

Improved traceability can enhance trust among organic farmers and traders

A survey of the organic fresh produce chain in Nairobi concludes that perception to traceability, documentation, certification, training and monitoring can improve trust among the producers and the traders of the organic sector.

By Josphat Njenga Gichure, Food safety consultant

Management of information flow among value chain actors through a traceability system is important to enhance consumers' assurance on safety and quality of food. Therefore, in connection with my master thesis, I have conducted a survey of the organic fresh produce chain in Nairobi in order to establish factors to consider in design of a traceability system. The study concludes that a number of factors should be taken into consideration, such as perception to traceability, documentation, certification using alternative quality management standards, training and monitoring of existing systems.

With growth in organic production in the recent decade, trust is emerging as an important factor in making food choices among consumers due to the credence nature of organic foods. Credence attributes are products attributes that a consumer cannot ascertain during purchase of a product. Credence attributes in the organic sectors include area/ location of production, external inputs used, name of producer, status of organic certification for producer, transportation, storage and processing in case of processed products. (Figure 1).

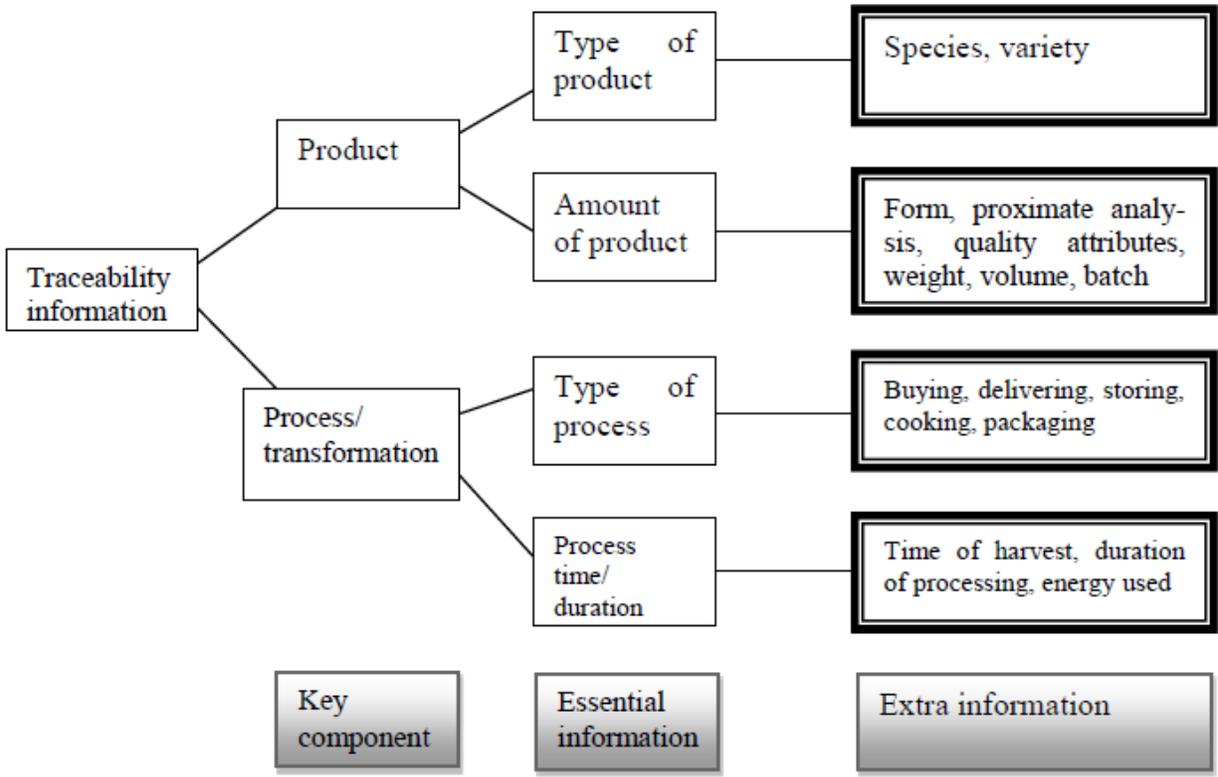


Figure 1: Summary of the essential and extra information that should be transferred along the organic fresh produce chain.

Lack of adequate sharing of credence information may create trade imperfections due to mistrust among actors. In food safety and quality management, traceability systems are used to convey information among different actors. Traceability is the ability to trace the history, application or location of a product at all stages of production and distribution by means of recorded identifications. Traceability involves recording flow of products and production attributes into either paper or electronic based systems.

Traceability systems in the food sector

Results reveal majority (62%) of the actors in organic sector have adopted either type 1 or type 2 system. The most used system is where each actor in the chain gets ‘only part’ of the relevant information on the products and production attributes from the immediate stakeholders. In this case, the information transferred is limited and the system is cheap. Chances of mistrust in this system are high, therefore not an efficient and effective system.

