New Zealand Catholic Bishops’ Conference
Submission to the Royal Commission on Genetic Modification
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The first developments in genetic modification occurred more than twenty years ago. Public interest in genetic modification and its applications is a relatively recent phenomenon in New Zealand, and the debate on the issues has revealed profound differences between groups in the community.

The Conduct of the Debate

The manner in which the debate has been conducted in New Zealand is of concern to us. It has primarily occurred at a pragmatic level related to safety and economic aspects of genetic modification, with references to “ethical concerns” which are not clearly defined or elucidated.

The debates on genetically modified food and the release of transgenic crops into the environment provide examples of pragmatic debate – there is polarization, both sides have expert opinions and research to support their position, and economic and safety aspects predominate. The effects of pragmatic debate on people have been well explained by Pope John Paul II in his letter Fides et Ratio, n.81

“Perspectives on life and the world, often of a scientific temper, have so proliferated that we face an increasing fragmentation of knowledge. This makes the search for meaning difficult and often fruitless. Indeed, still more dramatically, in this maelstrom of data and facts within which we live and which seem to comprise the very fabric of life, many people wonder whether it still makes sense to ask about meaning. The array of theories which vie to give an answer, and the different ways of viewing and of interpreting the world and human life, serve only to aggravate this radical doubt, which can easily lead to scepticism, indifference or to various forms of nihilism...”

The use of carefully selected information, and the trading of endless expert opinions and research information – “the maelstrom of data and facts” - can overwhelm the majority of people. In this situation it becomes easier to oppose the new than to make sense of competing perspectives. Effectively this can mean that ordinary people without specialist knowledge will support the status quo rather than innovation, simply because it is known and trusted ahead of the overload of conflicting information. This situation may well lead to the rejection of some new technologies that may be potentially good.

In the public arena many issues arising from genetic modification are described as “ethical” issues. The different ways in which the term “ethical” is used tend to confuse rather than enlighten. Before the true ethical issues arising from genetic modification can be identified and discussed, a definition of “ethical” is required. In this context it is also appropriate to distinguish between the words “moral” and “ethical”, and to clarify the relationship between them.
Ethics and Morality

“Ethics” comes from the word *ethos* meaning principles or mores or values. Ethical values or principles flow out of our nature as human beings living in community. Ethical principles are at once deeply personal and deeply communal, reflecting fundamental codes of being and fundamental codes of behaviour. In this respect it is important to note that action follows being. In other words, who I am, and who we are, comes before what I do, and what we do. Who we are and how we act has to have congruence if we are to be people of integrity. That is why ethics is best done in a multi-disciplinary manner, and why ethical discernment is most fruitful when it is a group-based process involving many different perspectives.

Morality includes ethics, but has the added perspective of a faith tradition. While ethical issues can be considered from outside a faith dimension, the wisdom of a faith tradition adds richness to the discussion of a complex issue such as genetic modification. Morality involves responsibility in our relationships with God, self, others, the earth and its life forms. Because genetic modification is a human activity, it carries significant responsibilities and therefore requires careful moral and ethical discernment by both individuals and the community.

Through its teaching on moral questions and its social teaching, the faith tradition of the Catholic Church provides a foundation of moral and ethical principles which can assist in this process of discernment. Ethics is part of morality, so for the Church ethical questions are also moral questions. We therefore identify and respond from within the Catholic moral tradition to the ethical questions implicit in genetic modification.

The Ethical Questions Arising from Genetic Modification

We consider the following to be fundamental ethical questions arising from genetic modification:

1. In the use of GM technology, what are the responsibilities arising from the relational nature of the human person?

2. Is it ethical to take a copy of a gene from one species and insert it into the genome of another species?

3. Are there ethical limits in the use of genetic modification in human beings?

4. Is it ethical to direct or control human evolution and that of other species?

5. In the use of GM what responsibilities do we have in terms of social justice?

6. In the use of genetic modification how do we address human rights which appear to be in conflict?

Our Response to the Ethical Questions

1. In the use of GM technology, what are the responsibilities arising from the relational nature of the human person?

We can only fully appreciate the moral and ethical issues associated with the use of GM if we place the human person at the centre of the debate. This is because
genetic modification is a human activity, and thus subject to moral scrutiny. The human person is essentially relational by nature, with our most fundamental relationships being with God, self, others, the earth and all its life forms. Responsibilities arise from relationship, and it is these responsibilities which we wish to consider.

