Exploring Ethical Aspects of Food Safety: A Teaching Guide

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EXPLORING ETHICAL ASPECTS OF FOOD SAFETY POLICY:
A TEACHING GUIDE

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This guide is directed to undergraduate teachers in colleges of agriculture in the U.S. Our students are working towards careers in the food system. One day they will be farm managers, agricultural engineers, fertilizer and seed salespeople, livestock buyers, food processing managers, grain traders, entomologists, or food retail managers. Their performance of these roles will be enhanced if they understand the social responsibilities and expectations these roles entail. Since these social expectations are embedded in public policies, this requires an understanding of public policy issues affecting the food system.

One of the important sets of social expectations and public policies which affect the food system has to do with food safety. Food consumers have certain expectations about the safety of their food. Public policies articulate and enforce many of these expectations. The level of safety actually produced depends on and requires the cooperation of numerous individuals all the way from input suppliers to food consumers. Each of these individuals has a responsibility for the safety of the food supply to some extent. Students need to learn what these expectations and responsibilities are. They need to learn about how the expectations and responsibilities for safe food may conflict with other expectations and responsibilities. They need to anticipate what the consequences could be if these expectations and responsibilities are not met.

This guide was written in order to facilitate the teaching of these ethical aspects of food safety in undergraduate courses. While there are whole courses that deal with food safety, the assumption here is that ethical aspects of food safety can and should be taught as a part of courses dealing with other subjects in colleges of agriculture. For
example, food safety issues could be part of a general course on ethical issues in the food system or as part of a course dealing with social or management issues that are particular to a specific major. For example, at my own university, the animal science department has a course on the toxicology of food producing animals which discusses animal drug residues, as well as a course addressing professional responsibilities in animal industries. Likewise, the entomology department has a course on environmental quality and ecosystem management, the agricultural engineering department has a course on professional ethics and responsibilities, and the agricultural economics department has several courses on managing food production, processing, and distribution.

One of the best tools for teaching students about their future roles in the food system and the social expectations that are tied to them is case studies. Case studies can be used to create a vicarious experience of problems that real people in the food system have experienced and that students may some day experience themselves during their professional lives. By discussing or acting out case studies, students can adopt and examine the roles of various actors in the food system, and, thus, come to a better understanding of what those roles entail and the kinds of problems they may one day confront themselves. By examining food safety issues from the perspective of different roles, they may better appreciate the different expectations of and, thus, conflicts about, public policies on food safety. Case studies can also help students to experience their interdependence with other actors in the food system.

This teaching guide demonstrates how case studies can be used to enable students to explore ethical issues of food safety policy. A general approach for analyzing food safety cases is outlined. It is illustrated with examples drawn from a case study of the heptachlor contamination of Oahu milk, which was written as a companion to this guide, and the food safety cases contained in the recent issue of Agriculture and Human Values entitled "Ethics and Values in Food Safety Regulation." A bibliography, organized by
subject areas, is provided at the end of this guide in order to facilitate the use and construction of other case studies on food safety.

An Approach to Analyzing Case Studies on Food Safety

There are two approaches that may be taken to analyzing case studies in the classroom. One is to have students discuss the case, with discussion stimulated and summarized by an instructor. A second is to have students simulate the case by acting out preassigned roles. The approach outlined below will be presented as if the case is going to be discussed rather than simulated. However, the simulation approach is briefly examined.

It is essential that an instructor have a clear idea of what teaching purpose a case study is to serve and communicates that purpose to students. A general objective has been stated above, namely, that the case will be used to get students to explore the roles various actors in the food system may play in ensuring food safety. However, more specific objectives may be pursued. For example, an instructor may be interested in one role in particular and how that role developed in the case. Or an instructor may be interested in demonstrating how some particular factor, such as economic pressures, scientific uncertainty, peer pressure, media coverage, or legal constraints affected the way the role was carried out.

