The Food Control Administration Unit (FCAU) of the Ministry of Health is in a quandary due to acute shortage of staff.

The FCAU charged with the responsibilities of carrying out the decisions of the Food Advisory Committee, drafting and publishing regulations, training of personnel, coordinating activities of all Ministries and Departments in the field of food safety, investigating national level complaints, import/export inspection and certification of food, coordinating activities with international organizations including WTO/SPS and Codex Alimentarius Commission (CAC) of the FAO/WHO in addition to all the administrative and educational work involved is virtually suffocating because of the workload and increasingly depleting staff position.

The Unit manned by the Director (E&OH), the Assistant Director - FCAU and 15 Food & Drugs Inspector was stretched to the end even with the full compliment of staff. Now there are 8 vacancies out of the cadre of 15 Food & Drugs Inspectors, many more due to retire soon, facing the bleak possibility of virtually closing down most of its activities. This prospect comes at a time when more and more activities are expected to be carried out in keeping with the international developments in food safety and the national obligations arising out of various international agreements are looming larger than ever.

There is little or no response for the number of frantic efforts made by the administration to recruit personnel from the cadres in the provinces. Negative response from the Public Service Commission (PSC) for recommendations sent to recruit personnel on contract basis from among the retired personnel has added to the misery.

(Continued from page 3)

IN THIS ISSUE......

* MICROBIOLOGICAL ASPECT AND STERILIZATION OF SPICES
* SHELF LIFE
* LABELLING & ADVERTISING
* BOTTLED WATER
* SCIENCE AND ETHICS
SPICES were recognized by the Egyptians 3000 years ago as having preservation possibilities. The antibacterial properties are found in the essential oils of the spices. Two of the most effective germicidal spices are cinnamon and clove. Cinnamon contains cinamic aldehyde and clove contains the ether eugenol.

Reports from western countries indicate that imported spices often have been accused of being heavily contaminated with microorganisms, insects, filth and all manner of undesirable adulterants. When one considers the areas in which they are cultivated, the tropical or semi-tropical conditions required for their growth, and the semi crude methods of handling, packing and transporting, it is little wonder that the bacteria counts may well run into the millions per gram.

Samples of ginger have been reported to contain 48 million total bacteria, 12 million yeasts and moulds, 26 million spore formers, and over 700,000 anaerobic spore formers per gram (Tjaberg et al.; 1972) reported that 14 of 20 spices contained Aspergillus flavus, and four of these spices supported growth of this mould and the production of aflatoxin. Julseth and Diebel (1974) obtained standard plate counts over 10 million per gram for black pepper, ginger and paprika, with over 10 million bacterial spores per gram. Without sterilization with either ethylene oxide or propylene oxide, these spices, when incorporated into food products, could easily pose a potential health hazard.

Fortunately growers are becoming increasingly aware of these problems and their previous shortcomings and are taking measures to process more cleaner products.

The simplest type of equipment for sterilizing spices and seasonings consists of a heavy, steel-walled chamber, about 8 to 10 ft. deep, and 4 ft. wide. The chamber is fitted with a lock-tight door with a recording temperature and pressure instrument. The chamber must be capable of withstanding at least 28.5 in. of vacuum and 10 to 15 lb. pressure. It is also desirable to have a heating unit within the chamber capable of raising the temperature to 10 to 15 degrees above room temperature. The only other equipment needed is a tank of ethylene oxide fitted with a pressure gauge and a supply line to the chamber. The chamber described would be sufficient to hold ten, 200 lb. poly-lined fiber drums or about twenty,100 kg sacks of spices.

After loading the chamber with the filled drums of sacks of spices or seasonings, the door is securely locked and the chamber evacuated to at least 28.5 in. of vacuum. The vacuum is held for about ten minutes and then released, replacing the evacuated chamber with ethylene oxide gas up to a pressure of 5 to 10 lb. The heat is turned on to a recorded reading of 90 degree F, and the chamber is held under these conditions for 8 to 10 hours. The sterilizing process is usually scheduled for overnight in order to have the material for production crew the next morning.

(Continued from page 4 )
Eventhough the vacancies have been advertised several times, the responses were less than encouraging. The reason for lack of enthusiasm from Provincial Food & Drugs Inspectors to apply is more than obvious. “More Work and Less Pay!” This is not an attractive prospect by any standard. The fact that a person who had attained a promotion from the Public Health Inspectors’ Service by virtue of proving his abilities in the field and passing a tought examinationation based on several criteria getting stuck at class I of the service to which he previously belonged to, without any further prospect of remunerational increase is bad enough. When he bocemoes the Food & Drugs Inspector he would have to look at the Public Health Inspectors Service with envy for he, if had remained in the previous service, would get into the Special Class drawing a much better salary. Furthermore there is some consolation of remaining closer home if he did not apply. There is also some chance of getting into the special class bracket if one remained in the Provincial Service whereas there is none at all at the central level, thanks to the indifference of the administration in the centre. That is the irony of it. It is indeed disheartening to note that the administration is blissfully ignorant of the importance of this service and more than ready to put the blame on this sector whenever there is some food safety problem highlighted by the media.

We are supposed to be one of the highly literate nations in Asia, but the claim is under question because our priorities are misplaced. In the Ministry of Health, only those who can hold the life of innocent citizens to ransom have their way. We call this the “Trade Union Terrorism” to which the Ministry responds positively, albeit with some reluctance for political reasons. Others who render yeomen service in the field of prevention of diseases are continued to be overlooked. Unless this anomaly is rectified, the possibility of good and able officials being drawn into this service at the central level would continue to be extremely difficult, if not impossible!