Our relationship with God concerns the gift of life from God who is both the origin of this gift and its ultimate end. From this gift flows the innate dignity of the person. Human activity must therefore always be ordered to the “the integral good of the human person”, and the use of GM must be seen in this context. Because we participate with God in the continuing evolution of life in all its forms we also have a responsibility in the use of GM to respect the integrity of other species and of all creation.

Our relationship with self requires an acceptance of ourselves as persons with the freedom and responsibility to make moral decisions. Genetic reductionism and genetic determinism falsely equate the human genome with the totality of the individual, to the diminishment of personal and communal moral responsibility. Such philosophies may erroneously provide pressure to use GM for behavioural change, if this were to become scientifically possible. From our relationship with self arises the responsibility to understand our dignity as human persons, and to act in accordance with that dignity.

In our relationships with others we have a particular responsibility to those who are vulnerable in some way. Those who are poor, in both the developed and developing world, need to be actively considered and protected from exploitation of their lives or their resources. Similar consideration needs to be given to those who have no voice, and in this respect we would highlight the need for protection, from conception, of human life. The use of embryos for research into genetic modification offends against the dignity of the embryo. The Pontifical Academy for Life in its (2000) “Declaration on the Production and the Scientific and Therapeutic Use of Human Embryonic Cells” reminds us that, the embryo is a human individual and, as such,

“has the right to its own life; and therefore every intervention which is not in favour of the embryo is an act which violates that right.”

Some forms of genetic manipulation, in particular germ-line therapy, have consequences for future generations. Even where the use of GM and germ-line therapy appears to be beneficial, great caution is needed in its use if we are to honour our responsibilities to future generations.

Human life is differentiated from other forms of life by its ability to reflect upon its own actions, and to make changes in behaviour as a result of that reflection. Our actions have a moral dimension associated with our ability to reason and to make choices. With that moral dimension there is a concomitant responsibility to choose what is good, not only for ourselves but also for other species and for the earth. The physical and living resources of the earth are finite and are not owned by any particular generation – they are held in trust for our own benefit but also for the use and benefit of generations yet to come, as the common heritage of humankind. We have serious responsibilities to future generations in our stewardship of the earth and its life forms.

2. Is it ethical to take a copy of a gene from one species and insert it into the genome of another species?

The production of insulin for human use involves inserting a copy of a human gene into a micro-organism. The production of a pest-resistant crop using GM involves the
insertion of a copy of a bacterial gene into a plant. Both actions involve the insertion of a copy of a gene from one species into the genome of another species, commonly known as “crossing the species barrier.”

For some, a human therapeutic end makes genetic modification, a desirable and therefore ethical activity however, they may have ethical difficulties with the use of GM in agriculture or horticulture. Where GM is acceptable for human therapeutic purposes but unacceptable in agriculture, different ethical judgements are being made about GM depending on the specific end for which the technology is being used. In this form of thought, the means is being judged ethical or unethical according to the end rather than according to the nature of the means being used to achieve that end.

We do not see the technology of genetic modification to be in conflict with ethical values. It is the consequence of thousands of years of human investigation into life, the result of our innate desire for knowledge and our constant search for the means to improve the human condition. That search has not always had the desired outcome and has sometimes led us into morally questionable activities. Genetic modification represents an advance of a new and different nature, but such an advance is not in itself a new phenomenon for the human race. Paradigm shifts have occurred throughout the history of scientific investigation, and have evoked responses not dissimilar to that now occurring in response to genetic modification. Implicit in such paradigm shifts in science has been a serious challenge to other disciplines, especially theology, philosophy and ethics, to deepen our understanding of our human nature and the responsibilities which flow from it.

