

## CHAPTER 12

### ATTITUDES, VALUES AND OBJECTIVES: THE REAL BASIS OF WILDLIFE CONSERVATION

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It is widely believed that most conservation philosophies<sup>1</sup> and attitudes toward animals and their natural habitats have utilitarian origins.<sup>2</sup> It is also believed that only in the last two centuries have other views begun to contribute to the conservation debate,<sup>3</sup> e.g. that animals and their habitats have other values beyond the purely utilitarian, that non-human life has intrinsic value, and that our interactions with other species should be guided by animal welfare and other ethical considerations. The latter views are considered by many to be Western mindsets pioneered by European and American naturalists and champions of the wild, including John Muir, Albert Schweitzer, and Aldo Leopold.<sup>4</sup>

There exist, however, in Asian and African cultures, several examples – all of which are over 200 years old, and some dating back more than 2000 years – that show non-utilitarian values being espoused and practiced. In the West, the re-discovery and re-attribution of spiritual, aesthetic, recreational, and sentimental values to wild animals, plants and their habitats was termed “ecological consciousness” by Leopold<sup>5</sup> and “Deep Ecology” by Arne Naess.<sup>6</sup> The former was seen as a transition from scientific ecology, where the relationship of an unbiased observer is separate from the object of the study. In deep ecology, the relationship is one of involved participation that recognizes the role of values and perceptions as they affect our interpretations of the natural world.<sup>7</sup>

The mainstream perception of nature has also changed over time. For centuries, nature and the species compris-

ing it were seen largely as commodities – “natural resources” – of use to humans. This led to a period of over-exploitation, especially in the 19<sup>th</sup> century.<sup>8</sup> In the early part of the 20<sup>th</sup> century, there was a renewed celebration of wilderness. In the latter half of the 20<sup>th</sup> century, we began to view nature from an ecosystem perspective and became concerned about the maintenance of what is now called “biodiversity”. The last half of the 20<sup>th</sup> century also saw calls for the liberation of animals<sup>9</sup> and nature<sup>10</sup> that gave rise to the modern animal rights movement. By the turn of the century, some people began to talk about “culture in nature and nature in culture”<sup>11</sup> and “greater recognition [was] given to the interrelationships between spiritual beliefs, practices of a community and how that community relates to the environment and the world”.<sup>12</sup>

Parallel to these developments, there also emerged a “wise use” or “sustainable use” movement, championing the commercial consumptive use and international trade of nature and natural resources, with considerable clout and effect.<sup>13</sup> At the time of writing, the world of nature conservation is split asunder by the “use it or lose it” proponents and the “intrinsic value of nature” proponents, with various intermediate niches occupied by individuals, organizations, pressure lobbies, and governments.

Our changing perception of nature is not merely the result of new facts presented by science (although science has definitely contributed) but reflects the varied and evolving attitudes, values and objectives of individuals, and the societies in which they live.

Wildlife conservation and management is frequently thought of as a scientific undertaking that involves presenting previously unpublished facts in scientific journals (e.g. *Conservation Biology*; *Biological Conservation*) and using such information to inform management decisions. It is sometimes claimed that wildlife management is evolving from an art to a science,<sup>14</sup> or that it is already a science,<sup>15</sup> and that management decisions should be based on the best available science. Topics such as maintenance of biodiversity, protection of endangered species, and the removal of sustainable yields from exploited species, are considered to be in the domain of “science”, whereas issues related to animal welfare concerns and animal rights are generally viewed as emotional and non-scientific, and beyond the realm of scientific consideration.

It is our view, however, that virtually all conservation discussions and debates are largely shaped not by the “facts” of science, but rather by the attitudes, values and objectives of individuals, or groups of individuals, in society. The latter include communities, governments and their bureaucracies, non-governmental organizations (NGOs) and transnational corporations, to name a few. In actuality, the decision to remove a sustainable yield from a wildlife population is an ethical choice, as is the choice of a particular sustainable yield and, in theory at least, the choice of the population size in the wild from which to remove such a yield. Similarly, decisions to protect endangered species, to maintain biodiversity, or to implement the precautionary approach, are not dictated by scientific principles, but rather by ethical choices.

Science, of course, has a role to play in describing natural systems and figuring out how they “work,” informing debates, providing a range of options for policy makers

and managers, and quantifying the risk associated with various options. But, at the end of the day, science cannot make the choice. People do that, and they do it on the basis of their attitudes and values,<sup>16</sup> and on the basis of the objectives that they have for nature and so-called natural resources.

As anyone who works in the field will know, conservation is characterized by controversy and debate. When examined closely, it becomes immediately obvious that the controversies and debates involve disputes over the available “science” (the facts, if you will) and the attitudes, values or objectives of the participants.

Joseph Berry depicts the situation nicely, albeit simplistically, using a conflicts matrix (Figure 12-1).<sup>17</sup> Where facts and values are in agreement, there really is no controversy or debate. In such situations, science can provide a computational “solution”. When values are in agreement, but there is some dispute over the “facts”, science can test among competing hypotheses, reject those that do not withstand scrutiny and, with luck, move the conflict into the computational box. In many societies, the legal system serves a similar purpose, deciding which “facts” are “true” (or beyond reasonable doubt) and which are not.

In most conservation discussions and debates, however, there is a conflict over values or objectives. In western democracies, disputes over values (or objectives) are the stuff of politics. When the facts are not in dispute but there remains a conflict over values (or objectives), such conflicts are resolved – to the extent that they can be – by the political process.

Finally, there are societal conflicts where both “facts” and values are in dispute. Most conservation debates fit

**Figure 12–1.** Berry’s conflicts matrix.

Among other things, Berry notes that the contributions of science to conflict resolution vary depending on the nature of the fact/value conflict. Where values are in disagreement, the role of science is limited to persuasion and inspiration, depending on whether or not there is agreement on the facts of the issue.

Conflicts Matrix	
"Inspire"	"Persuade"
<b>Cultural</b> Facts: Disagree Values: Disagree	<b>Political</b> Facts: Agree Values: Disagree
Facts: Disagree Values: Agree <b>Scientific / Legal</b>	Facts: Agree Values: Agree <b>Computational</b>
"Verify"	"Solve"

into this category, which Berry aptly terms a “cultural conflict”. According to Berry’s scheme, such conflicts remain unresolved unless some agreement can be reached either on the facts, or on the values, thereby moving the dispute into another box in the matrix, where mechanisms do exist to resolve the issue. In the real world, however, management authorities often adopt one set of “facts” as being true and simply reject all others, thereby reducing Berry’s cultural conflicts into ones that are dealt with through the political process.

Canada’s management of its controversial commercial seal hunt is a classic example. The government simply adopts one set of “facts”, neglecting any information that does not suit its purposes, and continues to promote an activity that is not supported by a large proportion of Canadians. The controversy is never resolved, but the hunt continues.<sup>18</sup> Other examples abound, particularly – these days – out of Washington, where the concept of “good science” has come to mean science that supports the policies and objectives of the Bush administration; any science that does not is deemed “bad science”.<sup>19</sup>

Regardless, no discussion of the “pursuit of ecological sustainability” – itself a value judgment (or a societal objective) – is complete without some understanding of the ways in which attitudes, values and objectives shape the differing opinions that individuals, organizations, and nations have regarding the interaction between humans, nature and natural resources. Philosophers and thinkers such as Kabilingsh concur, noting that:

Formal government measures for protection of nature requires acceptance by the people, with the recognition that effective conservation needs to be based on deep value convictions.<sup>20</sup>

Some heads of nations also are veering to this line of thought. As HM King Gyanendra Bir Bikram Shah has recently written,

Modern conservation is no more about species or ecosystem biology; it is more about the attitudes and behaviour of humans.<sup>21</sup>

In this chapter, we argue that although science provides the facts (as we currently know them) surrounding a particular issue and informs the discussion, it is the attitudes, values and objectives of individual people, societies, and nations and their governing bodies (using facts provided by science to their own ends)<sup>22</sup> that shape conservation policy. It is not “rational” science, therefore, but rather politics, that provides the real basis for conservation in practice.

## A FEW WORDS ABOUT ATTITUDES AND VALUES

Attitudes and values are topics discussed by a variety of authors from different fields, including sociology, political science, public opinion polling, and ethics, to mention but four. For that reason, we will begin our discussion by providing definitions that convey the intended meaning in this chapter.

