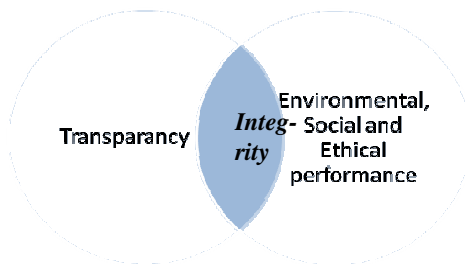


### Aim

To identify information that relates to environment, ethical and social concerns and identity potentials, deficiencies in existing food chains and future research needs to allow such information to be transmitted in the food chains

### Introduction

Ethical, social and environmental impacts are important for building trust in the food chain, yet they cannot be measured on the food product as such. Thus the *integrity* of the food chain relating to these aspects must build on transparency (Figure 1)



**Figure 1. Integrity in relation to Transparency and Social, Ethical and Environmental performance**

The minimisation of negative impacts and the enhancing of positive impacts of social, ethical and environmental aspects of food chains are increasingly becoming important values around which food choices are made. Communication of these values relies to a great extent on processes of transparency. On a company basis the transparency of environmental, ethical social aspects is addressed in two ways. First, by business to consumer communication by labelling food that is supposed to have certain integrity characteristics, like carbon footprint or fair trade. Second, by business to business information that ensures that certain standards have been used in producing the goods used in the further processing.

An extensive review of the state of art, considering the integrity of the food chain with respect to selected major social ethical and environmental dimensions (Table 1) and their transparency along the food chain was carried out.

**Table 1 Integrity dimensions of the food chain being reviewed.**

Animal welfare (welfare of livestock and wild animal catch from rearing/capture up to and including slaughter)
Methods of production and processing (e.g. organic, IPM/IFM Halal, GM, Kosher, etc).
Environmental and ecosystem impacts (sustainable agriculture codes, IPM/IFM; fisheries stewardship; natural resource protection; carbon foot printing/labelling; water stewardship etc).
Terms of trade (fair price for producers and suppliers; fair trade; fair contract terms etc.)
Working conditions (e.g. labour standards; worker safety and working conditions; hours of work and wage levels etc)
Social capital (Utilisation and building of social capital of farmers and growers and of communities)

### **State- of- the- art**

Many private or public bodies make an innovative effort to improve transparency of food chains regarding integrity issues. However, many basic requirements are still not met sufficiently well. The insufficiencies identified by the review are:

- No clear concept for the traceability reference units (TRU) compatible with the requirements in relation to integrity dimensions
- Insufficiencies in methodology to reflect (with confidence) properly the dimensions (objectives) aimed for
- Lack of access to relevant information to all parties
- Poor incitement to different actors within a rule based scheme to improve or differentiate above what is set as the minimum requirement within that scheme

### **Conclusions and recommendations**

The needs for further initiatives to facilitate the goal of transparency in food chains *“that everyone with a stake and interest in food production and consumption has access to the information needed in order to make informed decisions on the issues of integrity”* requires:

- Valid indicators of integrity performance compatible with an sound traceability reference unit
- Cost effective systems for data collection and data sharing that takes advantages of existing data through a food chain
- Robust concepts for guaranteeing integrity performance

To address these issues the following areas of research have been identified:

- Identification of the relevant traceability reference unit in relation to spatial as well as time dimensions.
- Improved indicators to reflect the impact envisaged to be addressed (B2B, B2C)
- Improvement of data handling infrastructure (B2B, B2C)
- Need for a consolidated methodology for regular independent assessment of entire food chains.

Finally it is important to keep in mind the fact that most integrity dimensions in reality are seeking to address more long term and societal concerns.

### **Further contacts**

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