriction on international trade.

Generally the developing countries apply lower SPS standards, qualitatively or quantitatively, than developed countries. Notwithstanding this situation the principles embodied in the SPS Agreement should help to facilitate trade from developing to developed countries by improving transparency, promoting harmonization and by preventing the implementation of SPS measures that cannot be justified scientifically. However, the recent experiences shown that meeting SPS standards can be very costly, and much of the above potential benefits are dependent on the ability of the developing countries to upgrade their standards and to effectively participate in such facilitating processes as equivalency. The following are the main elements of the SPS Agreement.

### Harmonization

With the objective of reducing regulatory trade barriers, Members are required to base their SPS measures on international standards, guidelines and recommendations, where they exist and are sufficient to provide appropriate level of protection. They can establish a higher level of protection if scientific justification is provided in accordance with the requirements in Article 5 (Risk Assessment). The three recognized international standards-setting bodies are Codex Alimentarius

(Codex), International Office of Epizootics (OIE) and International Plant Protection Convention (IPPC). Members are also encouraged to participate in these bodies, within the limits of their resources, to promote development of SPS standards.

### Equivalence

The relevant article states that Members shall accept the SPS measures of other Members as equivalent, even when these measures differ from their own or from those of other Members trading in the same products, if the exporting country objectively demonstrates to the importing country that its measures achieve the importing country's appropriate level of SPS protection. The purpose is to meet the importing country's sanitary protection requirements not the means by which this is achieved. This concept also serves as a basis for bilateral and multilateral agreements among trading partners on the basis of equivalence referred to as Mutual Recognition Agreements or MRAs (Box 1).

#### Box 1

##### **Mutual Recognition Agreements (MRAs)**

The purpose of a MRA is to facilitate trade whereby an importing country recognizes and accepts "conformity assessment" (testing, inspection and certification) of products undertaken in the exporting country rather than at the destination. Thus double-checking and inspections are avoided. The MRAs do not require harmonization of each Party's technical regulations, nor does it involve recognition of the standards that apply in each Party. This way, each party maintains its internal standards and regulatory regime against which compliance is assessed by designated Conformity Assessment Bodies located in the other Party. Thus, in a way, this is a form of accepting equivalency.

Although MRAs are on the rise, so far this is mainly limited among developed countries in view of similar high-level standards and facilities. A majority of the developing countries have limited capacity in terms of certification and accreditation of laboratory testing, and making rapid progress in this area may not be feasible. Even where full scale MRAs may not be possible, this would be the direction to take. In initial stages, this process helps build confidence between the parties, e.g. through a process of understanding the capability and limitations of each other's laboratories. This paves the way for broader MRAs.

Initially, the approach to be taken would be to seek such agreements with neighbouring countries and at the level of regional standardizing bodies, e.g. among SAARC countries. A great deal of confidence building efforts would be needed, as well as capacity building at the regional level, in human resources and laboratory facilities. The establishment of regional and sub-regional laboratories, certification bodies and accreditation institutions would be the appropriate way of strengthening this trade facilitation measure.

Source: Authors Also see Malik (1998)

### Risk assessment

Members are required to provide scientific evidence when applying SPS measures that differ from international standards. This evidence should be based on risk assessment, taking into account, when possible and appropriate, risk assessment methodologies developed by the international standards organizations. Further, Members are obliged to avoid arbitrary or unjustifiable distinctions in the levels of protection it considers to be appropriate if the distinctions would act to distort trade.

### Adaptation to regional conditions including pest- or disease-free areas and areas of low pest or disease prevalence

The Agreement recognizes that SPS risks do not correspond to national boundaries; there may be areas within a particular country that have a lower risk than others. The Agreement, therefore, recognizes that pest- or disease-free areas may exist, determined by factors such as geography, ecosystems, epidemiological surveillance, and the effectiveness of SPS controls. A good example in this respect is Foot and Mouth Disease (FMD)-free areas within countries that do not have an FMD-free status overall.

