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Food Safety in Small and Medium Hospitality Enterprises in New Zealand

**A thesis presented in partial fulfilment of the
requirements for the degree of**

**Doctor of Philosophy
in
Health Science**

**at Massey University, Wellington
New Zealand.**

Jan Kramer

2013

Ethics approval for this research as a low risk project was received on 21st February 2008. The approval states:

“This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University’s Human Ethics Committees. The researcher named above is responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher, please contact Professor Sylvia Rumball, Assistant to the Vice-Chancellor (Research Ethics), telephone 06 350 5249, e-mail: humanethics@massey.ac.nz”.

Please note that the statement has now changed to:

“This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University’s Human Ethics Committees. The researcher named above is responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher, please contact Professor John O’Neill, Director, Research Ethics, telephone 06 350 5249, email: humanethics@massey.ac.nz”.

Abstract

Present food safety legislation (Food Act 1981) has seen very few adjustments made over a period of more than 30 years. The need for food safety is unquestionable, and legislation is essential for the maintenance of healthy standards in food preparation. Small and medium enterprises find it challenging to meet the required food safety standards as most proprietors work extremely long hours just to remain viable. Their staff's levels of training and trade knowledge are, due to minimum wages and unsociable hours worked, often insufficient and their employment is not seen as a career path. Any extra work load to be completed by management in filling in forms as part of a food control or food safety plans may be unmanageable. This study investigates the feasibility of food safety legislation and its implementation in small to medium enterprises in the hospitality industry – a study guided and influenced by the researcher's lifelong association with the hospitality industry.

This study explores food safety and its origins across the world. Carefully worded interviews and surveys with experts, who were either working in, or had close relationships with the Hospitality Industry, were used to question how the proposed legislation would affect them, and could affect those in small and medium enterprises.

Two surveys were undertaken over a period of three years. The results from both of these surveys indicated that it is likely that the greater majority of small to medium enterprises' management and staff do not possess sufficient knowledge to comply with the proposed standards of the legislation and the documentation needed.

Acknowledgements.

The majority of those engaged in the hospitality industry, or industries associated with hospitality enterprises, work very hard. I would like to express my genuine gratitude for their willingness to participate and offer their time for the interviews, and for assisting me to making this study a reality. Foremost are those in the Leaders group but also those in the Managers, Chefs, Suppliers and Environmental Health Officers groups.

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Food Safety Acronyms and Abbreviations

Throughout this paper, a considerable number of acronyms and abbreviations are used and found in the readings. Food safety is not alone in this phenomenon, and a completely new language is evolving.

Following is a number of these used:

AGPs

Antibiotic growth promoters

ALARA

As low as reasonably achievable. Also read MRA approach below.

ALOP

Appropriate Level of Protection

In the context of food safety, an ALOP is a statement of the degree of public health protection that is to be achieved by the food safety systems implemented within a country. Typically, an ALOP would be articulated as a statement related to the disease burden associated with a particular hazard/food combination and its consumption within a country, and is often framed within a context for continual improvement in relation to disease reduction.

CAC

In 1963, the FAO/WHO *Codex Alimentarius Commission* was formed both to protect the health of consumers, and to ensure fair practices in world trade.

CAC/CFH

CAC Committee on Food Hygiene

CCP

Critical Control Points, part of the HACCP system and process.

(CMSF)

Committee on Microbiological Safety of Foods

FAO

The Codex Alimentarius established in 1962 by the World Health Organisation (WHO) and the *Food and Agriculture Organisation* includes the issues of transport and storage in the overall recommendations for the preservation of food.

FDA

In addition to Hazard Analysis Critical Control Points (HACCP) regulations, which have been in effect for several years in most food industries, new regulations from the *Food and Drug Administration*, United States Department of Agriculture (USDA) and European Union have created higher compliance thresholds and challenges.

FSA

Food Safety Authority (UK)

FSC

Australian Food Standards Code

FSANZ

Food Standards Australia New Zealand. Was originally called National Food Authority (NFA)

FSIS

Food Safety and Inspection Service

FSO

Food Safety Objectives. An FSO converts the ALOP into parameters that can be controlled by food producers and monitored by government agencies. The ALOP is an expression of a public health risk, while an FSO expresses the level of a hazard in relation to this risk.

GATT

The *General Agreement on Tariffs and Trade*, concluded in 1947, included provisions for countries to apply measures necessary to protect human, animal, or plant life or health. Several GATT stipulations were that measures adopted by an individual country must not unjustifiably discriminate between countries where similar conditions prevail, and must not act as disguised restrictions on international trade.

GHP

Good hygiene practices, see also GMP below

GMP

Use of MRA as the scientific basis for food safety risk management is the focus of this document. However, it must be recognized that many food safety issues can be successfully managed without commissioning an MRA e.g. there is a long history of using Good Hygienic Practices (GHP), Good Manufacturing Practices (GMP), and HACCP to prevent, minimise or eliminate food-borne risks in the absence of MRA. Consequently, this document also provides guidance on deciding when a MRA may be useful and when it is probably not advisable.

