chapter |

3.

Cultural, ethical and spiritual issues

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Key questions:

- What values do New Zealanders hold in common?
- How do we link values to practical decision-making?

Introduction

1. Chapter 2 described a set of values shared by many New Zealanders and relevant to consideration of genetic modification. These values could be grouped into three spheres: cultural, ethical and spiritual; environmental and health; and economic and strategic. Chapters 4 and 5 consider the latter two spheres. This chapter discusses cultural, ethical and spiritual issues. The issues are difficult.

2. The ethics and cultural categories in the template for submissions from Interested Persons (IPs) were often empty, or filled with a rather general statement such as, "We seek to operate in an ethical manner". It does not follow that submitters had no views about ethical aspects or regarded them as unimportant. They may have been aware that other groups had a special interest in the subject and been happy to leave ethical aspects to them. Several corporate and professional groups[1] referred to codes of ethics for their organisation.

3. Many of the submissions from Maori groups and individuals referred to spiritual and cultural matters throughout their submissions. We include later in this chapter a focused discussion on Maori culture and spirituality. In addressing the question of ethics generally, the Commission identified three underlying issues.

4. The first concerns the difficulty in resolving some of the complex issues arising in the genetic modification and biotechnology area. Many Interested Persons submitted it was inappropriate for a local ethics committee to debate issues of a national or overarching nature. Local committees often felt a lack of expertise to deal with such issues. In other cases, the local committee came to a

decision after much discussion, only to discover other ethics committees had also spent much time dealing with the same matter. A pragmatic concern was that lengthy debates on complex cultural and ethical matters delayed regulatory processes associated with applications to the Environmental Risk Management Authority (ERMA). The point was not that such matters should not be debated, but that the debate and decision-making should take place at a higher level.

5. A second issue was how to link cultural and spiritual values (such as the sacredness of nature) with specific decisions (such as whether to approve the development of a transgenic cow). Values are important, but without linkages through to the specific decision-making area they can easily be dismissed. Likewise, specific decisions that take no account of a more overarching framework of values lose sight of the deeper values New Zealanders hold.

6. The third issue lies in deciding whether or not there is a common core of values in New Zealand and, if so, what the content of that core might be.

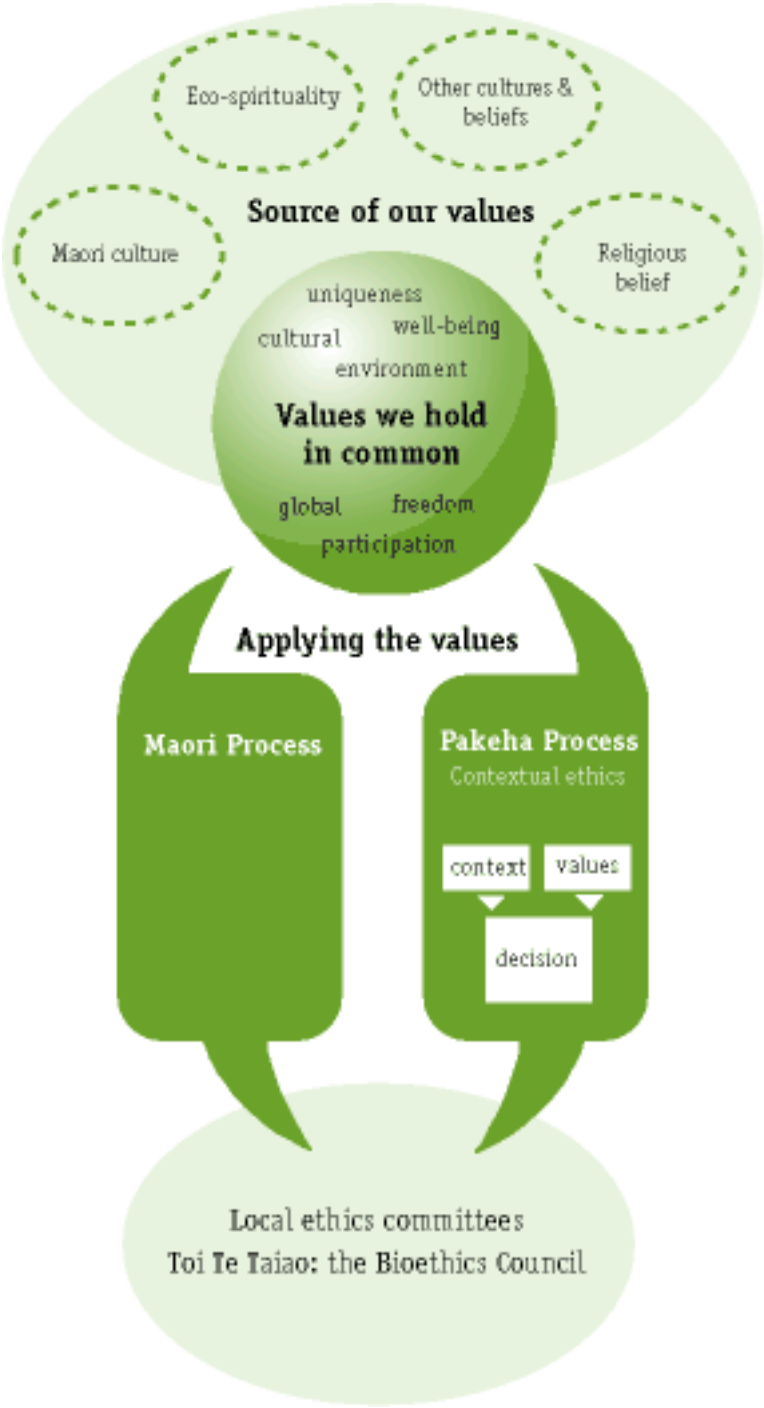
7. In this chapter we set out the various views presented, and structure them under four headings: where our values come from (paragraphs 8–37), identifying a common core of values (paragraphs 38–46), how we link basic values with ethical decision-making (paragraphs 47–108), and institutional frameworks to enable such decision-making to take place (paragraphs 109–118).

Where do values come from?

8. Throughout the Commission's inquiry, we heard that the choices New Zealanders make about the uses of genetic modification are linked to spiritual, ethical and cultural values. These values often arise out of what several submissions referred to as a world view:

> [A] world view ... refers to the comprehensive conception or apprehension of the world.[2]
>
> Matauranga Maori brought (and still brings) with it an intellectual curiosity and willingness to explore all issues; it begins by asking, "Why do we need to know?"[3]
>
> What people do ... to their world depends on what they think about themselves in relation to the things around them; all of us hold world views that affect our behaviour individually and collectively.[4]

9. A number of these world views, as they related to cultural, ethical and spiritual issues, were made quite specific by the submitters, and these we discuss below. Others did not discuss their world views or cultural assumptions with us explicitly, but the importance to them of particular values and ethical commitments was nevertheless apparent.