In the present chapter, *attitudes* will be defined simply as, “...learned predispositions to respond in a consistently favourable or unfavourable manner”.<sup>23</sup> *Values*, according to Henning “... are individual and collective concepts with emotional, judgmental, and symbolic components that we use to determine what is important, worthwhile, and desirable. Thus, values contain, and at the same time evolve from, judgments and beliefs about what is ‘good’ or ‘bad’ and ‘right’ or ‘wrong’...By their very nature values are complex in both interpretation and influence”.<sup>24</sup>

That it would be difficult to distinguish between an “attitude” and a “value” using the above definitions is not very surprising. In much of the sociological literature we will cite (particularly that arising from Stephen Kellert’s work at Yale), the terms attitudes and values are frequently used as synonyms. Table 12–1 provides Kellert’s classification of attitudes (or values) that is widely used in the conservation field, along with descriptions of each term in his typology.<sup>25</sup>

The full spectrum of the attitudes (or values) listed in Kellert’s scheme will be observed in society as a whole, but the prevalence of each may change over time.<sup>26</sup> In a similar way, attitudes of individuals may also change throughout their lifetimes. In addition to age, a number of other factors have been shown to affect attitudes, values and objectives. They include: sex, religion, ethnicity, family background, country of residence, location of residence (urban or rural), culture, education, employment, socio-economic status, political philosophy, and time in history. Some of these factors will be discussed in greater detail later in the chapter.

Another way to frame our discussion is through an examination of the objectives that individuals or societies have for wildlife or wildlife habitats (Table 12–2).<sup>27</sup> It should be pointed out, however, that to hold any objective outlined in each category in Table 12–2 – socioeconomically oriented objectives, ecologically oriented objectives, or ethically oriented objectives – involves value judgments or ethical choices. In other words, the objective of using a wildlife population to provide for scientific uses and increased knowledge is, in and of itself, an ethical choice – a point that is often overlooked or forgotten. It should also be obvious from Table 12–2 that many of the objectives that society might have for wildlife are mutually incompatible and cannot be realized simultane-

**Table 12–1.** Attitudes toward animals.

<b>Term</b>	<b>Definition</b>
<b>Naturalistic:</b>	Affection for wildlife and the outdoors; satisfaction from direct experience/contact with nature
<b>Humanistic:</b>	Affection for individual animals; emotional attachment, “love” for nature
<b>Aesthetic:</b>	Interest in the physical appeal and beauty of nature
<b>Symbolic:</b>	Interest in the use of nature for metaphorical expression, language, expressive thought
<b>Moralistic:</b>	Concern about the treatment of animals, with strong opposition to exploitation or cruelty toward animals; strong affinity, spiritual reverence, ethical concern for nature
<b>Scientific:</b>	Interest in the physical attributes and biological functioning of animals
<b>Ecologicist:</b>	Concern for the environment as a system, for interrelationships between wildlife species and natural habitats
<b>Utilitarian:</b>	The practical and material exploitation of natural resources including animals or their habitats
<b>Dominionistic:</b>	The mastery and control of animals and their habitats
<b>Negativistic:</b>	Fear, aversion, and alienation from nature
<b>Neutralistic:</b>	Passive avoidance of animals due to indifference or lack of interest

ously. This, in large measure, explains the controversial nature of the conservation field.

### HOW VALUES AND OBJECTIVES ARE THE REAL BASIS OF CONSERVATION

Here, we present five examples that demonstrate how values and objectives affect the conservation of wildlife and their habitats. It is well known that attitudes toward different species or groups of species evoke different value judgments that lead to different conservation strategies and management goals. However, the same species or set of species viewed across 1) geographical regions, and 2) nation states, may show finer variations in attitudes, values and objectives as cultural, economic and political realities weigh in. Furthermore, even within the same region or nation 3) values inculcated by religion and cultural taboos vary as do 4) values dependent on livelihoods and 5) time in history. While, as noted earlier, other factors also affect value systems, these illustrative examples demonstrate the central role that attitudes, values and objectives play in wildlife conservation today.

#### 1. East is East and West is West

In the classic theory of “the clash of civilizations”,<sup>28</sup> East and West represent two polarities that seldom meet. Yet, when it comes to attitudes towards Nature, such a view is an oversimplification. Attitudinal surveys indicate that people in the East and West actually exhibit similar attitudes on some issues and dissimilar attitudes on others.<sup>29</sup>

In a survey of attitudes among Japanese (East) and American (West) people to the natural world, Kellert, for example, has found that the “humanistic” attitude<sup>30</sup> toward Nature ranked highest in both regions, exhibiting remarkably similar percentage responses (37 and 38 percent, respectively). Thereafter, however, attitudinal differences began to emerge. While 27.5% of Americans tended to view nature from a “moralistic” perspective, the Japanese response was quite different. Thirty-one percent of Japanese viewed nature in a “negativistic” manner, while a further 28% expressed a “dominionistic” attitude. Not only do Kellert’s data reveal marked regional (or cultural) differences in attitudes toward nature, they also demonstrate that the view – held in some quarters – that the East is generally “closer to Nature” than the West is either completely wrong, or a gross oversimplification of a complex topic.

Whether Japan represents a classic Eastern philosophy and/or set of values is, however, a matter of debate, since the concept of interspecies equity first emerged in certain eastern philosophies. Hideo Obara attributes the current disengagement of Japanese culture from nature to the rapid industrialization and militarization of the nation to counter western forces. He says, “the common Japanese view of nature allows the characterization of a mere ‘landscape’ without wild animals as ‘nature’.”

This is not, however, a common view throughout the East, and South Asian philosophies and value systems, in particular, are very different from those of the Far East. If South Asian values were analyzed, they might more closely approximate a “moralistic” view.

**Table 12–2.** Objectives of wildlife management. There are no clear boundaries between the three main heading; various objectives clearly overlap and, in some cases, objectives are either in conflict or mutually exclusive with others under the same or different heading. All objectives must be considered in relation to both long-term sustainable benefits and intermediate or short-term benefits.<sup>27</sup>

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### Socio-economically Oriented Objectives

1. Provide commodity yields (incl. food, industrial products, luxury items, etc.)
2. Provide for recreation and tourism
  - 2.1 Oriented toward hunting and fishing for sport
  - 2.2 Oriented toward nature observation and tourism
3. Provide employment and cash income
4. Maintain cultural diversity (e.g. survival of traditional and subsistence economies)
5. Provide for distribution of benefits to all levels of society.
  - 5.1 Locally
  - 5.2 Regionally
  - 5.3 Nationally
  - 5.4 Internationally
6. Provide for scientific uses and increased knowledge
7. Provide for education benefits
8. Provide for human health
9. Provide for domestication (e.g. as sources of food and other commodities and as work animals)

### Ecologically Oriented Objectives

10. Maintain ecosystem diversity (biodiversity)
11. Maintain ecosystem stability
12. Maintain gene pools (and genetic diversity)
13. Maintain distribution of species and varied environments
14. Maintain the ability of populations to survive fluctuating environmental conditions

### Ethically Oriented Objectives

15. Minimize human impacts on populations
  16. Avoid inhumane or cruel practices involving wildlife
  17. Avoid killing animals at all
  18. Enhance survival chances for wildlife populations (especially threatened or endangered species)
  19. Maintain options for future generations.
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In India, the ethics of nature conservation been characterized as follows:

Much of India's post-independence wildlife conservation has its roots in a continuous and living tradition that dates back to the Vedic periods... the development of wildlife laws in India from the colonial period to the present day has been inspired by that tradition, and thus India has largely forsaken the route of using wildlife, when it involves taking a life.<sup>31</sup>

Attitudinal differences among geographic regions are also evident between Africa and Asia, using the example of the elephant ivory trade.<sup>32</sup> There can be many different explanations to why eastern Africa, southern Africa,

South Asia and eastern Asia have all taken differing positions on trade in ivory and other elephant products. One of the basic differences between African and Asian elephant range states is that the African elephant was valued for its ivory whereas the Asian elephant was valued alive as a “war machine” – a good example where attitudes reflect the different objectives that two regions have for the elephants in their midst. As Sukumar puts it:

the African elephant was more valuable dead for its ivory, while the Asian had reasons to be left alive as a source of captive stock.<sup>33</sup>

While Africa and Asia both exhibit utilitarian philosophies towards elephants, and both continents have ancient histories of ivory trade, their fundamentally dif-

ferent attitudes toward elephants probably explain why Asian nations put more of their skill and effort into taming elephants and maintaining them in captivity, whereas the equally tamable and tractable African elephant was never made captive for any great length of historical time. Such differences in attitudes may also explain why African range states are today more easily amenable to the idea of the ivory trade than South Asian elephant range states, which have less compunction about catching elephants than killing them.

The Far East of Asia, on the other hand, does not have elephants in the wild and views ivory simply as a commodity that is very high in value. Here,

What is paramount is the inferred value of the object and the substrate (ivory) ensures that whatever be the object carved out of it, it remains high in value.<sup>34</sup>

Cultural perceptions of ivory in the Far East make it more valuable, therefore, than a live elephant, which is not experienced as part of Japanese Nature.

The difference in the valuation of elephants between eastern and southern Africa is more difficult to fathom culturally. Nonetheless, the governments of Kenya and southern Africa have adopted two quite different utilization models, one involving tourism, and the other, the ivory trade. The success of the tourism model in Kenya may provide one explanation why the country now eschews the commercial consumptive use of its elephant population.

