
UNIT 15 TRACEABILITY STUDIES

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15.0 OBJECTIVES

After reading this unit we will be able to :

- define traceability;
- understand the rationale and objectives of traceability;
- understand the traceability tracing tools;
- understanding the limitations of traceability tracing tools;
- know the recommended steps to implement traceability; and
- know the India's experience in implementing the tools and traceability.

15.1 INTRODUCTION

The Uruguay Round of WTO saw trade in agriculture coming within the fold of multilateralism for the first time. All were enthusiastic, especially the developing countries. They saw a tremendous opportunity for their agricultural products and producers. They saw – we now know a little naively – the developed countries opening their doors to produce from developing countries. They saw in this an opportunity to finally, at long last work their way out of the vicious cycle of poverty their rural populations were struggling with for as long as they could remember. Their optimism had a definite basis. The WTO promised a rules-based regime for trade in agricultural produce and products. It signaled the possibility of an end to the bilateral exchanges, which were perceived to be unequal. Better market access through agreed reductions in tariffs

raised hopes. Coupled with promises on reduction in domestic support and export subsidies, the world indeed looked a rosier place for developing countries with a competitive agricultural base. In addition, there were two other agreements, *viz.*, the Agreement on Sanitary and Phyto-Sanitary Measures (SPS) and the Agreement on Technical Barriers to Trade (TBT). It seemed very reasonable to agree that since food trade did involve issues of food safety and public health, and since each country had a definite responsibility for these for their own citizens, there should be standards and guidelines to protect the global consumer from unsafe food and from being misled by inaccurate or fraudulent labelling.

Specific mention of Codex in the WTO texts was reassuring for the developing world. It took care of any apprehension that standards, whether for foodstuffs or for labelling or for any other regulatory activity, might be arbitrary. The fact that the SPS Agreement did permit countries to set higher standards than Codex was certainly worrying. But this was addressed by requiring any such deviation from Codex to be based on verifiable, scientific evidence. The fact that many developing countries simply did not have in place or even the means to put in place elaborate regulatory institutions and mechanisms was also addressed by appropriate documentation of the intent to provide capacity building assistance and so forth. For the developing world, however, the experience post – Uruguay can hardly be called satisfactory. The gains of the WTO rules-based regime, in the area of trade in agriculture, have proved to be rather illusory. Standards for ensuring food safety and fair trade practices seem to have negated any gains that may have accrued from market access promises. And while the developing world continues to struggle to meet existing standards, it is forced to look at and consider yet other requirements. And one such area that everyone is now being asked to address is TRACEABILITY.

15.2 WHAT IS TRACEABILITY ?

Traceability is the ability to trace the history, use or location of an entity by means of recorded information. For a product, it refers to the origin of the ingredients, the history of process applied, the distribution and location of the product after delivery.

Traceability is a tool to control quality, to find the cause of a quality problem, help in logistics and in rationalizing the process linked to logistics flow. It plays an important role in consumer safety, in allowing speedy and targeted recalls and withdrawal. It answers the requirement of regulations, and is a part of marketing in contributing to the protection of brand image.

The four main factors to allow traceability is identification of what has to be traced, recording of the related data, the links between all data recorded, and the communication of data. But to ensure traceability along the whole supply chain, there is inter-dependency of all partners involved, so there is a need for a common language, hence, the role of standardisation.

The whole supply chain is very complex and involves several companies, where various ingredients, components and packaging plays an important role. Thus, the scope of traceability system must be defined, what are the items that will be traced, which organisation will do it, an information system and the performance objectives.

Under the ISO Standard No. 8402, traceability is defined as the ‘ability to trace the history, application or location of an entity by means of recorded identifications’. The ISO definition of traceability also states that ‘all aspects of traceability requirements

should be clearly specified, for example, in terms of period of time, point of origin or identification’.

It implies that traceability may or may not be required or may begin at a certain point within the production chain or may end at a point before the end of the chain. Traceability may relate to -

- the origin of materials including raw materials and parts;
- the product processing history;
- the distribution and location of the product after delivery.