**FAO Workshop on Harmonization**

**Workshop on Harmonization** of Food Regulations in the SAARC countries was conducted in Taj Airport Garden Hotel - Katunayake from 25 - 27 November 2004. The workshop was organized by ILSI India and Food Control Administration Unit of the Ministry of Health, Sri Lanka. This is the third of the series of the meetings held in Nepal and Goa. The objective of the workshop is to eliminate substantial differences in food standards and other horizontal regulations among SAARC countries and harmonize them with Codex standards as the benchmark. Each country was assigned individual areas for collection and comparison of standards of all SAARC countries. Sri Lanka was assigned the task of comparing the Spices and Condiments in the region, while Pakistan, India, Nepal and Bangladesh were assigned Meat and Meat Products, Milk and Milk Products, Fats and Oils and Fish and Fish Products respectively. Although several areas of the regulations were harmonized there are still some areas where a lot of work need to be done. Concern was expressed by all participants on the lack of commitment of the Governments to quickly achieve this and the indifference shown by the SAARC Secretariat in facilitating this.

The next step recommended by the participants is to harmonize the vertical standards. this will begin with the next meeting scheduled to be held in Pakistan next year.

Mr.Klaus Ziller represented the FAO while Mr.Panadikar and Ms. Reka Sinha of ILSI India, Mr.S.Nagiah and Mr.Bandu Wanniarachchi of the FCAU formed the coordinating committee.
After the required conditions have been met, the supply of gas is shut off and the gas within the chamber penetrates the gas-permeable packaging materials and begins killing of the bacteria present. Such a process destroys 95 - 100% of the total bacteria present, all of the pathogenic organisms, yeasts and moulds, insect eggs and insects, and all other forms of living matter. Obviously, the process does not remove the evidence of insect fragments, larvae etc.; but once the product has been treated and used within a reasonable time, the spice or seasoning will no longer a significant health hazard.

The exact mechanism by which the bacteria, yeast and mould are inactivated is still unknown. Presumably, the essential metabolizing components of the cells contain chemical bonds that react with the ethylene oxide forming alkyl hydroxyethyl groups, which cannot be utilized by the cells, in their metabolic cycle and thus they die.

Upon completion of the sterilizing cycle, the chamber is vented and any residual ethylene remaining in the products is easily dissipated in the subsequent mixing and blending operations.

It should, however be noted that the use of ethylene oxide to control microorganisms has been questioned by many investigators. It has been reported that ethylene oxide reacts chlorides in food to form chlorohydrins. These are toxic and nonvolatile and persist in the food during processing.
SHELF-LIFE of food products is defined as “the time between the production and packaging of the product and the point at which it becomes unacceptable under defined environmental conditions.”

Regulatory authorities cannot prescribe periods of shelf-life for any given food. It is entirely the responsibility of the manufacturers of packers. On the other hand the regulatory authorities have the right and authority to verify the validity of the statement prescribing shelf-life on any food product. In other words, if the product on which a period of shelf-life is declared by the manufacturer is spoiled or becomes unacceptable the manufacturer, distributor and the seller becomes answerable under the law.

Since food must be safe and have an acceptable quality when consumed, the shelf-life is an essential aspect of food design the control of which is a requirement of Good Manufacturing Practice (GMP).

Food Legislation and Shelf Life

Food legislation in many countries requires most prepackaged foods to carry a date of ‘minimum durability’. The inference is that procedures have been established (by the manufacturers) for the shelf life to be evaluated. In the U.K. for instance, ‘Best Before’ date is the usual date mark required by legislation. The Best Before date must be replaced by the use by date when the food is microbiologically highly perishable and therefore likely to contribute an immediate danger to human health. In the Sri Lankan context the expression “Date of Expiry” is generally used although provision for the use of former terms also made. However, for legal purposes all the expressions implying shelf life period would be deemed to have the meaning of “Expiry”, the date after which the sale of the product is prohibited.

The ‘Best Before’ date is the date upto and including the date which the food can reasonably be expected to retain its specific properties provided it has been stored properly. Food may still be edible after that date, but its appearance and quality could suffer, for example crisp biscuits might become soggy. Watery separation and ‘setting up’ can occur in thickened foods in cans and jars while suspended particles tend to settle in thinner products. Oils can separate from emulsion products such as salad creams giving an unattractive appearance. Many food components change in the presence of oxygen.

(Contd. from page....)
What’s New in the Food (Labelling & Advertising) Regulations?

The new Food (Labelling & Advertising) Regulations - 2003 was published in January this year, repealing the Food (Labelling & Miscellaneous) Regulations - 1993 and would be in force with effect from 1 October 2004.

Why do we need regulations?

Food labelling is the primary means of communication between the producer and the seller of food on one hand and purchaser and consumer on the other. Food, unlike other commercial commodities is an absolute necessity for every living being. When people cannot produce food for their own consumption they have to procure it from others who have them, and those who have them in excess of their requirements would have to sell them, the proceeds of which are used for other purposes. Thus commences the commerce in food. As in any trade, there is a tendency for traders to make higher profit in food trade as well. In the effort to promote their products, manufacturers tend to give information to consumers in a manner that would attract consumers to their products rather than their counterparts. In the process they overdo the label description and advertisements to an extent of confusing and often misleading the consumers. As a result the consumers end up with products costing them considerably more than what they would have under normal circumstances.

