Food Control 21 (2010) 1620–1628

Contents lists available at ScienceDirect

Food Control

journal homepage: www.elsevier.com/locate/foodcont

Including social impact assessment in food safety governance

Marion Dreyer [a,*], Ortwin Renn [b], Shannon Cope [c], Lynn J. Frewer [c]

[a] DIALOGIK, Lerchenstrasse 22, 70176 Stuttgart, Germany
[b] Dept. of Technology and Environmental Sociology (and DIALOGIK), University of Stuttgart, Seidenstrasse 36, 70174 Stuttgart, Germany
[c] Marketing and Consumer Behaviour Group, Dept. of Social Sciences, Wageningen University, Hollandseweg 1, 6706 KN Wageningen, The Netherlands

ARTICLE INFO

Article history:
Received 23 September 2008
Received in revised form 12 February 2009
Accepted 6 May 2009

Keywords:
Social impact assessment
Risk governance
Stakeholder participation

ABSTRACT

This paper applies the concepts of social impact assessment (SIA) to the SAFE FOODS risk analysis model highlighting the role that *concern assessment*, defined as a structured and systematic inclusion of (also wider) social concerns into risk governance, could play in the integration of SIA in food safety governance. SIA is discussed in terms of the European policy background, the historical context, and the introduction of the social impact concept to food safety governance. The proposal focuses on three stages: "preliminary framing", "concern assessment" (serving as a scoping mechanism), and potentially a comprehensive "social impact assessment". This three-step approach can provide orientation on the required extent and design of stakeholder/public participation and insight into the risk-benefit communication process.

1. Introduction: the need for social impact assessment

The EU-funded integrated project SAFE FOODS developed a framework for improved risk analysis of foods which systematically incorporates risk-benefit assessment, stakeholder consultation and public participation at appropriate stages in the risk analysis process. One of the innovative features of the framework is that it includes risk-benefit assessments relating to *non-health aspects* of food safety. It distinguishes between two main types of assessment: the risk-benefit assessment of health and environmental impacts; and the assessment of economic, social and ethical impacts (as described in more detail by Koenig et al. (2010). Thus, the framework calls upon the risk governance institutions to consider input from scientific knowledge exceeding the boundaries commonly applied in risk analysis of food. It comprises and integrates insights from the natural and the social sciences. The results of a Delphi study conducted within the SAFE FOODS project suggested that European stakeholders supported the integration of non-health factors into the formal assessment, and recognised that food benefits may also be important to consider for specific hazards (Wentholt, Rowe, Koenig, Marvin & Frewer, accepted for publication).

The objective of the current paper is to apply the concepts of "social impact assessment" to the SAFE FOODS risk analysis model highlighting the role that "concern assessment" (Dreyer & Renn, 2009; International Risk Governance Council, 2005; Renn, 2008), denoting a more structured and systematic inclusion of (also wider) social concerns in risk governance, could play in the integration of social impact assessment in food safety governance.[1]

In current practice of food safety regulation the responsible institutions uphold the conceptual frames of "risk" and "risk assessment" as the predominant or even exclusive frames in which "legitimate" arguments over food-safety related problems may be couched. In many instances, however, individuals, social groups, and different cultures will also link wider concerns, expectations and benefits to a given food safety issue. This is most likely if the risks associated with food safety issues are persistent, uncertain and undetectable and/or if the product, process or practice under consideration is linked to a wider, mainly and profoundly value-based debate (for example, that which is potentially associated with the introduction of a controversial new food technology). Examples of such wider social or socio-economic concerns might include sustainable development in the agro-food area (Organisation for Economic Co-operation and Development, 2004), the desirable limits of industrialisation of food production (e.g. Hampel, Klinke, & Renn, 2000), the traditional value (Grunert, 2005) or nutritional value of a food (Dibsdall, Lambert, & Frewer, 2002; Lennernäs et al., 1997; Shepherd & Raats, 2006), the division of responsibilities for consumer protection between the public and private sector (Fischer, Frewer, & Nauta, 2006; Henson, Griffith, & Loader, 1999; Redmond & Griffith, 2004), shifting patterns of ownership and control in the food chain (Gill 2007; Kearnes, Grove-White, MacNaghten, Wilsdon, & Wynne, 2006), or the process and product characteristics that should be traced and identified to consumer

* Corresponding author. Tel.: +49 711 3585 2164; fax: +49 711 3585 2160.
E-mail address: dreyer@dialogik-expert.de (M. Dreyer).

[1] Taking a broader perspective, Cope, Frewer, Renn, Dreyer, & Kleter (2010) provide an overview of currently available methods and approaches to assess social impact and risk-benefit perceptions of food safety issues.

0956-7135/$ - see front matter © 2009 Elsevier Ltd. All rights reserved.
doi:10.1016/j.foodcont.2009.05.007

choice (Baker & Crosbie, 1993; Houghton, Van Kleef, Rowe, & Frewer, 2006; Knight, Worosz, Todd, Bourquin, & Harris, 2008; Miles et al., 2004; Van Rijswijk, Frewer, Menozzi, & Fiaoli, 2008).

Areas such as animal cloning, nanoparticles in food and food packaging, and (bio) nanotechnology applied to food production currently attract attention in the area of food safety governance due to the potential risks and the wider implications associated with these topics. These subjects are identified as potentially highly sensitive issues with a comparable potential to generate societal debate and conflict as genetically modified (GM) food has done in the past. They involve high degrees of uncertainty in terms of animal/human health implications and some are associated with profound ethical questions which are in part based on divergent perspectives on the meaning and importance of "naturalness" in relation to food (Frewer, Howard, & Shepherd, 1997; Saba & Messina, 2003).