HACCP

Hazard Analysis and Critical Control Points is a systematic preventative approach to food safety and biological, chemical, and physical hazards in production processes that can cause the finished product to be unsafe, and designs measures to reduce these risks to a safe level.

(HITM)

Hospitality Institute of Technology and Management is leading the way in staff training in Hazard Analysis Critical Control Points (HACCP) and Food Safety Programmes as are the Culinary Institute of America and the Food and Beverage Institute. The HITM has a total of 32 different courses dealing with food safety for staff of catering establishments and institutions.

HSI

New Zealand Hospitality Standards Institute

ICMSF.

International Commission on Microbiological Specifications for Foods. Establishes microbiological safety criteria for foods in international trade. ICMSF and Codex to develop new ways of assessing and managing microbial risks.

MAF

The New Zealand *Ministry of Agriculture and Fisheries*, until 1995 when fisheries became a ministry in its own right, and 'MAF' came to stand for the *Ministry of Agriculture and Forestry*. On 1 July 2011, the Ministry of Fisheries (MFish) merged again with the Ministry of Agriculture and Forestry. The new ministry became the Ministry for Primary Industries on 30 April 2012 after inclusion of the NZFSA.

MPI

Ministry for Primary Industries (MPI) is a new New Zealand ministry formed from the merger in 2012 of the Ministry of Agriculture and Forestry, the Ministry of Fisheries and the New Zealand Food Safety Authority.

MRA

Differences between governmental (quantitative) *Microbiological Risk Assessments* and the use of elements of MRA in the food industry.

For example, if a particular country has a reported incidence of salmonellosis attributable to poultry of 10 cases per 100 000 population and wants to implement a program that reduces that incidence, there are two possible approaches to converting this goal into an active risk management program. The first is an articulation of a specific public health goal. For example, the country could set a goal of reducing the reported incidence of salmonellosis attributable to poultry to 5 cases per 100 000 population. The underlying assumption in such a public health goal is that there are practical means by which this can be achieved. The alternative approach is to evaluate the performance of the risk management options currently available, and to select the ALOP based on the capabilities of one or more of the options. This is often referred to as an "as-low as reasonably-achievable" (ALARA) approach.

NACMCF

National Advisory Committee on Microbiological Criteria for Foods. In 1988. The earliest projects of the NACMCF included the development of HACCP documents that described HACCP principles and guidelines for implementation.

Nearly paralleling the work of the NACMCF, the CAC Committee on Food Hygiene (CAC/CFH) began work on a HACCP document. The United States serves as the permanent chair of the CAC/CFH. Therefore, it was convenient for the two committees to collaborate to some extent in order to harmonize their HACCP documents, which resulted in the publication of nearly identical documents in 1997 (CAC, 1997; NACMCF, 1998).

NFA

In May 1994, the then *National Food Authority*, now FSANZ, introduced a zero tolerance at the manufacturing and wholesale level for smoked fish products that may be eaten without further reheating and for marinated smoked mussels. 'At risk' fish products for export were assigned a zero tolerance level. At present in the Australian Food Standards Code (FSC), there is a zero tolerance for RTE foods such as pate, meat pastes, cheese with a moisture content >40% and pH >5, marinated smoked mussels and smoked fish. These standards apply to product sampled at the processing factory or wholesale level, and do not apply to product at retail level. Microbiological standards for *L. monocytogenes* are also contained in the new joint Australia New Zealand FSC.

NZFSA

The New Zealand Food Safety Authority (NZFSA) administers legislation covering: food for sale in New Zealand primary processing of animal products and official assurances related to their export exports of plant products and the controls surrounding registration, and use of agricultural compounds and veterinary medicines. NZFSA is the New Zealand controlling authority for imports and exports of food and food-related products. In 2012 the NZFSA was merged into Ministry of Primary Industries (MPI)

QMRA

Quantitative microbiological risk assessment, predictive modelling and HACCP have gained increased attention in food microbiology in recent years.

SPC

Statistical Process Control

SPS

A key provision of the World Trade Organization *Sanitary and Phytosanitary* (SPS) Agreement (27) is the requirement for countries to take the necessary SPS measures to assure the safety of foods in international trade. Governments have the right to reject imported food that could jeopardise the health of their consumers, i.e. that would not meet a specified Appropriate Level of Protection (ALOP). Codex standards, guidelines and codes of practice serve as guides for appropriate national standards. WTO member states are obliged to harmonise with these standards wherever possible. Codex standards are based on risk assessments. In the absence of Codex standards, risk assessments should be used to settle an issue when disputes in international trade in food would arise. This agreement prompted the development of microbiological risk assessments that could be used proactively to quantify risks to health posed by microbiological hazards in food, and whether the risks faced by consumers exposed to the imported product would be greater than equivalent products from the domestic industry.

USDA

United States Department of Agriculture

WCC

Wellington City Council

WTO

Preceding by one year the formation of the World Trade Organization (WTO), the 1994 Sanitary and Phytosanitary Agreement (SPS) has "transparency" as its most important underlying concept. Some of its particular requirements are that trading partners share information, that there be a notification before regulatory enactment, that partners have an opportunity to comment, and that there be well organized procedures and independent, objective, and transparent risk assessments.