The other system used is where actors get 'all' of the information from immediate stakeholders. In food supply chains, this system is preferred for rapid and effective information flow although it is more expensive than type 1. The high cost of designing such system limits its use in organic sector.

There exists a third system for food traceability, although its application in organic sector is limited. This system is centrally organization, that is, all the supply chain actors record and retrieve information from a common file. Actors have more trust on the information shared, therefore it is considered an efficient and effective system. In all systems, records are kept for a defined period for assessment in case of product withdrawal or recall. Fig. 1 represents diagrammatically the three types of systems.

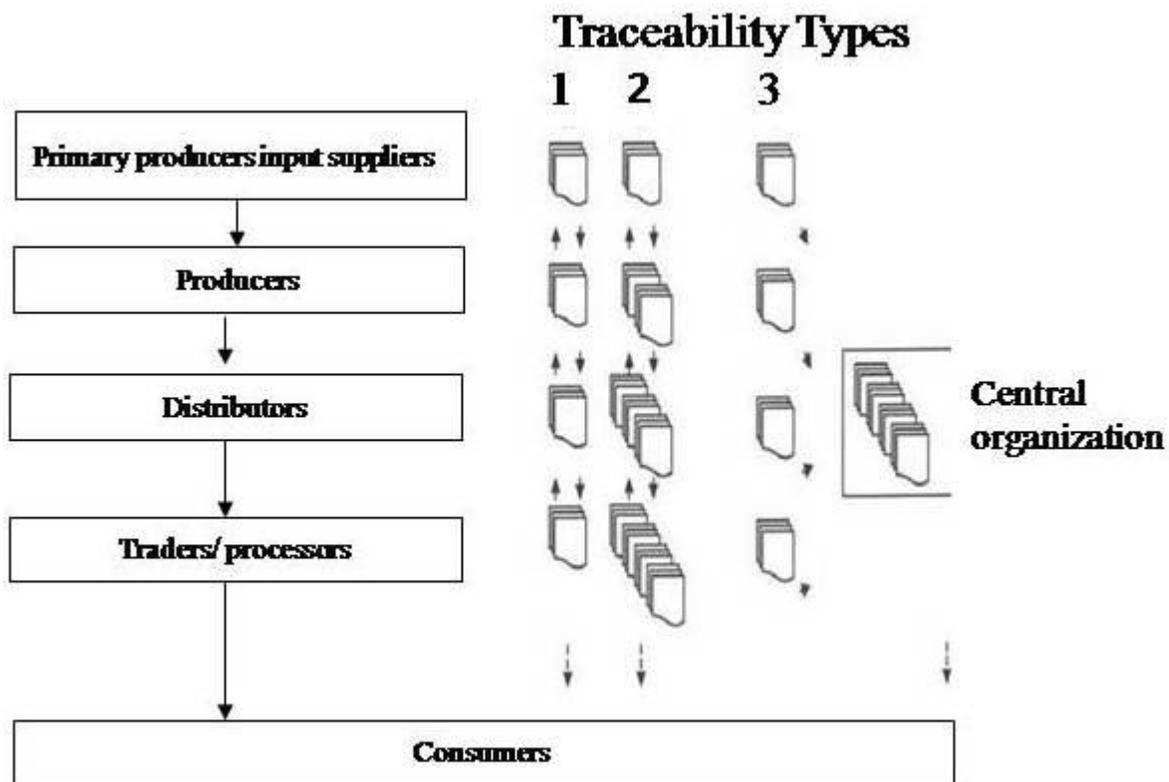


Figure 2: Diagrammatic representation of the three types of traceability systems used in the food sector. Type 1 and Type 2 are used in organic fresh produce chains.

Factors that contribute to traceability

Based on factor analysis, two factor groups, with cumulative variance of 61.2%, had the greatest contribution to implementation of traceability system. The pattern matrix for extent to which variables influence the factor reveal that factor group one had four variables, namely documentation and record

keeping (variance= 0.754), monitoring of quality systems (variance= 0.770), certification using other quality systems (variance= 0.711) and personnel’s training on traceability and quality management (variance= 0.444). Factor group two had one variable only, that is, personnel perception to traceability (variance= 0.856). These factors were positively interrelated.

Table 1: Pattern matrix for extent to which factors influencing traceability in the organic kales value chains in Nairobi grouped into separate components during factor analysis

Factors	Component	
	1	2
Monitoring	.770	
Documentation	.754	
Certification	.711	
Perception		.856
Training	.444	-.494

Challenges ahead

The main challenges to implementing a traceability system is the perceived high cost of implementing a traceability system, inadequate training of personnel on traceability, lack of a centralized system specifically designed for fresh produce, incomplete record keeping and delinked planting and harvesting information in retail as information transfer is to immediate actors.

In conclusion, conducting organizational activities such as record keeping, training and monitoring of traceability system among several organizations will create efficiencies by lowering the cost associated with implementing traceability system. The study also recommends increased awareness on traceability among actors on the benefits of traceability, and specifically how to implement and monitor the system.

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