The New Regulations

The new regulations attempt to rectify certain shortcomings in regulating the aspects of labelling and advertising of foods through the previous regulations. Although most of the salient features of the old regulations are also enshrined in the new regulations certain changes and additions are made to make it more effective.

New Features

The new regulations, in addition to most of the features contained in the old regulations require that -

Food Additives

Food additives be declared by name or numbers assigned by the International Numbering System (INS) for such additives.

Information on manufactures and distributors

The name and address of the manufacturer AND the name and address of the packer or distributor in Sri Lanka. This feature was specially deemed to be necessary in the context of imported foods where a violation takes place it has been found to be difficult to fix the responsibility or liability in the past.

Date of manufacture, Date of packing and Date of Expiry

This feature was deemed to be necessary to ensure greater transparency so that consumers can determine how old the food is since it was out of the manufacturing plant and make wiser choice. Once again this provision is more significant in the context of imported foods in bulk such as milk powder that are re-packed in Sri Lanka to eliminate the possibilities of the date of packing being displayed as the date of manufacture.
What’s New in the Food (Labelling & Advertising) Regulations?
(Continued from page 6.)

**Exemption from declaration of net weight**

The new regulations provides for exemption from declaration of net weight on the label of a product that does not exceed a surface area of 25 sq. cm. However, to do so, it requires the approval of the Chief Food Authority.

**Blended Vegetable Oils**

Another new feature that provides for labelling of vegetable oils. A blended vegetable oil, for example palm oil and sunflower oil when blended such oil can be described as either palm oil or sunflower oil, provided the oil by which it is described constitutes more than 75 percent of such blend. In addition, the constituents of the label shall be declare on the label.

**Misleading Labels**

The regulation prohibits descriptions on labels that refers to or are suggestive either directly or indirectly of any other product by words, pictorial or other devices in such a manner as to mislead the purchaser or consumer to suppose that the food is connected with such other product.

Artificial vinegar carrying a pictorial representation of any vinegar related plant is a violation.

Artificial drinks, other than carbonated soft drinks, shall not carry words such as “fruits” or pictorial representations of fruits on the label.

**Country of Origin**

In the case of imported pre-packaged foods usually the country origin is declared. Nonetheless there is no legal requirement that it should be declared, making it difficult to require the importers to provide the information. When food is imported in bulk form from dubious countries of origin in terms of food safety, there are chances of them being described as of another country that is safer.

**Exemption from declaration of net weight**

According to the previous regulations the requirement was to declare only the date of expiry in terms of year, month and date. However, in consideration of the international practices of declarations in other forms, the new regulations provides for declarations such as day, month and year and if the year is expressed in numerical form of two digits to declare them in a manner indicating DD/MM/YY or vice versa to avoid confusion.

**Nutrition Claims**

The regulations prohibits certain nutrition claims. For example no claim on protein content of a product can be made unless that product contains at least 12 grams of protein in a quantity that is reasonably expected to be consumed by an individual in a day and that at least 20 percent of its energy value is provided by the protein. Further the protein content should be expressed in grams per 100 g or ml of that food.

No label or advertisement should make a claim that a food is enriched unless that food contains added vitamins, minerals or amino acids in addition to what is naturally present in that food and the percentage available should be declared on the label.

Foods should not be labelled or advertised as fortified except with the approval of the Chief Food Authority. This is based on the concept that food fortification should be done in accordance with the national policies.
June 19 - “It is essential for health officials to update their knowledge and skills all the time, if they are to give a meaningful service to the public. I will do everything possible to fill the vacancies of Public Health Inspectors in the country through a special programme of training to be initiated soon, and I will supply them with motor cycles. I expect the officials in return, to build up the confidence of the public by performing their duties with honesty, integrity and devotedness.” - the Minister of Healthcare, Nutrition and Uva Wellassa Development Hon. Nimal Siripala de Silva made these remarks, paying a surprise visit at the seminar held for health officials - PHII and Health Education Officers in the Uva Province organized by the Planning Division of the Provincial Directorate of Health Services.

The Minister further observed that it is essential that PHII should enhance their competency in inspection of food products, including fresh fish which has a high potential for spoilage, and take action to prevent them from going to the homes of unsuspecting consumers.

The residential seminar at the Roebery Estate Training Centre was organized by Mr. Somapala - Food & Drugs Inspector Badulla. Mr.S.Nagiah AD/FCA and Mr.H.Tilakaratne, F&DI/FCA from the Ministry of Health participated as resource personnel.

A WHO funded five day programme on Food Safety and Hygiene was conducted at the HEB auditorium for 30 PHII during June 2004. The programme, while covering the general areas of implementation of the Food Act and Regulations, included topics on temperature control of potentially hazardous foods, HACCP etc. as new features. The participants were requested to provide feedbacks on the new activities carried out by them after the training.
FOOD SAFETY VIOLATIONS!

Fines imposed by various Magistrate Courts in the country in respect of violations of provisions of the Food Act No. 26 of 1980 exceeded Rs.1.9 million during the year 2003. The fines imposed covered a wide range of offences including insanitary conditions of food handling establishments, adulteration of food products, sale of food products after expiration of shelf-life, sale of contaminated foods.

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</tr>
</tbody>
</table>

It is becoming increasingly evident that violations of food law are on the rise. This is due to rapid urbanization, increased international trade in food, lack of knowledge of food handling and more importantly lack of consumer awareness. The figures quoted above are only the ‘Tip of the Iceberg’. The figures are incomplete and do not represent the real picture in the country and the problem is more complex and have far reaching implications than it actually looks.

