

## **TRAINING COURSE ON “UPGRADATION OF FOOD TESTING SKILLS OF FOOD PROCESSING PROFESSIONALS” FOR AFRICAN COUNTRIES.**

### **Introduction**

With the implementation of WTO, the Global Food trade in times to come would be determined by the aspects like food safety; residual toxicants and contaminants already present or are introduced into the food products during the process of manufacturing, packaging, storage and handling; quality of food with most stringent specifications etc.. For the countries trying to export food to the developed world, it is becoming more and more difficult to comply with the stricter regulatory norms of the developed countries. Therefore, in order to comply to the regulatory requirements of food quality criteria, the developing countries will have to initiate and undertake capability building projects in the following areas of food safety:

- a) Sanitary and phytosanitary compliance
- b) HACCP compliance
- c) Assuring food quality, keeping the residues within MRLs
- d) Residue monitoring plan.
- e) Creating awareness and training of various stakeholders for food safety.

Shriram Institute for Industrial Research (SRI), a premier research organization since 1950 is an independent not for profit, self supporting contract research organization undertaking R & D activities in various fields. SRI is fully equipped in terms of both state-of-art- art facilities and expertise in various fields including Residue analysis, Microbiology, Toxicology, Pharmacology, Environmental pollution and Radiation Technology. SRI has been working on various areas of Industry sectors including the food safety of raw and processed foods. The expertise and experience of the Institute in dealing with different aspects of food safety would be a useful resource for the capability building projects of African Countries. Keeping the need of the developing world, in particular the African countries, a two-week training program for training the scientists of developing countries can be organized by Shriram Institute

The Government of India values its relationship with the African countries and dedicates its scientific expertise towards the capability building in different industrial sectors in African region. Under the aegis of Indo-African Forum Summit (IAFS-II), Government of India has allocated funds for the short term training programmes in different fields under the aegis of the Indian Technical and Economic Cooperation (ITEC) Programme besides other projects. This training programme is the part of IAFS II activities

### **About the workshop**

The workshop will focus on different aspects of food safety for raw & processed food. The workshop has been designed, with the sole aim of providing necessary knowledge plus hands on training on analytical techniques & methods for ensuring food safety..

### **Theory Lectures**

#### *I. Food safety and Global Trade*

- ◆ Food safety regulations ◆ Food safety standards & harmonization
- ◆ Food safety concerns : Global & Regional
- ◆ Food safety and the Global food trade
- ◆ Projects for African countries

#### *II. Areas of Food safety*

- ◆ A review of status ◆ Key issues

#### *III. Major Food safety issues*

- ◆ Contaminants and residues ◆ Food interactions and packaging
- ◆ Environmental pollutants ◆ Adulterants & banned additives
- ◆ Projects for African countries

#### *IV. Qualitative, quantitative & confirmatory techniques for determining the contaminants etc. in food products i.e. raw as well as processed*

- ◆ Heavy metals ◆ Pesticides
- ◆ Environmental pollutants ◆ Antibiotics/ Veterinary drugs
- ◆ Microbiological pathogens ◆ Mycotoxins
- ◆ Projects for African countries ◆ GMO's

#### *V. Analytical method development and validation for :*

- ◆ Labeling ◆ Chemoprofiling
- ◆ Projects for African countries

- ♦ Contaminants
- ♦ Nutrients & Functional foods

#### *VI. Shelf life and food safety*

- ♦ Technology options                      ♦ Practices in vogue
- ♦ Options for African countries      ♦ Projects for Africa

#### *VII. Value additions of food products*

- ♦ Process   ♦ Technology   ♦ Projects for African countries

#### *VIII. Quality systems*

- ♦ Standardization and Harmonization   ♦ Statistical quality control
- ♦ GLP/GMP                                      ♦ HACCP
- ♦ Inspection/ Certification                      ♦ Metrology and uncertainty of measurements

#### *IX. Sensory Evaluation for food safety*

#### *X. Path forward*

#### **Practical Laboratory Work:**

- ♦ Sample preparation   ♦ Extraction   ♦ Recovery studies
- ♦ Instrumentation: GCMS-MS, LC-MS-MS, ICP, AAS-VGA & GTA, GC, HPLC, ELISA
- ♦ Microbial organisms                      ♦ Sensory evaluation                      ♦ Toxicology
- ♦ Radioactive contaminants

#### **Deliverables:**

- ♦ State of the art capabilities on various aspects of food safety specially with respect to analysis of chemical and biological contaminants in raw and processed products of African countries attending this training will be improved.
- ♦ Trained scientists from different parts of Africa would be able to further give training to personnel from different sectors of food and farm products to carry out the work on residual analysis as per the requirements under the WTO and globalization of food trade.
- ♦ An established network of Indo – African scientists in the identified areas.

The participants of this programme will form a network and will aim to work in close coordination even after the programme is over. The objectives of the proposed programme would be met by the participation of the members from African countries.

**Duration:** Two weeks

#### **Who should attend:**

Research Scientists/Chemist /food technologists /technicians and other personnel working on quality monitoring, Certification and Inspection and related to the food industry, Government officials from the regulatory authorities from different African countries; manufacturers and exporters.

#### **Eligibility:**

The participants should be of :

- ♦ Less than 50 years of age
- ♦ At least graduate in science
- ♦ Working experience in research/ quality certification/ inspection/ regulatory affairs of food safety etc.

#### **How to apply :**

The participants are to be nominated by their heads of Institute/ Laboratory/ Organization through the nomination form enclosed herewith