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# A Critical Analysis of the Incorporation of Tikanga Māori in Decisions on Genetic Modification

Olivia Marie Oldham\*

*Many Māori have asserted that genetic modification contravenes tikanga Māori in a number of ways. The majority of decision-making on genetic modification in New Zealand has been carried out under the Hazardous Substances and New Organisms Act 1996. This article discusses the ways in which tikanga Māori (custom) is incorporated into that decision-making process. It is argued that substantive and procedural barriers have prevented tikanga from being effectively considered. The failure to adequately incorporate tikanga into decisions is argued to be inconsistent with core principles of te Tiriti o Waitangi — particularly partnership and tino rangatiratanga (self-government). Attempts have been made to improve decision-making practice over recent years, but the underlying bias in favour of a “Western” scientific worldview has not been adequately addressed. This article recommends four legal and practical changes which would increase the ability for tikanga Māori to be taken into account.*

## 1. INTRODUCTION

Genetic modification (GM) is the process of altering the genetic composition of a living organism,<sup>1</sup> including through the transfer of genes between organisms (known as transgenic modification); the amendment of genetic information

\*BA/LLB(Hons), Victoria University of Wellington. The author would like to acknowledge Catherine Iorns for guidance and helpful comments during the process of writing this paper for the LLB(Hons) degree. Email address: olivia.marie.oldham@hotmail.com.

1 Ministry for the Environment “What is genetic modification?” MfE <[www.mfe.govt.nz](http://www.mfe.govt.nz)>.

within a single organism; the rearrangement, removal or multiplication of genes within an organism; and the construction of an entirely new gene and its insertion into an organism.<sup>2</sup> Although it is widely asserted by proponents of GM that the technology has numerous benefits supported by rigorous scientific analysis, there are legitimate and significant differences of scientific opinion on the matter. There are studies indicating that genetically modified organisms (GMOs) may lead to long-term negative effects on human health and the environment, and that the purported benefits may not be as impressive as advertised.<sup>3</sup>

In addition to scientific concerns, groups and individuals have qualms with GM arising out of cultural and ethical mores. Many Māori have opposed the technology on cultural and spiritual grounds, namely that it contravenes tikanga Māori (custom) in a variety of ways.<sup>4</sup> The substantive concerns are exacerbated by procedural issues with regard to how views based on tikanga Māori are taken into account by relevant decision-making bodies, such as the Environmental Protection Agency (EPA). These problems then raise broader issues about the consistency of the decision-making process with the principles of te Tiriti o Waitangi, in particular those of partnership and tino rangatiratanga (self-government).<sup>5</sup>

This article discusses the consideration and incorporation of tikanga Māori in decision-making on GM, particularly in decisions made under the Hazardous Substances and New Organisms Act 1996 (HSNOA). The second part briefly introduces concepts of tikanga Māori which frequently come into conflict with GM. The third part will canvass and critique how tikanga Māori was taken into account in early consultation and decision-making processes regarding non-low-risk applications.<sup>6</sup> Two early decisions by the EPA, and the proceedings and report of the Royal Commission on Genetic Modification, illustrate both substantive and procedural problems, indicating that changes were necessary. The fourth part will then discuss how relevant actors have responded to critiques and recommendations pertaining to the process of engaging with tikanga Māori. The fifth part suggests further improvements to existing consultation and decision-making practices in order to ensure better incorporation of tikanga Māori. These recommendations encompass a different

2 Michael Antoniou, John Fagan and Claire Robinson *GMO Myths and Truths* (2nd ed, Earth Open Source, London, 2014).

3 See, for example, Antoniou, Fagan and Robinson, above n 2.

4 Bevan Tipene-Matua “A Māori response to the biogenetic age” in Ray Prebble (ed) *Designer Genes: The New Zealand guide to the issues, facts and theories about genetic engineering* (Dark Horse, Wellington, 2000) at 100.

5 Waitangi Tribunal *Ko Aotearoa Tēnei* (Wai 262, 2011) at 24.

6 At 76–77. Non-low-risk decisions are those which are not referred to Institutional Biological Safety Committees.

approach to consultation and decision-making, involving mutual respect for knowledge and an openness to transformation.

## 2. TIKANGA MĀORI AND GM

Tikanga Māori has been explained as an ethic or normative framework determining acceptable behaviour, or alternatively as customary law.<sup>7</sup> The substantive elements of tikanga which are most frequently cited as being breached by GM are whakapapa, mauri and kaitiakitanga. Fundamentally, whakapapa is the relationship between all living and non-living entities,<sup>8</sup> mauri is the life-force inherent in living things,<sup>9</sup> and kaitiakitanga is guardianship.<sup>10</sup> Some argue that GM (particularly transgenic GM) breaches all three elements. It disrupts whakapapa by meddling with relationships through the transfer of genetic material,<sup>11</sup> breaches mauri by interfering with the essence of the organisms it modifies,<sup>12</sup> and can hinder the ability of Māori to act as kaitiaki (guardians) of the mauri of taonga (treasured/sacred) species.<sup>13</sup>

It is important to note that the author is not herself Māori, and cannot purport to speak for Māori. Furthermore, as with the rest of the population, Māori views on GM are as diverse as Māori themselves. Māori have raised concerns about other aspects of GM, such as its implications for intellectual property,<sup>14</sup> environmental integrity,<sup>15</sup> human health, and te Tiriti o Waitangi.<sup>16</sup> Some Māori are in favour of GM and the benefits it may bring, and many are ambivalent, taking a context-specific approach to its acceptability.<sup>17</sup> Tipene-Matua states that some Māori are willing to reconsider their objections if GM will benefit their communities, rather than the commercial developers of the technology.<sup>18</sup> For instance, some Māori believe that individual choice is

7 Paul FA Reynolds “Nga puni whakapiri: Indigenous struggle and genetic engineering” (PhD Thesis, Simon Fraser University, 2004) at 9.

8 At 224.

9 At 225.

10 Terre Satterfield and others *Culture, Risk and the Prospect of Genetically Modified Organisms as Viewed by Tāngata Whenua* (Te Whare Wānanga o Awanuiārangī, Whakatāne, 2005) at 60.

11 Tipene-Matua, above n 4, at 100.

12 Satterfield and others, above n 10, at 29.

13 Tipene-Matua, above n 4, at 100.

14 Thomas Eichelbaum and others *Royal Commission on Genetic Modification: Report* (Royal Commission on Genetic Modification, Wellington, July 2001).

15 Reynolds, above n 7.

16 Tipene-Matua, above n 4.

17 Satterfield and others, above n 10.

18 Tipene-Matua, above n 4, at 100; Satterfield and others, above n 10.

relevant to the use of novel biotechnologies such as GM, especially those with medicinal applications.<sup>19</sup> Similarly, different iwi have approached the matter of amelioration of the harms of GM in different ways, with some favouring the burial of GM offal in sealed pits, and others favouring burning.<sup>20</sup> “Tikanga is flexible”,<sup>21</sup> and there should be space for the inclusion of all its diverse interpretations. It is critical that the “Māori view” is not seen as solely cultural and spiritual, as this is simplistic and damaging. Such a reduction can allow “Māori perspectives” to be easily subjugated by “rational” scientific and economic arguments.<sup>22</sup>

Nevertheless, concerns about the effect of GM on tikanga Māori are the most difficult for Pākehā to understand, and are therefore at particular risk of not being given effect to in decision-making about GM. Furthermore, te ao Māori (the Māori worldview) may underpin other concerns raised by Māori in the GM debate. As such, a close analysis of tikanga in particular may illuminate how other matters raised by Māori are, and should be, considered by the relevant decision-making bodies.