The sanitary conditions of more than 75 percent of the catering establishments in leading provincial capitals including the national capital Colombo are below satisfactory levels. In most of these establishments, basic environmental requirements are not fulfilled. Proper hygienic practices are not followed. Food handlers have had little or no training in hygienic food handling. They have never been subjected to any medical examination to verify whether they are harbouring pathogenic organisms that could compromise the health of the consumers. In other words, considering the rapid increase of the expanding trade of ready to eat potentially hazardous food establishments and the projected increase of potential consumers, virtual time-bombs are ticking in most of the cities!

Food handlers should be trained on hygienic food handling on a continued basis by competent trainers and subjected to periodical medical examinations. Their knowledge on hygienic aspects should be tested and certificates issued. Continued monitoring of food handling establishments is an essential part of the surveillance system. Local Authorities that are entrusted with the responsibility under the Food Act should take note of this situation and act swiftly if we are to make any head-way!
FOOD SAFETY NEWS

FOOD FORTIFICATION TO BE REGULATED

The Food Advisory Committee (FAC) in a bid to regulate fortification of food in keeping with the national requirement has appointed a sub committee to prepare guidelines to regulate food fortification. The decision comes in the wake of several food companies adding various micronutrients to their food products and launching advertisements with various health claims misleading the consumers. The FAC is of the view that fortification of foods should be done in consideration of the national requirements, considering the needs of the population and therefore only fortification approved by the Chief Food Authority will be permitted.

NUTRACEUTICALS TO BE REGULATED

The Food and Nutraceutical Sub Committee headed by Professor Narada Warnasuriya is currently engaged in preparing guidelines to regulate Nutraceuticals in the market. The market is now flooded with food supplements with a host of health claims without sufficient substantiation. There is a confusion among the regulatory circles as to whether these products belong to food or drug - thus escaping regulatory procedures of either drugs or foods. Quite a number of them come under herbal preparations and sold at exorbitant prices. The guidelines are aimed at registering these products as separate entities and regulated. According to this products that are not registered with the authority will not be permitted for sale.

IODIZED SALT MONITORING UNDER MICROSCOPE

Representatives of Lanka Salt Ltd. and Puttalam Salt Ltd. expressed concern over the number of spurious brands of iodized salt available in the market at a very low price, compromising the effectiveness of the IDD elimination programme, at the meeting of the National Committee of Salt Iodization of Salt Programme held in the Ministry of Healthcare, Nutrition and Uva Wellassa Development under the chairmanship of Dr.Nihal Jayatillake, Addl.Secretary(Medical Sevices). They pointed out that these products flood the market through small scale salt producers with or without iodization. Often the salt in these products are substandard, contaminated and with extraneous matters, mostly sold in weekend ‘polas’ at a very low price than the products conforming to the standards. They pointed out that little or no action is taken by the Authorized Officers to curb this situation and if this continues, manufacturers of quality products would not be able to survive. The quality of Potassium Iodate procured through the private sector also was discussed. The possibility of obtaining quality potassium iodate from the SPC or the UNICEF was discussed.
Registration of Bottled Water Manufacturing Facilities.

It has been brought to the notice of the FAC that there are at least 300 brands of bottled drinking water manufactured in Sri Lanka are in the market and the chances are that the number would increase dramatically in the future. It was also revealed that the industry is growing by leaps and bounds because of the very high profit margins. The fact that water is almost freely available and this, when converted into the form of bottled water could be sold at a price comparable with petrol and at a price much higher than milk has led to this situation.

Recently there had been reports of water from the Beira River where even sewage water is discharged into, had been bottled in its raw form and offered for sale. Some people seem to think that merely transferring the water into clean looking PET bottles for convenience of the buyer is the only reason why consumers pay so much of money. The safety aspects of it had not even crossed their minds. Some who have invested sizeable sums of money and started it as an industry have little or no knowledge of the safety of water they produced. This situation has not only the serious potential for compromising the health of the consumers, it has also the potential to adversely affect the Tourism Industry of the country. More often than not, the unsuspecting consumers buy them with the safety of this product is monitored by the Health Authorities of the country and consume it, ending up with a dose of water-borne diseases!

Considering the nature and gravity of the problems involved the Chief Food Authority has taken a decision to regulate all the bottled water manufacturing facilities in the country, and also the bottled water imported into the country, by a process called Registration of premises of Bottled Drinking Water and Registration of Imported Bottled Water, including Natural Mineral Water. A draft regulations is in place and the modalities of registration are being worked out.

Therefore from the date of operation of these regulations, sale of bottled drinking water manufactured in any facility other than those manufactured / bottled in a premises registered with the Chief Food Authority would be an offense under the Food Act.

How Can I Register My Industry?

If you propose to start a bottled water manufacturing industry or if you are already an owner of one, you have to make the initial application to the Chief Food Authority (Director General of Health Services) with all relevant information. The Chief Food Authority (CFA) would then refer the application to the Sri Lanka Standards Institution (SLSI) for further action.

Why does the CFA refer to the SLSI?

Because the CFA has entered into a Memorandum of Understanding (MoU) with the SLSI that has the technical capability of providing guidance to the owners of the facilities to set up a safe system to ensure quality of the water and monitor the system on a continued basis so that it stays safe. This is done so in order to optimize the technical resources available in the country rather than doing on its own.

Does it involve any payment?