## 2. National Attitudes

Attitudes toward the conservation of nature may vary dramatically among individual nation states. This is a reflection of the cultural, religious and ethical perspectives of the population, as well as the constitution of the country, its laws, wealth (GDP, natural resources, etc.), not to mention its political system, and current political stability (peace, war, personal security), etc.

India, for example, has a strong cultural and religious basis for the protection of wildlife and the environment. The *Wildlife Protection Act* of 1972 bans the hunting and killing of all wildlife except rats, mice, crows and flying foxes. The list of protected species is not based on any scientific criteria of endangerment but on the principle that all life, with the exception of vermin, should be protected. This strong legislation is supported by several important judgments of the apex and lower courts in India, where spirituality and a national ethic for conservation are prevalent. Dismissing the ivory trade as “pernicious to society” the High Court of Delhi, for example, quoted in equal measure from the *Bhagavad Gita* and Douglas Chadwick’s *Fate of the Elephant*,<sup>35</sup> and declared

that the ivory trade was a social evil comparable to prostitution and gambling. Supreme Court justice, Arijit Pasayat, expressed an even stronger ethical position, when he declared, “By destroying nature Man is committing matricide, having in a way killed mother Earth”.<sup>36</sup> Chief Justice Venkatchaliah was equally clear when he said, “I place Government above big business, individual liberty above government and the environment above all”.

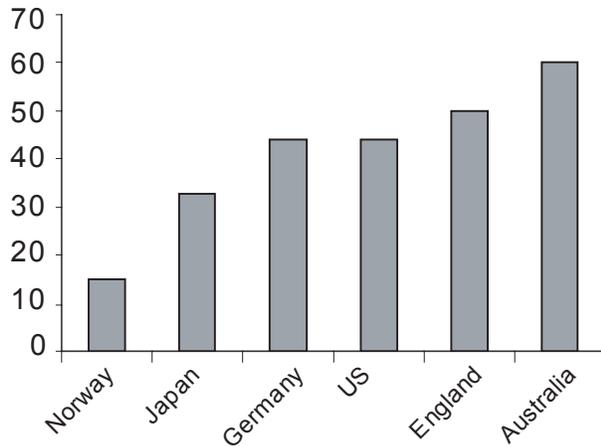
While strong ethical realities are the backbone of nature conservation in India, other realities dictate policies as well. This is well reflected in the words of Peritore:

India’s environmental movement has the advantages of Gandhian religion, strong links to native cultural eco-management practices, an excellent intellectual and political infrastructure, and multiple points of access to national and local government. But its sophistication and strength is dissipated by a corrupt and bureaucratically tangled government, by a declining economy, and by an ecological and population crisis that surpasses known techniques of environmental repair and management. The movement, far from being a vanguard, is fighting a rearguard action for cultural and ecological survival.<sup>37</sup>

This mix of culture, ethics, and political and social reality, is what makes up the values of a nation and what sets its societal objectives.

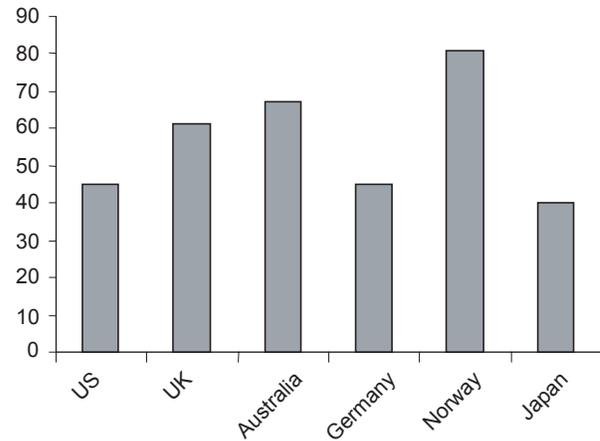
Whales and elephants are charismatic mega-fauna whose conservation has led to polemics and fierce battles on several fronts, all of which involve value judgments and ethical choices. These battles revolve mostly around issues of consumptive and non-consumptive use, the value of “scientific” whaling, and management techniques that involve killing, culling, capture or captivity. The conservation of whales has been among the most contentious and debated of all wildlife conservation issues.<sup>38</sup> Different nations have adopted diametrically opposed views regarding their conservation, and international fora such as the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES) and the *International Convention for the Regulation of Whaling* have been sharply divided over various moratoria and regulatory systems for commercial whaling and the creation of sanctuaries for the whales. Japan and Norway have been the most vocal proponents of whaling whereas countries like Brazil, India, New Zealand, and the United Kingdom, for example, are now seen as anti-whaling nations.

Such differences among nations are well documented in Freeman and Kellert’s comparison of attitudes in six countries: Australia, England, Germany, Japan, Norway,



**Figure 12-2.**

The percentage of people in selected countries opposed to a policy that views whales as a protein food source.



**Figure 12-3.**

The percentage of people in selected countries which approves of eating lamb.

and the United States. This study dealt specifically with national attitudes toward whaling and the eating of whale meat.<sup>39</sup>

The study found that opposition to viewing whales as a protein source was lowest in the two pro-whaling countries (as expected), and highest in the anti-whaling countries (also expected; see Figure 12-2). What is particularly interesting is that the opposition to whaling in Japan is closer to (although lower than) that of two anti-whaling nations – Germany and the U.S. – than it is to its ideological pro-whaling partner, Norway. This observation may indicate a dichotomy between government policy and public opinion in Japan, or reflect cultural and spiritual differences between Japan and Norway.

However, the moment the debate is taken away from the personal consumption of whale as a protein source to a more “policy-based” question of whether whaling is acceptable under any circumstance, the results followed more expected patterns. Freeman and Kellert write:

For example, when asked whether they ‘opposed the hunting of whales under any circumstances’ a majority of respondents in Australia (60%) and Germany (59%) agreed. However, approximately equal-sized majorities in Norway (61%) and Japan (57%) disagreed with the statement that whales should not be hunted under any circumstances. Opposition to whaling under any circumstances was more moderated in the U.S. where 48% opposed

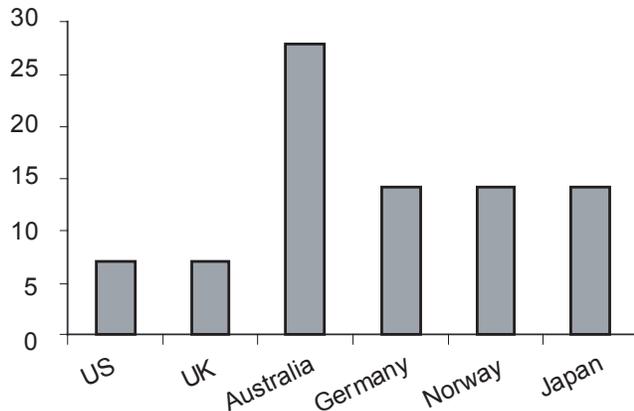
whaling, and even more evenly divided in England with 43% opposed to whaling 37% not opposed, and a further 19% expressing no strong opinion one way or the other.<sup>40</sup>

Similarly, the different opinions expressed in the six countries regarding the consumption of different kinds of meat – lamb, horse, and kangaroo – is also instructive. While the lowest approval ratings for eating a common domestic animal like lamb was 40% (in Japan), the highest was more than double (81%; in Norway) suggesting some marked cultural differences between the whaling nations (Figure 12-3).

The two countries, however, were more closely allied when the issue was the consumption of kangaroo meat (Figure 12-4) or horseflesh (Figure 12-5), both countries having higher approval ratings than traditionally conservative and protectionist (with respect to whaling) countries, such as the U.S. and the U.K.

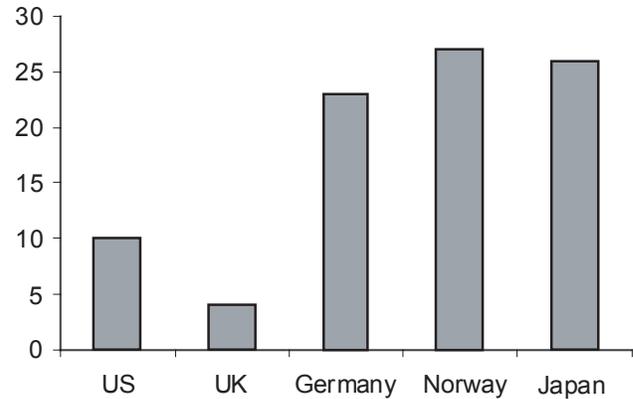
Between country differences in attitudes toward the utilization of different species is also telling. Freeman and Kellert report that 79% of German respondents disapproved of whale meat production and sale while 78% disapproved eating wildfowl. Yet the latter scored highly in approval ratings amongst people from Australia, England, Japan, Norway and the U.S.

In short, different countries express different values towards various wildlife species and, often, it is difficult to provide a simple explanation for the differences that are observed.



**Figure 12-4.**

The percentage of people who approve of using kangaroo meat as a source of protein.



**Figure 12-5.**

The percentage of people opposed to eating horseflesh.