### 3. TIKANGA MĀORI AND THE HSNOA PRIOR TO 2002

#### 3.1 The Statutory Framework

Genetic modification in New Zealand is regulated by the Hazardous Substances and New Organisms Act 1996 (HSNOA). Decisions under the Act are made by the Environmental Protection Authority (EPA), formerly the Environmental Risk Management Authority.<sup>23</sup>

Section 4 of the HSNOA establishes its purpose as the protection of “the environment, and the health and safety of people and communities” through the prevention or management of any adverse effects of new organisms. GMOs are considered new organisms.<sup>24</sup> Alongside the general principles of the Act,<sup>25</sup> decisions made under the legislation must take into account, among other

19 Mere Roberts “Consultation concerning novel biotechnologies: Who speaks for Māori?” (2008) 60 *International Social Science Journal* 145.

20 Tipene-Matua, above n 4.

21 M Roberts and JR Fairweather *South Island Māori perceptions of biotechnology* (Research Report No 268, Agribusiness and Economics Research Unit, Lincoln University), as cited in Roberts, above n 19.

22 Reynolds, above n 7, at 349.

23 Hazardous Substances and New Organisms Act 1996 [HSNOA], s 11(1)(g). I will refer to both as the EPA.

24 HSNOA, s 2A.

25 Set out in HSNOA, s 5.

matters, “the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu [sacred places], valued flora and fauna, and other taonga”,<sup>26</sup> and the principles of te Tiriti.<sup>27</sup>

Part 5 of the Act sets out the process for the assessment of applications regarding new organisms. Decisions under this part must be made according to the Hazardous Substances and New Organisms (Methodology) Order 1998 (the Methodology).<sup>28</sup> It is unnecessary to delve into the details of the Methodology, but some relevant aspects should be noted. First, the Methodology provides that the EPA can request its Māori Advisory Committee Ngā Kaihautū Tikanga Taiao (Ngā Kaihautū) to advise it on issues arising in relation to ss 6(d) and 8.<sup>29</sup> Secondly, the Methodology requires the EPA to take into account the risks, costs, benefits and other impacts associated with the organism under consideration relating to the relationship of Māori and their cultural traditions with ancestral lands, water, sites, wāhi tapu, valued flora and fauna, and other taonga.<sup>30</sup> However, cl 25 of the Methodology requires the Authority to start with the scientific evidence and the degree of uncertainty as to that evidence, while non-scientific values and other matters, including the relationship of Māori with taonga, are secondary.<sup>31</sup>

Public notification of an application pertaining to GMOs is not always necessary, but when it is, members of the public have a right to make written submissions and request hearings.<sup>32</sup> Applicants are also instructed to consult with Māori prior to lodging an application involving the DNA of native flora or fauna, or Māori DNA.<sup>33</sup>

### **3.2 Applications to the EPA**

In 1999 the New Zealand Pastoral Agricultural Research Institute Ltd (AgResearch) applied to the EPA for approval to field-test cattle which had been genetically modified using human genes.<sup>34</sup> The research was to be carried out at a research station in Ruakura, which had recently been transferred to Tainui iwi under the Raupatu settlement. The research station sits on the ancestral lands of Ngāti Wairere hapū (sub-tribe).<sup>35</sup> “[E]xtensive” consultation

26 HSNOA, s 6(d).

27 Sections 6(d) and 8.

28 Promulgated under HSNOA, s 9.

29 Hazardous Substances and New Organisms (Methodology) Order 1998, cl 6(2).

30 Clause 9(c)(iv).

31 See also Waitangi Tribunal, above n 5, at 78.

32 Hazardous Substances and New Organisms Act, ss 53 and 54.

33 Waitangi Tribunal, above n 5, at 77.

34 *Bleakley v Environmental Risk Management Authority* [2001] 3 NZLR 213 at [1].

35 At [4]; Environmental Risk Management Authority *Environmental Risk Management Authority Decision: Application GMF98009* (May 2001) at 3–5.

with Ngāti Wairere was undertaken both by AgResearch and the EPA. The EPA invited hapū members to provide information on the risks arising under s 6(d),<sup>36</sup> and requested a submission by Ngā Kaihautū.<sup>37</sup> Ngāti Wairere raised a number of substantive concerns with the experiment, including several based on the potential contravention of tikanga. For example, the hapū submitted that the experiment would be harmful to their kaitiakitanga of the cattle (the long history of which in New Zealand they considered made it “valued fauna” under s 6(d)). Transgenic GM specifically, such as that proposed by AgResearch, violated the whakapapa and mauri of both cattle and humans. Ngāti Wairere worried that this interference could harm the health of hapū members, even potentially causing death.<sup>38</sup>

The EPA’s reasoning in deciding the application demonstrates some of the procedural concerns relating to tikanga and GM under the HSNOA. The majority of the deciding committee questioned whether the interpretation of the beliefs presented by Ngāti Wairere was widely held, and doubted that the subject of the application could have the suggested practical consequences, especially those relating to health. Further, they determined that because the hapū’s concerns could not be ameliorated without calling a halt to the research entirely, there was no justification for declining the application; the “immediate knowledge to be generated” outweighed Ngāti Wairere’s relationship with their taonga beliefs under s 6(d) of the HSNOA, regardless of how “strongly held” those beliefs were.<sup>39</sup> Under the principle of active protection, spiritual taonga were not able to be protected in the same way as tangible taonga. The assessment was argued to be consistent with the requirement to take the principles of te Tiriti into account.<sup>40</sup> In defence of the majority, it noted that the framework of the Act itself limited the EPA’s ability to deal with Ngāti Wairere’s concerns by failing to provide for sufficient time or ongoing dialogue.<sup>41</sup> The minority of the committee disagreed with the majority’s assessment for a number of reasons, concluding that the risks to Ngāti Wairere and their beliefs outweighed the hypothetical knowledge advancements. Additionally, the effects of the research would breach the principle of partnership by failing to provide active protection.<sup>42</sup>

The decision was appealed to the High Court, with the result that the EPA’s treatment of Ngāti Wairere’s evidence regarding tikanga was reinforced.<sup>43</sup>

36 HSNOA, s 6(d).

37 Environmental Risk Management Authority, above n 35, at 21.

38 At 22.

39 At 24.

40 At 26.

41 At 27.

42 At 28–32; *Bleakley*, above n 34, at [27].

43 *Bleakley*, above n 34, at [35] per McGechan J.