### Transparency

The Agreement establishes procedures for enhanced transparency in the setting of SPS standards amongst Members. Members are obliged to publish and notify the WTO SPS Committee Secretariat of all proposed and implemented SPS measures. Moreover, Members are required to establish an “Enquiry Point”, which is the direct point of contact for any other Member regarding any questions about SPS measures or relevant documents.

Consultation and dispute settlement: The WTO Agreement establishes detailed and structured procedures for the settlement of disputes between Members regarding the legitimacy of SPS measures that distort trade. This takes the form of a dispute settlement body consisting of Member representatives.

### Technical cooperation and Special and Differential Treatment

Article 9.1 of the SPS Agreement calls for the provision of assistance to developing countries, either bilaterally or through international organizations, to develop their capacity in all aspects of the Agreement, notably regulations and infrastructures. Article 10 is about special and differential treatment for developing and least developed countries.

### The nature of food-standards problems facing developing countries

There is a growing literature on the nature of problems facing developing countries in this area, including costs of compliance to standards in export markets (see for example Henson et al 2000; Henson and Loader 2000; and Zarrilli 2000). Space does not permit discussing these experiences and issues in detail – the situation facing Nepal is discussed in the following sections. Very briefly, the main message has been that the developing countries face immense difficulties meeting the standards, especially of developed countries. Not only are the gaps wide to start with, the cost of meeting standards are often very high, and easily run into hundreds of millions of dollars. What is interesting, however, is that not all problems are difficult and costly, and sometimes low-cost solutions can contribute immensely, as noted below.

Table 1 is perhaps the best way of objectively showing the nature of problems facing developing countries in their efforts to expand food and agricultural exports to developed countries. It reports statistics published by the US Food and

Drug Administration (FDA) on reasons for detention and rejection of food consignments. It shows that *filth contamination* is the main factor for the rejection of food consignments. The filth contamination comprises of hair, rodents' excreta and urine, and foreign impurities etc. Thus, addressing the filth problem could be the single most important improvement, something that is easily understood by all stakeholders. It also should not cost much as it requires extension and information, and adoption of good post-production practices. Some other problems require more efforts, like microbiological contamination, food labelling, and pesticide residues. In summary, it is amazing that more than 50% of the rejections are due to lack of basic food hygiene and lack of labelling practices.

**Table 1: The incidence of import detentions cited by the US FDA**  
(number of cases during July 1996-June 1997)

Contravention	Region				
	Africa	Asia	Europe	LAC <sup>1/</sup>	Total
Food Additives	2 (0.7) <sup>2/</sup>	426 (7.4)	69 (5.8)	57 (1.5)	554 (5.0)
Pesticide residues	0 (0.0)	23 (0.4)	20 (1.7)	821 (21.1)	864 (7.7)
Heavy metals	1 (0.3)	84 (1.5)	26 (2.2)	426 (10.9)	537 (4.8)
Mould	19 (6.3)	49 (0.8)	27 (2.3)	475 (12.2)	570 (5.1)
Microbiological contamination	125 (41.3)	895 (15.5)	159 (13.4)	246 (6.3)	1,425 (12.8)
Decomposition	9 (3.0)	668 (11.5)	7 (0.6)	206 (5.3)	890 (8.0)
Filth	54 (17.8)	2,037 (35.2)	175 (14.8)	1253 (32.2)	3,519 (31.5)
Labelling	38 (12.5)	622 (10.8)	237 (20.0)	201 (5.2)	1,098 (9.8)
Total	303 (100)	5,784 (100)	1,184 (100)	3,895 (100)	11,166 (100)

1/ Latin America and the Caribbean

2/ Figures within parentheses indicate percent of the respective column total

Source: Food and Drug Administration, USA

## LEGAL AND INSTITUTIONAL INFRASTRUCTURE IN THE AREA OF FOOD SAFETY IN NEPAL

Food safety issues are multi-faceted and require multi-disciplinary approach for solution involving inputs from agriculture, industry and health sectors. The main objective of the food safety and quality control system is to safeguard the rights and well-being of consumers. How this is done depends largely on both legal and institutional infrastructure, the subjects of this section.