Eco-spirituality
Other cultures & beliefs
Source of our values
Maori culture
Religious belief
uniqueness
cultural
well-being
environment
Values we hold in common
global
freedom
participation
Applying the values
Maori Process
Pakeha Process
Contextual ethics
context
values
decision
Local ethics committees
Toi Te Taiao: the Bioethics Council

10. In non-Maori submissions, we have identified two main strands of "world views". In addition, Maori submissions often contained an outline of te taiao or referred to key elements underpinning a Maori world view, drawing on traditional concepts.

11. We are conscious in what follows that our descriptions are only brief summaries, that they simplify what are rich and complex ways of looking at the world, and that any individual or community may well draw on more than one of these world views. It is important to make these world views visible in the debate as they have an important place in shaping the choices made about ethical issues raised by genetic modification.

Te ao Maori: the traditional Maori world view

12. Values that are Maori bring a unique dimension to our assessment of the place genetic modification has in Aotearoa/New Zealand. Maori are indigenous only to this country, and their culture is shared with all New Zealanders. Symbols like the koru fly on our national airline and young Kiwis perform haka in London pubs to distinguish themselves from other cultures and ethnicities. This biculturalism is underpinned by the Treaty of Waitangi, signed in 1840 by representatives of the British Crown and representatives of iwi and hapu. "Two people, one nation" means both cultures, tangata whenua and tangata tiriti, need to understand each other's values, and find commonality so they can effectively communicate. This can be difficult for Maori who feel bound to hold fast to the traditions of their ancestors. A taua (woman elder) at the Christchurch hui, Terehia Kipa (Te Arawa, Tuhoe), said:

> Etahi wa, me tahuri ke te waka o tauiwi ma, engari ko te kei o te waka o te Maori, me rere tonu kia totika. [Sometimes the canoe of other races makes changes in its direction, but the steering of the Maori canoe should be in accordance with our traditions, it should travel on its set course.][5]

13. The Treaty partners must share this duty of communication equally. Maori are bicultural as they have to live in two worlds, whereas some Pakeha (non-Maori) choose to live only in a Pakeha world, but are increasingly finding that in Aotearoa/New Zealand they cannot. This can be challenging, especially for immigrants who find that they have not one, but two cultures to learn.

14. Spiritual values of Maori are often inaccessible to Pakeha unless they are intimately involved with Maori families at births, serious illnesses, marriages and deaths, in Maori homes and on marae. Even within Maoridom, this knowledge is not discussed casually or without appropriate reverence. The most sacred concepts are shared in the deep hours of night, on empty stomachs away from food, in

suitable settings, by worthy proponents suitably warded by karakia (prayers). Lack of knowledge of te reo Maori (Maori language) and tikanga (Maori protocol) form additional barriers to understanding concepts difficult to express in English. Some concepts such as tapu, which is particularly relevant to the discussion of genetic modification, are easy to express as they have been adopted into English to fill a void. Others like hara can have a wider pre-missionary meaning still in use, alongside its co-opted use by Christianity to translate "sin". For Maori, the right to learn this knowledge is both inherited and earned, and knowledge can be conveyed at unexpected times. At our national hui at Ngaruawahia one submitter presenting for some tohunga rongoa (healers using traditional Maori medicines), talked of being told about traditional medicinal plants in the car while taking the Taua to the supermarket to do her weekly shopping.

15. Maori spiritual values we heard about frequently involved the concepts of whakapapa, mauri, tapu and noa (and whakanoa), hara and ke, mana, ihi and wehi, whanau, hapu and iwi. All are relevant not only to understanding the holistic or ecological approach Maori have to the environment, but also to explaining why Maori prioritise a duty of kaitiakitanga or "obligated stewardship". To Maori this duty is easily explained by tracing whakapapa (genealogy) up through the ancestors, to the Gods, and ultimately to Papatuanuku, the Earth Mother, and Ranginui, the Sky Father. By going sideways in these kinship links, Maori trace descent lines for all living creatures and so have to honour them as kin. Many times being welcomed on to marae, or in the formal speech in Maori introducing Maori submitters, the Commission heard recitations of these whakapapa of indigenous flora and fauna. At Omahu Marae near Hastings, Poho-o-Rawiri Marae at Gisborne and at Turangawaewae Marae in the Waikato, we had sung to us a traditional Maori waiata (song), composed by Enoka Te Pakaru of Aitanga-a-Mahaki in the 17th century, telling of the coming of the kumara to Aotearoa/New Zealand and giving its whakapapa to display the value of kumara to Maori.

16. Maori believe they bear the spiritual costs associated with environmental degradation, irrespective of who initiates the transgression (hara). Sir John Turei (Tuhoe) at the Orakei hui in Auckland put it this way:

> In times past this connectedness was an essential part of survival. A breach of tapu (hara), was an offence to the land, to the people (tangata), species of the sky (kirehe o te rangi) and of the land (me te whenua) and this offence led to misfortune (aitua) and sickness or death (mate). [These] were considered to be the consequence of any wrongdoing or hara …[6]

17. Te Runanga o Ngai Tahu [IP41] spelled it out:

> Should they fail to carry out their kaitiaki duties, not only will their mana be removed, but harm will come to members of the whanau or hapu.[7]

18. Fear of harm is a very strong drive to action to prevent further degradation of the environment. Aitua (misfortune and accident) and sickness and death (mate Maori) manifest especially in weaker and dependent family members of those entrusted with the responsibility for the manawhenua.

19. Manawhenua is the primacy over a particular area of land. It lies with a hapu or iwi. Present ownership of the land or even occupation is irrelevant: manawhenua was won by battle, marriage and wits.[8] It is inherited by whakapapa (genealogy). Manawhenua can be strong or weak, extensive or very limited, or even disputed. But it is always there. There are appropriate protocols for Maori to deal with manawhenua. For instance, Maori outside their own tribal area and within the takiwa (rohe, tribal boundaries) of another iwi have clear roles and mutual obligations as taurerehe (rawaho, visitors and settlers). However, this tikanga framework does not encompass Pakeha, as has been brought into sharp focus by the recent debate over the insertion of a human gene sequence into cattle in the Waikato:

> … it's actually up to each individual iwi and hapu to speak about their own mana. I mean I can't go to Tainui for example and say, no you can't agree to put human genes in a cow, that's abhorrent, but at the end of the day that's their business and that's their choice … and there is no one Maori view; each hapu and iwi have their own view and that's their business.[9]

The ecological world view

> No longer can biotechnology rely on a public acceptance of the Enlightenment model of progress driven by a scientific conquering of the power of nature. Increasingly this is replaced by the notion of being part of nature and needing to work in harmony and balance with it.[10]

20. Several Interested Persons were explicit in their presentation of the ecological world view, and it could be recognised in others. Friends of the Earth (New Zealand) [IP78], Koanga Gardens Trust [IP72] and the Green Party of Aotearoa/New Zealand [IP83] all provided expositions of this view.