The issues which have a bearing on the subject of traceability are:

- a) The place of traceability in risk management;
- b) The use of traceability for product integrity, authenticity and identification;
- c) The use of equivalent measures;
- d) The practicability of traceability, and in particular the feasibility of its application in developing countries;
- e) Consumer confidence and information concerning the nature and origin of products; and
- f) The possibility of using traceability for liability and redress.

Several Codex Committees and Task Forces have initiated work on one or the other aspect of Traceability. It has been discussed by the:

- i) Codex Committee on General Principles (CCGP);
- ii) Codex Committee on Food Import & Export Inspection and Certification Systems (CCFICS);
- iii) Codex Committee on Food Hygiene (CCFH);
- iv) Codex Committee on Food Labelling (CCFL);
- v) Ad-hoc Codex Inter-governmental Task Force on Foods derived from Biotechnology; and
- vi) Ad-hoc Codex Inter-governmental Task Force on Animal Feeding.

Since the nature of discussions is significantly different in each of these bodies, and there are chances of having different interpretations of the meaning of ‘traceability’ and different approaches of handling, the issues that may arise within the Codex System, the matter was taken up in the Codex Alimentarius Commission so that means of dealing it within the framework of Codex remains uniform.

15.3 RATIONALE AND OBJECTIVE OF TRACEABILITY

The application of traceability could be on account of:

- 1) Human health and safety;
- 2) Other non-health consumer interest like, quality or to ascertain the genuineness of a particular declaration, like ‘organic’ nature of food product; and
- 3) Fair practices in food trade.

There could also be a combination of these objectives.

15.4 TRACEABILITY AND CODEX

The matter of traceability has been raised in several Codex Committees and Task Forces. Whereas, the European Union, perhaps, with the exception of UK, has been advocating a comprehensive application of traceability to all the food products, there have been countries, like United States, who have argued for a limited application of traceability. The US insisted that traceability (termed as ‘trace-back’ by them) should be made applicable only on the basis of food safety or public health protection. In fact, the US view has been that traceability *per se* is not specifically designed to assure safety nor should it necessarily be a prerequisite for assuring food safety. The US uses the system of ‘trace-back’ to directly address the recall of products for food safety reasons. The purpose of trace-back is to locate and, as necessary, removing a food or food ingredient(s) from the market place when a specific public health problem has been identified. It has been further emphasized by the US that a plan for monitoring should be determined based on specific concern associated with a particular product. It is inappropriate to require costly and onerous traceability programme for all products when a need for traceability is limited to exceptional situation. This view has also been endorsed by countries like Argentina and Brazil.

15.4.1 Evolution of Discussion in the Codex Framework

- 1) During the 24th Session of Codex Alimentarius Commission (July 2001), the Codex Secretariat submitted a draft discussion paper on traceability. The paper stated that the extent to which it may be applied to protect the health of consumers may be considered as part of a food safety risk management decision that would assume the ability to demonstrate the presence of a food safety risk and that it needed to be managed through traceability to achieve the Appropriate Level of Protection (ALOP) in a cost effective manner. The paper raised a question whether traceability needed to be applied throughout the production and distribution chains or only to some part of the chain. The paper also mentioned that the use of traceability “to ensure fair practices in the food trade” correlates to the “prevention of deceptive practices” as a legitimate objective described by the WTO Agreement on Technical Barriers to Trade.
- 2) During the 49th (Extraordinary) Session of the Executive Committee (September 2001), it was recommended that CCGP should consider traceability as a food safety objective (SPS measure) and as a legitimate objective (TBT measure). The Committee was of the opinion that consideration should be given to the use of traceability/ product tracing as a risk management option within the Working Principles of Risk Analysis and also noted that CCGP, CCFICS, CCFH and CCFL needed to undertake work as deemed appropriate within their respective mandates.
- 3) During the 50th session of the Executive Committee (June/July 2002), it was agreed to retain both aspects (SPS and TBT) without mentioning the priorities, but indicated that first consideration should be given to the use of traceability/ product tracing as a food safety risk management option (SPS measures).
- 4) During the 20th Session of CCGP (May 2004), the following definition of traceability/product tracing was agreed upon. The definition was adopted at the 27th Session of Codex Alimentarius Commission (June/July 2004).

“ Traceability/product tracing is the ability to follow the movement of a food through specified stage(s) of production, processing and distribution.”