The Food Act 2023 (1966) and Food Regulation 2027 (1970): This Act and Regulation aims at meeting the objectives of providing safe food to consumers. The Food Regulation was amended in 1973, 1975, 1991, and in 1998. It is implemented in an integrated manner with the involvement of food inspectorate, laboratory services and law enforcement authority. Enforced throughout the country, the Food Act is considered to be comprehensive, and has the following provisions:

- Banning production, sale and distribution of substandard, contaminated and hazardous food items (Article 3).
- Misbranding of sales by false statement (Article 4).
- Detention of food products (Article 4a).
- Provision for licensing (food establishments, stores, etc) (Article 4b).

- Provision for penalty (Article 5).
- Liabilities of the offence committed by firm and corporate body (Article 6).
- Power to play down standard and quality of food (Article 7).
- Analysis of food in the specified laboratory (Article 8).
- Establishment of a Food Standardization Board (Article 9).
- HMG as plaintiff (Authority to hear cases) (Article 10).
- Authority to deal with offences (Article 11).
- Appeal – any person not satisfied with a decision may file an appeal within 35 days of the decision (Article 12).
- Power to make rules
- Laboratory for analysis and research (Article 13).
- Function of DFTQC
- Arrangement of food inspectors and their powers and duties.
- Analytical experts and their qualification.
- Food Standardization Board and its working procedure.
- Limits to be prescribed for the use of colour, preservatives and additives
- Other arrangements, as necessary, to maintain proper standard of foodstuff.
- Prohibition and regulation of sales of some food items: Provisioned under Article 7.8 (Part VII), this includes the following items:
  - Ban on sale of mixed foods such as two or more than two kinds mixed oils.
  - Brominated Vegetable Oil (BVO) in beverages.
  - Gee adulterated with vegetable gee.
  - Turmeric adulterated with other materials.
  - Grain flour mixed with another grain flour or mixed with non-edible.
  - Legumes mixed with *Lathyrus Sativa*.
  - Any other food banned by law.

*Department of Food Technology and Quality Control (DFTQC):* This is the apex body in the area of food standards and safety. It has several divisions and branches, e.g. Quality Control and Standardization Division, Inspection Services and maintains the Central Food Research Laboratory. The functions of the Department as defined by Section 7.2 (part II) of the Food Act are as follows.

- To analyse food samples sent by an authorized officer under the Act for the trial of the case in the court (Appeal sample).
- To assist Food Standardization Board for fixing standards of food products by carrying out necessary research and investigation.
- To conduct Food Inspector's training and to issue certificate to successful candidates.

The Director General DFTQC shall be responsible for issuing reports.

Public Analyst: The Regulation provides for the appointment, qualifications, duties and responsibilities of the Public Analyst (Article 7.3). It says that the DFTQC may appoint a Public Analyst or assign any person working in the analysis of manufactured or exported foods from any entity. On the request of the Director-General and the Inspector, the Public Analyst shall undertake necessary analysis of food and deliver analytical reports of the sample to the inspectorate.

Food Inspectors: The inspectors can inspect food-processing plants, identify critical point and assess whether they have been routinely monitored. Further, they can visit marketing areas and import/export points to collect representative samples for inspectional evidences for any violation of law. They also investigate complaints on food products and maintain records of all inspections made or actions taken by them. A total of 25 inspectors inspect markets, industries and custom points. There are five Regional Food Laboratories that also perform inspections in respective region. Food inspectors monitor cases filed against the business owners (shops, industries etc.) during their visits to District Administration Offices. They also monitor licenses and their renewals during regular inspection visits to industrial premises.