McGechan J approved the majority of the EPA committee's doubts about the extent to which the hapū's beliefs were actually held, and whether the approval of the application could lead to physical harm. While such an inquiry "might well be regarded as offensive at a cultural level ... it was an entirely valid scientific" one, and was, in fact, "inevitable" due to the absence of practical substantiation of Ngāti Wairere's claims.<sup>44</sup> McGechan J further approved the EPA's statement that spiritual taonga could not be protected in the same way as tangible taonga.<sup>45</sup>

In her concurring judgment, Goddard J held the Authority was:<sup>46</sup>

*unable ... to assess or give weight to purely spiritual matters in the same way as they felt able to assess and give weight to purely physical matters ... They were ... unable to assess any adverse effects on ... spiritual beliefs in the absence of empirical evidence ... They did ... feel confident that the knowledge generated by the research would, of itself, be of sufficient benefit to justify the research.*

This case clearly elucidates the complex matrix of substantive and procedural concerns raised by the interface of tikanga and GM. It demonstrates the offence caused to tikanga by GM, as well as the procedural barriers which prevent this offence from affecting the outcome of decisions.

Another application was made by AgResearch in 2002 to genetically modify a number of animals using genes derived from humans and other animals.<sup>47</sup> Although it is not clear how exactly Ngāti Wairere contributed to the process, the decision document indicates that the hapū's representatives had the opportunity to express their views on the application at some stage.<sup>48</sup> The EPA also took into account broader Māori views, which it obtained from other submissions and its knowledge of the material considered by the Royal Commission on Genetic Modification (discussed further below).

In making its decision, the EPA avoided the aspects of tikanga raised in opposition to the application by providing its own interpretation. The decision document argued that mauri would not be transgressed by GM, because each gene contains only the mauri of that gene, rather than the mauri of the being from which it is extracted.<sup>49</sup> Therefore, there would be no mixing, and consequently no violation, of mauri. Similarly, the EPA stated that whakapapa

44 At [85].

45 At [76]–[83].

46 At [22] of her judgment (emphasis added).

47 Environmental Risk Management Authority *Environmental Risk Management Authority Decision: Application GMD02028* (September 2002).

48 At 2 and 31–38.

49 At 33.

“can be misunderstood and inadvertently misapplied”,<sup>50</sup> concluding that the notion that transgenic modification violates whakapapa by mixing two separate entities “is a misunderstanding of both the science and traditional thought. The result of the transfer is still one person and is only an infinitesimal part of someone else.” The Authority acknowledged that its interpretation “may not be widely accepted”, but relied on it nonetheless.<sup>51</sup>

### 3.3 The Royal Commission

In 2000 the Royal Commission on Genetic Modification was established by the Government in order to investigate and report on the future of GM in New Zealand. Māori were consulted extensively as part of this process.<sup>52</sup> In its assessment of te ao Māori, the Commission’s report took as its conceptual starting point the idea that Māori and Pākehā must cooperate and communicate with each other.<sup>53</sup> It emphasised that for Māori, the process of coming to a decision is as important as the decision itself.<sup>54</sup> This demonstrates how important it is to ensure that consultation processes and the subsequent incorporation of Māori perspectives in decision-making are carried out to the highest possible standard.

### 3.4 Critiques

#### 3.4.1 Procedural

The early approach to Māori spiritual and ethical concerns in the decision-making process gave rise to both procedural and substantive critiques by a number of commentators. First, the AgResearch decisions make it appear unlikely that tikanga Māori values could ever outweigh Pākehā values. This problem is exacerbated by the fact that spiritual taonga are considered unable to be protected in the same way as tangible taonga.<sup>55</sup> Although McGechan J held in *Bleakley* that Māori spiritual concerns *could* prevail over other considerations in certain circumstances, the reality seems to suggest otherwise.<sup>56</sup> In *Bleakley*, Ngāti Wairere raised concerns that proceeding with the experiment could lead

50 At 34.

51 At 32.

52 Eichelbaum and others, above n 14, at 6 and 30–31.

53 At 18.

54 At 28.

55 *Bleakley*, above n 34, at [76]–[83] per McGechan J.

56 At [85].



to ill health and even the death of iwi members. Even this extremely serious potential consequence was outweighed, in the EPA majority's opinion, by the potential for increased scientific knowledge.<sup>57</sup> If not in these circumstances, when could Māori beliefs realistically outweigh those of Pākehā? This practical impossibility is problematic when considering that the law makes it clear that the relationship between Māori and taonga should be taken into account by those exercising powers under the Act.<sup>58</sup>

Secondly, many Māori who submitted to the Royal Commission noted significant failings in the adequacy of consultation processes with regard to applications to the EPA. It was asserted before the Commission that consultation was carried out at too late a stage in the decision-making process, was insufficiently representative, and was overly time-pressured.<sup>59</sup> The latter criticisms were echoed by Reynolds, who argued that the timeframes in the second AgResearch application did not allow representatives time to adequately consult with the rest of the hapū to ensure that their views were expressed.<sup>60</sup> Applicants under the HSNOA also expressed frustration with the consultation process to the Commission, particularly with the difficulty of knowing who to consult, and with the cost of consultation.<sup>61</sup> Even the Commission itself was criticised for failing to involve Māori at the framing of its inquiry, thus undermining its admirable attempt to recognise Māori voices.<sup>62</sup> The Commission acknowledged this concern, but felt unable to address it within the bounds of its mandate.<sup>63</sup> When consultation is inadequate, the incorporation in the final decision of the views presented in consultation is likely to be less meaningful and less credible.<sup>64</sup> Furthermore, different perspectives should be taken into account in the framing of the debate to ensure the moral legitimacy and justice of the decision-making process.<sup>65</sup>

57 Nicola R Wheen "Genetic modification, risk assessment and Māori belief under New Zealand's Hazardous Substances and New Organisms Act 1996" (2004) 8 APJEL 141.

58 HSNOA, s 6(d).

59 Eichelbaum and others, above n 14, at 30–31. See also Reynolds, above n 7, at 348.

60 Eichelbaum and others, above n 14, at 303.

61 At 302.

62 Leda Sivak "Culture and science: A critical assessment of public consultation about biotechnology in New Zealand" 10 *Journal of Communication Management* 287.

63 Eichelbaum and others, above n 14, at 299.

64 Sivak, above n 62.

65 I Young "Justice, inclusion, and deliberative democracy" in S Macedo (ed) *Deliberative Politics: Essays on Democracy and Disagreement* (Oxford University Press, New York, 1999) 151, as cited in Sivak, above n 64, at 299.

### 3.4.2 Substantive

The most salient substantive issue evident in the sites of debate outlined was that the cultural paradigm of “Western reductionist science” was not challenged by the decision-makers.<sup>66</sup> Indeed, the paradigm was not even recognised as being itself an expression of culture. Orthodox “Western” rational scientific thought is argued to reduce wholes into discrete parts which can then be individually understood and manipulated.<sup>67</sup> Under this tradition, science is considered to be a separate domain from society, one that is apolitical, amoral, objective and universal.<sup>68</sup> However, this perspective ignores the socially embedded nature of scientific investigation and outcomes, and the role of social power in determining what questions merit scientific investigation.<sup>69</sup> Because of its perceived objectivity and universality, science is able to dominate debates which are culturally deemed to be scientific. Thus, “unscientific” perspectives relating to ethical, cultural and spiritual matters are able to be disregarded or significantly diminished in weight.<sup>70</sup> For example, the majority in the first AgResearch decision disregarded Ngāti Wairere’s concerns regarding the health implications without any scientific analysis into whether there was a basis for concern due to any “metaphysical effects” of the research.<sup>71</sup>

The rationalist view of GM was evident in McGechan J’s assumption in *Bleakley* that because GM is a scientific technology, its assessment must be limited to scientific inquiries: the EPA and the Court are “reading a statute, not engaging in philosophy”.<sup>72</sup> Similarly, Goddard J not only failed to enforce the EPA’s statutory obligation to engage with the non-scientific, spiritual elements of applications, she tacitly accepted its inability to do so.<sup>73</sup> Submitters to the Royal Commission recognised the prioritisation of “Western” rational science, noting the perceived unwillingness and inability of scientists to engage with te ao Māori. Although the Court does not have the jurisdiction to evaluate the morality or social appropriateness of GM, this surely does not prevent the EPA from doing so.<sup>74</sup> Section 6 of the HSNOA explicitly provides for the consideration of non-scientific aspects of applications.