- 5) During the 13th Session of CCFICS (December, 2004), divergent views were expressed by the members. A number of delegations expressed the opinion that there should be no reference to fair trade practices in developing the document on application of traceability/product tracing and that it should be used only as a risk management tool for the purposes of ensuring food safety. The Committee agreed on the need to develop principles for the application of traceability/ product tracing in the context of food import and export inspection and certification systems and it was decided that a proposal for new work should be discussed at the 28th Session of the Codex Alimentarius Commission (July 2005). In this context, it was also agreed that a revised set of principles would be circulated for discussion by a working group and that if the proposal for new work was approved by the Codex Alimentarius Commission, then the proposed draft principles as prepared by the Working Group would be considered at the 14th Session of CCFICS during Nov./Dec. 2005.
- 6) Based on the results of the meeting of a physical Working Group held in Brussels during 12 – 14 September 2005 and the comments submitted by countries the Chairperson introduced the “Draft Principles for the Application of Traceability/ Product Tracing in the context of Food Import & Export Inspection and Certification System” during the 14th Session of CCFICS. It was also informed that the Working Group had developed consensus on a number of key themes as follows :
- Traceability/product tracing is a tool that does not in itself improve food safety and/or fair trade practice outcomes unless it is combined with a relevant measure or requirement;
 - It is not compulsory for an exporting country to replicate the traceability/ product tracing tool of the importing country. They need to meet the objectives of the importing country’s food inspection and certification system;
 - The concept of traceability/product tracing as a tool is that it should follow food one step forward and one step back; and
 - Importing countries should be prepared to explain to an exporting country what are the objectives and outcomes of its food inspection and certification system when they incorporate a traceability/product tracing tool.
- 7) Some delegations felt that the proposed draft principles should be closely linked to food safety. The Chairperson expressed the view that the text had been carefully drafted to take into account the dual mandate of the Codex. The representative of OIE, supporting the proposed set of principles, suggested that countries should be provided with guidance in setting up a traceability system that covered the entire food chain without gaps and duplications. This was not accepted by the Committee, which, however felt that a food inspection and certification system without traceability/product tracing tool might meet the same objectives and produce the same outcomes as a food safety inspection and certification system with a traceability/product tracing tool.

The Committee also noted the need for giving consideration to the capabilities of developing countries and longer time frames and flexibility for application and designing of the traceability/product tracing tool and agreed to include necessary provisions in the document. The Committee, however, felt that these flexibilities should not compromise the safety of exported food and should not be interpreted

as the possibility to derogate from the rules of the importing country. The text included a provision stating that in deciding whether and how to apply the traceability/product tracing tool, the competent authority should take account of the assessed food safety risks and/or the characteristics of the potential deceptive marketing practices being addressed.

The Committee, thus, agreed that a traceability/product tracing tool should be implemented, when and as appropriate on a case-by-case basis, that it should not be more trade restrictive than necessary and that it should be transparent, practical, technically feasible and economically viable within the food inspection and certification system. The text also incorporated a provision stating that if, in the context of a traceability/product tracing tool, an importing country has objectives or outcomes of their food inspection and certification system, which cannot be met by an exporting country, the importing country should consider providing assistance to the exporting country, particularly a developing country.

- 8) A number of countries felt that since the principles were closely related to the *Codex Principles for Food Import and Export Inspection and Certification*, these should be appended to the *Codex Guidelines for the Design, Operation, Assessment and Accreditation of Food Import and Export Inspection and Certification Systems* and not a stand alone Codex text. The Chairperson, noting that since either way it did not impact significantly on the application of the principles, suggested moving it forward as a stand-alone document. While some delegations strongly objected to this position, the Committee proceeded with the decision and agreed to adopt the document. However, no decision was taken with regard to further development of the document into guidelines.
- 9) The 29th Session of the Codex Alimentarius Commission held in July 2006, adopted the draft principles for traceability/product tracing.
- 10) There was, thereafter, a suggestion to develop a guidance document for governments for the implementation of traceability, but the suggestion did not gather enough support for the reason that it was felt that countries, owing to different situations, be left free to develop their own guidelines for its implementation.