Food Standardization Committee: The major function of the Committee is to make recommendations to the government on matters related to food standards and safety issues. The Committee, provisioned under Clause 7.6 (Part V), is chaired by Secretary, MoAC, and consists of representatives from several ministries, representative from Consumer Associations, industrialists nominated by the FNCCI and Director-General of the DFTQC as Member-Secretary.

Laboratories and Equipment Facilities: Central laboratory is the apex laboratory for providing a wide variety of analytical services, e.g. testing for food additives, contaminants and food microbiology. The Central Laboratory has capability to analyse all major food commodities and facilities for monitoring pesticides residues, mycotoxins, heavy metals, radio nuclides, and microbiological analysis. The DFTQC is also equipped with some sophisticated equipments, e.g. Atomic Absorption Spectrophotometer, High Performance Liquid Chromatography, Gas Liquid Chromatography, Becquerel monitor for gamma radiation, Flame photometer, Spectrophotometer, pH-meter, Thin layer chromatography and so on.

## **GAPS AND DEFICIENCIES IN FOOD STANDARDS IN NEPAL**

Nepal routinely experiences quality-related trade problems, notably with India, for some food commodities, e.g. vegetable ghee (*vanaspathi*). There are some other SPS-related cases, e.g. the export of honey to Norway.<sup>35</sup> At times problems have also come up with the export of orthodox tea to Europe mainly on the ground of Nepal's non-compliance with pesticide residue level. It is a common knowledge that there is a lot to be done in this area and it is an immensely difficult undertaking to improve standards. Before one embarks on that goal, it is essential to understand current gaps and deficiencies in order to identify where improvements are necessary. That is the purpose of this section.

Standards are categorized as being of two types - generic standards applicable to different food commodities and horizontal standards related to contaminants, hygiene, additives and labelling etc., which apply to all food commodities. From the prospective of SPS, horizontal standards, which have more health consequences, are receiving much more attention.

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<sup>35</sup> For details, see Chapter 6 of this volume on SPS issues facing live animals and animal products.

For this study, detailed comparative tables of food standards were developed for most SAARC countries, including Nepal, for 19 food products.<sup>36</sup> The overall impression from this analysis is that harmonization of standards is moving at a slow pace, both among SAARC members and between SAARC and Codex standards. The following is a discussion of these points.

In SAARC countries, the standards were developed decades ago and not updated taking into account of advancement in science and technology, with the exception of India where standards are reviewed frequently. Thus, India takes the lead in the region on food standards, both horizontal and vertical. Nevertheless, the SAARC countries have a long way to go towards harmonizing standards with the Codex. In fact, the Codex does not even have standards for several important foodstuffs of the SAARC region, e.g. vanaspati ghee (hydrogenated fat), ghee, tea, coffee, and spices. It is important that the SAARC countries take a common stand in Codex for developing these standards. Codex standards are very much exhaustive, embracing physical, chemical and hygienic aspects, including permissible level of food additives, and maximum residue (of pesticides) limits (MRL) many food contaminants. Nepal itself has fixed these limits for a few preservatives, as well as permissible lists of approved colour with stated level of use.

Horizontal standards should be harmonized with Codex standards, as a general approach. However, it needs to be reviewed time and again while considering the specific nature of food processing industries and the type or variety of the food products manufactured by the industries. Therefore, the limits for food additives, food contaminants, food hygiene measure, and food labelling etc can be harmonized with codex taking cognisance of the specific needs of Nepal.

The food standards of Nepal and India are much closer for many fats and oil products, notably palm oil, palm kernel oil, palmolein, ghee, sunflower seed oil, corn oil, safflower seed oil, and vanaspati ghee etc. Food standards are also closer in Pakistan and Bangladesh.

