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THE ETHICAL AND LEGAL CONCERNS OF THE USE OF GENETICALLY MODIFIED (GM) FOODS IN SOUTH AFRICA

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A Research Report submitted to the Faculty of Health Science, University of Witwatersrand, in partial fulfilment of the requirements for the Degree of Masters of Science in Medicine in Bioethics and Health Law

Johannesburg, 2016 **Student No: 703691**

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DECLARATION

I Thiriloshani Padayachee declare that this Research Report is my own, unaided work. It is being submitted for the Degree of Masters of Medicine: Bioethics and Health Law at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.

_____

Candidates Signature

DEDICATION

This Research Report is dedicated to Sedhoorajan Padayachee. I thank you for your love, compassion, patience, motivation, understanding, forbearance, unwavering support and encouragement. Without which this would not have been possible.

ABSTRACT

Worldwide genetically modified (GM) foods provide one of the major challenges facing the food industry in the twenty-first century. The safety of GM foods are being questioned by consumers, researchers and medical professionals as it is believed that these foods may pose a serious public health risk, especially for the young, aged, pregnant and immuno-compromised persons (Azadi and Ho, 2010). At present the safety of GM foods remains questionable mainly because of insufficient long term scientific data, and the vulnerability of the developing and developed countries to satisfy the food demands of their growing populations. There are already some 800 million people who do not have access to sufficient food to meet their needs. Malnutrition plays a significant role in half the nearly 12 million deaths each year in developing countries, of children under the age of five (Asante, 2008). Therefore, the need for increasing agricultural yields is of urgent concern in the entire developing world. A multitude of reasons are put forward to validate GM food production. The use of GM microbes does not necessarily raise alarms but there are considerable ethical concerns; concerns about "messing with nature"; concerns about safety for human health, and concerns about environmental impact (Racovita, 2013). However, the technology offers opportunities to accelerate the efficiency and extent of further agricultural improvements by the transfer of genes conferring resistance to pests, disease, herbicides and environmental stress, as well as quality traits such as improved post-harvest storage, flavour, enhanced nutritional content and colour (Coles and Ladikas, 2013). The aim of the research project is to raise the ethical, legal and social issues about the use of GM foods in South Africa. The research will also highlight the ongoing debate in the areas of environmental protection, public perceptions and acceptance and ethical concerns.

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LIST OF ABBREVIATIONS

GM - Genetically Modified

GMO - Genetically Modified Organisms

DNA - Deoxy-Ribonucleic Acid

NCB - Nuffield Council of Bioethics

FAO - Food and Agricultural Organization

IPTS - Institute for Prospective Technology Studies

WHO - World Health Organisation

OEDC - Organisation for Economic Co-operation and Development

ICSU - International Council for Science

GURT - Gene Use Restriction Technology

AEBC - Agriculture and Environment Biotechnology Commission

SA - South Africa

ACC/SCN - Administrative Committee on Coordination /Subcommittee of Nutrition

IFPRI - International Food Policy Research Institute

WTO - World Trade Organisation

CBD - Convention on Biological Diversity

EU - European Union

DAFF - Department of Agriculture, Forestry and Fisheries

NBS - National Biotechnology Strategy

SABS - South African Bureau of Standards

EUFIC - European Food Information Council

IUCN - The World Conservation Union