### 3. Values conferred by religion and local taboos

*What people do about their ecology depends on what they think about themselves in relation to things around them. Human ecology is deeply conditioned by beliefs about our nature and destiny – that is, by religion.*

Whyte 1967<sup>41</sup>

The values conferred by religion are in many ways the strongest and most immutable of all values. Almost all religions talk of conservation of nature and wildlife. For example:

That which happens to men also happens  
to animals  
And one thing happens to them both  
As one dies so dies the other  
For they share the same breath

*Ecclesiastes 3: 19-22*

There is not an animal on the earth nor a  
being that flies on its wings, but communi-  
ties like you.

*Cattle Sura Verse 38, Holy Quran*

Come back Oh tigers to the woods again.  
For without you the axe will lay it low.  
You, without it, forever homeless go.

*Khuddakapada*

A right religion is one that teaches respect for the dignity and sanctity of all nature. The wrong religion is one that licenses the indulgence of human greed at the expense of non-human nature.

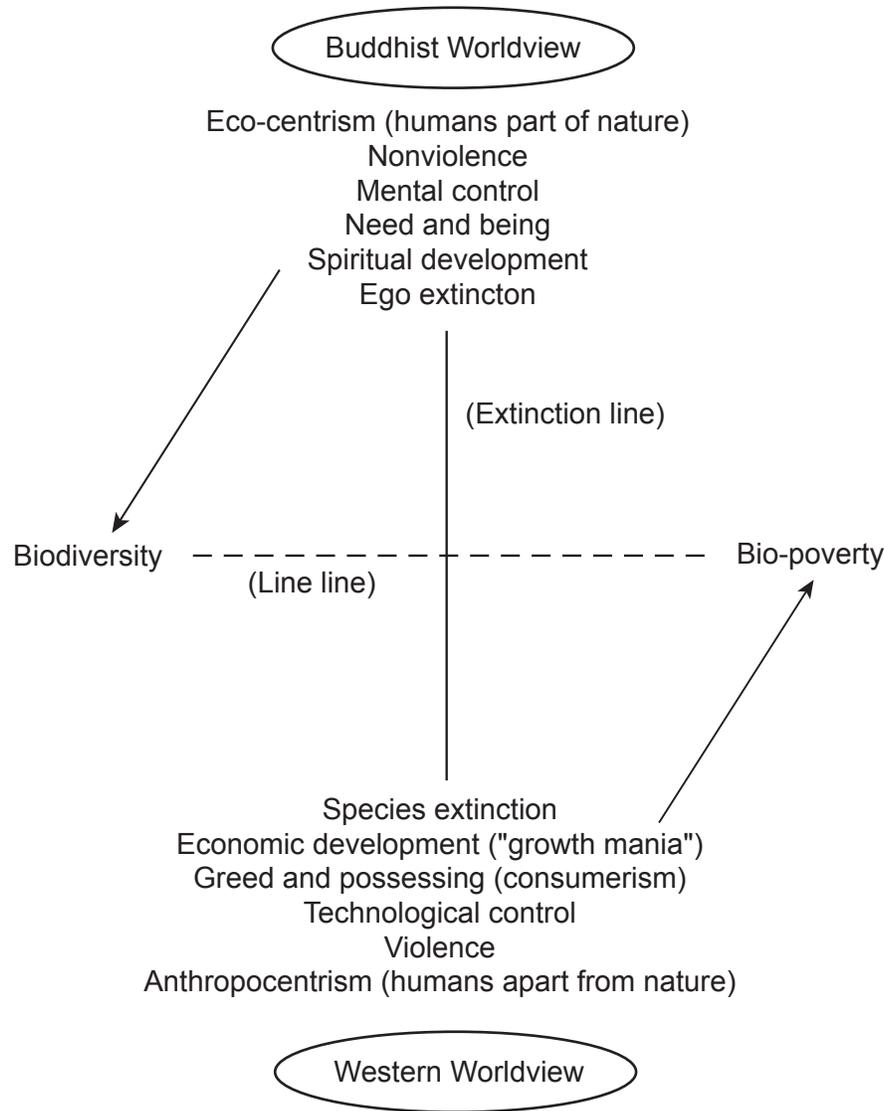
*Arnold Joseph Toynbee*

For the purposes of our discussion, we will first examine two Asian religions – Buddhism and Jainism – that originated in the same region and are practiced side-by-side in countries such as India. Despite sharing the common principle of *ahimsa*, or non-violence, there are subtle variations and extremes in values and attitudes that are clearly shaped by the particular religion, rather than by region or the state. Then, we will move to another another belief system in a different region of the world and examine the role of cultural taboos in the conservation of an endangered tortoise in Madagascar.

#### ***Buddhism and Jainism***

The value-oriented approach of certain religions, such as Buddhism with its ecocentric and spiritual approach, bears similarities to Deep Ecology. Henning, for example, says that both Buddhism and Deep Ecology “...use values and perspectives that are based on spiritual and holistic principles for positive change in paradigms, attitudes and practices”.<sup>42</sup>

In fact, the very first vow of a Buddhist monk – “I abstain from destroying all life” – represents an extreme expression of a value that has overarching impact on any conservation action contemplated by this particular religious community. The deep reverence for life and the environment is directly linked to the conservation of nature.



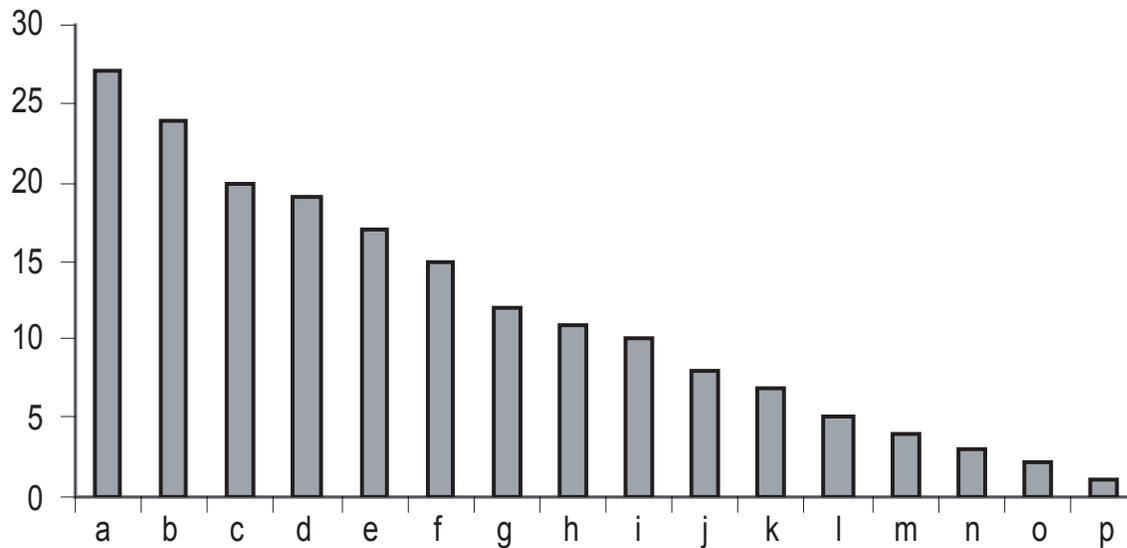
**Figure 12–6.** A comparison of Western and Buddhist worldviews of the relationship between humans and nature, and the implications for the maintenance of biodiversity.

In a landmark conference on culture and environment in Thailand, the assemblage of Thai Buddhists subscribed to a “theory of a moral collapse” as the principle reason for the disequilibrium of ecosystems in Thailand.<sup>43</sup> This view emanates from a Buddhist worldview (as opposed to a Western value system, see Figure 12–6). In the Thai language, the concept of conserving nature means much more than the English words may seem to connote. *Anurak* or ‘to conserve’ implies a deeper sense of caring than is normally subscribed to the word conservation. Similarly, *thamachat*, or Nature, includes all things in their true and natural state. The two words, put together, translate:

...as having at the core of one’s very being the quality of empathetic caring for all things in the world in their natural conditions; that is to say, to care for them as they really are rather than as I might benefit from them or as I might like them to be.<sup>44</sup>

Buddhist scholars have noted the clear connection between Buddhism and the conservation of nature:

Wherever Buddhism is influential, studies will usually show some direct benefit for the natural world. In Sri Lanka for example Buddhism has had the largest single



**Figure 12–7.** Number of times a type of animal appears in the Jataka Tales. Legend: a- Monkey, b- Elephant, c- Jackal, d- Lion, e- Crow, f- Bird, deer, stag, doe, g- Fish, h- Parrot, i- Snake, Tree spirit, j- Horse, k- goose, tiger, tortoise, l- boar, goat quail, m- bull, crocodile, dog, ox, partridge, peacock, rat, vulture, n- cow, crab, crane, cuckoo, lizard, pig, pigeon, serpent, woodpecker, o- antelope, chameleon, chicken, donkey, falcon, osprey, owl, rabbit, rooster, viper, water spirit, p- bear, beetle, buffalo, cat, duck, eagle, elk, fly, fox, frog, grass spirit, hawk, hound, iguana, jay, mongoose, mosquito, mouse, otter, panther, rhinoceros, shrew, wolf.<sup>49</sup>

impact on the conservation of flora and fauna.<sup>45</sup>

One example is the case of tropical forest conservation in Buddhist areas. Tropical forests are arguably the most charismatic of ecosystems: a conglomerate of species, habitats and land-uses. The forests also have within them, the one species that opines and makes value judgments. That species, *Homo sapiens*, attributes both ecocentric and anthropocentric values to the forest.<sup>46</sup> The former include valuing the forest for its biological diversity, including its species and genetic diversity, and its roles in maintaining the web of life, modifying local climate, conserving water and protecting soils. Among the latter, the forest is seen as having agricultural, industrial and medicinal values, e.g. as a source of genetic and other materials. It is valued also as a home to tropical forest people, a source of outdoor recreation, and for its educational and ecotourism benefits. It serves as a source of creative inspiration, and is seen to provide cultural, spiritual and inter-generational values. This diversity of values and the wide cross-section of humanity that “uses” tropical forests undoubtedly have a great impact on how those forests are conserved.