Yes. An initial processing fee and a final registration fee in the event of the facility being accepted as suitable for awarding registration, would have to be paid to the CFA. The SLSI also would charge a fee as may be determined for providing its services. (contd. from page.....)
Cholesterol Free

When a cholesterol Free claim is made, the product should be cholesterol free (0.005g per 100 g). Very often cholesterol free claims are seen as “Truthfully Misleading” claims. For example, vegetable oils do not contain cholesterol. But when a certain brand of vegetable oil makes a cholesterol free claim on the label, consumers have reason to think that the other brands of vegetable oils do contain cholesterol. Therefore when such claims are made in such products, it required that an additional statement indicating that such products do not contain cholesterol also should be made in same fonts in close proximity such statements.

The new regulations (amendment) also provides a guideline with conditions and parameters for various nutrient content claims such as ‘low energy’, free’, ‘low fat’, ‘fat free’, ‘low saturated fat’, ‘saturated fat free’, ‘sugar free’, ‘low sodium’, ‘very low sodium’, ‘sodium free’.

Health Claims

There are some provisions in these regulations regulating health claims. For example it prohibits statements such as ‘recommended by medical practitioner or association or professional body or any other word or device, pictorial or otherwise, which may imply or suggest that such food is recommended or prescribed.....except with the approval of the Chief Food Authority.

There are several national (Sri Lanka Medical Association) and International Associations are working on exact guidelines to regulate this aspect. Market is flooded with products with a host of unbelievable health claims and the regulatory authorities are in a quandary as to how these could be regulated.

There are food products enriched with certain vitamins and minerals and the promotion campaigns and advertisements in respect of these products dangerously boarder on consumer brainwashing. Although vitamins and minerals are scientifically proven to have specific beneficial effects on human health, the scientific information is used to coerce consumers to buy a product, whereas with a little knowledge of nutrition the consumers could derive the same benefit from cheaper sources. There are also products hiding under the “Herbal Product” categories with even more serious claims that cannot be scientifically proved or disproved and sold at very high prices. There are also products coming into the category of “Nutraceuticals”. The FAC has appointed a special committee to study the implications of these products and recommend ways and means to regulate them.

The regulatory aspect of “health Claims” is based on the principle that no single food, with the exception of specially formulate food such as infant formula and formulated liquid diets, will maintain health for a prolonged period. Therefore descriptions such as “health food”, “healthful”, and “healthy” should be avoided where they might infer that health will be obtained and/or maintained through consumption of individual products. Some foods may be nutritionally superior to others, but none on its own will give, restore or ensure health. A food may be described as “nutritious”, “wholesome” or “good for you” to refer to the nutritional value in a general way. Consumers usually infer from such claims that the product is a good source of some nutrients. These claims can be misleading unless it can be shown that the food in question is a good source at least one nutrient and that it cannot be obtained from other cheaper sources.
**IN BRIEF**........

**SEMINAR ON FOOD FORTIFICATION**

A seminar organized jointly by the ILSI India and the MRI on Fortification of Food with micronutrients was conducted in Trans Asia Hotel-Colombo on 30 November 2004. Minister of Healthcare, Nutrition and Uva Wellassa Development Hon. Nimal Siripala de Silva inaugurated the meeting, and Dr. H.A.P. Kahadaliyanage delivered the keynote address. Several distinguished speakers presented papers on various issues of fortification. An interesting discussion on food fortification and exaggerated claims by a company promoting milk powder ensued. Hon. Minister-Professor Tissa Witharana was particularly critical of the unethical approach of this organization and assured that all possible action will be taken against this company if this trend continued.

**ASIA-PACIFIC CONFERENCE ON FOOD SAFETY**

An important meeting represented by all members of the Food control System of all countries in the Asia-Pacific region was held from 28 to 30 May in Seramban, Malaysia hosted by the Government of Malaysia. In this conference all stakeholders shared their experiences, views and difficulties. Very important decisions likely to affect the administration of Food Control Systems were taken at this conference. Among the important decisions taken are:

1. Harmonization of Food Regulations in the region;
2. Establishing a network of food control systems;
3. Establishing/enhancing food control surveillance system;
4. Capacity Building in Food Control Administration;
5. Training needs of personne; Identifying Centers of Excellence in the region for providing appropriate training in food control systems.

On the request of the Medical Officer of Health and the Public Health Inspectors of this area, an awareness programme on food safety and proper food handling was conducted by the officials of the FCAU and the Provincial Health Services officials on October 9, 2004. During the discussions ensued it was more than apparent that the hotel owners/managers had little or no knowledge or skill in safe food handling and needs more frequent comprehensive training programmes. The state of sanitation of the area is more than appalling. No basic sanitary facilities and infrastructure had been provided, resulting in the entire seashore is fecally polluted by fisherfolks taking seasonal residence in the area. The local authority of the area seems to have little or no waste disposal programme whatsoever.

**AWARENESS PROGRAMME FOR HOTEL OWNERS**

Arugambay - a beach very popular among tourists all over the world is situated in Pottuwil in the Eastern Province. There are at least 48 catering establishments in this area.
Registration of ........

Is there a time-frame for granting of registration?

Yes. The time frame within which the registration is granted or denied would be stipulated in the regulations. How soon you will get the registration would depend on how you work with the SLSI by complying with all the requirements as directed by the SLSI and the CFA.

What do I need to provide?

One of the most important requirements is a safe source of water. This should be located in a pollution free and a potentially pollution free environment particularly if this is an underground source of water. The source should be adequately protected. A hydro-geological survey of the source should be carried out. The quality of the water and the quantity in terms of pronged safe sustenance of the industry should be evaluated. Microbiological and chemical safety are of prime importance. Physical qualities of taste and odour of the water cannot be under-estimated. An adequate building properly designed for the purpose and equipment of approved standards should be provided. A system of process as required with appropriate personnel with sufficient training required.