66 See, for example, Reynolds, above n 7.

67 At 222–223.

68 Sivak, above n 62, at 295.

69 At 295; Reynolds, above n 7.

70 Sivak, above n 62, at 295; Mason Durie “Exploring the interface between science and indigenous knowledge” (paper presented to 5th APEC Research and Development Leaders Forum: Capturing Value from Science, Christchurch, March 2004) at 7.

71 Environmental Risk Management Authority, above n 35, at 30.

72 *Bleakley*, above n 34, at [156].

73 *Bleakley*, above n 34.

74 At [2] per McGechan J.

“[T]he relationship of Māori and their culture and traditions with ... other taonga” is not a scientific, but rather a cultural and spiritual consideration.<sup>75</sup> In contrast, “the sustainability of all native ... flora and fauna”<sup>76</sup> requires a more scientific evaluation. In opposition to McGechan J’s assertion, then, the inclusion of cultural and spiritual considerations in the statutory framework indicates a clear parliamentary intention that some philosophical engagement *must* be made.<sup>77</sup> As one commentator has noted, “[m]atters of belief are in New Zealand’s environmental legislation. They are, as a matter of law, relevant to environmental decision-making and cannot be ignored.”<sup>78</sup>

The Royal Commission report also left the dominant rationalistic discourse dominating the GM debate in general largely untouched.<sup>79</sup> For instance, it commented that cooperation “can be difficult for Māori who feel bound to hold fast to the traditions of their ancestors”.<sup>80</sup> This premise fails to acknowledge that cooperation can be equally difficult for Pākehā who feel bound by the “Western” rationalist scientific tradition in which they were raised and educated.

The EPA’s reinterpretation of mauri and whakapapa in the second AgResearch decision was axiomatic of a reductionist “Western” science mind-set. Arguably, that decision went even further than simply prioritising a “Western” scientific view; it manipulated tikanga, forcing it into the preferred framework of the dominant paradigm, and, removed from context, undermined its meaningfulness.<sup>81</sup> The EPA’s reinterpretation contradicted the understanding of Māori who submitted before it, presenting those submitters both as too scientifically unsophisticated and too inexpert in their own beliefs to have any legitimate understanding of how tikanga applies in the context of GM.<sup>82</sup>

Both the procedural and substantive critiques outlined above indicate a substantive inconsistency between the way tikanga Māori was taken into account and important principles of te Tiriti o Waitangi. The principle of partnership includes active protection of intangible taonga such as tikanga.<sup>83</sup> A failure to adequately consult — both at the framing stage and later in the decision-making process — constructs Māori as advisors to the Crown rather than as its rightful partners. This creates an imbalance of power that prevents Māori perspectives from being taken into account when decisions are made.<sup>84</sup>

75 HSNOA, ss 5(b) and 6(d).

76 Section 6(a).

77 Sections 5(b) and 6(d).

78 Nicola R When “Belief and Environmental Decision-making: Some Recent New Zealand Experience” (2005) 15 JELP 297 at 316.

79 Sivak, above n 62, at 289.

80 Eichelbaum and others, above n 14, at 18.

81 Durie, above n 70, at 7.

82 Reynolds, above n 7, at 238, 240 and 242–243.

83 *Bleakley*, above n 34, at [76]–[83].

84 Sivak, above n 62, at 298.

Such an imbalance was evident in the failure by decision-makers to recognise the cultural bias in the decision-making framework, and the EPA's unilateral reinterpretation of tikanga. Although consistent with the Methodology, the practical inevitability of the subordination of tikanga Māori to Pākehā priorities is also contrary to the principle of partnership, as it fails to actively protect taonga in a meaningful way. By failing to give effect to Ngāti Wairere's kaitiaki relationship with its taonga (including valued fauna and tikanga), the decision-making process was inconsistent with tino rangatiratanga, which requires the protection of this relationship.<sup>85</sup>

### 3.5 Recommendations

The Royal Commission suggested that cooperation between different ethical, cultural and spiritual worldviews can be achieved through the consideration of core values in conjunction with the specific context, prioritising between values and balancing all factors.<sup>86</sup> This model is distinctly nebulous, providing little in the way of practical advice as to how different worldviews can be resolved. The Commission itself acknowledged that its suggested approach was largely a repetition of existing EPA practice.<sup>87</sup>

The Commission also suggested a number of procedural changes to ameliorate some of the concerns elucidated before it. For instance, it proposed the establishment of Toi Te Taiao: The Bioethics Council to consult with communities and develop guidelines on ethical issues stemming from new biotechnology. Part of this task would involve consulting with Māori nationwide on issues such as GM.<sup>88</sup> Secondly, the Commission recommended the creation of a Parliamentary Commissioner on Biotechnology who would be responsible, among other things, for ensuring tangata whenua (indigenous people) were informed about and could properly participate in decisions about new biotechnology such as GM.<sup>89</sup> Thirdly, the Commission recommended that s 8 of the HSNOA be amended to make it clear that the principles of te Tiriti should be given effect to in the EPA's decisions, rather than merely being taken into account.<sup>90</sup>

In discussing consultation, the Commission suggested that applicants should consult tangata whenua before lodging an application under the

85 Waitangi Tribunal, above n 5, at 86–87.

86 Eichelbaum and others, above n 14, at 31–32 and 38.

87 At 38.

88 At 39–40.

89 "Report of the Royal Commission on Genetic Modification" (July 2001) Māori LR 4.

90 "Report of the Royal Commission on Genetic Modification" (July 2001) Māori LR 4.

HSNOA, and that tangata whenua should be able to set the parameters of the consultation process. The applicant should meet reasonable costs, and provide the information it planned to rely on in its application. Any unresolved issues should be referred to the decision-making authority.<sup>91</sup> This would allow tikanga to be better taken into account in decisions made on the applications.