Most human inventions can be used to benefit or to harm, and GM is no exception. While we see the technology of genetic modification as ethical, we are very aware that there may be uses of that technology which are unethical or unwise, and that there are cultures which see the blending or mixing of different species as morally repugnant.

3. Are there ethical limits in the use of genetic modification in human beings?

We believe the use of genetic modification for therapeutic purposes to be ethical, within the guidelines outlined by Pope John Paul II in his 1983 address to The World Medical Association. Speaking about genetic manipulation, he asked the question:

“How can such manipulation be reconciled with a concept that credits the human person with an innate dignity and an untouchable autonomy?”

A strictly therapeutic intervention whose explicit objective is the healing of various maladies such as those stemming from deficiencies of chromosomes will, in principle, be considered desirable, provided it is directed to the true promotion of the personal wellbeing of men and women and does not infringe on their integrity or worsen their conditions of life. Such an intervention, indeed, would fall within the logic of the Christian moral tradition..."

Assuming that safety issues are resolved within acceptable limits of risk, we consider the use of GM in somatic cell therapy, to remove impairment or to treat disease, to be in accord with the healing tradition of both medicine and the Church.

In principle, we would also see germ-line therapy to be an ethically acceptable therapeutic intervention, providing that safety issues are resolved and the welfare of future generations can be assured. However there are many potentially serious consequences which could result from the unwise or unethical use of germ-line
therapy. These include irrevocable alteration of the human gene pool, the “homogenization” of the human race according to a particular model, and a loss of respect for the uniqueness of each human life. There is even the potential that we may over time, knowingly or unknowingly, create a “genetic underclass” in society, or in removing some disabling genes from the population affect other genes of great benefit. While we all share the human gene pool it is not the property of any one of us, so our decisions in this respect need to be agreed upon collectively, rather than being individual decisions.

Even assuming the technology of germ-line therapy to be safe, we as a people do not yet have the wisdom to handle the far-reaching consequences of its use. We consider that in New Zealand the use of germ-line therapy should be specifically prohibited for a defined period of time, to allow us to first grapple with uses of genetic modification which have less serious consequences. However if future uses of germ-line therapy separate fertilization from the act of intercourse we would continue to have grave moral objections to its use.

The alteration of human characteristics to conform to a societal idea of the “perfect person” or to make a “better human being” is an unethical use of GM. We oppose the use of genetic modification for the purposes of “enhancement”. It is a form of germ-line therapy with consequences reaching far beyond the individual. The line between therapy and enhancement is difficult to define, and a great deal of work is needed by ethicists and scientists to find appropriate boundaries.

4. **Is it ethical to direct or control human evolution or that of other species?**

Human activity has had the effect of directing human evolution and that of other species for thousands of years. Medical intervention at an individual level has had a collective effect on the human gene pool, and selective breeding of plants and animals has affected the gene pool of many other species. GM is a more precise and powerful tool than those available previously to conventional medicine and agriculture. It has the potential to diversify and accelerate the process of evolutionary change, with a potential for both benefit and harm.

In his 1983 address Pope John Paul II also stated that the term “genetic manipulation” covers:

> “desirable and salutary interventions aimed at the correction of anomalies such as certain hereditary illnesses, not to mention the beneficent applications in the domains of animal and vegetable biology that favour food production. For these last cases some are beginning to speak of ‘genetic surgery’, so as to show more clearly that medicine intervenes not in order to modify nature but to favour its development in its own life, that of creation, as intended by God.”

We believe that all human beings have a role as co-creators with God, and as participants in the evolutionary process. The responsible use of GM is a further challenge for us as stewards of the gift of creation. To use GM for both our benefit and that of other species, while at the same time preserving the rich biodiversity of life, is the essence of this challenge.