15.5 COMPONENTS OF THE TRACEABILITY/ PRODUCT TRACING TOOL

- a) The food supply chain is very complex and involves several companies, wherein various ingredients, components and packaging as well as the process of inspection play an important role. Thus, as stated earlier, the objective and scope of applying a traceability/ product tracing tool will need to be defined, what is to be traced, who will do it, an information system and the performance objectives. In selecting the items sought to be traced, there are a number of other factors that would also need to be ascertained, such as, the origin of food ingredients, processing history, definition of the batch, links between manufacturing batches, methods of production, methods of analysis, storage, personnel involved, the entire supply and distribution chain system, etc. It may also be necessary to establish product integrity, authenticity and identification at all the stages for consumer confidence in the context of food inspection and certification system. It might also need to address liability issues and redress mechanism.

- b) The context of traceability incorporates different features of the process of implementation of HACCP/GMP etc. in food businesses requiring record keeping at relevant stages of the value chain, where practicable. It also provides for preserving product identity. It is acknowledged that traceability/product tracing is not an end in itself but an instrument seeking to achieve the particular objective(s), such as production of safe food and protection from unfair trade practices.

Check Your Progress Exercise 1



Note: a) Use the space below for your answers.

b) Compare your answers with those given at the end of the unit.

- 1) What is Traceability according to ISO definition?

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- 2) What are the objectives and rationale of traceability?

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- 3) What are the components of the traceability tool?

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15.6 LIMITATIONS OF IMPLEMENTING THE TRACEABILITY/PRODUCT TRACING TOOL

- In countries where the product, raw material, ingredients and components are produced by SMEs or in a co-operative structure or are procured through the market systems in smaller volumes, the backward identification of the product becomes quite difficult.
- Where the raw material, ingredients or components are of such nature (e.g. liquids or sometimes even solids) that these are inseparable, tracing to its source is impractical.

- In some developing countries, due to small farm holdings, farm production is in very small volumes. Marketable volumes are built up at the collection centers before being taken to a packing house or processing center. In such situations, traceability/product tracing is possible only up to the stage of a packing house or processing center and not up to the primary level, unless an extra effort is put in place to bring in the small holdings into the fold through a grower group or through the system of recording data of the chain-of-custody.

15.7 ALTERNATIVES TO THE TRACEABILITY/ PRODUCT TRACING TOOL

- 1) At the primary level, group farming with an internal control system and record keeping can be a feasible alternative. In such alternative systems, random checks for food safety needs will work out to be cost effective to the farmer or producer.
- 2) Food safety controls through HACCP/GMP etc. applicable according to the size of the operation including checks of contaminants and appropriate labelling of batch/lot numbers with expiry dates, where applicable take into account the concerns of traceability needs.
- 3) Management of non-conformities pointed out by food safety experts from within or outside the production system with respect to the required rules and procedures as well as regular training of manpower involved in the production process.
- 4) Regular documentation of inputs and practices followed in the production system that facilitates identification of the possible reasons of contamination in food.

Application of the alternatives would depend upon the nature and extent of risk involved that should be determined on the basis of necessary risk management needs and the stage at which the alternative(s) should be applied should also be identified.

15.8 RECOMMENDED STEPS FOR THE APPLICATION OF TRACEABILITY/ PRODUCT TRACING TOOL

The following steps can be followed by countries for the application of traceability/product tracing tool in the context of food import and export inspection and certification system:

- i) Identification and communication of the objectives and scope of traceability/product tracing by the importing country to the exporting country as required in respect of the specified product along with Performance Objectives.
- ii) Identification and communication of what is to be traced and, if appropriate, stage of the food chain as a risk management option. The recommendation may also state the suggested method of analysis, need for relevant data (e.g., origin, processing history, storage, personnel), establishment of links between the recorded data, establishment of the integrity/authenticity of the links and liability/redress mechanism, if applicable.
- iii) Provide information to the exporting country about the possible causes of the risk, nature and extent of the risk and the assessment of risk by not applying the traceability/product tracing tool. This assessment would apply to concerns relating to food safety and deceptive marketing practices.