## 4. MORE RECENT DEVELOPMENTS

### 4.1 The EPA

In 2008, Ngā Kaihautū carried out an evaluation of how issues of significance to Māori were considered in the EPA's decision-making on GM.<sup>92</sup> Similar to the Royal Commission, unanimous concerns were raised during its investigations regarding the timeliness, degree and quality of consultation.<sup>93</sup> In 2017 there are numerous resources available on the EPA website to assist both applicants and tangata whenua with consultation carried out prior to and after the lodgement of an application.<sup>94</sup> These resources are supported by the existence of Kaupapa Kura Taiao (the Māori Policy and Operations Group), which provides support and advice regarding engagement in an attempt to ensure the incorporation of Māori perspectives in decision-making.<sup>95</sup> This body was found by the Productivity Commission to be a positive force for ensuring Māori voices are heard and promoting a culture of respect and understanding.<sup>96</sup> However, the Productivity Commission also found that there is a mismatch between the funding provided by the EPA and the resources required for Māori to adequately make submissions to the EPA.<sup>97</sup>

Ngā Kaihautū has also developed a protocol for incorporating Māori perspectives into the EPA's decision-making process. The protocol emphasises

91 Eichelbaum and others, above n 14, at 308.

92 Ngā Kaihautū Tikanga Taiao *Issues of Significance to Māori: Evaluation of Decision Making — Genetic Modification* (Ngā Kaihautū Tikanga Taiao, EPA Māori Advisory Committee, Wellington, 17 June 2008) NZHR <[https://www.parliament.nz/resource/mi-nz/49SCLGE\\_EVI\\_00DBSCH\\_FIN\\_8936\\_1\\_A17583/3e7c3c128debc1fa239fe3b2c72f21c5644c8af0](https://www.parliament.nz/resource/mi-nz/49SCLGE_EVI_00DBSCH_FIN_8936_1_A17583/3e7c3c128debc1fa239fe3b2c72f21c5644c8af0)>.

93 At 1.

94 Environmental Protection Agency “Te Hautū: A Māori perspective” EPA <[www.epa.govt.nz](http://www.epa.govt.nz)>.

95 Environmental Protection Agency “Kaupapa Kura Taiao” EPA <[www.epa.govt.nz](http://www.epa.govt.nz)>.

96 David Pickens *How the Environmental Protection Authority incorporates the principles of the Treaty of Waitangi into its regulatory practice* (New Zealand Productivity Commission, Wellington, February 2014).

97 Pickens, above n 96, at 14–15.

the importance of productive relationships — between both the EPA and Māori, and applicants and Māori — to ensuring effective decision-making. Not only is Māori input required, but EPA staff and decision-makers must have the skills to understand contributions which are based in te ao Māori.<sup>98</sup> The existence of the protocol and of Kaupapa Kura Taiao indicate an attempt to better incorporate Māori views into EPA decision-making.

In 2009, AgResearch applied again to carry out GE experiments at Ruakura. In its 2010 decision on the matter, the EPA considered the effect of the research on tikanga, as well as the ability of Māori to act as kaitiaki of taonga. However, it determined that it was “difficult” to know the magnitude of these concerns, given their intangible nature, and decided that requiring AgResearch to involve Ngāti Wairere in monitoring the research was sufficient to render the hapū’s ongoing concerns negligible, despite the fact that these concerns remained unchanged since the first AgResearch application a decade earlier.<sup>99</sup>

## 4.2 Subsidiary Bodies

The Productivity Commission report found that Ngā Kaihautū was highly valued by Māori stakeholders.<sup>100</sup> However, Māori who were interviewed only two years prior to the publication of that report, as part of Baker’s research on the interaction between Māori values and GM assessments, believed Ngā Kaihautū to be “toothless” and “ineffective in upholding their advice at the decision-making level”.<sup>101</sup> The Waitangi Tribunal stated in the Ko Aotearoa Tēnei report (discussed further below) that Ngā Kaihautū’s influence is limited by its advisory nature: no application has ever been declined based on that body’s advice alone.<sup>102</sup> To remedy this problem, the Tribunal recommended that Ngā Kaihautū be able to appoint two members to the EPA itself, and that it be able to give advice of its own volition, in order to enhance the EPA’s responsiveness to Māori issues.<sup>103</sup> These recommendations do not appear to have been put into practice yet.

A national network of Māori representatives, Te Herenga, has been created. It is coordinated by the EPA, and is constituted by Māori environmental experts,

98 Environmental Protection Agency *Incorporating Māori Perspectives into Decision Making* (Ngā Kaihautū Tikanga Taiao, EPA Māori Advisory Committee, Wellington, n.d.) EPA <<https://www.epa.govt.nz/assets/Uploads/Documents/Te-Hautu/EPA-Maori-Perspectives.pdf>> at 3.

99 Environmental Risk Management Authority *Environmental Risk Management Authority Decision: Application ERMA200223* (April 2010) at 27–28.

100 Pickens, above n 96, at 9.

101 Mahina-a-rangi Baker “The Korowai Framework: assessing GE through tribal values” (2012) 31 *New Genetics and Society* 87 at 94.

102 Waitangi Tribunal, above n 5, at 86.

103 At 91.

managers and practitioners representing various iwi (tribal federations), hapū and other Māori organisations.<sup>104</sup> The Productivity Commission found that the body was considered highly successful, in that it is increasingly trusted and relied upon to accurately and effectively convey views to the EPA on behalf of other Māori. However, it is significant that the Productivity Commission's research consisted entirely of interviews with members of either Te Herenga or Ngā Kaihautū. As such, it is unclear whether the views presented about the success, trustworthiness and effectiveness of the two bodies are representative of Māori who are not part of official decision-making institutions.<sup>105</sup>

### **4.3 Interaction with Applicants**

Ngā Kaihautū found in its 2008 study that some applicants still did not understand why they should consult with tangata whenua prior to public notification of an application, and did not fully grasp Māori cultural matters before engaging in consultation.<sup>106</sup> Nevertheless, this failure is not universal. Following the decisions discussed in part 3 above, AgResearch developed its relationship with Ngāti Wairere — for example, by granting hapū members a place on the Ruakura research station governance board.<sup>107</sup> This type of ongoing relationship could lead to a better consideration of tikanga in later consultation and decision-making. However, AgResearch did not carry out any specific consultation with the hapū regarding its 2009 application, relying instead on previous consultations it had carried out.<sup>108</sup> Furthermore, the relationship between AgResearch and Ngāti Wairere appears to have been largely stalled and therefore ineffective since 2011, without affecting the status of AgResearch's 2010 research approval.<sup>109</sup> This is not necessarily to criticise AgResearch's efforts to maintain the relationship but rather to emphasise the importance of assistance and guidance by the EPA itself in ensuring adequate consultation and thus genuine incorporation of tikanga throughout ongoing decision-making.

104 Pickens, above n 96, at 10.

105 At 11–12.

106 Ngā Kaihautū Tikanga Taiao, above n 92, at 1.

107 Reynolds, above n 7, at 356.

108 Environmental Risk Management Authority, above n 99, at 26.

109 See Tim Hale *Annual Report to ERMA New Zealand for Activities Under ERMA 200223* (AgResearch, Ruakura, 30 June 2012) at 3; Tim Hale *Annual Report to ERMA New Zealand for Activities Under ERMA 200223* (AgResearch, Ruakura, 30 June 2013) at 3; Tim Hale *Annual Report to ERMA New Zealand for Activities Under ERMA 200223* (AgResearch, Ruakura, 30 June 2014) at 3; Tim Hale *Annual Report to ERMA New Zealand for Activities Under ERMA 200223* (AgResearch, Ruakura, 30 June 2015) at 3; and Tim Hale *Annual Report to ERMA New Zealand for Activities Under ERMA 200223* (AgResearch, Ruakura, 30 June 2016) at 3.