21. An ecological world view is based on an assumption of the interconnectedness of all life, including humans. All of people's lives, economy and mental well-being are ultimately dependent on maintaining the health of the natural world.

22. This position is not a rejection of science, but an approach to science from a different standpoint. As Friends of the Earth believes:

> The scientific philosophy of the ecological world view embraces general systems theory which takes the whole as its primary datum. It views the world from an eco-centric standpoint. It does not see humanity as separate from the environment.[11]

23. An ecological science recognises that introducing a change into the biological system is likely to create effects on the whole system, many of which we will be not be able to predict given the complexity of the system with which we are interacting. This approach highlights that "we do not know what we do not know", and that "genetic engineering has been easily accomplished but the hazards involved are difficult to predict".[12] Knowledge is sought to nurture our understanding of ecology and how the whole system works, but to do so in a way that builds respect – "respect for all living things, respect for the boundaries and limits of nature within which we are content to live, and respect for the connections and the processes that allow life to continue".[13]

24. Friends of the Earth contrasted this approach to science with an approach it sees as more dominant:

> Current scientific materialism on the other hand conceives humans as separate from the environment and the world as a collection of objects or categories. Its standpoint is anthropocentric.[14]

25. This approach to science is seen as advancing knowledge by breaking systems into smaller and smaller pieces – in biology the smaller part has moved from cell to nucleus, to chromosome, to gene, to the individual base pairs that make up the gene. Such science does reveal important information about the components of systems, but it does not, it is argued, have the capacity to look at the big picture, to factor in the effects of one change upon the system as a whole. And it tends to assume a view of nature as raw material for humans to use to redesign the universe for the benefit of humans. Life can be engineered.

26. This approach to the technology is also being questioned by some scientists who have pointed out that:

> The technology is driven by an outmoded, genetic determinism … The new genetics is compelling us to an ecological, holistic perspective, especially where genes are concerned. The genes are not constant and unchanging, but fluid and dynamic, responding to the physiology of the organism and the external environment, and require a stable, balanced ecology to maintain stability.[15]

27. The reductive approach to understanding the world is explicitly connected to a world view that sees humans as in some way outside nature. As Koanga Gardens Trust put it:

> … we have developed a belief (cultural myth) that we are independent of, and the master of, nature. That we can "do what we like" and that we can "fix" any negative consequences. This belief is very strong, and it is easy to see how we lend it this support when we contemplate the extraordinary "power" of our technologies.[16]

28. The ecological approach is developing alternative ways of thinking about ethics. Ecological thinking seeks ways to extend the moral boundaries to give a new or different moral value to animals and to the environment. In addition, an ecological approach presents ethical issues as being not only about the safety, risks and benefits of genetic technology itself, but also about the wider ramifications of the development of genetic modification technology for the social, political and biological systems of which it is a part.

Religious world views from the Judaeo-Christian tradition

29. A number of Interested Persons presented evidence from an explicitly religious perspective. This included the Jewish community and a number of Christian groups.

30. Each of these, in various ways, drew attention to the relationship between humans and creation, and the implications of living in a world that is fundamentally God's. "Life is a gift given in trust";[17] "Coherence of the biosphere is complicated and precious";[18] "Creation is our being not our enemy".[19] The orientation of these submissions was towards understanding the place of humans in the biosphere, and the responsibilities that flow from an understanding of that relationship as one of "stewardship", of responsibility to future generations, of discovery and awe rather than exploitation and ownership.

31. Richard Davis, appearing for the Public Questions Committee (Methodist, Presbyterian, Churches of Christ, Quaker) [IP93], said:

> Our religious tradition teaches us that we are much more than mere chemicals. A key message of the Biblical creation story is that without the spirit we are mere dust: "The Lord God formed man from the dust of the ground, and breathed into his nostrils the breath of life; and the man became a living being." (Genesis 2:7). Humans, cannot then, in the Christian view, be reduced to their genes, in a genetic reductionism. Humans are not merely the interaction of their genes with the material environment. Christians assert that there is a God who is the giver and sustainer of life.[20]

32. These relationships were described in various terms. The Interchurch Commission on Genetic Engineering [IP49] spoke of a duty to care for the

environment and a call to community with all who share creation. The Quaker Spiritual Ecology Group, Religious Society of Friends [IP50] noted the interdependence and inter-connectedness of all life forms. The New Zealand Jewish Community [IP80] wrote of a "theological or 'natural law' objection" to genetic modification implicit in biblical commandments, the purpose of which is to "preserve the essential nature of God's creation".[21]

33. In the formal hearings, the Commission discussed with various witnesses the mixed legacy of interpretation of the Genesis creation story. As Stephanie McIntyre, a witness appearing for the Anglican Church in Aotearoa New Zealand and Polynesia [IP42], said at the hearings:

> I think it's important to acknowledge the mixed legacy of the Judaeo-Christian religions with a predominantly human-faced morality. The church has in the past encouraged the tendency to set humanity over against nature in what at times has been a manipulative polluting way of life based on world views that were largely anthropocentric, that gave nature only secondary importance. Unfortunately at times Christian theology has played a key role in ecological and cultural malformation by giving impetus to modern rational scientific conquests of nature.[22]

34. Under cross-examination, submitters continued to affirm an interpretation of the Judaeo-Christian tradition as one of care rather than dominion. For instance, witnesses appearing for the New Zealand Catholic Bishops' Conference [IP38] talked of the world as a place given for human beings for their life and their ends, but this approach still comes back to responsibility to care for or practise stewardship of the environment. As Anne Dickinson, a witness for the Bishops' Conference, said:

> … human beings are the only form of life capable of stewardship and that in itself makes us different, that we are the only life form that can actually act in a stewardship role to the rest of the planet.[23]

35. The question of the extent to which humans should manipulate the world was raised in various ways, and tied to a concern or search for wisdom. The Catholic Bishops' Conference did "not see the technology of genetic modification in itself to be in conflict with ethical values. However … there may be uses of genetic modification that are unethical or unwise."[24] It argued for an acceptance of ourselves as people with freedom and moral responsibility, but also, in relation to its discussion of germ line gene therapy, that "we as a people do not yet have the wisdom to handle the far-reaching consequences of its use".[25] The Anglican Church spoke of a concern "about the arrogance of people towards the intricate and subtle relationships which sustain life on the planet".[26] It called for a humility before the creator and creation, for learning from the least dominant and the least

powerful, who gained their wisdom from "managing the balance of their lives and their environment".[27]

36. Many of the religious groups' submissions were oriented towards responsibility to the vulnerable, a need to care for the disadvantaged, to take them into account, a concern that commercial considerations not outweigh ethical ones. Many submissions affirmed the importance of recognising the values of the Maori world view.