In a predominantly Buddhist state (or if that does not exist in today’s world, in forests adjoining a Buddhist-run monastery), the values attributed to the forest may be linked to the fact that *Gautama Buddha* was born in a forest, studied among banyan trees, meditated under Jambo

trees, achieved enlightenment under the Bodhi tree, and gained salvation (died) under Sal trees, all symbols of a tropical forest. The fact that Buddhism was born in forests clearly affects the value judgments made by Buddhists about them and their conservation.

An interesting analysis of taxa-specific value systems espoused by a religion is seen in the Buddhist Jataka tales written in Pali.<sup>47</sup> In 50% of the 550 stories (according to the Theravada<sup>48</sup>) of the Jataka, 70 types of animals and 319 animals or groups of animals appear. These animals represent prior life forms of people contemporary to Buddha, and the stories portray animals as auspicious, objectionable, compassionate, cruel, wise, and foolish, among other anthropomorphic manners. Chapple<sup>49</sup> provides an analysis of the number of times that a particular animal appears in the Jataka (Figure 12–7).

In our interpretation of Chapple’s work, we note that symbolically powerful and (once) common animals – such as primates, elephants, lions, deer, and crows and other birds – feature most prominently, while smaller animals (e.g. beetles and frogs), and creatures with negativistic attributes (e.g. shrews and wolves), appear much less frequently. While any such analysis is subject to several interpretations, it is sufficient to note here that the animals more commonly mentioned were more suited to convey tales with inherent ecological messages or to illustrate compassion. For example, the lion was viewed as a

compassionate yet strong ruler of the forest, the jackal as a scheming realist who lent pragmatism to wisdom and the elephant as both wise and strong. The characters were given strong human traits and the tales were a collection of stories that talked of forest protection, wildlife conservation and nature appreciation along with other messages for daily lives.

Now consider Jainism, which originated more than 2500 years ago and also preaches *ahimsa* as the primary method of attaining eternal liberation from birth or *kevala*.<sup>50</sup> *Ahimsa* leads to several extreme practices related to animal rights and animal welfare that are unrivalled anywhere else in the world. For example, a common expression of *ahimsa* in Jainism is the practice of *pratilekhanao*, or the meticulous inspection of one's attire for any trapped life forms.<sup>51</sup> Jain *munis*, or holy men, wear loose white robes that are shaken clear twice a day to avoid the accidental killing of any life. This custom is taken to a further extreme by the Jain *munis* of the *Digambara* sect who do not wear any clothes at all and cover their mouth and nose with a piece of muslin to prevent insects and other small living beings from being trapped in clothing or inhaled, thus leading to their deaths.

Even more extreme are the alleged practices of the *hastitapasa* or "elephant ascetics"<sup>52</sup> described by the ninth-century commentator Silanka from the 3<sup>rd</sup> century BC canonical text, *Sutrakrtanga Sutra*. According to Silanka, the elephant ascetics had an unwillingness to overexploit nature and therefore lived off the meat of one large elephant that they killed every year "out of compassion to other life forms".<sup>53</sup> Of course, this tale could be an invention by the author,<sup>54</sup> but it still reflects a religious ethic that guided the practices of a community.

More examples of animal rights, animal welfare, and wildlife preservation can be found in the canons of Jainism. For example, among the 15 occupations or worldly activities that were prohibited for Jains, as early as the 6<sup>th</sup> century, were the destruction of forests, including the sale of timber; the trade in animal by-products such as ivory, bones, conch shells, pelts and down; the trade in animals; and deriving livelihood from the mutilation of animals.<sup>55</sup> Such prohibitions are part of the *bhogopabhogavvrata*, the underlying concept of which is the avoidance of injury to animals (including insects) and plant life.<sup>56</sup>

Some of today's most contentious resource management and utilization debates would be rendered differently using the Jain logic. A Jain story illustrates how.

Once upon a time, six friends went out together. After a while they were hungry and thirsty. They searched for food for some time and finally found a fruit tree. As they ran to the tree, the first man said,

"Let's cut the tree down and get the fruit."

The second one said, "Don't cut the whole tree down, cut off a whole branch instead."

The third friend said, "Why do we need a big branch?" The fourth friend said, "We do not need to cut the branches, let us just climb up and get the bunches of fruit."

The fifth friend said, "Why pick that much fruit and waste it? Just pick the fruit that we need to eat." The sixth friend, quietly said, "There is plenty of good fruit on the ground, so let's just eat that first."<sup>57</sup>

Were such communities to whom *ahimsa*, or non-violence, is a basic tenet, to practice conservation or be involved in policy-making, questions such as culling, euthanasia, and other such management practices, would not even arise, because such practices have no place at all in their consideration. Their stance on euthanasia for example has led to several discussions among practitioners of Hinduism and Jainism in India about the right way to dispose of terminally ill and rescued animals. Animal welfare organizations that are funded by Jains – traditionally, a rich community – seldom practice euthanasia or do so covertly, while those funded by Hindus – while holding animal welfare close to their ideals – have fewer ideological problems with the practice.

### Taboos

The role of taboos in conservation has been documented, for example, in Madagascar, off Africa's East coast – home to one of the most endangered tortoises in the world, the radiated tortoise, *Geochelone radiata*.<sup>58</sup> Taboos are social prohibitions against things that are holy or unclean, and have a ritualistic connection in most cases. Colding and Falke<sup>59</sup> list a variety of taboos that serve the purpose of nature conservation by regulating human behaviour (Table 12–3).

In Madagascar, approximately half of the radiated tortoise's range is inhabited by the Tandroy people. They regard the species as "dirty" and this perception gives rise to a prohibition on tortoise exploitation, which is expressed as a taboo or *fady*.<sup>60</sup> The potential role of this taboo in the protection and management of the endangered tortoise was studied recently by Lingard *et al.* They found a clear correlation between the following of the taboo in a particular community and the status of the endangered radiated tortoise living there.<sup>61</sup>

At one extreme was the area of Lavanomo, where 93% of people said that they followed the taboo, and up to 99% of the population was estimated to practice it. There, the mean number of *G. radiata* per hectare was found to be  $10.8 \pm 0.15$ .

**Table 12-3.** Resource and habitat taboos and the nature conservation and resource management functions of each category.

Category	Function
Segment taboos	Regulates resource withdrawal
Temporal taboos	Regulates access to resources in time
Method taboos	Regulates methods of resource withdrawal
Life history taboos	Regulates withdrawal of vulnerable life history stages of species
Species-specific taboos	Total protection of species in time and space
Habitat taboos	Restricts access and use of resources in time and space

At the other extreme, was the area of Tsiombe, where only 75% of informants said that they followed the *fady*, and an estimated 80% of them actually did, the mean density of tortoises dropped by an order of magnitude to  $0.6 \pm 0.04$  animals per hectare.

The available evidence indicates that the vastly lower density of tortoises in Tsiombe was a direct effect of illegal killing for consumption and commercial trade, and live capture for the pet trade, resulting from a laxity in the adherence to the taboo. The authors of the study recommended that local taboos attributing value to a particular species in a community be incorporated into official legislation, based on the following rationale (words in brackets are introduced by us):

environmental regulations that are based on traditional customs and sanctioned by local institutions [read value systems, including taboos] are more likely to be respected than those imposed by external administrative agencies [through legislation, and even if based on scientific fact].<sup>62</sup>

#### 4. Socio-Economics and Values

The inspiration to conserve nature also depends on livelihood issues. People whose livelihoods are directly or indirectly dependent on a particular kind of animal are less likely to have value systems that espouse non-utilization of what they consider to be a “resource”. A recent study conducted by TNS Mode for the Wildlife Trust of India (WTI) and the International Fund for Animal Welfare (IFAW) on a conservation issue in India is a case in point. Whale sharks are the largest fish in the world and frequent Indian shores, especially the shores of the maritime state of Gujarat. Gujarat is inhabited by a predominantly vegetarian Hindu community, but there is a minority within the community that includes the Koli fishermen who fish the whale shark as a seasonal activity. In 2002, India protected the whale shark and banned its slaughter. WTI and

IFAW planned an awareness campaign in Gujarat to inform the fisher folk of the new ban and the reasons for protecting the fish, and to seek their support for the new conservation measure. At the same time, they wished to celebrate the arrival of the whale shark, a charismatic and gentle giant of the seas, by raising awareness levels among the general populace in the state, especially in the capital city of Ahmedabad. Prior to undertaking this campaign, a survey of attitudes was carried out. Among 425 citizens surveyed throughout the state, endangered animal protection ranked fourth of seven environmental issues, including air, land and water pollution, deforestation, global warming and water table reduction (Table 12-4).