The term “playing God” is sometimes used in relation to genetic modification. We recognize that this phrase reflects deep concerns about the use of GM. These concerns may be justified if science and economic interests are left to make the major decisions about the use of GM. The challenge for all of us lies in developing theological, ethical, social and philosophical perspectives which will enable us to make wise decisions for ourselves, for future generations and
for the earth. Our search for wisdom must now be as resolute and innovative as the work of the scientists has been in developing the technology of genetic modification.

5. **In the use of GM what responsibilities do we have in terms of social justice?**

Catholics believe, as do many others, that the goods of the earth are for the use of everyone, in order to satisfy their right to a life in keeping with the dignity of the human person. When applied to GM the principles of Catholic social teaching require a fair and equitable sharing of benefits, and the means of ensuring that vulnerable groups or their resources are not subject to exploitation. Decisions on the use of GM must take into account the needs of the poorest and most vulnerable, whether those be individuals or groups in our own society or in other countries, particularly those in developing nations. This view was also reflected in the Convention on Biological Diversity at the Rio Earth Summit in 1992, which agreed to

“...the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies.”

As a comparatively wealthy nation we should not participate in uses of GM or trade practices which infringe upon the rights of other peoples to use and control their natural resources, which reduce the biodiversity on which subsistence farmers in developing nations depend, or which threaten sustainable agriculture. In this context we wish to highlight the importance of seeds as a renewable resource in many developing nations, and to express our opposition to allowing control of this resource to pass into the hands of multinational companies whose interests are primarily in economic gain.

Economic power or vested economic interests within New Zealand or from external sources should not be allowed to become the prime driving-forces in decisions regarding the use of, and access to, new biotechnologies. We have the choice of allowing GM to widen existing disparities between groups and individuals, or of acting to ensure that exploitation is prevented and that there is equitable access to the benefits of the technology. A just sharing of the benefits will not occur if the future course of applied GM technology is determined solely by market forces.

6. **In the use of genetic modification how do we address human rights which appear to be in conflict?**

Human rights are derived from the dignity of the human person and give rise to particular liberties. The essential equality of dignity among all human persons gives rise to an equality of rights. The right to informed choice, to personal genetic information, to freedom from discrimination are examples of individual rights that must be taken into account when considering applications of biotechnology.

The true good of individuals includes what each person must do for the good of all. The common good itself exists only in so far as it promotes the true good of each person. Rights and liberties are limited by our responsibility to others and to society. Allowing or avoiding some uses of GM may give liberty to one group, but deprive another group of liberty, or threaten the economic viability of a group or individuals.

This issue is particularly acute in horticulture and agriculture, with New Zealand growers and farmers divided on the use of GM. Competing claims are made about the potential damage to our economy if the use of GM is allowed, and if it is not
allowed. Sound and neutral research is needed to resolve these questions, and the extent of individual rights in relation to the common good cannot be determined without such research. This type of research needs as much attention as that given to scientific aspects of the GM debate if the liberties of some are not to be at the expense of others, or of the common good.

Other rights and freedoms enshrined in international covenants must also be recognised in the application and use of GM. For example, in 1998, when commenting on the Universal Declaration on the Human Genome and Human Rights, the Holy See observed:

“The Universal Declaration of Human Rights [article 18] and the International Covenant on Civil and Political Rights put freedom of conscience and religion on the same level as freedom of thought.”

The recognition of freedom of conscience and religion includes respect for different spiritualities, some of which originate in culture and oppose particular uses of GM. Unlimited freedom is an attribute of God, not of human beings. Our individual freedom is finite. Decisions concerning GM should not remove the rights of individuals to distance themselves from GM if conscience precludes use of the technology or its products. This is particularly applicable in relation to genetically-modified foods, a matter of great public concern. The mechanisms are available to ensure that those who do not wish to eat GM food can avoid doing so, while not depriving others of their right to choose GM foods if they are considered to confer an advantage.