Other cultures and beliefs

37. New Zealand today encompasses an increasingly rich diversity of peoples, cultures and beliefs. Many will see their particular value-set arising from one of the three traditions set out above. Others will draw their values from different sources, some religious, some philisophical. Some may have distilled a set of working values based on their experiences and reflections of life. Some may be guided by universal codes such as the United Nations Declaration of Human Rights. Recognising this diversity of sources, the Commission sought to discern common ground between them.

Is there a common core of values?

38. In a pluralistic society people draw their values from different sources. It is not appropriate for one group to seek to impose their values on others. But in the midst of such diversity, can a common core of values be found as a basis for ethical decision-making? The Commission debated that question and decided that such a common core of values exists.

39. For example, the Warrant establishing this Commission implies certain values to which the nation holds. The Warrant directed us to take into account such matters as the health of ecosystems, human health, consumer choice, cultural and ethical concerns, and economic factors such as research, primary production and exports. We were directed to consider the Crown's responsibilities under the Treaty of Waitangi, and to consult widely with Maori and the public in a way that allowed them to express their views on such matters.

40. Sections 5, 6 and 8 of the Hazardous Substances and New Organisms Act 1996 (HSNO) also imply certain values when they refer to the economic, social and cultural well-being of both present and future generations, the intrinsic value of ecosystems and the safeguarding thereof, the sustainability of native and valued introduced flora and fauna, the relationship of Maori with taonga, and the Treaty of Waitangi. Later the Act provides for public notification and consultation with regard to some applications.

41. A value-set shared by most New Zealanders was also apparent from the extensive consultations the Commission engaged in. While there were widespread differences of view on how to give effect to shared values, nonetheless there were values we identified as common to submissions.

42. No one doubted, for example, the need to preserve the life-giving capacity of our environment for generations still to come. The Treaty of Waitangi was recognised by many as playing a key role in decision-making, even though there was much discussion about the weight it should be given. The future well-being of all New Zealanders, to be achieved through robust health, educational and economic strategies, was never questioned.

43. Convergences between different value sources were also apparent. Maori, for example, drawing on their spiritual and cultural heritage, have a strong sense of the sacredness and interconnectedness of the earth and all life forms. Judaeo-Christian groups draw on the biblical tradition to reach the same conclusion. Those who come from the ecological world view have a similar holistic understanding of ecosystems based on their perception of the intrinsic value of all life.

44. All of the above considerations led us to the view that, not only was there a common core of values that New Zealanders shared, but also that it was important to name those values as a foundation for ethical decision-making. In chapter 2 we listed those values as:

- the uniqueness of Aotearoa/New Zealand
- the uniqueness of our cultural heritage
- sustainability
- being part of a global family
- the well-being of all
- freedom of choice
- participation.

45. Relating such values to specific decisions, however, requires careful consideration. A recent judgment of the High Court,[28] for example, showed just how fine and subtle a process it is to weigh the impact on the spiritual well-being of Maori of the insertion of a human gene into a cow.

46. An effective process needs to be found to ensure that key cultural and ethical considerations are not excluded, or that economic and social consequences do not weigh unduly on those least able to carry them. It is to establish such a framework that we now turn.

Ethical decision-making processes

47. We have seen how people draw their values from different sources, and yet also hold values in common. Identifying such values is only the first step to decision-making as New Zealand deals with the cultural, ethical and spiritual challenges raised by genetic modification. Values need to be set in a framework that allows decisions to be made. Scientific research is conducted subject to ethical considerations. Dr Ingrid Winship (Associate Professor in Clinical Genetics, University of Auckland) told the Commission:

> I would say that research and any of what we do in our faculty is not done in a vacuum. We do have strict ethical standards, and there is a process through which all researchers must go in order to adhere to [those] ethical standards.[29]

Specifically, genetic modification research is already guided at a local level by the decisions of animal and medical ethics committees.

48. In the next two subsections we discuss the process of decision-making, considering both Pakeha and Maori approaches. We use the issue of transgenic animals as a case study to illustrate the process. In the last subsection we discuss institutional structures that we would recommend for making decisions at local and national level.

Pakeha approaches

49. The need for a more focused approach to decision-making was noted by many witnesses, especially with regard to complex cultural and spiritual issues, or ones of overarching significance. For instance, ERMA commented that:

> There exists no clear mandate from the New Zealand community concerning the ethics of genetic engineering ... [there is a] lack of any ethical framework which has been developed following wide and informed public debate.[30]

50. The Catholic Bishops' Conference stated that:

> 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.[31]
>
> We strongly believe that a framework of ethical principles is needed ..., and that regulation should be based on these principles. Cultural concerns may be best dealt with at this principled level rather than being handled on a case-by-case basis.[32]

51. But how to develop an ethical framework? Dr Maurice Ormsby, in his witness brief prepared for the New Zealand Wool Board [IP30], said:

> … most ethical frameworks can be divided into those that are consequentialist, or those that are deontological. … Deontological theories hold that actions are right or wrong in themselves … for example a deontological approach to our reverence for life would argue this is a fundamental value, and one we must not betray regardless of the consequences.[33]

52. Consequentialist theories (of which utilitarianism is an example) argue that an action is judged morally right or wrong by virtue of its consequences.

53. Dr Ormsby argued for a utilitarian approach which gives due weight to the interests of all people equally. He argued that this is the appropriate approach to use in public policy, as:

> … it does not make any assumptions about what your particular interests or values may be. It merely recommends the policy within which every person's values and interests can be advanced to the maximum.[34]

54. Utilitarian arguments have been extended to include concern for those organisms capable of experiencing pain and suffering. SAFE (Save Animals from Exploitation) [IP85] told the Commission that most modern ethical theories, including utilitarianism, "refer to a direct or indirect duty of human beings to avoid (unnecessary) harm to animals".[35]

55. Some problems with utilitarian approaches were raised with the Commission. For instance, the Green Party questioned whether we can ever have sufficient information to make all the calculations of well-being and utility required by an utilitarian approach. It pointed out the limitations of any utilitarian approach that takes the human individual as the prime measure of value and pays insufficient attention to the natural order of which humans are a part.

56. A utilitarian framework also does not appear to capture a cluster of other issues raised with us. People spoke of the "intrinsic worth" of organisms and of the biosphere. They did not think we should be "playing God". Gary Comstock, Professor of Philosophy and Religious Studies at Iowa State University, USA, in his witness brief prepared for the New Zealand Life Sciences Network [IP24], discussed the inadequacies of these "intrinsic" concerns when they are applied to objections to genetic modification, and argued that such objections could not be sustained. However, we are aware that they capture something of importance to many people about the extent of human responsibility, and to what extent it is appropriate to use the power that technology gives us.