- iv) The importing country should suggest possible cost effective alternative yet equivalent measures (e.g., HACCP, internal control system, record keeping, random checks or other means to facilitate identification of the possible means of contamination, lot/batch numbers, labelling, management of non-compliances) to address the risk concerns without the use of traceability/product tracing tool to ensure protection from the assessed food safety risks and deceptive marketing practices on a case-by-case basis depending upon the nature of the product and production/marketing practices.
- v) The importing country should also take into account that when and as appropriate a traceability/product tracing tool is to be implemented, it should be transparent, practical, technically feasible and economically viable and that it should not be more trade restrictive than necessary.
- vi) The extent of application of traceability in the food chain should also be established taking into account evaluation of the various alternatives referred to above to achieve the same objective.
- vii) Application of the traceability/product tracing tool should adequately address the needs of the developing countries and their traditional practices and may be applied as a food safety objective (SPS measure) and as a legitimate objective (TBT measure).
- viii) The exporting country should be able to establish that the alternative measures selected for application would appropriately address the risk concerns of the importing country without the need for application of a traceability/product tracing tool.

It must not be forgotten that traceability is only a tool for the establishment of product authenticity, reliability, identification of the problem areas for the purposes of tracking and product recall. Food safety will come with the implementation of appropriate practices like Good Agricultural Practices, Good Manufacturing Practices, Good Handling Practices, HACCP, ISO-22000 etc. coupled with Quality Management Systems.

15.9 INDIA'S EXPERIENCE WITH TRACEABILITY– THE GRAPE STORY

Computer-based traceability systems have virtually been absent in India for quite sometime, particularly, in the agri. business sector. Some organisation did make an attempt to introduce it processed foods through bar codes, mainly with the angle of inventory management and prices. Some grape exporters also initiated work on traceability solutions to meet the product integrity needs of their super-market buyers.

During 2003, on account of a trade issue between an Indian exporter and a Dutch importer (who sought to apply undue pressure on an Indian supplier), Indian grapes suffered a major set back in UK, the Netherlands, Belgium and Germany. The European Commission had issued at least 17 rapid alert notifications about the presence of pesticide residues in excess of the Maximum Residue Level (MRL) values prescribed by these countries. APEDA launched an investigation to ascertain the reasons for the alerts. It was found that there were certain flaws in the vineyard registration system, pesticides were being sprayed after sampling for laboratory analysis, the sampling system itself was improper, there was lack of awareness and training, appropriate

equipment for residue analysis was not available with the laboratories, the methods of laboratory analysis were not appropriate and above all there were rapid changes in the MRL values by the European Union (EU) countries, which none of the stakeholders were able to keep track of. In addition, the French manufacturer of a pesticide called Lanet (methomyl) that is banned in the EU market started pushing sales of their stocks in India by the use of inappropriate and misleading promotional literature, in which the simple and lesser informed farmers of Maharashtra, A.P. and Karnataka eventually found themselves trapped.

Thereafter, a series of steps were taken in India to control the presence of residues. The steps included up-gradation and recognition of residue testing laboratories, revision in the export standards, recognition of horticulture pack-houses, awareness and training programmes at all levels, regular monitoring by agricultural officers in Maharashtra, Andhra Pradesh and Karnataka (which are the main grape exporting states), streamlining of sampling and testing procedures and setting up of a National Referral Laboratory (NRL) for grapes at the National Research Centre for Grapes (NRC), Pune. NRC is an ICAR (Indian Council of Agricultural Research, Ministry of Agriculture) institution involved in research activities in grapes.

The NRC was sanctioned an amount of about US \$ 1.2 million in December, 2003 by APEDA to set up a state-of-the-art laboratory with the most sophisticated equipments to enable them to function as a NRL and monitor the functioning of the farmers and laboratories with a view to ensuring export of grapes within the prescribed residue levels. Within two months, the NRC procured the necessary equipment and made a make shift arrangement within their premises and started functioning. In the meantime, work relating to construction of the NRL building was initiated. Soon, a full-fledged NRL was in place for the first time in the country. It is estimated that APEDA would have spent more than US \$ 3 million during 2003 to upgrade various facilities in the laboratories, pack-houses and on training at all levels. If one looks at the process of regulation of grape exports to the European Union through control of pesticide residues (APEDA's website – www.apeda.com – can be seen for details), it would be observed that it was one of the most complex residue monitoring documents one may have witnessed. It was, primarily, aimed at bringing about a credible mechanism to ensure export of residue-free grapes with a trace back system.