When the data were examined on a regional basis (Table 12-5), it appeared that coastal citizens (Veraval) were more aware (nearly two times more) of the importance of conserving endangered species than those living inland (Ahmedabad). Interestingly, 93% of all citizens of the state said that they would support the cause even if it meant a loss of livelihood for fishermen.

It was also apparent, however, that the importance of endangered species conservation was only an ingrained value, and not necessarily a societal objective, for the fisher folk themselves, when they were confronted with the fact that they had to give up whale-shark fishing. A small qualitative sampling of opinion among the whale-shark fishing community found that many felt that the whale shark should be killed, not because it is harmful, but because of financial considerations. “It should be killed as it gives livelihood to so many fishermen” was a common refrain.

It is also interesting to note that a common refrain directed by fishermen elsewhere in the world toward cetaceans (whales, dolphins and porpoises) and pinnipeds (fur seals, sea lions, walrus, and true seals) – that they need to be culled to protect fisheries or fish stocks – was also a commonly expressed sentiment directed toward whale sharks. For example, “the whale shark should be killed because they eat the small fish and we don’t get any

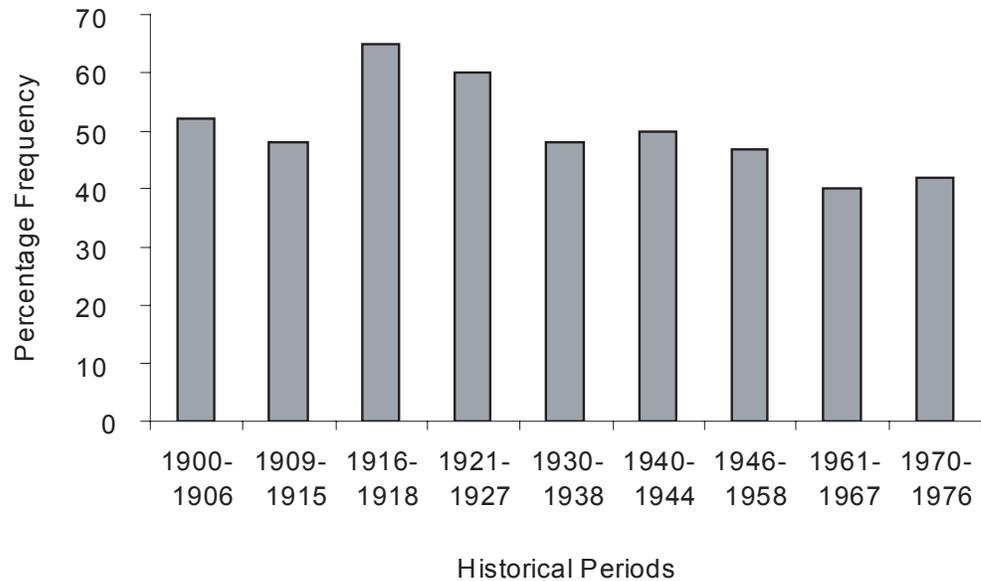
**Table 12-4.** Whale shark attitudinal survey (TNS Mode-WTI unpublished). Respondents were asked to identify the three environmental issues (from the list of seven, below) that they considered to be a priority. The numbers in the table represent the percentage of respondents who identified a particular issue.

	All Citizens	Children	Young Adults	Adults
Base sample	425	125	124	176
Air pollution	71	74	69	71
Water pollution	62	70	55	63
Deforestation	58	54	62	58
<b>Specific animal species becoming endangered</b>	<b>38</b>	<b>35</b>	<b>40</b>	<b>39</b>
Land pollution	32	34	34	30
Global warming	24	22	29	22
Water table going down	16	13	11	20

**Table 12-5.** Importance given to each issue in Table 12-5 by the citizens of Ahmedabad (Ahm) and Veraval (Ver).

	All Citizens		Children		Young Adults		Adults	
	Ahm	Ver	Ahm	Ver	Ahm	Ver	Ahm	Ver
Base sample	250	175	75	50	74	50	101	75
Air pollution	71	72	73	76	69	68	70	72
Water pollution	66	57	72	66	65	40	63	61
Deforestation	63	51	63	40	68	54	59	56
Land pollution	33	31	35	32	32	36	32	27
<b>Specific animal species becoming endangered</b>	<b>28</b>	<b>53</b>	<b>23</b>	<b>54</b>	<b>26</b>	<b>62</b>	<b>34</b>	<b>47</b>
Global warming	26	21	27	14	27	32	26	17
Water table going down	16	15	13	12	12	10	21	20

**Figure 12-8.** Changes in utilitarian attitudes in the United States throughout the 20th century.



small fish,” and “small fish are left in the ocean so that fish in general will increase. But the whale shark eats them up, so the fish are decreasing”.

Within the same nation, within the single state of Gujarat, and even within a geographically distinct community – the coastal populace – the views of the fishermen who are dependent on the whale shark were dramatically different from the non-dependent citizenry. Indeed, fishermen’s views were more similar to those of fishermen from other countries, cultures and religions, who are similarly dependent on fisheries for livelihood.

Subramanian<sup>63</sup> has also demonstrated “the privilege of personal gain over social responsibility and of private wealth over marine wealth” among the artisanal fishermen of Tamil Nadu. He records that:

I was told several times that as trawler owners grew richer, they contributed less and less to the church fund from which the needs of the village poor were met.

So strong are some of the fishermen’s views that even smaller “Kattumaram” or catamaran fisher folk are quoted as saying,

We didn’t need the government or the church to endorse the agreement (of a new fishing rights regime); we had Mary Matha [Mother Mary] as our witness. We know best what is just: where to fish, how to fish and how to protect the sea.<sup>64</sup>

When livelihood issues surface, science plays a tertiary role in conservation. In such circumstances, even religious values and laws based on national value systems are

pushed to second place. As Oscar Wilde once observed, “The necessity for a career forces every one to take sides”.<sup>65</sup>

### 5. Time in History

Within the same region, the same nation, and the same community, values and objectives often change over time. In other words, value systems tend to evolve just as species do, acted upon by a multitude of factors.

In the United States, for example there has been a decline over time in public support for commercial whaling. As recently as 1978, 75% of Americans endorsed the hunting of non-endangered whales if it resulted in a useful product.<sup>66</sup> In 1993, only 26% of Americans approved whaling under any circumstance.<sup>67</sup> And, by 1997, only 14% supported (strongly or somewhat) “the killing of whales for their meat, blubber, or other purposes”.<sup>68</sup>

The decline in the utilitarian attitude of Americans towards commercial whaling is consistent with the general decline in the utilitarian attitude toward all wildlife species observed in the United States between 1916 and 1976 (Figure 12-8).<sup>69</sup>

Another example of attitudes changing over time can be found in the Japanese Shinto-Buddhist practice of *hojo-e*. *Hojo-e* is a “no-kill ceremony” that involves the symbolic release of living beings.<sup>70</sup> This medieval Buddhist compassion ritual has now evolved into a complex, state-sponsored ritual called *Iwashimizu Hachiman*, allegedly due to quasi-militaristic land grabbing and clan power strategies. This evolution has led to the ironic situation wherein large numbers of fish are now eaten in order to have a ceremony in which fish are released as part of *hojo-e*.

An even more recent change is the paradoxical practice in Japan of memorializing animals that are captured,

which includes having elaborate whale banquets to memorialize the whales that are killed. Over a period of time a value based on religion has changed in the same nation state to a value coloured by politics.

## DISCUSSION

Much of the technical and academic literature portrays conservation as a scientific undertaking. Claims are frequently made that conservation policies should be scientifically based and that management decisions should be guided by the best available scientific information. In theory, perhaps that is the way things should work but, in practice, that is not the way conservation operates. All conservation issues, from the protection of endangered species to the removal of sustainable yields, to the maintenance of biodiversity, and the adoption of the precautionary approach, all involve value-based choices. Of course, science can inform those choices and, on occasion, the choices that are made may even be consistent with the best scientific advice. But, more often than not, that is not the case.