What type of training is needed?

Obviously training in the relevant role each position is necessary. Taining in management and other record keeping procedure are necessary. More importantly training in different aspects of safety and health surveillance are necessary. One important reason why bottled drinking water is regulated, is to ensure the safety of the consumers. Therefore the hygienic conditions of the facility, hygienic practices employed by the personnel, cleanliness of equipment - the health status of the food (water) handlers are important.

Why health consideration is important?

Water is a good media for transmission of certain communicable diseases. If a source of infection or contamination exists in a water processing facility, the water processed in the facility would certainly contain microorganisms responsible for communicable diseases. Some of the important diseases worthy of mention are Typhoid, Cholera, Bacillary Dysentery. If for instance a person who had contracted Typhoid earlier with or without symptoms has the potential of being a carrier of Typhoid and contaminate water for a considerable period of time without symptoms. A person suffering from a skin condition or skin lesion hand and infect the water. It is therefore important to ensure that persons suffering from an infectious disease are not working in the processing area. They should be declared fit to work by a qualified medical practitioner. Workers should be given appropriate training in safe food handling and hygienic practices. Workers should also be encouraged to report illnesses to the management without fear of losing their job or salaries. Managers should be trained in all these aspects and a specific responsible person should be appointed for this purpose. He should keep record of all “Health Related Events” and follow up in an intelligent manner to keep health hazards under control.

What is the role of SLSI?

SLSI facilitates the process of registration by providing technical assistance to the manufacturer particularly in establishing a quality management system. The system involves keeping records, assigning responsibilities and in-house monitoring on continued basis as per provisions

(Continued on page 14)
of a Memorandum of Understanding (MOU) signed between the SLSI and the Chief Food Authority.

The CFA reserves the right to grant or refuse registration of the premises after independent verification of the process / production in question.

Can the registration be revoked?
Yes. The registration can be revoked if during subsequent monitoring the CFA finds that the water produced in a given facility shows consistent failure in terms of safety. The revocation would be published and thereafter the facility cannot continue to operate. However, the facility would be given an opportunity to prove that the deficiencies leading to the revocation had been rectified and now in a position to comply with all the requirements.

What is a reassessment?
When all criteria for granting of registration are met, one of the conditions laid down in granting the registration would be to reassess the manufacturing of bottled water premises, including the source of water and the process periodically. This is done so to ensure the safety on continued basis. Eventhough the initial assessment proves satisfactory, there are chances of contamination of the water subsequently on account of the recharge are being exhausted and water from different area being sucked in. There are also chances that the consistency of the water quality being changed when a new industry started in the vicinity or other wells are dug. This would compromise the water quality and therefore a reassessment of the whole process including water source is required.

How do I label my product?
Labelling should be in accordance with the Food (Labelling & Advertising) Regulations. The common name should be either “Bottled Drinking Water” or “Bottled Natural Mineral Water” as the case may be. No directly or indirectly misleading statements should be made on the label. The registration number awarded by the CFA should be prominently printed on the label.

The seller of food products is generally responsible for compliance when food is sold to the consumer. However, in the case of manufactured foods a retailer would normally demand goods with sufficient remaining shelf-life to sell and for the consumer to store for a reasonable period of time before use. An inappropriate shelf life set by a manufacturer could conceivably lead to prosecution since a retailer would be able to demonstrate due diligence in accepting the manufacturer’s data. This is the reason why the new Food (Labelling & Advertising) Regulations requires that the name and address of the importer and packer or distributor in Sri Lanka in the case of imported foods so that responsibility can be legally placed on the main offender (importer / distributor). It must, however be borne in mind that, particularly in the case of large and reputed manufacturers of food products, there is inevitably a “recall-plan”, which means that products not meeting with expected shelf life expectations or other quality factors after releasing them to the market is usually in place and therefore determination of shelf life is almost entirely the responsibility of the manufacturers and not that of the regulatory authorities unless it can be proved that the product deterioration had occurred before the date indicated under recommended conditions of storage or display. Manufactureres usually take precautions to mark a date of expiry before a date at which the product begins to deteriorate under suggested conditions.

It is evident that small scale manufacturers in Sri Lanka specify a dates of expiry which are usually based on crude calculations rather than scientific shelf life determination procedures. Nevertheless the regulatory mechanism could step in only when the product failures are demonstrated prior to the specified date of expiry.

Significant sampling stages within the programmes of shelf life evaluation include:

1. The successful experimental kitchen or pilot plan batch. While scale-up to production will normally highlight some differences, this stage may precede lengthy development activities such as market research or plant construction, allowing longer storage experience to be gained.
Shelf-Life!

(Continued from page.....)

At this stage it is possible to investigate formulation, process or packaging changes to improve the shelf life without the cost of factory time and material quantities.

2. The successful full scale factory batch. This is the most important sampling stage as the food should be substantially the same as subsequent production and examination of samples of the product will provide data for the setting of shelf life and specification standards.

3. The first continuous production trial. Examination of products should carried out to ensure all aspects of product consistency.

4. Early runs of standard production not supervised development personnel. This constitutes the transition between the development and production stages. Examination of samples from these runs forms a major part of the development review, allowing a first opportunity to adjust the shelf life should the need arise.

As part of an on-going surveillance system, samples should be taken at suitable intervals for storage trial. The sampling interval should typically be 20% of the shelf life which will provide samples of 6 different ages from which to the full shelf life, for examination at any time. For long life products more frequent intervals may be useful to detect any changes in storage performance, while for shorter life products a frequency greater than monthly is usually unnecessary.