Pesticides residue limits are very important for enhancing export potentials of food products, as Nepal already had some negative experiences on this account. There is an urgent need for a national monitoring programme for periodic assessment of their level of occurrences. Nepal has so far fixed limits for food-grains, pulses and legumes, skimmed milk powder, whole milk powder and mineral water. Codex has fixed safe limits of use for heavy metals such lead, copper, arsenic, tin, zinc, iron, cadmium, mercury, and methyl mercury. The best approach is to follow the Codex route for fixing limits for heavy metals.

Much variation exists in the use of approved synthetic food colours between codex and SAARC countries. Perhaps, it is hard to justify scientifically why the approved list is shorter or longer in these countries. In this case, it is worthwhile to accept codex standard for food colours to avoid unnecessary aberration even on the regionally traded foods. The Codex process for evaluating MRLs is elaborate. The

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<sup>36</sup> For space reason the tables are not shown here, but are available in the background study (Karki et al. 2003).



Codex Committee on Food Additives and Contaminants (CCFAC) considers all aspects of health consequences before approval.

Code of good practices and guidelines for safer food production practices need to be developed taking consideration of small farmers and production practices followed by countless number of small manufactures of value -added processing system. These small producers and manufactures need to be addressed adequately as this kind of profession is bread and butter earning jobs for Nepalese people. The standard development processes should visualize such ground of reality and likewise resources are allocated for such an important undertaking.

Harmonization of standards with Codex has some limitations, as there are differences in production technologies and cultural practices. The existing Codex generic standards need to be reviewed and updated taking account of small farming system of developing countries. Unless food databases from developing countries are included in a transparent manner, the very basis for developing international standards often gets questioned.

Comparison of Nepalese and Indian food standards, with Codex standard as a reference

#### *Commodities for which Codex standards exist*

*Honey:* The levels of hydroxymethyl furfural in the Indian and Nepalese standards are 80 and 40 mg/kg respectively while other parameters are identical. But there are wide variations with the Codex standard.

*Orange juice:* While the Indian standard has fumaric acid as an additional parameter, Nepalese standard includes “fill of the container” as an additional parameter. The Codex standard includes additional provisions for added sugar, ethanol content, essential oils etc.

*Tomato juice:* The Nepalese standard includes two additional parameters (fill of container and mould count), while Indian standard includes fumaric acid as a parameter. Both standards differ from Codex.

*Tomato ketchup/sauce:* The Indian standard contains fumaric acid, while “fill of container” is specified in Nepal’s case; all other parameters are identical. Codex standard contains different parameters, such as tin (ppm) and natural tomato solids.

*Wheat flour:* Nepal standard is strict in terms of protein content (8%) and ash DB (0.7%) compared with Indian standard. While Nepal standard does not cover flour treatment for bakery purposes, Indian standard allows benzyl peroxide and potassium bromate at 40 ppm and 20 ppm, respectively. Codex standard includes fat acidity in flour, fungal proteolytic amylase and other additives. The use of additives and enzymes and their impact on quality of flour and intended product needs to be ascertained in standardization work.

*Lentil (dehusked):* All parameters are covered except that Nepal standard is stricter in damaged grains (3%) and aflatoxin (20 ppb), compared with 5% and 30

ppb in Indian standard, respectively. The Codex standard provisions additional parameters such as broken seeds of different colours and discoloured seeds.

*Sugar:* Both India and Nepal have identical sugar standards, while the Codex includes additional parameters like polarization, invert sugar, conductivity ash, colour (ICUMSA) units, and sulphated ash etc. Harmonization of Nepal standard with Codex requires data for all Codex parameters so that the extent of compliance can be verified.

*Milk powder:* Nepal standard for skimmed milk powder and whole milk is harmonized with Codex except for acidity parameter, which makes the former stricter. Nepal has adopted milk protein and such additional parameters as contaminants, pesticide residue, heavy metals, mycotoxins, radiation, and food additives. Indian standard does not as yet recommend milk protein as a parameter.