The driving forces behind any concept of conservation, are the attitudes, values and objectives of individuals, communities, regions or nations. That being the case, it is also self-evident that attitudes, values, and objectives vary among individuals, communities, regions, and nations. There is simply no one view of conservation and no possibility in the foreseeable future, at least, of a single conservation ethic emerging among regions and nations of the world. While a single ethic might be considered ideal, it is precluded by economic realities, and by religious and cultural differences. When controversies arise, as they inevitably will – because of differing visions of what is good or bad, right or wrong – they will continue to be resolved (or at least dealt with) as they usually are: through some form of political process. As Donovan *et al.* wrote years ago,

...conflict – the stuff of politics – takes place not only among people and groups and nations, but also among alternative values, or to put it more precisely, competing visions of what is “good”.<sup>71</sup>

The situation will be further complicated by the wide disparities among nations in the political systems they employ.

These days we hear much about the promises of globalization for resolving the world's ills. In the case of the conservation field, globalization would require the implementation of a single conservation ethic. But that does not seem realistic or possible. Perhaps a better way to pursue the goal of ecological sustainability, then, is to proceed on a regional or national basis, acknowledging not only

religious, cultural, and political differences, but also the current economic disparities and social inequities that exist around the world. It seems obvious that different approaches will be required in different places and at different times. That is the only way we can see to begin to accommodate the different attitudes, values and objectives of individual people and the societies in which they live, even if the over-riding goal remains the pursuit of ecological sustainability on a global basis.

## NOTES AND SOURCES

- <sup>1</sup> Sukumar, R. 2003. *The Living Elephants: Evolutionary ecology, behaviour and conservation*. Oxford University Press, New York, NY.
- <sup>2</sup> Nash, R. F. 1989. *The Rights of Nature: A history of Environmental Ethics*. The University of Wisconsin Press, Madison WI; Worcester, D. 1994. *Nature's Economy: A History of Ecological Ideas*, 2<sup>nd</sup> Edition, Cambridge University Press, Cambridge, UK.
- <sup>3</sup> Lavigne, D.M., V.B. Scheffer, and S.R. Kellert, 1999. The evolution of North American attitudes towards marine mammals. In J.R. Twiss Jr. and R.R. Reeves (Eds.) *Conservation and Management of Marine Mammals*. Washington and London, Smithsonian Institution Press; Nash, R. F. 1989. *The Rights of Nature: A history of Environmental Ethics*. The University of Wisconsin Press, Madison WI; Leopold, A. 1966. *A Sand County Almanac with Essays on Conservation from Round River*. A Sierra Club/Ballantine book, New York, NY.
- <sup>4</sup> See Worster 1994; Lavigne *et al.* 1999.
- <sup>5</sup> Leopold, A. 1966. *A Sand County Almanac with Essays on Conservation from Round River*. A Sierra Club/Ballantine book, New York, NY.
- <sup>6</sup> e.g. Naess, A. 1973. The Shallow and the Deep, Long-Range Ecology Movement: A Summary. *Inquiry* 16: 95–100.
- <sup>7</sup> Henning, D. 2002a. Buddhism and Deep Ecology. 1st Books Library, USA; also see Shaw, J.H. 1985. *Introduction to Wildlife Management*. McGraw-Hill Book Company, New York, NY.
- <sup>8</sup> Lavigne, D.M. 2003. Marine Mammals and Fisheries: The Role of Science in the Culling Debate. pp. 31-47. In N. Gales, M. Hindell, and R. Kirkwood (Eds.). *Marine Mammals: Fisheries, Tourism and Management Issues*. CSIRO Publishing, Collingwood, VIC, Australia.
- <sup>9</sup> Singer, P. 1975. *Animal Liberation: A New Ethics for our Treatment of Animals*. Avon Books, New York, NY.
- <sup>10</sup> Marcuse 1972, cited in Nash, R.F. 1989. *The Rights of Nature: A History of Environmental Ethics*. The University of Washington Press, Madison WI. p. 6.
- <sup>11</sup> Jeanrenaud, S. 2002. People-Oriented Approaches to Global Conservation – Is the Leopard Changing its Spots? International Institute of Environment and Development, London, UK.
- <sup>12</sup> Henning, D. 2002b. Wildlife, Forests and Spirituality: Deep Ecology in Asia. In V. Menon and M. Sakamoto (Eds.). *Heaven and Earth and I: Ethics of Nature Conservation in Asia*. Penguin-India.

- <sup>13</sup> See Lavigne, Chapter 1.
- <sup>14</sup> Giles, R.H. 1978. *Wildlife management*. W. H. Freeman, San Francisco, CA.
- <sup>15</sup> Thompson, R. 1992. *The Wildlife Game*. The Njala Wildlife Publications Trust, Westville, South Africa. Thompson begins Chapter 19, "The principles of wildlife management," with the unequivocal statement "Wildlife management is a *science*...". He goes on to say that the boundaries of wildlife science are "prescribed by legislation and official policy (which reflect a nation's culture)". But the text soon gets very confusing. For example, Thompson also says that "the application of the principles of wildlife management is an *art*...". Then, he says, "Wildlife management becomes more than just an *art*. It becomes a very specialized *craft*...". Not all authors are so confused: see Dickinson, N. 1993. *Common Sense Wildlife Management*. Settle Hill Publishing, Altamont, New York. He states (p. 7) that "When practiced in a professional manner, wildlife management is indeed a science... The wildlife manager, as a scientist, must be totally objective and practice the self discipline necessary to make judgements based on facts and truths. There is no room for subjectivity... Dedication to the scientific method is paramount." Hunter, M.L. Jr. (1990). *Wildlife, Forests, and Forestry: Principles of Managing Forests for Biological Diversity*. Prentice-Hall Inc., Englewood Cliffs, New Jersey) also describes "wildlife management as a scientific discipline and profession [that] emerged primarily in the United States through combining the emerging science of ecology with the traditional practices of gameskeepers" (p. 4).
- <sup>16</sup> In some fields, the "attitudes" and "values" are treated as synonyms. See Lavigne *et al.* (1999) for a brief discussion. For a different view, see Worcester, Chapter 17.
- <sup>17</sup> Berry, J.K. 1993. Distinguishing data from information and understanding GIS World, October. Also see Lavigne, D.M. 2003. Marine mammals and fisheries: The role of science in the culling debate. pp. 31-47. In N. Gales, M. Hindell and R. Kirkwood (Eds.). *Marine Mammals: Fisheries, Tourism and Management Issues*. CSIRO Publishing, Collingwood, Victoria, Australia.
- <sup>18</sup> For an example from fisheries, see Hutchings, Chapter 6.
- <sup>19</sup> See for example, [http://www.ucsusa.org/scientific\\_integrity/interference/scientific-integrity-in-policy-making-704.html](http://www.ucsusa.org/scientific_integrity/interference/scientific-integrity-in-policy-making-704.html); also see <http://www.nrdc.org/bushrecord/science/default.asp>; <http://www.nrdc.org/bushrecord/science/rfk.asp>; <http://www.nrdc.org/bushrecord/science/quotations.asp>.
- <sup>20</sup> Kabil Singh, C. 1987. How Buddhism can help protect Nature, in Nash, N. (Ed.). *Tree of Life: Buddhism and the Protection of Nature*. Buddhist Perception of Nature, Geneva.
- <sup>21</sup> G.B.B Shah, His Highness. 2002. Search for a New Value System: Environmental Challenges in Nepal. In V. Menon and M. Sakamoto (Eds.). *Heaven and Earth and I: Ethics of Nature Conservation in Asia*, Penguin-India.
- <sup>22</sup> Donovan J.C., R.E. Morgan, and C.P. Potholm. 1981. *People, Power and Politics An introduction to Political Science*. Addison-Wesley Publishing Company, Reading, MA.
- <sup>23</sup> Fishbein, M. and I. Ajzen. 1975. *Belief, Attitudes, Intention and Behaviour: An Introduction to Theory and Research*. Addison-Wesley Publishing Company, Reading, MA.
- <sup>24</sup> Henning 2002b.
- <sup>25</sup> See Lavigne *et al.* 1999. Table 12-1 is adapted from Kellert, S.R. 1980. Activities of the American public relating to animals. Phase II. Results of a U.S. Fish and Wildlife Service funded study of American attitudes, knowledge and behaviors toward wildlife and natural habitats. Superintendent of Documents, U.S. Government Printing Office, Washington, DC; and Kellert, S.R. 1993. The biological basis for human values of nature. pp. 42-69. in S.R. Kellert and E.O. Wilson (eds.). *The Biophilia Hypothesis*, Island Press, Washington, DC.
- <sup>26</sup> Kellert, S.R. and M.O. Westervelt. 1982. Historical trends in American animal use and perception. Transactions of the North American Wildlife and Natural Resources Conference 47: 649-664.
- <sup>27</sup> Table 12-2 is modified and generalized from Food and Agricultural Organization of the United Nations. 1978. Mammals in the Seas. Vol. 1. Report of the FAO Advisory Committee on Marine Resources Research, Working Party on Marine Mammals. FAO Fisheries Series 5(1) 275 pp. and reprinted from Lavigne, D.M. and V. Geist. 1993. Game ranching: A case study in sustainable utilization. pp. 194-200. In I. Thompson (Ed.). Proceedings of the International Union of Game Biologists XXI Congress. Vol. 2. August 1993. Halifax, Nova Scotia.
- <sup>28</sup> Huntington, S. 1996. *The Clash of Civilisations and the remaking of World Order*. Penguin-India.
- <sup>29</sup> Kellert, S.R. 1991. Japanese Perceptions of Wildlife, *Conservation Biology* 5:297-308; Kellert, S.R. 1995. Concepts of Nature East and West. In M.E. Soule and G. Lease (Eds.). *Reinventing Nature? Responses to Postmodern Deconstruction*. Island Press, Washington DC.
- <sup>30</sup> Unless otherwise stated, we use Kellert's typology (Table 12-1) throughout to characterize attitudes and values.
- <sup>31</sup> Kumar, A. 2002. A History of Compassion: Indian ethics and conservation. In V. Menon and M. Sakamoto (Eds.). *Heaven and Earth and I: Ethics of Nature Conservation in India*. Penguin-India.
- <sup>32</sup> For more on the ivory trade, see Kumar and Menon, Chapter 8.
- <sup>33</sup> Sukumar, R. 2003. *The Living Elephants: Evolutionary Ecology, Behaviour and Conservation*. Oxford University Press, New York, NY.
- <sup>34</sup> Menon, V. 2002 *Tusker: The Story of the Asian Elephant*. Penguin-India.
- <sup>35</sup> Chadwick, D.H. 1992. *The Fate of the Elephant*. Viking, Penguin-India Pvt Ltd. New Delhi, India.
- <sup>36</sup> Supreme Court, 2002.
- <sup>37</sup> Peritore, P.N. 1993. Environmental Attitudes of Indian Elites: Challenging Western Postmodernist Models. *Asian Survey* 33: 807.
- <sup>38</sup> See Papastavrou and Cooke, Chapter 7.
- <sup>39</sup> Freeman, M. and S.R. Kellert. 1994. International Attitudes to Whales, whaling and use of whale products: A six-country survey. In M.M.R. Freeman and U. Kreuter (Eds.). *Elephants and Whales: Resources for Whom*. Gordon and Breach Publishers, Basel Switzerland.
- <sup>40</sup> Ibid.