The most suitable case studies for these purposes are ones that involve specific problems that real people have had to deal with. By being specific and realistic, they lend themselves to a vicarious experience of the problems faced by the actors involved in the case. Thus, the kinds of cases which are most appropriate would focus on specific substances or food producing techniques that present potential food safety problems, such as a particular pesticide residue (e.g., heptachlor), environmental contaminant (e.g., PCBs), bacteria (e.g., salmonella), additive (e.g., saccharin), or animal drug residue (e.g., DES). This does not mean that one may not fruitfully discuss the merits or demerits of more general issues, such as various food safety policies like the Delaney Clause. Such
discussions may be very useful. But abstract discussions are not as useful as problem situations for getting students to experience the wide variety of social expectations that may surround the professional roles they will one day play and the problems they may experience in meeting these expectations.

Ideally, a case study should consist of a narrative of the characters, as well as the events, involved with the problem. The inclusion of characters allows students to personalize the case and to analyze the case from the perspective of each of the different people in it. However, many case studies describe only the events of the case. For these types of cases, the instructor will have to ask students to think about what individuals and groups might have had to deal with or who were affected by the case.

The central and most general question in cases which deal with a particular food safety problem is what the various actors concerned with the problem should have done about it. To analyze this question in a manner which stresses the roles of actors in the food system, it is useful to divide the discussion of the case into three parts: (1) who were the key actors involved in the case, (2) what were their rights or responsibilities with respect to food safety, and (3) what difficulties and conflicts did these actors face in achieving their rights or carrying out these responsibilities?

Assuming that students have a clear grasp of the food safety problem from reading the case, discussion should begin by asking students who the key actors were in the case study. If the case study includes characters, this should not be an especially difficult task; if the case study does not, the instructor should ask students what individuals or groups were affected by or had to deal with the problem. Hopefully, the discussion will reveal a wide range of actors, including government agencies, input suppliers, producers, processors, distributors, and consumers. After a thorough discussion, the instructor should demonstrate the state of interdependence that exists among these actors, and make the point that many people are responsible for ensuring food safety. This can be
done by means of a flow chart which contains the portion of the food production and consumption chain that is relevant to the case study (see figure 1 for example).

FIGURE 1

Actors in the Food System
Who May Affect Food Safety

Level of Food Safety
↑

Food Consumption
↑

Food Preparation
↑
(e.g., households, and food service establishments)

Food Distribution
↑
(e.g., Retail, Wholesale, Transportation)

Food Processing & Marketing
↑
(e.g., Storage, Transformation, Information)

Food Production
↑
(e.g., farming and fishing)

Physical and Financial Inputs
↑
(e.g., pesticides, land) (e.g., stockholders)

Property Rights
↑
(e.g., laws, social customs, ethical norms)

Human Capital
↓
(e.g., educational systems)
Once the interdependence of the actors has been stressed, the question can be raised of how, as a society, we go about dealing with this interdependence in order to achieve socially agreed upon levels of food safety. One answer that the instructor should be seeking to this question is that there are socially recognized rules of the game for actors in the food system. The rules are a structure that all actors face. The rules may be legal, customary, or tacit, but they are socially recognized. The rules create rights for some and responsibilities for others. The rules affect people's conduct or behavior. Thus, if one plans to work in the food system some day, they need to be aware of the rules, and the consequences that result when they are not followed.