*Edible oil:* Nepalese and Indian standards are very close for fats and oils (e.g. palm oil, corn oil and safflower seed oil etc). However, peroxide value, which determines rancidity on fats and oils, is included in Nepalese standard only. Nepal has taken a right approach in adopting Codex standards.

Adulteration of edible oil with cheaper oils has been a traditional common practice in Nepal. However, the situation has now improved with the growth modern oil expellers and refineries. Existing edible oil standards are not adequate to ensure purity of edible oils as they focus only on physical and chemical characteristics. Rather, fatty acid profile and lipid classification such as sterols would give better indicators for identifying the purity of edible oils.

#### *Commodities without Codex standards as yet*

*Ghee (from milk):* India has adopted triple range of BRR and RM values: Cotton tract have BRR 41.5-45, and RM value 21, other cotton tract areas have BRR 40-43, and RM value 26. Some other areas have RM value 24, 26, and 28 depending upon locations. Nepal Ghee Standard is strict in terms of RM value (28) and for other parameters such as RI, Acid value, and Peroxide value (meq/kg), and applied according to Codex practice.

*Vanaspati Ghee (Hydrogenation vegetable oil):* The Nepalese standard is stricter because of additional parameters such as peroxide value not greater than 10-mg/kg oil. Also, the minimum limit of unsaponifiable matter in Nepal's case is 1.2% versus 2% in India's.

*Coffee:* The coffee standard is harmonized between India and Nepal.

*Tea:* India has two standards for different regions. However, Nepal standard varies in some components such as crude fibre content not greater than 15%, whereas Indian teas have this component greater than 17%-18.5% for both types of teas. While Indian standard contains pectinase enzyme as one parameter, Nepalese standard includes caffeine content. On the whole, Nepal standard is stricter in terms of extract by boiling tea, and crude fibre.

*Spices:* The Indian and Nepalese standards are very close. In case of dried ginger, both standards are identical except for one parameter - insect damage, which is not included in Nepal's case.

*Biscuit:* Indian standard is more strict than Nepalese as the value for acidity of the extracted fat is not greater than 0.1% compared with not more than 2.5% in Nepal's case.

*Food grains:* Indian standard has more parameters, such as weavilled grain and foreign food grains. Aflatoxin levels for Nepal and India are 20 ppb and 30ppb respectively.

## **CONCLUDING REMARKS**

### **Main observations**

Current key Issues and constrains on food safety area relate to the lack of:

- A comprehensive policy on food safety, resulting in ambiguous enforcement by various agencies
- A preventive and proactive measure in food safety management
- Adequate consideration being given to horizontal standards such as limits for pesticides, heavy metals, mycotoxins, and food additives
- Good practices in production, processing and marketing
- Well equipped reference food laboratory to carry out tests on contaminants, food additives, GMOS, and other emerging environmental pollutants
- Repair and maintenance facilities for laboratory equipments
- An export inspection agency for inspection and certification of food products
- Lack of coherence between various laws, and lack of coordination between law enforcing agencies
- Inadequate capacity for equivalency, and MRA

### **Main conclusions**

- Existing food regulation has not addressed preventive approach to food safety management; it has mainly dealt with certain aspect of food adulteration only.
- The Food Act does not provide basic elements to be followed by producers, processors and food handlers.
- The minimum mandatory food standard is unable to cope with Codex system of standards and may pose problems with WTO-compatibility.
- The role of consumers and the correct flow of information system have hardly been envisaged in the existing regulatory framework.
- The current *modus operandi* does not involve in-process monitoring and assurance system to be practiced by producers, manufactures, handlers and traders.