Scion (another recipient of approval for GM research under the HSNOA) developed a positive relationship with Ngāti Tuteata, the hapū with mana whenua (territorial rights) over its research site in Rotorua.<sup>110</sup> The two parties created a framework for engagement, te Aroturuki, which acknowledged the contribution that mātauranga Māori (knowledge) can make to scientific research, as well as the centrality of communication to enable a full evaluation of controversial technology such as GM. One important element of the model was the use of a Māori intermediary to help Scion to prepare for dialogue with Ngāti Tuteata.<sup>111</sup>

Rather than prioritising a “Western” scientific framework, te Aroturuki attempted to start from a position of greater equality between the different worldviews. This then allowed for greater understanding and incorporation of tikanga Māori in subsequent decision-making. At the completion of the trial, the framework enabled dialogue between scientists, rangatira (leaders) and other hapū representatives on the broader issue of Māori forestry. Then, when Scion applied for a second field trial under the HSNOA, Ngāti Tuteata used te Aroturuki to assist with the formulation of those elements of the application that were relevant to Māori.<sup>112</sup> This type of involvement and consultation early in the application process is vital to ensuring that tikanga Māori is adequately taken into account in the decision.

Greensill argued (prior to the breakdown in the relationship between the two parties) that the fact the AgResearch experiments continued despite its relationship with Ngāti Wairere implied the continued subordination of Māori values to “Western” ones. This was asserted to be the case even when the relevant Māori values pertain to matters with the potential to significantly affect present and future generations of Māori and their relationship with the environment.<sup>113</sup> This critique does not ring entirely true. It is axiomatic that Māori do not all speak with one voice. In Scion’s case, for instance, Ngāti Tuteata appears to have been able to reconcile its tikanga with the particular research being conducted. It seems likely that this was enabled by its ability to be closely involved with the framing of the debate through its relationship with the scientists. Furthermore, the continuation of research in spite of Māori concerns is not necessarily indicative of disregard for their views. Productive consultation is a dialogue, requiring both parties to approach the problem with an open mind.

110 Scion *Te Aroturuki: A model for cross-cultural engagement* (Impact Statement, Scion, Rotorua, 2008).

111 At 2.

112 At 3.

113 Angeline Greensill *ERMA Hearing: Application GMF98009*, 25 August 1999, as cited in Reynolds, above n 7, at 356.



#### 4.4 Other Developments

In 2011 the Waitangi Tribunal released the *Ko Aotearoa Tēnei* (Wai 262) report, following an investigation into the way New Zealand law and policy affect Māori culture and identity.<sup>114</sup> Part of its inquiries pertained to GM, in response to claimants' concerns that "Western" scientific considerations are given primacy over Māori values in decisions regarding GM, especially when Māori concerns are not easily able to be scientifically assessed or quantified.<sup>115</sup>

The Tribunal stated that the Crown clearly takes Māori concerns seriously. However, it agreed with the applicants that the GM decision-making structure and process (including the statutory framework, and the internal structure and procedures of the EPA) are based on a hierarchy of values that prioritises "Western" science. This structural bias inevitably relegates Māori concerns to second place, as is evident in cl 25 of the Methodology.<sup>116</sup> As a result, Māori are frequently prevented from acting as kaitiaki of taonga such as mātauranga Māori and the species involved in GM applications.<sup>117</sup> The Tribunal went so far as to state that it is unlikely that Māori values, or the recommendations of Ngā Kaihautū, will ever prevail in the absence of a scientific foundation which conforms with the EPA's scientific culture. This conclusion reflects the same critiques which were made a decade prior to the report's publication, indicating that little real change has been achieved. As a result of its finding, the Tribunal recommended that a subsection be added to s 5 of the HSNOA, requiring those exercising powers under the Act to recognise and provide for the kaitiaki relationship between Māori and taonga species.<sup>118</sup> The amendment would ensure that this important relationship is given due weight in the decision-making process.

Very few of the Royal Commission's recommendations have been effected in the years following its publication. Toi Te Taiao was established in 2002, but was subsequently disestablished in 2009.<sup>119</sup> A Parliamentary Commissioner for Biotechnology was never created. Neither the Royal Commission's nor the Waitangi Tribunal's recommended legislative changes have been made. Without such broader structural attempts to engage with tikanga and the way it is impacted upon by and interacts with GM, any attempt to improve the way tikanga is taken into account in decision-making may not achieve its purpose.

114 Waitangi Tribunal, above n 5, at 1.

115 At 77.

116 At 86.

117 At 78 and 86.

118 At 86.

119 Wendy McGuinness and Renata Mokena-Lodge *An Overview of Genetic Modification in New Zealand* (McGuinness Institute Limited, Wellington, 2013) at 3.

A number of regional councils have turned more recently to the Resource Management Act 1991 (RMA) as a way to address GM in their areas.<sup>120</sup> In 2013 the Bay of Plenty Regional Council drafted a regional policy statement (RPS) promoting a precautionary approach to GMOs.<sup>121</sup> Scion opposed the RPS in court, arguing that councils and courts are not suitable bodies to grapple with the scientific nature of GM.<sup>122</sup> On a substantive level, that argument demonstrates the continued framing of GM by powerful entities in the field as a rational, scientific matter to which ethical, social and cultural concerns, such as tikanga, bear no real relevance. Furthermore, this approach belies the apparently more nuanced approach taken in te Aroturuki. Clearly contradicting Scion's view, the Council had included the provision in direct response to community concerns which were communicated to it during the preparation of the RPS, demonstrating that the public sees GM as broader than a solely scientific issue.<sup>123</sup> Both parties agreed that the RMA *could* be used to deal with GMO in some situations,<sup>124</sup> and two years later, in response to a similar challenge by Federated Farmers of New Zealand, the Court held definitively that the RMA was amenable to regulating GM.<sup>125</sup>

Procedurally, the ability of regional councils to regulate GM is significant because regions often have “policy positions representative of strong cultural concerns of Māori”.<sup>126</sup> Representatives of Ngāti Hau, for instance, have stated that the ability of local authorities to regulate GM locally allows local iwi to advocate for their beliefs, and for their right as kaitiaki to be part of the process of controlling GM.<sup>127</sup> The ability of tangata whenua to be involved in setting regional policy regarding GM would be more consistent with the principle of partnership, and would increase the likelihood that their views would be taken into account in later decisions.<sup>128</sup> Consequently, this ability upholds tino rangatiratanga by enabling Māori to better protect kaitiakitanga. Unfortunately, the application of the RMA to GM has subsequently been limited by legislative reform.<sup>129</sup>

120 At 86.

121 *NZ Forest Research Institute Ltd v Bay of Plenty Regional Council* [2013] NZEnvC 298.

122 At [8].

123 At [5].

124 At [15].

125 At [38].

126 At [52].

127 Radio New Zealand “Iwi fight to stay GMO free” (15 June 2015) RNZ <[www.radionz.co.nz](http://www.radionz.co.nz)>.

128 Sivak, above n 62, at 292–293.

129 Resource Management Act 1991, s 360D.

#### **4.5 Tying it Together**

A complex picture emerges. Although some changes have been made in the way Māori are consulted since the turn of the millennium, these appear to be primarily superficial. None of the changes discussed seem to have effectively addressed the deeper, underlying problem. The legal frameworks themselves, alongside the failure to recognise that the prioritisation of a “Western” rationalistic scientific approach is itself a cultural and ethical value, mean that decision-makers continue to be “unable”<sup>130</sup> to adequately take tikanga Māori into account.<sup>131</sup> This is inconsistent with the principle of partnership, “distorting” it so that Māori act as merely advisors at a late stage.<sup>132</sup> Furthermore, it is inconsistent with tino rangatiratanga by failing to give adequate recognition of, protection to, or effect to the kaitiaki relationship between tangata whenua and their taonga, including tikanga Māori.