57. The Catholic Bishops' Conference spoke of human beings as "essentially relational by nature, with our most fundamental relationships being with God, self, others, the earth and all its life forms".[36] It emphasised that decision-making must take into account the needs of the poorest and most vulnerable, an approach that frames the issue as being, at least in part, about social justice and the distribution of benefits.

58. The need to make decisions in a relational or holistic way was also emphasised by some environmental groups. For instance, Friends of the Earth recommended "the institution of sound ecological principles as a basis for resource management and related national and international policy".[37]

59. Reflecting on the various contributions presented to us we identified four key elements in the ethical decision-making process:

- a clear statement of the values to be used as criteria (our common core)
- full information on the specific data relating to the case to be decided
- a holistic approach that looks at both the data and the values in a connected manner
- appropriate participation by stakeholders (all with an interest) in the decision-making process.

60. Participants in the process will bring a diversity of views. Different interpretations of the values may be made, and different assessments of the significance of the data as well as of proposed solutions. Some values will be of higher significance than others. For example, the preservation of human life or the ecosystem will take precedence over freedom of choice if a particular decision puts human life and the ecosystem at risk. Weighing the claims of one stakeholder group against those of another also requires fine judgment. Building a consensus that takes account of all the key elements is required in order to avoid flawed decisions.

A Maori approach

61. Maori decision-making is grounded in the different cultural values laid out in the previous discussion of te ao Maori. No distinction is made between the process and the outcome. A bad way of going about decision-making cannot lead to a good outcome, one that is acceptable to Maori. In fact, the process shapes the decision.

62. Traditionally Maori decision-making is characterised by the following:

- Consensus is preferred, even if it takes extra time. However, once decisions are made, they are actioned quickly and decisively.
- Emotion is expected, vented and tolerated, especially when mana is challenged. Reconciliation then is a part of the way forward to the consensus decision.

- When reconciliation and consensus do not emerge easily, Maori say, "Waiho ma te wa" (give the problem time and space to find the best solution), and will leave the take (subject of discussion) on the floor. This can be strategic withdrawal to better marshal forces for further debate, rather than a withdrawal of the issue. The following meetings indicate whether the take lives or not, not the action at that time.
- Importance accorded by individual speakers to the subject matter is displayed by shortness in speeches, which use formal, allusive, poetic and archaic language. Wit, brevity and passion are appreciated as an honour to Tane, the god of whaikorero (speech-making). The introduction and the waiata at the end can say as much as the body of the speech, and are also used to show the degree of support a speaker has.
- Silence is important. What is not said and who does not speak are equally noted.

63. Whakapapa gives both an order for speakers (and consequent patient acceptance of long silences while speakers prepare to stand), and the means by which listeners weigh contributions. It can also cut out speakers in a way confusing to listeners who do not understand, or adhere to, the intricacies of tikanga. For instance, at Gisborne we heard a prepared submission presented by the brother-in-law (who was within his mother's rohe) for a kuia. She, as rawaho, was constrained by the presence of the Commission's own translator. He, as the son of her eldest brother and raised by her father, is the pukenga (repository of knowledge) for the family. That we heard the submission at all was a tribute to her deep knowledge of tikanga and ability to find a way through it. Not all Maori are as skilled. Since breaches of protocol can be hara, whether deliberate or inadvertent, and cause misfortune or death (aitua) or injury or sickness (mate Maori), it can be seen that silence does not necessarily mean assent. It may or may not.

64. This Maori framework does not always fit comfortably when English is used, whether by Maori or Pakeha, as confusion arises over which has "right-of-way". In a Maori setting, speakers will turn to te reo Maori and tikanga Maori in any conflict. Lack of consensus and argument will always trigger speeches in Maori, which can cut non-Maori speakers out of the discussion. Serious issues, as defined either by outcomes or by association with tapu concepts like the subject of genetic modification, tend to do this too. It is not because Maori are not familiar with Pakeha meeting protocols. For instance, every marae in Aotearoa/New Zealand is run by a committee called the komiti marae. This has a chair, treasurer, secretary and elected or co-opted committee members. Komiti marae meet regularly on set dates, run by agenda, usually take immaculate minutes and are over in the prescribed few hours. They differ from Pakeha counterparts in that non-members

sit in and are involved. Consensus means votes are rarely taken. If important contentious issues are raised, kaumatua will often move into formal tikanga, which is respected and the points made are given added weight.

65. When organising meetings with Maori these things need to be taken into account if a good process and outcome is to be achieved, whether within Maoridom or as a part of the consultation process between tangata whenua and tangata tiriti. Whether the setting is a Maori one such as a marae, or a Pakeha one such as a hired hall, also shapes the outcome. Ahi ka, sometimes expressed as "keeping the home fires", means that mana is enhanced by residing close to the traditional home marae which may be remote and rural. Hence kaumatua and tohunga (traditional experts) are rarely found far from such settings. Less prestigious representatives are sent to meetings further afield. These Maori are often the ones known in the Pakeha world, but they have less authority and need to check back with their senior advisors frequently to remain authentic. If they do, they remain accountable to their own hapu and iwi. If they do not, they risk being misleading.

66. Thus consultation involves accountability back to the iwi and hapu. In a following chapter concerning the Treaty of Waitangi, there is a model for consultation as developed by a large commercial company with which we were impressed. It is shown in detail to give one successful way of doing it. There are others.

67. The difference in the ways Maori and Pakeha arrive at decisions means that there needs to be careful consultation if common ground is to be found. The values and world views do not need to be shared, but need to be understood and respected if a mutual way forward is to be agreed. Time and time again the Commission heard complaints from Maori that, in the field of genetic modification, Maori were not adequately consulted by scientists and decision-makers. Bevan Tipene Matua (Ngai Tahu, Kahungunu), a lecturer in "Maori and Science" at the University of Canterbury, said at the Christchurch hui:

> They [the scientists] are unable and don't want to create or enter into the Maori world or create relationships to ensure that our rights are protected but also the taonga themselves are protected.[38]

68. Moana Jackson (Kahungunu), presenting for Ngati Kahungunu Iwi Authority at Omahu Marae, Hastings, quoted one of Maoridom's most distinguished kaumatua:

> The late Hohua Tutangaehe once said having to be reactive all the time is one of the hardest things for our people. It often limits how well we can address an issue because we are always rushing to meet someone else's time frame or someone else's ideas about what

> is important. Every time we are asked to give a perspective we are already responding to something that has been decided or the main ideas are already set in concrete … as a result our people have often been asked questions impossible to answer in time frames impossible to keep.[39]

69. Vivienne Taueki in presenting a submission from the Muaupoko Co-Operative Society [IP57] said:

> … and you have to go through a public process where you have to bring a lot of very sacred information to an environment that is not correct or appropriate for that information …[40]

70. The Reverend Edward Ellison (Ngai Tahu) at the hui at Otakou kaik, near Dunedin, told us that:

> Even with contained experimentation we believe there are questions and issues to be answered in the way those applications are processed so that we with manawhenua are part of that process, we're not excluded … [41]