For Maori, the relationship between people and the natural world is fundamentally different to the understanding found in many Western cultures. Out of this difference arise sometimes conflicting responses to scientific techniques such as genetic modification. A culture which understands the human person as in control of the natural world will respond to issues such as genetic modification in a manner which is different to that of a culture which views the human person and the natural world as interconnected, part of a network rather than a hierarchy with human beings at the apex. While there is an obligation on Maori to study and understand the science of GM and its implications, there is an obligation on proponents of GM and on society in general to respect the spirituality of Maori in making decisions about the use of GM.

The principles of partnership, participation and protection of resources contained in the Treaty of Waitangi cannot be ignored in any debate which brings us so close to the heart of human existence and our relationship to the whole of nature. In the The Muriwhenua Fishing Report, the Waitangi Tribunal stated that, for Maori, all the resources of creation are taonga - something of value - and that the following concepts underlie Maori thinking:

- a reverence for the total creation as one whole
- a sense of kinship with other beings
- a sacred regard for the whole of nature and its resources as being gifts from the spiritual powers, the atua
- a sense of responsibility for these taonga as the appointed stewards, guardians and rangatira
- a distinctive ethic of reciprocity
...a sense of commitment to safeguard all of nature’s resources (taonga) for the future generations.

Many of the issues in genetic modification have arisen from a non-Maori world and have their origins in a different cultural perspective. The Treaty of Waitangi requires respect for the “world view” of Maori, their spirituality, culture and traditions. The status of the Treaty principles requires explicit acknowledgment. They must be fully integrated into any framework to be used in New Zealand for individual or collective decision-making on issues associated with genetic modification.

The Way Forward - an Ethical Framework for Decision-Making

In order to prevent unethical or unwise use of GM, oversight of its use by appropriate bodies, established by regulation, is a moral imperative. We strongly believe that a framework of ethical principles is needed to assist individuals and the community to make informed decisions about the profound issues associated with genetic modification. We consider that such principles should be developed as the generally accepted norms for ethical decision-making in the use of genetic modification, and that regulation should be based on these principles.

Such a framework would provide consistency in decision-making and regulation across diverse applications, and continuity and stability across time. Some issues, especially cultural concerns, would be best dealt with at this principled level rather than being handled, as they currently are, on a case by case basis within the regulatory process.

If a framework of ethical principles were developed then it would be appropriate to review the regulatory structure to ensure that it is established and operating in conformity with this framework. It would be a great advantage if the Royal Commission were able to facilitate the development of a framework of ethical principles as an integral part of making recommendations on regulation.

There is also a need to ensure that as well as being ethically sound, regulation acts to facilitate and not to inhibit appropriate ethically acceptable research, technological advancement, and industry. If regulation is too onerous in areas of low risk, the benefits of genetic modification may be lost to New Zealanders as surely as if genetic modification had been prohibited.

In New Zealand our knowledge and abilities in the life sciences have not been paralleled by an associated development of the disciplines most able to advise us on the ethical and societal issues arising from biotechnology. Sufficient resources need to be provided for research and teaching in bioethics and similar disciplines, to allow them to contribute more fully to this debate and to others which will surely follow further scientific advances. Equally, public education and consultation processes are needed, so that an informed community can participate fully in discussion, confident in their knowledge of both the scientific facts and the ethical issues. The decisions to be made are too important to be left to one or two groups with particular interest or expertise.
Conclusion

Beneath any considerations of technological possibility, safety, commercial gain, therapy or environmental impact lies the fundamental question of the moral acceptability of genetic modification and its applications. In itself, the technology of genetic modification is not unethical. Like many human inventions it has great potential for good, but also the potential for harm which could affect not just current but future generations. Ethical and moral principles need to be at the heart of our decision-making in relation to the use of genetic modification.

Some applications of genetic modification, both possible and predicted, challenge our integrity and our values as a society. “The more that knowledge and power to intervene grow, the greater must be the awareness of the values at stake.” How we use genetic modification will be a statement of what we value as a society, and who we are as a people.