This observation naturally leads to the second stage of the discussion, namely, having students identify the responsibilities and rights of the various actors in the case. This can be accomplished by asking students who was responsible for the food safety problem in the case and whether these actors carried out their responsibilities. The discussion at this point should result in two descriptions. First is a description of the types of choices and decisions each actor faced in the case. Typically, decisions about food safety are not made by any one actor, but different choices made by different actors add up to the ultimate food safety problem. For example, a government agency may decide not to allocate more resources for testing a particular substance added to food. A producer may decide to use more of the substance than is advised on the label. A food processor may decide not to test for the substance in the foods she processes. A consumer may decide to eat more of the food containing the substance than most other consumers do. Each of the decisions in isolation may not have resulted in a problem, but together they do. The second type of description that should result from a discussion of the rights and responsibilities of the actors is of the various legal, ethical, or social norms which define the roles of the actors in the case. For example, the description should recognize the rules of the market system in the United States as well as the laws that govern food safety.
The discussion at this point may entail disagreements among students about what the actual rights and responsibilities are. This leads directly into the third stage of the discussion which concerns the constraints and conflicts individuals may face in carrying out their responsibilities for food safety. In most food safety cases, an important set of constraints is scientific uncertainty and costly information. Another important set of constraints is the legal framework under which decisions may have to be made. Furthermore, individuals face conflicts because they have many sets of responsibilities that may be incompatible. For example, government agencies may have responsibilities to both producers and consumers. Food producers and processors may have responsibilities to their own families, to stockholders, and to consumers. Examining what these constraints and conflicting pressures are should produce a description of what students believe were the reasons for the actions taken by the various actors in the case.

The way to get this third stage of discussion going is to ask students what reasons they think the various actors in the case had for acting as they did and whether they think those reasons are justified. For example, a student may say that the reason why a government agency did not take action on a particular substance is because of pressures from producer groups. The instructor can get the student to explore whether they would have done things differently if they had been running the agency and what the consequences would have been for them if they had. This is a good way to get students to think about the effect that scientific principles, legal frameworks, the market system, peers, family obligations, employers, the media, and others have on their behavior.

A good way to end the case discussion is for the instructor or the students to summarize what some of the key issues were in the case. These issues are important choices or decisions that various actors in the case had to face. Hopefully, by the end of the case, students will have a better sense of the importance of these decisions and the difficulties of making them.
The same three steps outlined above can be used to organize a simulation of a case. Prior to the simulation, the instructor will have to identify the key actors in the case and preassign those roles to individual students. Acting as a moderator, the instructor asks each student to describe to the other students what actions they took and why. Interactions among the students is achieved by getting other students to comment on the behavior of the other actors in terms of their rights and responsibilities. The actors can defend themselves by pointing out the constraints and conflicts that they faced. Alternatively, the simulation can be set up as a legislative investigation into the case by having the student actors testify before a panel of student legislators. The student legislators can inquire into the rights and responsibilities of the actors in the case and pass judgement on whose rights were or were not violated and who did or did not live up to their responsibilities. A third alternative is a two-sided debate into of the case, with one side arguing on behalf of one outcome and the other side arguing the opposite side.

Examples of a Case Study Discussion

The case study of helptachlor contamination of Oahu milk is a good case study to use to illustrate ethical aspects of food safety problems because it demonstrates that numerous actors in the food system are responsible for ensuring food safety.

The discussion is initiated by the instructor by asking students who the key actors were. In the Oahu case, they include pineapple companies, the chemical company who produced heptachlor, dairy farmers, dairy cooperatives, the University of Hawaii, milk processors, scientists and officials in state and federal government agencies, the media, retailers, and consumers. The whole spectrum of the food system is covered and it is easy to show how the actors are interdependent. This discussion should be followed by the question of how society deals with this interdependence (see section above).

The second stage of discussion should concern the relevant rights and responsibilities of the actors with respect to food safety. Since these rights and responsibilities are not always clear in this case, it lends itself to interesting debate. For example, should the
EPA have granted an exemption from the ban on heptachlor use to the pineapple growers? Should the pineapple companies have been responsible for making sure the dairy cooperative properly harvested the pineapple plants that they used for dairy forage? Should the University of Hawai‘i have been responsible for informing the cooperative of the potential that their recommended harvesting techniques would have for producing more heptachlor residues in the dairy feed? Should the state department of public health have given more priority to testing milk for heptachlor residues? Should they have allowed skim milk made from milk that was contaminated with heptachlor to have been sold? Do consumers in Hawai‘i have a right to residue free milk? Many other such questions can be asked. In answering them, students can explore the ethical implications of the market system and the laws that govern substances that can create food safety problems.