The initiative helped in containing the presence of pesticide residues within the prescribed levels and it is note worthy that after the 2003 episode, there was not a single case of rejection on account of the presence of pesticide residues in excess of the MRLs. In about a year's time, it was felt necessary to initiate efforts to ensure that the quality of Indian grapes improves. Truly, the 2003 event was a blessing in disguise, thanks to the Dutch importer who woke us up from the slumber and really put the Indian grape business on its toes.

The residue monitoring procedure introduced after the 2003 episode contained a large number of documents (approximately 18 documents) that were required to be maintained by the farmers and the exporters. This document provided a possibility of complete trace back of the grapes from the supermarkets to vineyards located in the three states. The grape seasons of 2005, 2006 as well as 2007 continued to show a positive trend in the quality and safety of table grapes. However, the system was quite complex and the unstinted efforts on the part of all stakeholders encouraged APEDA to make use of IT tools to electronically demonstrate application of traceability and implementation of the residue monitoring procedure. The objective was to eliminate

possible human errors and, at the same time, create a mind set among the stakeholders adopt current technology in agriculture business.

Independent modules of the web-based software applications were introduced in 2006, which were then integrated in 2007 to provide linkages required for traceability. This was the most important development introduced for the first time in the country. This software, titled, 'GrapeNet', was launched by Mr. Jairam Ramesh, Hon'ble Minister of State for Commerce & Industry, Govt. of India.

The GrapeNet was implemented with minimal cost implications for the farmers and exporters. It enables tracing the origin of produce right up to the farm at the click of a mouse. The software helped close to 40,000 farmers, over 150 exporters and about a dozen laboratories in three states come together and adopt uniform farming practices. The success of implementation of the GrapeNet motivated APEDA and stakeholders in the grape business look at simplification and bring about total reliability in the procedures through introduction of a bar code for registration of each farmer through a unique identification number and traceability.

A number of modifications were made by APEDA before the 2008 grape season, which included single window clearance of grape shipments and minimizing paper work through creation of database of all farmers, pack-houses, laboratory analysis, grade classification of grapes and phyto-sanitary certification. This was possible only through a series of interactive meetings with the stakeholders over one year.

15.10 THE VISION

- a) Subsequent steps that can be implemented in the grape traceability system are :
- (i) linking of the laboratory testing equipment to the software so that the testing results can be directly uploaded to the software. This would eliminate the possibility of errors in data entry and manipulation ;
 - (ii) Further, container details can be linked to the software of shipping lines so that location of the consignment with details of the shipment can be tracked ;
 - (iii) In addition, GrapeNet software can also be provided an interface with the Customs database, where the shipping bill for export shipments is filed with the customs authorities. This would further minimize the possibility of errors while creation of the shipping bill.

Once these additional linkages can be provided to the software, it would provide a complete traceability solution available to any stakeholders in India or abroad.

- b) Looking at the success of the GrapeNet software, APEDA has introduced a similar software-based traceability system for pomegranates and is currently in the process of developing more software modules on similar lines for mangoes, honey, cereals, groundnuts and organic products. Eventually, it should be the aim of the Govt. to provide such traceability solutions for all horticulture products, processed foods and other commodities including tea, coffee, cashew nuts, spices, tobacco, rubber, etc. If this can be done by India in the near future, India's position in global agricultural trade will come to the forefront and India would become one of the most credible suppliers of food products with complete trace and tack mechanism. The process would also enable the Govt. to have real time information on agricultural exports from India.
- c) Ideally speaking, Govt. might consider implementing the farmer registration system for traceability purposes by recording the plot area, input and production details with the help of GPS and linking the details with the Kisan Credit Cards based

on which each farmer is bar-coded and provided a software based interface with the softwares like GrapeNet, AnarNet. APEDA has already started work on GPS based registration of farmers in the organic sector for ensuring the credibility of organic products exported from India.