It may be that the relative dearth of literature on the subject of GM and tikanga produced in the past decade indicates so high a degree of Māori frustration at having their views marginalised and ignored despite token consultation and lip-service to partnership that many have disengaged with the debate or acquiesced. As one interviewee asked during Baker’s research: “What’s the point of being involved?”<sup>133</sup> On the other hand, it may be that the lack of any significant positive outcomes of GMO research over the past several decades has led to a decrease in the number of applications for experiments, and thus to a reduced need for activism and engagement in the debate.<sup>134</sup>

### **5. WHERE TO FROM HERE?**

There are several ways in which the incorporation of tikanga Māori in the decision-making process on GM could be improved. The proposed procedural changes set out below would ameliorate to some degree the substantive concerns discussed throughout this article. This amelioration would, in turn, improve adherence to the Treaty principles of partnership and active protection, and the recognition of tino rangatiratanga.

First, Māori voices should be systematically included at an early stage of both individual applications and the framing of the GM policy as a whole. Consultation should not be seen as merely a box to be ticked. Involvement at

130 *Bleakley*, above n 34, at [20] per Goddard J.

131 See, for example, Environmental Protection Agency, above n 98.

132 Sivak, above n 62, at 298–299.

133 Baker, above n 101, at 94.

134 McGuinness and Mokena-Lodge, above n 119, at 94.

the framing of both applications and broader policy would enable the reframing of the questions surrounding GM, and make it more realistic to expect tikanga Māori to be taken into account in decisions.<sup>135</sup> This recommendation is nominally supported by the EPA itself in regard to individual applications, recognising in its protocol for incorporating Māori perspectives that effective engagement must take place early on in the application process, as this ensures a genuine opportunity for Māori to influence the direction of the debate.<sup>136</sup> However, the extent to which this protocol is implemented is unclear. One practical way to ensure effective consultation at an early stage is for the EPA to provide greater funding for both researchers and tangata whenua to undertake consultation prior to the lodgement of applications.

On a broader policy level, the attempt by regional councils to use the RMA to locally regulate GM is worthy of consideration. Localised debate around policy and governance has the potential to enhance tino rangatiratanga and increase the degree of partnership between tangata whenua and the Crown by involving Māori in the setting of the policy agenda.<sup>137</sup> To this end, the EPA should expand its engagement with Māori on a more localised level. One way this could be achieved is through the expansion of Te Herenga's terms of reference — for instance, by requiring direct consultation and hui (meetings) with hapū around the country.<sup>138</sup> Te Herenga itself proposed the establishment of regional information hubs at its 2013 hui.<sup>139</sup> Outside of the EPA, the establishment of a Parliamentary Commissioner for Biotechnology, and the reinstatement of Toi Te Taiao, would allow issues of concern relating to tikanga Māori and GM to be proactively raised and discussed at a broad societal level, rather than as a time-pressured reaction to particular applications for a GM trial.<sup>140</sup>

Secondly, although there is evidence of applicants and decision-makers genuinely trying to incorporate Māori views at both the framing and later stages of the decision-making process through consultation, the legislative framework remains unchanged in spite of the critiques outlined in this article. Because the legal and procedural starting point retains its cultural bias, it is not clear how

135 See, for example, Sivak, above n 62.

136 Environmental Protection Agency, above n 98. See also Reynolds, above n 7.

137 See Sivak, above n 62, and, for example, PA Memon and N Kirk "Role of indigenous Māori people in collaborative water governance in Aotearoa/New Zealand" (2012) 55 *Journal of Environmental Planning and Management* 941.

138 Environmental Protection Agency *Te Herenga: Terms of Reference 2016–2019* EPA <<https://www.epa.govt.nz/te-hautu/our-people/te-herenga/>>.

139 Environmental Protection Agency *Te Herenga Māori Environmental Management Hui* (Draft Summary Report, EPA, Wellington, July 2013) EPA <[www.epa.govt.nz](http://www.epa.govt.nz)> at 2.

140 Eichelbaum and others, above n 14, at 308.

tikanga Māori can be expected to substantively affect the debate. As such, the amendment to s 8 of the HSNOA recommended by the Royal Commission should be implemented, requiring te Tiriti to be given effect to rather than merely taken into account. Furthermore, the Waitangi Tribunal's proposed addition to s 5 ought to be implemented, but in a slightly altered form. Rather than requiring the protection of the kaitiaki relationship with taonga species, the subsection should refer to the kaitiaki relationship with all taonga. This would require the EPA to protect the kaitiaki relationship with spiritual taonga such as tikanga, and might reduce reliance on arguments such as that made in the first AgResearch decision and approved in *Bleakley* that such taonga are not amenable to active protection in the same way as tangible taonga.<sup>141</sup> Additionally, cl 25 of the Methodology should be changed so that scientific values are not necessarily prioritised over other values, such as the relationship of Māori with taonga. These legislative and regulatory changes would better enable the incorporation of views based on tikanga Māori throughout the decision-making process. Consequently, the principles of partnership and tino rangatiratanga would be better upheld by removing the bias in favour of Pākehā perspectives, and creating a better opportunity for tikanga Māori to affect the outcomes of decision-making processes.

Thirdly, creating more space for tikanga Māori in the legislation will not be enough without ensuring a sufficient understanding and appreciation for tikanga within the culture of the EPA. Tikanga Māori frameworks should be further incorporated into the knowledge base of the EPA. Simultaneously, there should be an express recognition by the EPA of the current privileging of the rational “Western” scientific culture both by the EPA itself and in Aotearoa/New Zealand society generally.

To a certain extent, the incorporation of Māori perspectives into the knowledge framework of the EPA can already be seen in the establishment of Kaupapa Kura Taiao. Further, Ngā Kaihautū's protocol, discussed above, goes some way to incorporating Māori views into the structure of the Authority. However, more could be done in this space. EPA staff and decision-makers should be required to undertake comprehensive training to ensure they understand tikanga Māori and how it can work in conjunction with “Western” science to achieve the best possible outcomes. The principles of tikanga particularly pertinent to the GM issue discussed in this article — whakapapa, mauri and kaitiaki — could be recognised, for instance, as important narratives which teach society how to behave.<sup>142</sup> They embody an environmental ethic involving respect for the ecosystems of which humans are a part, and precaution

141 *Bleakley*, above n 34, at [76]–[83].

142 Linda Te Aho “Tikanga Māori, Historical Context and the Interface with Pākehā Law in Aotearoa/New Zealand” (2007) 10 YBNZJuris 10 at 11.

where risks are not fully known or quantified.<sup>143</sup> Furthermore, the Waitangi Tribunal's recommendations that Ngā Kaihautū be able to appoint two members to the EPA itself, and that that body be able to give advice to the Authority whenever it considers Māori interests to be relevant to the application, should be implemented. These changes would ensure that all decisions are made against a background of general familiarity with tikanga Māori, as well as its implications in the particular context.