The third stage of discussion should focus on the constraints and conflicts that the actors faced. This helps to explain and predict their actions. For example, costs of milk production are greater in Hawai‘i, thus, the need to obtain a source of cheap feed may have blinded actors to the potential safety problems. State government agency officials apparently had conflicts between their duties to consumers and their obligations to dairy producers in terms of the decision to allow milk to be imported from the mainland. Milk processors' behavior seemed to reflect a conflict between their economic viability and their duties to consumers. These constraints and conflicts reflect the fact that the actors in this case have multiple responsibilities that are not always compatible with the goal of ensuring food safety.

The heptachlor case identifies individual actors, so it is also suitable for case simulation. For example, students could be assigned the roles of the key actors. Then the instructor can start off the discussion with the EPA's decision to allow the exemption for heptachlor use on pineapple and work through the chronology. Another approach would
be to simulate the hearings conducted by the Hawaiian Senate into the heptachlor incident.

The heptachlor case can be used for the general purpose of demonstrating to students the responsibilities of various actors in the food system, or it can be used to illustrate more specific points. For example, there is a great deal of uncertainty about the health effects of heptachlor. The effect of this uncertainty on some of the actors' behavior could be debated. Alternatively, the case discussion could focus in on the behavior of a subset of the actors, such as the milk processors or the laboratory scientists in the state public health agency.

Unlike the heptachlor case, the case studies in the special issue of *Agriculture and Human Values* on "Ethics and Values in Food Safety Regulation" focus on decisions made by the Food and Drug Administration on specific substances (i.e., DES, saccharin, and lead). Since they focus on the decisions of the FDA, decisions made by many of the other actors who were affected by these cases are not detailed. Thus, the analyses of who the individual actors were in these cases would have to be confined to a discussion of who might have been affected by the problem and what their position on the issue might have been.

For example, the DES case affected pharmaceutical companies, meat producers, slaughterers, the USDA, and consumers, as well as the Food and Drug Administration. The roles of each of these groups could be discussed. Likewise, the saccharin case affected the companies who produced saccharin, food and beverage firms that used saccharin, and consumers who consume saccharin.

After identifying these key actors, their rights and responsibilities can be discussed, though the main focus of attention in these cases is likely to be on the Food and Drug Administration. Following this, the discussion can examine how the FDA and others were affected by constraints and conflicts such as scientific uncertainty, the law, and political processes. These cases are also particularly well suited to a debate where groups of
students could be assigned to argue for or against the FDA's decision from the perspective of a particular industry or consumer group.
Summary

There are many approaches to analyzing case studies. The one presented above is intended to stimulate ideas about how case studies can be used to get students to explore the responsibilities they may some day have for ensuring food safety and how new case studies might be constructed. The bibliography below provides further materials that should be useful in teaching food safety issues and constructing case studies.

FOOTNOTE

1 The companion case study of the heptachlor incident is: Mark E. Smith and Eileen O. van Ravenswaay (1987) "A Case Study of Heptachlor Contamination of Oahu Milk," Department of Agricultural Economics, Michigan State University, East Lansing, MI, 48823. The special issue of Agriculture and Human Values is Vol. II, Numbers 1 and 2, Winter-Spring, 1986. The volume contains case studies and papers which address general food safety issues.
REFERENCES

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Halloran, Jean, "To Ban or Not to Ban? What are the Ethics of the Question?" Agriculture and Human Values, Vol. III, Nos. 1 and 2, pp. 5-9, 1986.


ENVIRONMENTAL CONTAMINANTS


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ANIMAL DRUGS


FOOD ADDITIVES


PESTICIDE RESIDUES


Also see section on environmental contaminants.

**BACTERIAL CONTAMINATION**


**FOOD TECHNOLOGIES**

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GENETIC ENGINEERING