- d) Traceability systems on similar lines should be introduced for pharmaceutical products, particularly, from the angle of authenticity, which has become an important requirement in major markets. It may be recalled that the US FDA has already introduced e-Pedigree, a software based traceability tool, for marketing of pharma items. The US is a major market for Indian pharmaceutical products.
- e) Eventually, such mechanisms should be introduced for the domestic market as well so that the Indian consumers can equally benefit from this system. The process would also provide a possibility for the farmers to take advantage of the traceability system to realize a fair price for their work on the field.
- f) Looking at the trends in the global market, it would be useful to set up an institutional mechanism in India to implement traceability in all agricultural products and commodities, processed foods and pharmaceutical items to ensure product reliability and authenticity with built-in features for safety of plants, animals and human beings. GS-1 provides internationally recognizable tools, but implementation will have to be the responsibility of the Govt.

 **Check Your Progress Exercise 2**

Note: a) Use the space below for your answers.

b) Compare your answers with those given at the end of the unit.

- 1) List the limitations of implementing traceability?

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- 2) What alternative measures can be used in place of traceability?

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- 3) What are the recommended steps for application of traceability tool?

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15.11 LET US SUM UP



As a result of coming into existence the World Trade Organisation (WTO), the access of world market has become possible for food commodities from any part of the globe. However, the product to be traded in the international market should be manufactured in accordance with globally accepted norms and standards. We must be aware about the practices adopted in the production, transportation and retailing. Therefore, food safety and quality management system must be properly adopted throughout the food chain. Traceability is a tool to control quality, find the cause of a quality problem, and to help logistics and rationalizing process linked to logistics flow. Protection of human health and safety, ascertain the genuineness of a particular declaration like organic nature of food product and fair practices in food trade are the objectives of traceability. Codex Alimentarius Commission is also concerned about traceability. The context of traceability incorporates different features of the process of implementation of HACCP/GMP etc. in food business and keeping their record. Where the raw material, ingredients or components are of such nature that they are inseparable, tracing their source is impracticable. In some developing countries, due to small holdings, farm produce is in very small volume and before marketing, the produce from several farmers has to be combined under such circumstances it is very difficult to trace back the products. Group farming with an internal control system and record keeping, management of non-conformities pointed out by food safety experts, regular documentation of inputs and practices followed in the production system may be the alternatives in place of traceability. In import or export inspection, the importing country may provide information about the possible cause of risk, nature and extent of risk and the assessment of risk by not applying the traceability. At the same time, the importing country may suggest possible cost effective alternative yet equivalent measures such as HACCP, etc.

15.12 KEY WORDS

Risk	:	Possibility of suffering health hazards.
NRC	:	National Research Centre for Grapes.
NRL	:	National Referral Laboratory.
MRL	:	Maximum Residues Limit.
GAP	:	Good Agricultural Practices.
GMP	:	Good Manufacturing Practices.
SPS	:	Sanitary and Phyto-Sanitary.

TBT : Technical Barriers to Trade.

APEDA : Agricultural and Processed Food Products Export Development Authority.

15.13 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Your answer should include following points:

Check Your Progress Exercise 1

- 1) The ability to trace the history, application or location of an entity by means of recorded information and all the aspects of its requirements like period of time, point of origin or identification must be specified.
- 2) The application of traceability could be on account of :
 - 1) Human health and safety;
 - 2) Other non-health consumer interest like, quality or to ascertain the genuineness of a particular declaration, like 'organic' nature of food product; and
 - 3) Fair practices in food trade.
- 3) Define objectives as what is to be traced, who will do it an information system and the performance objectives.

Check Your Progress Exercise 2

- 1) In countries where the produce is in small volume and has to be pooled before marketing or where the nature of raw material/ ingredients/ components is such that they are inseparable the traceability of its source becomes very difficult.
- 2) Group farming with an internal control system, application of food safety control through HACCP etc. management of non- conformities pointed out by Food Safety Exports as well as regular documentation of inputs and practices followed in the production system may be the other alternatives.
- 3) Following are the steps recommended for the application of traceability :
 - Identification and communication of the objectives and scope of traceability; and
 - Identification and communication of what should be traced and stage of food chain where it should be traced.
 - In case of import, the providing of information of possible cause of risk to the exporting country.
 - Suggesting cost effective alternative yet effective measures, e.g., HACCP to the exporting country.
- 4) Export of table grapes to the European Union (Grape Net).

15.14 SUGGESTED READING

www.codexalimentarius.net

www.iso.org

Europa – *Food Safety: From Farm to Fork* — http://ec.europa.eu/food/index_en.htm