- <sup>41</sup> White, L.W. 1967. The historical roots of our ecologic crisis. *Science* 155:1203-1207.
- <sup>42</sup> Henning 2002b.
- <sup>43</sup> Sponsel, L.E and P.N. Sponsel. 1997. A Theoretical Analysis of the Potential Contribution of the Monastic Community Promoting a Green Society in Thailand. In M.E. Tucker and D.R. Williams (Eds.). *Buddhism and Ecology*. Harvard University Press, Cambridge, MA. Figure 12-6 is redrawn from Tucker and Williams.
- <sup>44</sup> Swearer, D.K. 1997. The Hermeneutics of Buddhist Ecology in Contemporary Thailand: Buddhadasa and Dhammapitaka. In M.E. Tucker and D.R. Williams (Eds.). *Buddhism and Ecology*. Harvard University Press, Cambridge, MA.
- <sup>45</sup> Kabilsingh 1987.
- <sup>46</sup> Henning 2002b.
- <sup>47</sup> An ancient language of northern and eastern India that was used in the region where Buddhism originated and took root.
- <sup>48</sup> An important Buddhist manuscript.
- <sup>49</sup> Chapple, C.K 1997. Animals and Environment in the Buddhist Birth Stories. In M.E. Tucker and D.R. Williams (Eds.). *Buddhism and Ecology*. Harvard University Press, Cambridge, MA.
- <sup>50</sup> Jaini, P.S. 1979. The Jaina path of purification. Motilal Banarsidass, Delhi, India.
- <sup>51</sup> Vallely, A. 2002. From Liberation to Ecology: Ethical discourses among Orthodox and Diaspora Jains. In C.K. Chapple (Ed.). *Jainism and Ecology*. Harvard University Press, Cambridge, MA.
- <sup>52</sup> Generally, an ascetic is one who practices a renunciation of worldly pursuits to achieve spiritual attainment.
- <sup>53</sup> Dundas, P. 2002. The limits of a Jain Environmental Ethic. In C.K. Chapple (Ed.). *Jainism and Ecology*. Harvard University Press, Cambridge, MA; Jambuvijaya, M. 1978. *Acarangasutra and Sutrakritangasutra*. Motilal Banarsidass, Delhi, India.
- <sup>54</sup> According to Bolle, W.B. 1999. Adda or the Oldest Extant Dispute between Jains and Heretics (Suyagada 2, 6). *Journal of Indian Philosophy*, 27: 411-437.
- <sup>55</sup> Jaini, P.S. 2002. Ecology, Economics and Development in Jainism. In C.K. Chapple (Ed.). *Jainism and Ecology*. Harvard University Press, Cambridge, MA.
- <sup>56</sup> Shilapi, S. 2002. The Environmental and Ecological teachings of Tirthankara Mahavira, In C.K. Chapple (Ed.). *Jainism and Ecology*. Harvard University Press, Cambridge, MA.
- <sup>57</sup> Ibid.
- <sup>58</sup> Lingard, M, N. Raharison, E, Rabakonandrianina, J, Rakotoarisoa, and T. Elmquist. 2003. The Role of Local Taboos in Conservation and the Management of Species: The Radiated Tortoise in Southern Madagascar. *Conservation and Society*, Vol. 1, No. 2, New Delhi, India.
- <sup>59</sup> Colding, J and C. Folke. 2001. Social Taboos: "Invisible" Systems of Local Resource Management and Biological Conservation, *Ecological Applications* 11(2): 584-600.
- <sup>60</sup> Lingard *et al.* 2003.
- <sup>61</sup> Ibid.
- <sup>62</sup> Berkes, F and C. Folke. 1998. *Linking Social and Ecological Systems*, Cambridge University Press, Cambridge, UK.
- <sup>63</sup> Subramanian, A. 2003. Community, Class and Conservation: Development Politics on the Kanyakumari Coast. *Conservation and Society*, Vol. 1, No. 2, New Delhi; Vallely, A. 2002.
- <sup>64</sup> Subramanian, A. 2003.
- <sup>65</sup> Ellmann, R. (Ed.). 1969. *The Artist as Critic*. The University of Chicago Press, Chicago IL. p. 385. The quote is from Wilde's essay, *The Critic as Artist*, which was first published in 1890. Available at <http://www.online-literature.com/wilde/1305/>.
- <sup>66</sup> Kellert, S.R. 1980. Activities of the American public relating to animals, Phase II, Results of a USFWS funded study of American attitudes, knowledge and behaviors towards wildlife and habitats, Superintendent of Documents, U.S. Government Printing Office, Washington, DC.
- <sup>67</sup> Freeman, M. and S.R. Kellert. 1994. International attitudes to whales, whaling and use of whale products: A six-country survey. In M.M.R. Freeman and U. Kreuter (Eds.). *Elephants and Whales: Resources for Whom*, Gordon and Breach Publishers, Basel, Switzerland.
- <sup>68</sup> Penn, Schoen and Berland Associates, Inc. 1997. Poll taken for the International Fund for Animal Welfare. Yarmouth Port, MA.
- <sup>69</sup> Kellert and Westervelt 1982; Lavigne *et al.* 1999.
- <sup>70</sup> Williams, D.R. 1997. Animal Liberation, Death and the State: Rites to Release Animals in Medieval Japan. In M.E. Tucker and D.R. Williams (Eds.). *Buddhism and Ecology*, Harvard University Press, Cambridge, MA.
- <sup>71</sup> Donovan *et al.* 1981, p. 4.

## A POSTMODERN LIMERICK

*This limerick stems from the paper that Vivek Menon presented on behalf of himself and David Lavigne. I have cleared it with Vivek.*

*It needs a little scholarly exegesis. Several of the forum speakers managed to sneak in a little of the vocabulary of the postmodernists – words like deconstruct, discourse, and empowerment, for example. So, I thought I could get away with a postmodern limerick. Specifically, I mean a limerick written with ironic intent – one with two extra lines – and one which ends by deconstructing itself.*

AN INDIAN TOLD US THAT BUDDHA  
LEARNED TO CONSERVE FROM HIS MUDHA  
SO WHENEVER IT RAINS  
ON THE NORTH INDIAN PLAINS  
THE SOILS JUST GET GUDHA AND GUDHA.

EXCEPT OF COURSE FOR THE VAST TONNAGES THAT GET WASHED DOWN THE  
GANGES, RIGHT THROUGH BANGLADESH AND OUT INTO THE BAY OF BENGAL

IN AMOUNTS THAT WOULD MAKE BUDDHA SHUDDHA.

WARD CHESWORTH 2004