A shared way ahead

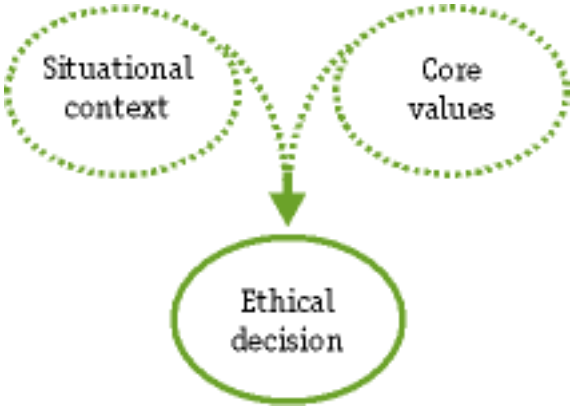
> Te taha wairua, kaua tatou hei mahi tatau anake. Engari whakapirihia tetahi ki tetahi kia pai ai te haere i nga ra e tu mai nei i mua i o tatau aroaro. [The spiritual element is that we should not work for ourselves but instead we should work together so that the future is secure.] Sir John Turei (Tuhoe)[42]

71. The different responses to the cultural and ethical challenges raised by genetic modification have contributed to our thinking. The challenge remains – how to take the common values that permeate the conversations and translate them into actual decision-making when there still remains a diversity of views about what should be done, or not done.

72. Our view is that ethical decisions arise at the conjunction of values with the specifics of the situation.

73. There is a need for careful analysis of such factors as environmental impact, economic impact and human health. A strong and detailed grasp of the evidence and likely outcomes from the various uses of genetic technology is essential. Alongside that it is also essential to make visible the values that are being used to balance and weigh the significance of those facts.

74. Prioritising values will require careful consideration in the light of particular circumstances. Also, those from different world views may have quite different interpretations of the significance of, for example, the release of genetic modification techniques to control possums, and how to balance different values.



75. There is also a balance to be struck between the rights and aspirations of different groups in the community. Genetic modification will produce situations where some feel their rights restricted by the need to meet standards to protect human health, address cultural and environmental considerations, and allow for diversity in farming. For example, the research and development of new products and processes will need to conform to established regulatory frameworks. Applications of genetic modification for human health that do not meet required standards may not be permitted in New Zealand. Diversity in farming methods necessitates good negotiation skills among neighbours to ensure that one type of crop does not become a threat to another. As with other areas in society, the freedoms of all groups should be protected to the extent that they do not impinge upon the freedoms of others.

76. There is little difficulty in agreeing to the restriction of choice when safety is at significant risk. However, there will be times when we may choose to restrict choice because of a societal decision that there are some uses of a technology that are unacceptable for cultural, spiritual or ethical reasons. For instance, a society may choose to ban the use of cloning for human reproduction, even were it to be "safe" and an individual wished to use the technology.

77. Given the value we place on choice, it is essential that any decisions made to restrict those choices are based on full information carefully considered. The discussion should involve all interested parties, and be made by institutions that have the authority and trust of society.

78. Many factors need to be weighed, but a mutually agreed process will assist. Both framework and implementation become clear in the case study on transgenic animals that follows.

A case study: transgenic animals

79. Transgenics is the movement of genes across species boundaries, for instance the insertion of human genes into a mouse. A range of concerns about transgenics were raised with the Commission. It became clear that there were a number of distinctions that had ethical significance to people. People framed the issues in a number of ways, which attached cultural or moral significance to different groups of organisms.

80. Transgenic organisms are used in various ways; for example, as a tool to understand how genes function, to develop organisms that can produce pharmaceuticals or to develop organisms with advantageous characteristics.

81. Some submitters did not directly identify or discuss any ethical or cultural issues associated with the production of transgenic organisms. Their discussion was confined to the scientific and economic implications of the use of transgenic organisms such as their use in research in containment, the potential for transgenic animals to produce proteins in their milk and the subsequent economic benefits, or the impact of consumer preferences on business opportunities to use transgenic organisms in the food chain.

82. Others named some distinctions, or categories of thought, that they saw as ethically or culturally significant.

83. For instance, SAFE is concerned with animal welfare, and considered the production of transgenic animals raised several issues. Firstly, there is a concern that the potential to produce these animals leads to incentives to increase the number of animals used in research – against recent trends to reduce the numbers used. Secondly, there is a concern for the inherent worth (rooted in the integrity of the genome) and dignity of animals (which equals respect for the entire being) which is violated by genetic modification. Animals, SAFE argues, have a recognised status, based on sentience, that is higher than for non-sentient beings. But that respect for integrity means "even if animals can be treated in a way that does not cause severe pain, and does not damage their health or welfare ... the treatment may still be morally objectionable".[43] The time when an exception may be acceptable would be when "the alteration was beneficial to the animal itself, rather than of benefit to the use, or user, of the animal". SAFE acknowledged the difficulties raised by the concept of species integrity, but argued the term "integrity" has been introduced to fill a gap between moral theory and moral experience. Technological developments are producing moral dilemmas that are not well dealt with using traditional concepts, and we need to "refine our moral thinking".

84. The New Zealand Transgenic Animal Users [IP45] approached the issues in quite a different way. It argued:

> GM animal research creates additional issues, because of the various perceptions of genetic modification as unnatural, or "playing at being God". In any consideration of ethics and cultural sensitivities to do with GM animals, we must also weigh up the enormous benefit to medicine and therefore to a large number of individuals that this research brings. It is our view that the benefits of GM animal research offer such promise to so many people by improving knowledge and alleviating human ills, that decisions to not pursue GM animal research must be justified not only in terms of animal welfare, but in terms of the potential human costs that may result through lack of knowledge and inability to develop new therapies.[44]

85. It would seem that for this group any "intrinsic" concerns, such as unnaturalness, were more than outweighed by the potential for considerable benefit to flow from the use of transgenic animals. It focused on the benefits to medicine, but its position could be extended into economic benefits, as has been done by some submitters, such as the New Zealand Dairy Board [IP67], which discussed and encouraged such benefits without explicitly engaging with the ethical issues of transgenics as such.

86. Modifying animals by inserting material from human chromosomes was strongly opposed by both Maori and Pakeha submitters. However, the reasons given are different, and the lines drawn are different. It was Pakeha submitters at public meetings who raised the tapu against bestiality as an argument against transgenics, as did a few anonymous public submissions.

87. Maori and Pakeha both raised the tapu against cannibalism. This was often made explicit. Tuhoe kuia, Mere McGarvey, said:

> What happens in terms of crossing a human gene with a tomato? And we as people inadvertently eat the tomato. Is that comparable to cannibalism?[45]

88. As this tapu was substantially modified by the early missionaries, the same submitters often went on to question whether humans had a right to interfere with God's creation in this way, citing the Maori belief that such arrogance precedes retribution, aitua and mate Maori.