## Key recommendations

### Policies, institutions and practices

- Updating and reviewing of food legislation should be expedited taking into account of SPS Agreement and preventive approach to food safety management.
- Capacity building (human resources, infrastructure and laboratories) efforts should be given topmost priority.
- Food safety strategy should be based on risk factors such as microbiological safety, food contaminants and some emerging risks like BSE, dioxins and PCBs.
- An integrated multidisciplinary approach to food safety should be adopted in the entire food chain (from production, processing and distributions including animal fed and other aspects of primary production).
- A preventive approach to food safety should be adopted to reduce risk of food contamination by addressing problems at source.
- Education and training about food hygiene and sanitary measures throughout the chain (including catering personnel and consumers) need to improve.
- Food producers, processors and distributors should have in-place control system according to HACCP approach.

### Legislation

The following provisions should be accommodated in the amendment of food legislation:

1. ***The new legislation should be framed considering the primary responsibility of safety assurance***, which is basically associated with in the food manufacturers and suppliers. The consumers should be provided with essential and correct information so that they can make a choice about the food they choose to buy. The success of assuring food safety to the consumers lies within the responsibilities of the producers, processors and consumers and more importantly with the effective and efficient food control agency which operates at the national or at the local bodies (like DDC, VDC and Municipalities).

2. ***Food safety assurance***: The basic principles of food safety assurance that are to be incorporated in the new amendment to the regulatory framework are as follows:

- Any food sold from the premises is fit for human consumption, is not adulterated, damaged, deteriorated or perished,
- The premises and appliances and utensils used must be kept clean and sanitary.
- Prepared food is kept or stored in safe

3. ***Compensation to the consumer***

- Compensation for any injury caused to consumer health due to the reason of consuming the food, which is not human consumable.

- The manufacturer or the importer of food article becomes responsible in compensating.
- Consumers are to be provided with essential and accurate information to help to choose appropriate foods such as GM foods, nutrition and food for specific dietary uses (NFSDU).
- The proposed legislation should cover areas such as food hygiene, additives, solvents, and materials in contact with food, contaminants, primary foods, and the control system.
- Specific labelling requirements have to be incorporated covering quantitative declaration of ingredients.

A confidence that the food industry adheres to compliance that is adequately monitored and enforced by control authorities is required for internal market to function efficiently. The control system provides powers to inspectors for sampling, and inspection of food products. This also empowers inspector to examine, record, seize or destroy foods that are unsafe for consumption.

As the existing legislation did not consider preventive safety assurance measure, the proposed legislation take should into consideration the proactive quality management dimension such as Good Manufacturing Practice (GMP), Good Agricultural Practices (GAP) and Hygiene Practice (GAP) and Good Veterinary Practice (GVP).

***A Food Council should be constituted*** comprising of relevant stakeholders such as agriculture, industry and trade, health, business communities, consumer forum and academicians for developing food safety policies. The purpose of the council is to review current measures and recommend for enhancing food safety assurance. Eventually this will become a forum for preparing national position on matters associated with food safety, quality, standards and risk aspects.

***Production practices:*** Implementing food quality assurance activity requires adoption of good practices in crop and animal production such as Good Agricultural Practices (GAP), Good Veterinary Practices (GVP) and in food processing such as Good Manufacturing Practices (GMP) and Good Hygiene Practices (GHP) etc. These good practices not only ensure the safety of foods to the consumers, but it also promotes trade without having any risk to rejection of consignment. The good practices include planting the certified best quality seed of appropriate varieties, using certified and authorized chemical inputs (fertilizers, pesticides) in accordance with approved dosage (concentration, frequency, timing of use) etc, employing appropriate harvesting and on-farm storing and handling measures, using right kind of shipping to market food products, proper slaughtering of healthy animals taking care of avoiding Veterinary drug residue in animal, tissues, plus utmost care in food hygiene, food handling, food processing such that unwanted microbes and contaminants are deliberately in the food chain.