Shelf life samples should be subjected to conditions effectively stimulating the normal storage and distribution conditions the food is likely to encounter. For ambient stable foods this usually means normal room temperature and relative humidity, but as laboratory and experimental kitchen temperatures are likely to be higher than in warehouse, a store cooled to and maintained at the mean warehouse temperature may be required. For foods packed in impermeable packaging, relative humidity of the storage environment is unlikely to be important in influencing shelf life. However if shelf life is limited by moisture gain/loss (e.g. biscuits, cakes etc.) or if the food is packed in moisture sensitive oxygen barrier plastics such as ethylene vinyl alcohol copolymer (EVOH), control of the relative humidity becomes a major consideration. If performance in tropical or sub tropical conditions is required, similar storage conditions should be used as many chemical changes will be accelerated under these conditions. Similarly, if temperatures near or below freezing are envisaged, they should be used in testing as the conditions may destabilize thickeners such as modified starches.

Frozen foods are normally stored between -25 and -30 degree C for long periods by manufacturers and -18 degree C during distribution, retail display and in the home freezer. A realistic trial regime incorporating these temperatures should be employed, and, since frozen foods are frequently taken home after purchase in ambient or insulated containers only, a suitable period at an appropriate temperature should also be included.

Some foods such as jams, pickles, sauces, meat pastes, margarines and low fat spreads are normally used over a period of time after the packs have been opened, an open shelf life storage shelf life test should be included for these products.

As a general rule, samples of product retained for shelf life determination should be evaluated about 6 times during the assigned shelf life of the product. Thus, shelf life ‘fresh’ or chilled foods may require daily examination until they become unacceptable, while long life products, for example, canned foods, need to be evaluated once every six months.

As a shelf life scheme generates a substantial body of information, control and documentation of this information is important, especially if an large number of different products are involved and there is a continuing programme of
innovation and development. A convenient basis of control is the allocation of a number of each different product and a serial number of each batch of samples tested during development and the commercial life of the product.

Accelerated Estimation of Shelf Life

Production of foods of consistently acceptable quality with shelf lives adequate for their intended uses together with the correct communication to the consumer of their durability are important to the manufacturer, retailer and consumer. In a recent encounter a manufacturer of a food product had declared the shelf life of one of his product as:

6 MONTHS IF STORED BELOW 1 DEGREE CELCIUS

This declaration is clearly deceptive, although it can be argued to be technically correct. The consideration which is most important is that the food must reach the consumer in good condition and retain its quality for the period expected, including a period after the package has been opened if normal use implies this. The condition of normal storage and display referred to in the above label is not practical even in the supermarket.

Development of long life foods will normally require results in a much shorter time to meet product launch schedules. More rapid alternative techniques are available, but they should always be supplemented by normal condition testings for confirmation since it is hardly possible to predict the storage performance of a product under normal conditions with certainty from its behaviour when abused.

A number of accelerated techniques are in use. When using these it is a general rule that the more rapid the degradation induced, and thus the further from normal storage conditions, the less reliable the shelf life estimate is likely to be. Using experience of similar products, the likely shelf life of a new or modified product can often be estimated before any storage tests are done. A conservative shelf life with a generous margin of safety is given in this case so that the shelf life can be confirmed or modified as soon as accelerated and normal storage data have become available.

Raising the storage temperature will accelerate many ageing process and this is the basis of many of the accelerated methods. Storage at 30 to 33 degree C can give 2 to 3 fold increase for many, in particular, flavour changes. 35 to 40 degree C can bring about a 4 fold speed up of oil or water separation and facilitate tin dissolution in unlacquered cans. Storage at 55 degree C for a period of 4 to 6 weeks can show up instability in pickle and sauce products. Products that remains stable after this storage will probably be stable for a long time at ambient temperature; however, such high temperature has been shown to cause acid hydrolysis of starches in normally stable foods.

Cycling the product between 0 degree C and room temperature will accelerate watery separation in starch thickened foods. Absence of any separation after 30 cycles over two months normally suggests that the product will be stable for up to two years or more at ambient temperature.

Where oxygen causes flavour or colour changes in permeable packaging, high oxygen atmospheres will speed up changes, as will a high relative humidity if EVOH is used as the oxygen barrier layer. Storage of the products in a nitrogen atmosphere should also be considered alongside air or enhanced oxygen conditions so that the effects of oxygen can be isolated from those due to other changes.

Controlled shaking at 250 - 300 strokes per minute, to provide moderate product agitation for several hours will cause separation in unstable emulsion products.
SCIENCE AND ETHICS IN FOOD SAFETY POLICY

It is a well known fact that very few countries, if any, have written and articulated Food Safety Policy in the world. However some countries have some clearly stated positions on certain aspects of food safety and regulations to support them. Sri Lanka is no exception. In a recent expert consultation held by the FAO and WHO on these issues, the expert committee had made some valuable observations and they are thought provoking. Unfortunately though, the awareness of the deficiencies in Sri Lanka rests in the hands of a few stakeholders who have no wherewithal or ability to take decisions that could be implemented, or convince those who take committed decisions that could be implemented. The Health Ministry in Sri Lanka which is burdened with expenditure related to curative sector, and plagued with never-ending Trade Union confrontations has little or no time even to consider aspects of this nature even briefly how problems related to food safety, if left alone, could prove to be monstrous and even more politically sensitive than the present ones in time to come. The important and understandable phenomena is that the decision makers would take time to consider issues that are politically sensitive, notwithstanding how such acts or omissions would affect the country in long term developments. At present, the administration is doing only crisis management which includes fixing reponsibility or blame on some sector of its own set up when a problem is highlighted in the media that has a potential to be politically sensitive.