89. Maori in pre-Treaty of Waitangi days did practise cannibalism: it was a way of deliberately diminishing mana and rendering the sacred profane. Not only was the question raised about whose genetic contribution might even be accidentally eaten because of inadequate labelling of the mutton or beef, but there was deep anxiety that genetic material derived from Maori could be used this way in the future. This would then raise individual mana and manawhenua issues as well as

those of hara. These issues caused major battles in the past and no one wished to re-open them in this way.

90. Maori differed from Pakeha submitters in the use of the concept of mauri to explain why transgenics involving living creatures was wrong. Mauri is the life energy or the soul and is shared by all living things. Even inanimate objects like cliffs, stones and especially water have their own mauri. Many submitters took the view that mixing this mauri by creating transgenic animals was wrong. For instance, Angeline Ngahina Greensill (Tainui), a witness for Nga Wahine Tiaki o te Ao [IP64], said:

> Everything possesses a mauri or life force and is to be respected. Because everything is inter-related and interconnected, any mutilation, modification or unnatural desecration of any part affects the whole.[46]

91. Atihaunui-a-Paparangi kuia, 90-year-old Te Manawanui Pauro, at the regional hui at Wanganui said:

> Ko tenei ahua, e koutou e nga matauranga, kaore e tika ki te hono i toku toto o te tangata ki te kararehe. He kararehe ano te kararehe, he tangata ano te tangata. [It is not right, learned folks, that my blood, the blood of a human, be mixed with the blood of an animal. An animal is an animal, a human is a human.][47]

92. Tamati Cairns and Paora Ammunsen, when giving evidence for the Life Sciences Network, took the view that this mixing occurs all the time anyway.

> The water piped through a family home has a mauri that mixes with the mauri of the drainpipes and eventually the mauri of the water glass.[48]

But added:

> However, it is fair to say that the mixing of human genetic material with the living tissue of other creatures or other living humans provides a sharper focus on the mixing of tapu of man with the tapu of other men or species than has customarily been contemplated by Maori tohunga.[49]

93. They explained the role of karakia (prayer, ritual) to enable the mix and avoid hara, and they quoted a Tuhoe tohunga they had consulted:

> Kaore he tapu rawa e kore rawa e taea te wananga. Heoi ano he utu to te tapu, ko te mahi o te tohunga, he rapu huarahi e taea te whakamarama ake i te utu mo te iwi. [There is no tapu beyond all tapu that cannot be analysed. However all tapu require some compensation. The role of the tohunga is to minimise the price paid in managing the effects of the tapu on people.][50]

94. To Maori, the mauri of a species can be damaged if extra or different foreign genetic material is added, or if existing DNA is deleted or "knocked out".

If it is just mapped or analysed for diagnostic reasons, then there is no problem. George Ria (Rongowhakaata) said at Gisborne:

> You referred to the technology identifying species … no problem about that … it is not changing the spirit of that particular ika, ngarara [fish, insect] whatever, it is not changing the mauri.[51]

95. Two kaumatua at the planning hui at Tunohopu Marae, Ohinemutu, in Rotorua, compared traditional stories about the mixing of species in the formal welcome on to the marae. They noted tribal traditions of demigods who could change at will into birds and monsters or who existed in a chimera form. Both noted that while the notion was not unfamiliar, it belonged in the realm of the gods and smacked of immense arrogance. Haare Williams (Tuhoe, Aitanga-a-Mahaki), Vice President of Unitech, Auckland, at the Rotorua hui at Tamatekapua Marae, told in detail the story of Maui-Tikitiki-nui-a-Taranga challenging Hine-Nui-te-Po, the powerful Goddess of Death seeking immortal life. Maui died.

96. Many times this story was quoted to us. Most saw it as an injunction against tampering with powerful forces involved in life as in the genetic modification of animals. A few took the opposite moral. They noted that prior to this Maui had successfully challenged the God Ra and slowed the sun, fished up the North Island and been rewarded for his audacity. Mr Cairns and Mr Ammunsen suggested that the moral of the story was about better planning!

97. At the beginning of the Commission's work the concept of iratangata was raised by Bevan Tipene Matua and in a paper by Nici Gibbs.[52] This is a profound concept for Maori, and refers to the essence of humanity. While some Maori have chosen to use the term to refer to DNA, it is far deeper than that and not discussed easily, especially outside marae or by younger people. To the Commission it seemed that there was sometimes confusion of this concept with mauri, and the deeper level of discussion was not evident. Similarly, Mr Tipene Matua, and Mr Ammunsen and Mr Cairns, talked of inadequate debate within Maoridom. The latter noted this reluctance to discuss such issues also applied to other areas of biotechnology such as acceptance of human-to-human organ transplants by Maori, which is currently far lower than Pakeha.

98. It was only Maori who felt that the tapu against incest is transgressed by transgenics. Many referred to old whakapapa showing the interconnectedness of various species in this situation to show transgenics was to them morally wrong. At the national hui at Ngaruawahia, humour was used in a very Maori way to reinforce this point by a spokesperson for Whanganui Iwi Organics group:

> Ma nga kaumatua e ako i tou whakapapa. Engari he aha te tika he aha te pono o tenei mea, ka moe a Hohepa i a Merania te kau. Moo! Ka puta ki waho ko doughboy, ko Tote, ko

> Lambchop, i a Puha ka puta ki waho ko Boilup. [Your elders should teach you about your genealogy, who your relations are. But listen to this scenario. Hohepa took Merania the cow as a wife. Moo! They begat Doughboy, Salt, and Lambchop. Now. Lambchop married Puha [sow thistle] and they begat Boilup.][53]

99. The incest tapu was also raised by those worried Maori genetic material could be used to modify animals or plants in the future. This tapu and the injunction against cannibalism meant Maori made a clear distinction between using human DNA sequences compared with using chemically similar or even identical sequences derived from other mammals.

100. Some creatures are valued by Maori above others. These change from iwi to iwi, hapu to hapu, and sometimes from whanau to whanau. These taonga species may be indigenous to rohe: occasionally they can even be exotic species whose spiritual significance to a whanau relates to an important historical event or tipuna taureherehe (ancestor who came from another tribe or from overseas). Such creatures portend good news (tohu) or bad (aitua) for Maori, and are treated with respect and value in environment management.