***Laboratories, instruments and equipments needed for enhancing food safety programs:*** There is a wide gap in this area. Nepal needs many modern equipments if export trade is to be competitive. These include for example gas chromatography, high performance liquid chromatography, automatic amino acid

analyser, spectrophotometer, infrared spectrophotometer, automatic protein analyser, atomic absorption spectrophotometer, phase contrast microscope, near infrared spectrophotometer, polymerase chain reaction (PCR) and other inspection equipment and materials (see Karki et al 2003 for details).

**Human resources development:** As above, the gap between availability and requirements is very wide in human resources also. Detailed account of manpower requirements, including training needs, are also available in the more detailed background paper.

**Quality control strengthening activities:** To start an active quality assurance program, laboratories have to enhance confidence and reliability of analytical outputs. Several recommendations are made in this area, under three categories (details in the background study, Karki et al 2003): reviewing and updating current food law and regulation and improving the Food Safety Management; improvement of Food Inspectorate; and upgrading of Food Analysis Capability.

**Information and training on consumer awareness for safe and proper food handling and storage practices:** As they say, discipline begins at home, and better if it begins very early. Often, it is the lack of consumer awareness of food safety issues that complicates implementation. In societies, consumer demand for safe and hygienic foods drives the process of improvement. This is not in the domain of a ministry or agency, but a range of institutions, including schools, radio and TV has an important role to play here.

**Strengthening of Codex Contact Point and national Codex Committees:** There are several generic and horizontal standards developed by Codex. Besides standards, there are many good practices for improving quality and safety of foods. In order to participate activity in the codex work, it is essential to sensitise industries and their related organizations along with academia for developing national database and evaluate the implications of international food standards. Resources are required to strengthen capacity for Codex work and national data generation and thereby for active participation in Codex work.

**Strengthening of SPS National Enquiry Point:** SPS regulations (such as laws, decrees, or ordinances), or changes to regulations, technical regulations and standards all need to be notified to WTO through international web. The capacity of enquiry point requires strengthening in terms of exposure, training, documentation, and financial resources.

**Infrastructure requirements:** In order to cope with the current trend of food management system the existing infrastructure is unable to house laboratories, equipment and training facilities. Karki et al (2003) provide more details on the necessary infrastructures.

**Working towards Equivalency and Mutual Recognition Agreements (MRA) with India and others:** The issue of the equivalency is one of the major hurdles being experienced currently in agricultural trade between Nepal and India. To take one concrete example, India implements mandatory checks for monitoring pesticide residues on Nepalese vegetables. This check could easily take about one

week and also importantly checking facilities (laboratories) are not located in the vicinity of the boarder points.

In India, the Export Inspection Council undertakes inspections of designated food commodities before the products are exported. India has indicated that for an agreement on equivalency, which does away with double checking, Nepal should have a similar agency and arrangements. Even in the absence of such an agreement, the process of exporting Nepalese vegetables and other fresh products can be expedited if there was a sound system of monitoring the level of pesticide residues, including exchange of monitoring data among respective food safety agencies of the two countries. Given that trade is highly scattered and in small consignments, a further and preferred approach would be to recognize each other's monitoring data of pesticide residues from production sites themselves, rather than on the products. All this implies considerable effort and investment in building Nepal's capacity in monitoring pesticide residues for all important exportable food products.

In the emerging scenario across the world, Nepal should strive towards MRAs with India, at the regional level and with other countries. What is required is high standards in facilities, staff and processes, and importantly also in confidence building measures like regular contacts, visits and meetings. Given the present situation with technical standards in Nepal, this may appear impractical, but the cost in terms of lost trade of delaying this process would be very high.

Risk assessment: Nepal currently does not have the capacity to undertake risk assessment and thus to determine appropriate levels of protection. Developing this capacity requires a multi-disciplinary team from several subject areas, e.g. toxicology, epidemiology, microbiology, statistics, biology nutrition and food safety, and food science. Although developing such a capacity is a long-term process, some progress can be made with existing manpower and facilities, and by prioritising the work on some selected products, notably vegetables, tea, lentils and honey.

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