Even International Organizations collaborating in developing various plans of health sector developments seem to be oblivious to this. An International Organization that undertook to develop a “Master Plan for Health Development” at an enormous cost of hundreds of thousands of dollars on behalf of the Ministry during the last couple of years did not even recognize the existence of a separate Food Control System within the Ministry of Health. What is even worse was that those so called experts did not even stop to consider the issue in spite of concerned citizens and officials pointing out this deficiency ostensibly because they would have had to rewrite some of those chapters they have already written. As in most cases, the so called plans are to be confined to some impressive documents and eventually lost or forgotten anyway.

Food Safety and its regulations are of major international concern. Highly publicized food safety problems have given rise to a general state of distrust among consumers, the food industry, and the public institutions established to safeguard the food supply. Consumer activism has been driven largely largely by developed countries, but it is incorrect to assume that the citizens of the developing world are unconcerned about possible hazards in their foods. Often data the level of contamination is absent, and in many cases consumer organizations are inactive. The absence of proactive role of the Local Authorities is one of the major concerns.

With Globalization of the market and the binding provisions of the WTO Agreements pertaining to the quality and safety of food in international trade
governments of developing countries are increasingly concerned about international food safety standards and regulations that create barriers for entry of their food into international market. At the same time, consumers and regulatory agencies in developed countries are worried that poor capacity in developing countries is reducing the level of protection provided by international standards.

In spite of the power afforded by scientific knowledge today, its usefulness lies in the social goals that it helps to achieve. Scientific enquiry should be embedded in broad social values and underpinned by ethical principles.

Ethics refers to principles that define behaviour, action or rules for action (including policies) as right, good and proper. Such principles do not always dictate a single “moral” action, but they do provide a means of evaluating and choosing among competing actions. Statements on ethics include the articulations, defence and interpretation of such principles, as well as the application of principles to specific problems. Within ethical discourse, a range of perspectives accommodates and reflects the diversity of human experience.

Application of science is not separate from ethics. It is based on a series of decisions and interpretations, each of which is coloured by the values we hold. Scientific actions are founded on our shared interest in gaining a better understanding of the world.

In food science, and food safety science in particular, these values have always been implicit. the need to build and maintain trustworthiness in food safety system, however, demand more transparency. The values embedded in the decisions that underpin the system therefore must be defined and clarified to make decision making more transparent and to enhance understanding of the choices we exercise in ensuring food safety.

International Organizations such as FAO, WHO, WTO and more importantly Codex Alimentarius Commission have been persistently advocating Risk Analysis as one of the important tools for a science based food control administration system. Risk Analysis includes three phases viz. RISK ASSESSMENT, RISK MANAGEMENT and RISK COMMUNICATION.

Risk Assessment is defined as “The scientific evaluation of known or potential adverse health effects resulting from foodborne hazards. The process consists of the following steps: (i) hazard identification; (ii) hazard characterization; (iii) exposure assessment; and (iv) risk characterization.”

Risk Management is defined as: “The process of weighing policy alternatives in the light of the results of risk management and, if required, selecting and implementing appropriate control options, including regulatory measure.”

Risk Communication is defined as: “The exchange of information and opinions concerning risk and risk-related factors and risk assessors, risk managers, consumers and other interested parties.....Effective risk communication should have goals that build and maintain trust and confidence. It should facilitate a higher degree of consensus and support by all interested parties for the risk management options being proposed...”

Risk communication about food hazards, risk assessment and risk management should take as its primary point of reference the perspective of those affected by the risk. Risk communication should address the question of “Is this food, with these known risk, safe?” The concept of in popular language differs from the concept of safe among food scientists. In day-to-day language, “safe” is defined as:

“Safe: Free from danger; secure; free from risk; not involving danger; not likely to cause harm or injury.”
SRI LANKA - once upon a time a very prosperous country named as the “Grannery of the East”, has been at the receiving end of the food aids offered by various countries and International Organizations such as World Food Programme (WFP) for some considerable period of time.

Food, of course is an essential commodity for any living being and Food Aid cannot be over emphasized for a population that is facing possibilities of prolonged hunger and resultant malnutrition! Nevertheless, the fact that donor countries or organizations becoming increasingly taking a patronizing attitude towards recipient populations or countries and developing tendencies to ignore the norms or the laws of the recipients cannot be ignored.

“If international food aid takes place in the context of crisis situations, how are the ethics of the food safety system applied? To address food safety concerns of people in situations of distress in a trustworthy way, donors must understand that people in these situations have substantial reason for general distrust. International food aid, as an international allocation of foodstuffs, should therefore be subject to the same food safety standards as foodstuffs moving in the international trade........Food aid cannot burden recipient countries with ethical dilemmas regarding potential trade-offs between the need to feed a population, safety or other important national concerns. At the same time, deterioration in the quality and possibly the safety of donated food often takes place after food aid has reached the recipient country since, in food crisis situations, storage and transportation facilities and quality assurance measures are generally suboptimal.....”

- FAO Expert Consultation on Food Safety

It is a well known fact that Sri Lankan consumers are concerned about issues such as quality and safety of these hand-outs as highlighted by the media, and the possibility of unsafe Genetically Modified food products entering the food chain. It is therefore expected that donor organizations exhibit more transparency and play greater proactive roles as far as ethical, quality and safety issues are concerned.