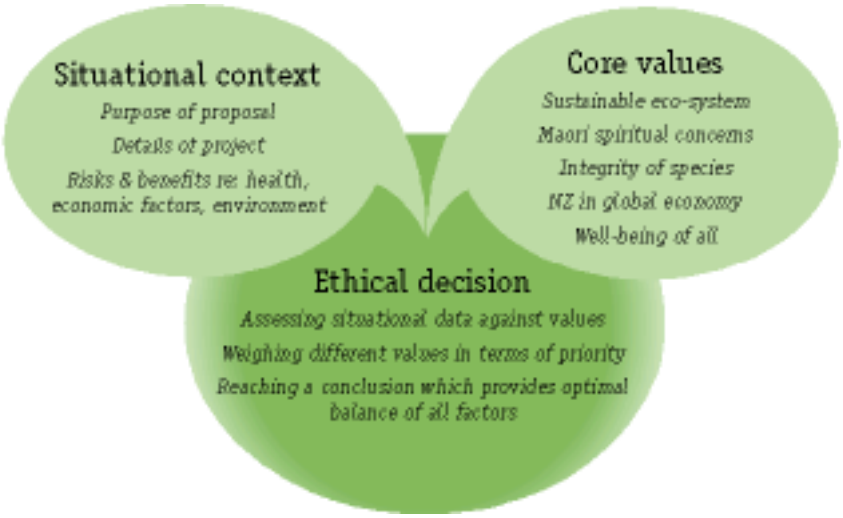
101. At the Napier public meeting which was in a hotel overlooking the Ahuriri marina, the kaumatua who opened the meeting told us of visits to the lagoon of a large dolphin, which sometimes manifested as a whale, which always preceded and sometimes predicted important events for the iwi. During the Commission's hearings a number of references were made to the gene sequencing done on the tuatara, initially without consulting the iwi involved. It was the Commission's kaumatua, Pihopa Kingi (Te Arawa), who observed that while there are eight iwi in the Marlborough Sounds, which is the main habitat of the tuatara, it had been only Ngati Koata who strenuously objected. For this iwi, the tuatara is taonga species and the iwi responsibilities of kaitiakitanga meant consultation in depth was needed prior to any such research being done.

102. The taonga species are not necessarily valued because of their similarity to humans, or their ability to feel or think. While SAFE noted that the Animal Welfare Act 1999 provided extra protection in our law for the great mammals like chimpanzees and gorillas, and marine animals such as whales and dolphins, Maori often value humble species like snails and lizards. Ngati Kuri as WAI 262 claimants, Ngati Wai, Ngati Kuri, Te Rarawa [IP89], are very protective of their puharakeke, a large indigenous snail that is associated with flax and confined to a small range in Northland. At our Dunedin hui at Otakou kaik a lone fantail came into the meeting and sat above the Commission on the rafters and sang very loudly. This was interpreted differently by Maori and Pakeha participants.

103. Thus, the evidence presented to the Commission identified a number of ethical and cultural distinctions and categories that any decision-making body would need to weigh up. We have distinctions between sentient and non-sentient organisms and the importance of that for animal welfare, concerns for the integrity and dignity of species, concepts of benefit (of various kinds). There are distinctions between indigenous and non-indigenous species, and taonga species and those that are not valued in such a way. And there are different concepts and cultural understandings about who or what is responsible for safeguarding or protecting species.

104. Any decision on these issues will require careful articulation of the issues, and a balancing of the various concerns. It will require both consideration of specific decisions (for example, the insertion of human genes into animals) and the development of generic positions that can provide clarity and consistency of guidelines for researchers and institutions.

105. We advanced this case study on transgenic animals to illustrate the ethical decision-making framework outlined earlier. We may draw the different strands from the discussion and frame them under the headings in this manner:



106. We noted previously from the High Court judgment in the *Bleakley* case that at one level a process of this kind is already followed by ERMA in implementing HSNO. The principles and matters laid down in sections 5, 6 and 8 of HSNO approximate to the core values named in this Report. In terms of situational context, both HSNO and its methodology specify the types of factors ERMA is required to take into account in giving effect to the principles and purpose of the Act.

107. The Commission is not, therefore, proposing a novel procedure. We see value, however, in making clear the basic elements in reaching ethical decisions. We emphasise that when key elements are excluded from the process flawed decision-making ensues, with consequential damage to people and the environment.

108. While ERMA is following the procedure at one level, it is also asking for a body operating at a higher level to address some of the more complex and over-arching issues that now come before it. Other Interested Persons echoed this concern, and we address that matter in the concluding part of this chapter.

Institutional responses to cultural, ethical and spiritual issues

109. In addition to the call for decisions made within a framework of values, a number of submitters proposed that ethically based policy decisions should be made at a higher level than the level addressed by ERMA or current ethics committees.

110. Existing ethics committees cover research both with human subjects and with animals. They deal with many issues on a case-by-case basis. Their roles are clear, and we heard nothing that suggested fundamental changes are needed.

111. The need for an additional, higher-level body was frequently noted. For instance, ERMA pointed out its difficulties in responding to a range of concerns:

> ... The balancing up of spiritual beliefs and scientific endeavour has been problematic as this is not a matter solely for judicial weighing up. A broader approach is required to provide a context in which HSNO can operate in dealing with these kinds of issues.[54]
>
> ... no institution is entrusted with the big picture ethical issues.[55]

112. The Parliamentary Commissioner for the Environment [IP70], answering a question put by Chris Webster for the Maori Congress [IP103], told us:

> What seems to be very difficult here in New Zealand now is to create those arm's-length institutions which inevitably have to be funded with public funds, and do it in a way that instils total public confidence and enables them to be sufficiently funded.[56]

113. We see a compelling need for a body to address the big picture issues where new forms of technology pose societal questions that go beyond individual choice. We therefore recommend in chapter 14 the establishment of Toi te Taiao : the Bioethics Council, whose task will be to consult with the community on significant ethical issues and develop guidelines to assist existing ethics committees.

114. We see the question regarding transgenic animals, for example, as one where the Bioethics Council would develop guidelines at a policy level. Case-by-case assessment by ERMA would still be required in order to consider the details specific to each application.

115. Other issues the Council might consider are when and under what conditions would germ line gene therapy be acceptable, or what uses of genetic testing should be available in New Zealand?

116. In establishing guidelines the Council would need to be familiar with the facts of specific situations, but in addition would consider the issues raised in a much broader framework. It would, for example, consult with Maori nationwide, while leaving ERMA to take into account the views of local Maori on a specific application. The Council would seek expert advice on environmental implications at a national level, or the strategic significance of such a development to the nation's economy. If the application were a medical one, it would consult on health implications for the population at large, and possible social consequences. The Council would regularly consult with ethicists, and at times with religious leaders on spiritual issues.

117. It is important that the Bioethics Council contributes through its decision-making processes to the building of trust between the biotechnology community and the wider society, and also to the development of a more coordinated approach to policy development and consultation.

118. In the absence of an effective framework for ethical decision-making, decisions about the use of biotechnology will be made by default. It is vital that the Bioethics Council promote continuing consultation and active choice, allowing developments in biotechnology to be based on the values we hold in common. Membership will need to include people with appropriate expertise, and represent the range of world views and cultural values. We discuss this further in chapter 14.