However, it is not only technological innovation which is associated with both risk and benefit, and the associated potential for profound social impact in terms of (for example) quality of life and economic functioning. For instance, the discussion about the potential benefits from fish consumption is complicated by uncertainties about the real beneficial health impacts of some of these ingredients (Hooper et al., 2006). Fish is also associated with environmental contaminants such as methyl mercury (Levenson & Axelrad, 2006; Plessi, Bertelli, & Monzani, 2001; Risher, Murray, & Prince, 2002; Storelli et al., 2003), polychlorinated biphenyls (PCBs) (Food Standards Agency, 2000; Llobet et al., 2003) and dioxins (Baars et al., 2004; Food Standards Agency, 2000). Thus there is scientific evidence that, from a nutritional perspective, increased fish consumption is beneficial for human health, while, from a toxicological perspective, differential risk vulnerabilities across the population can be identified. The potential for social impacts both positive and negative is complicated when, for example, the question of sustainable fish production is factored into the discussion (e.g. Pretty & Hine, 2000; Wu, 1995), the questions which relate to fish farming, and potential impact on employment in specific regions.

The heated societal disputes over GM food and bovine spongiform encephalopathy (BSE, mad cow's disease), in particular, have triggered much discussion within the EU food safety institutions on the need to improve food safety governance by incorporating the multifaceted dimensions of food safety issues in an explicit and proactive manner (e.g. Ansell & Vogel, 2006). There is a stated need for consultation on this matter through experts in fields such as risk communication or ethics in science and new technologies.[2] Among both risk assessors and risk managers at the EU-level there is widespread recognition that the traditional way of marginalising wider concerns attached to food-safety related issues is no longer appropriate (e.g. European Commission, 2000, p. 9[3]). Yet there is far less agreement about what could be useful and effective alternative approaches to adopt, both from an end-user and a societal perspective. More concrete reflections on possible innovative conceptual frameworks and institutional mechanisms appear to be only slowly evolving.

The purpose of the present paper is to contribute to discussions regarding a structured approach to dealing with "wider concerns and societal preferences" implied in risk-benefit debates, and to examine strategies to initiate and integrate the evaluation of potential social impacts. The paper advocates a food safety governance approach that utilises a "social impact assessment" framework to scientifically explore social concerns and perceptions. Although there is no commonly accepted definition for social impact assessment (hereinafter referred to as "SIA") (Barrow, 2000), various explanations (Becker, 2001; Burdge, Fricke, & Finsterbusch, 1995; The Interorganizational Committee on Principles & Guidelines for Social Impact Assessment, 2003; Vanclay, 2003) outline several key steps which describe the general impact assessment process: (1) the identification of the problem to be dealt with by policy action, (2) the definition of the objectives of policy intervention, (3) the development of main policy options, (4) the analysis of the impacts of these options, (5) the comparison of the policy options in the light of these impacts, and (6) the outlining of policy monitoring and evaluation (see also European Commission, 2005). Risk-analysis frameworks (such as the SAFE FOODS framework or the risk governance framework developed by the International Risk Governance Council; IRGC, 2005; Renn, 2008; Renn & Walker, 2008) also provide processes defined in a similar way, which involve (preliminary) framing, risk (benefit) assessment, risk evaluation, and risk management, as well as risk communication throughout the analysis, or at least at specific stages of the process. We propose a risk-analysis approach that embraces the concepts of a SIA, by applying the SIA described above to the "framing" and "impact assessment" phases of the SAFE FOODS risk analysis framework.

In the following section the present policy background of our proposal to introduce the concept of SIA in EU food safety governance will be described. The section highlights the increased importance of SIA in EU policy, although SIA has so far not been used as a concept in EU (food) risk governance. The third section will set out the historical context of the concept and field of SIA and highlight major challenges associated with this subfield of impact assessment as they have been discussed in the relevant literature. The introduction of the concept of SIA into food safety governance holds potential to help to avoid some of the problems that occurred in the past in dealing with complex food-safety related issues, and more detailed argumentation will be developed to support this claim in the fourth section. The implications of the use of SIA and concern assessment for communication on risks and benefits to stakeholders and the wider public will then be discussed in the fifth section. Finally, major challenges of integrating the results of SIA and the results of the other impact assessments and of using concern assessment as a scoping mechanism will be identified, and areas for future research will be highlighted.

2. The European Union policy background associated with social impact assessment

By the late 1990s, the prevailing diagnosis in European policy circles was that the level of public trust in both food safety and food safety institutions had seriously declined and that institutional frameworks needed to be improved in order to restore public trust and social legitimacy (Ansell & Vogel, 2006; Dreyer & Renn, 2009; Dreyer, Renn, Borkhart, & Ortleb, 2006). Societal negativity focused around the idea that with increasing pressures resulting from broader developments such as economic globalisation and trade liberalisation, powerful industry interests would be advanced at the expense of consumer interests behind closed doors (Kinsey, 2001; Macfarlane, 2002; Vos, 2004; Vos & Wendler, 2006). Due to food safety regulators giving precedence to the goals of economic growth and competitiveness, food products or production techniques might be represented and treated as if they were

[2] The European Food Safety Authority (EFSA), for instance, has established a multidisciplinary expert Advisory Group on Risk Communication which reports to EFSA's Executive Director and contributes input to this discussion.

[3] The European Commission's White Paper on Food Safety (European Commission, 2000, p. 9) states that in the decision making process in the EU, "other legitimate factors" such as "environmental considerations, animal welfare, sustainable agriculture, consumers' expectation regarding product quality" etc., can also be taken into account. The definition of the scope of such legitimate factors, which should be "relevant for the health protection of consumers and for the promotion of fair practices in food trades" (Ibid.) is still being studied at international level particularly in Codex Alimentarius.