Meanwhile, the acknowledgement of the current rational scientific bias would open up space for a fair consideration of concerns that do not fit within the dominant paradigm. A "white studies" perspective suggests that it is very difficult to recognise the power relations between cultures when certain cultural assumptions are perceived as natural.<sup>144</sup> Recognising the cultural nature of the "Western" science framework would remove the assumption that disagreement with it is the result of a lack of education, misinformation, or even "anti-science" views, and the belief that cultural concerns can be "remedied" by technical information and an appeal to reason.<sup>145</sup>

Information does not exist in a vacuum; rather it is mediated by individual interpretations. Resistance to or disagreement with a particular scientific idea can represent a challenge to the values underpinning the science, an expression of the different worldview through which the science is seen, or even be a well-founded critique of the methodology underpinning the finding.<sup>146</sup> If the dominant "Western" scientific paradigm were recognised as a creature of culture, space could be opened in the debate for different understandings of science. For instance, Hikuroa argues that mātauranga Māori uses the same techniques as "Western" science: both involve "the pursuit and application of knowledge and understanding of te Taiao [the natural and social world], following a systematic methodology, based on evidence".<sup>147</sup> Mātauranga Māori is only different insofar as it is couched in tikanga and explained according to te ao Māori.<sup>148</sup>

Decisions on GMO applications will always require competing interests to be weighed up and judgments to be made. However, the permeation and validation of tikanga Māori throughout the EPA would likely result in the reframing of the issue of GM away from a reductive, scientific issue that can only be objectively analysed, to a more holistic, multi-faceted one which is

143 See, for example, Alastair Gunn "Environmental ethics in a New Zealand context" (2007) 51 *New Zealand Journal of Forestry* 7.

144 Sivak, above n 62, at 294.

145 Sivak, above n 62; Reynolds, above n 7, at 238.

146 Sivak, above n 62.

147 D Hikuroa "Mātauranga Māori — the ukaipo of knowledge in New Zealand" (2017) 47 *Journal of the Royal Society of New Zealand* 5 at 5 and 8.

148 At 9; Eichelbaum and others, above n 14, at 18.

capable of a variety of valid and legitimate interpretations and approaches depending on the subjective worldview of the individual or group assessing it.<sup>149</sup> Thus, tikanga Māori would be less easily dismissed as scientifically irrelevant and therefore of little value.<sup>150</sup>

Finally, consultation is not a one-way street. Decision-making is not about the Crown simply involving Māori as a special kind of stakeholder, but rather a matter of both parties listening to each other and striving for cooperative solutions. Hudson and others expound the notion that cultures must be resilient in order to survive; they must be able to adapt to and explain changes and developments in their environment without losing their own systematic coherence.<sup>151</sup> Māori cultural resilience has undoubtedly been sorely tested and sapped by colonisation and its legacy of social marginalisation. However, cultural resilience can be encouraged through the mutual recognition of the validity of each culture's body of knowledge and the investigation of the basis of different opinions. This then enables knowledge exchange and cultural development. In this productive dialogical process, participants "must ... respect each other's processes of critique and questioning, and remain open to the potential for transformation and change".<sup>152</sup> Framing consultation and decision-making in this way can enable disagreement — such as that which has been raised at so many junctures in the GM debate — to be seen in a positive light. Different worldviews and perspectives can be seen as an opportunity to create new forms of knowledge and understanding, which can in turn lead to more productive and positive outcomes.<sup>153</sup>

Such a resilient, transformative approach would be benefited by parties framing their views in a positive rather than a negative light. Rather than seeing tikanga Māori as a hindrance to development, decision-making bodies ought to see it as potentially enabling new and better understandings of GM. Similarly, rather than framing opposition to GM in a purely negative way (that is, in what way does it contravene tikanga?), it may be more helpful to conceptualise it in a positive light (for example, in what ways does it uphold — or fail to uphold — tikanga?). The distinction between these two approaches can be conceptualised as the difference between ethics and values. Values are normative rules about the way the world ought to be; they are the kaupapa. Ethics, on the other hand,

149 See, for example, Reynolds, above n 7; Terje Traavik and Lim Ching (eds) *Biosafety First: Holistic Approaches to Risk and Uncertainty in Genetic Engineering and Genetically Modified Organisms* (Tapir Academic Press, Trondheim, 2007).

150 See Waitangi Tribunal, above n 5, at 245.

151 Maui Hudson and others "The art of dialogue with indigenous communities in the new biotechnology world" (2012) 31 *New Genetics and Society* 11 at 12 and 18.

152 At 20. See also Durie, above n 70, at 9–10.

153 Hudson and others, above n 151, at 21; Durie, above n 70, at 9.

are the manifestation of those values in the reality of customs and practices; they are the tikanga.<sup>154</sup> For instance, mauri is the kaupapa that the life, sustenance and energy of all things is important. The tikanga associated with that kaupapa is that the mauri of all things must be sustained.<sup>155</sup>

A framework for assessing technologies such as GM which considers not only values, but also the ethics those values give rise to, would enable a more positive and transformative dialogue. It may be that there are different ways in which the relevant tikanga can be achieved that were not originally envisaged. Or, it may be that fresh light is cast on the risks or motivations of a particular instance of GM, altering the decision-making body's view of its validity.

These four procedural recommendations would better enable the implementation of the principle of partnership through the meaningful substantive incorporation of tikanga Māori in the GM decision-making process. Furthermore, they would ensure that tino rangatiratanga is given effect to, protecting the ability of Māori to act as kaitiaki of their taonga.

## 6. CONCLUSION

There are a number of ways in which GM can contravene tikanga Māori — especially whakapapa, mauri and kaitiakitanga — by interfering with the life-force of and relationships between things, and by preventing Māori from acting as guardians of taonga. These substantive concerns are reinforced by numerous procedural flaws in the way decisions are made about GM. These problems were apparent, for example, in two early applications by AgResearch to the EPA, and continue in the present day. Over the past decade and a half, recommendations for procedural change have been made by the Royal Commission on Genetic Modification and the Waitangi Tribunal. Although there appear to have been some changes in practice, these do not appear to have addressed the fundamental structural bias towards a “Western” scientific paradigm evident in the legal framework.

To address the ongoing procedural roadblocks preventing the effective recognition of tikanga Māori in decision-making on GMOs, four recommendations have been made. First, that Māori be involved in the framing of individual applications and the GM debate itself; second, that amendments be made to the HSNOA to more clearly enshrine the central importance of te Tiriti and the kaitiaki relationship in law; third, that the EPA itself make further

154 TC Royal *Te Ngaaku* (Mauriora ki te Ao, Te Whanganui-a-Tara, 2008), as cited in Baker, above n 101, at 90.

155 Baker, above n 101, at 92.



attempts to recognise its cultural bias and incorporate tikanga Māori into its practices; and finally, that consultation be approached as a productive dialogue rather than a battle of irreconcilable worldviews.

It will require political bravery and a strong desire to protect Māori rights under te Tiriti to implement the necessary changes and provide Māori not only with a seat at the table, but also to ensure that they are able to take part in both preparing and eating the meal. The result would be to cement the centrality of tikanga in the GM decision-making framework, and to ensure that the principles of te Tiriti o Waitangi are upheld. Tino rangatiratanga would be better recognised by protecting the kaitiaki relationship, and tangata whenua and their tikanga would take their rightful place as the Crown's partners in the decision-making process under the HSNOA.