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Wildlife Value Orientations of Rural Mongolians

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Mongolia provides an interesting example to study wildlife value orientations (WVOs), because of its long tradition as a society based on pastoral nomadism and the dramatic changes in the socioeconomic situation during the recent transition from socialism toward a market economy. In the summer of 2005 and 2006 nine semi-structured interviews were conducted with respondents with a herding background. Large individual differences were expected in the WVOs, but with an overall tendency toward more materialism and less mutualism. The WVO concept and quantitative method seemed to work well for the Mongolian sample, but results were not in accordance with expectations developed from a western U.S. sample. This is most likely due to widely differing economic and cultural realities. Yet, it still challenges the idea of a common cross-cultural trend in the human–wildlife relationship.

Keywords market-economy, Mongolia, semi-nomadic herders, socialism, wildlife value orientations

Based on empirical evidence from inter-state comparison in the United States, Inglehart's revised theory of modernization (Inglehart, 1990; Inglehart & Baker, 2000, Inglehart & Welzel, 2005) and Ingold's (1994) theory on human–animal relations, Manfredo, Teel, and Henry (2007) suggest that the relationship of people and wildlife may follow a transition from trust to domination to mutualism wildlife value orientations. On an individual basis the mutualism wildlife value orientation (WVO) in the western United States is positively correlated with environmentalism and allows for predictions about the likelihood a person engages in fishing and hunting activities or agrees with lethal wildlife control (Manfredo et al., 2007). Based on an interstate comparison, a mutualism WVO is positively associated with increased income level, urbanization, and educational attainment and the study suggests that mutualism WVOs may increase as political entities (states or countries) move toward a more post-industrial stage (Manfredo et al., 2007). If this theory holds true, the documented shift toward a mutualism WVO would have important implications for nature conservation and wildlife management (Teel & Manfredo, 2007). In order to test whether or not the observed pattern is a real, and a more broadly applicable trend, longitudinal and cross-cultural studies are needed.

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Not much data is available on attitudes toward wildlife or WVOs from north-eastern Asia. In a comparison of basic wildlife values between the public in the United States and Japan, Japanese residents scored considerably higher on dominionistic and lower on moralistic values than U.S. residents, despite similar levels of economic wealth and a Confucian tradition that is based on “harmony with nature” (Kellert, 1991). Upon a more detailed analysis, the assumed “harmony with nature” proved to lack an ecological and ethical perspective and to be highly idealized and primarily focused on a few charismatic species (Kellert, 1991). These results from Japan are not easily comparable to the approach by Manfredo et al. (2007) and Teel and Manfredo (2007), yet suggest that understanding the cognitive component of the human–wildlife relationship might be very complicated when comparing different cultures. In the following article I will provide additional data on the human–wildlife relationship from Asia by reporting on preliminary findings from Mongolia.

Socioeconomic Development of Mongolia

From the times of Chinggis Khan until 1911, Mongolia was governed under a primarily feudalistic scheme. Land and game use followed regulations set by ruling nobles (secular princes or high-ranking lamas) and informal norms and customs or “unwritten laws” (Fernandez-Gimenez, 1999). The prevailing religion became northern Buddhism (Lamaism). Strict environmental regulations were already included in the code of Chinggis Khaan’s “Ikh Zasag” (Great Rule) and many of those are still widely known today (see Table 1, Becker, 2004). In mountains that were recognized as sacred hunting grounds, cultivation, and logging were banned and violators severely punished (Becker, 2004; Enebish & Myagmasuren, 2000).

In 1924 the Mongolian People’s Republic was declared and Mongolia became the world’s second communist country. Thousands of monks were executed and most monasteries were destroyed. Concurrently, basic infrastructure was established, and schools and hospitals were built throughout the country. Literacy rates reached almost 100% and life expectancy increased significantly (*Human Development Report—Mongolia*, 2003). The

Table 1
Top Ten Mongolian Hunting Norms

Key statement

- Do not decimate the entire herd or pack
 - Do not kill more than needed
 - Don’t hunt animals of special colour or body build
 - Don’t kill pregnant or she-animals with young litter
 - Don’t hunt migrating animals
 - Don’t kill an animal, escaping from a predator
 - Don’t hunt animals during their mating season
 - Never kill the lead animal of a herd or pack
 - Never let blood of prey fall onto the ground
 - Leave no traces on watering places or with salt frequented by animals
-

From Becker (2004).

family-based herding tradition was dismantled and collectives (herding cooperatives) were established (Fernandez-Gimenez, 1999).

With the breakdown of the Soviet system, Mongolia gained full independence and in 1992 adopted its present constitution as a parliamentary democracy. The change of the political system occurred in conjunction with the deterioration of the Russian infrastructure, the loss of most administrative jobs, and the re-privatization of livestock (Mearns, 2004). Many unemployed people resumed a pastoral lifestyle that resulted in a dramatic increase in livestock numbers and herder families. Several hard winters from 1999–2001 resulted in massive livestock losses and drove many of the new herders under the poverty line (Kaczensky et al., 2006). Presently 33% of the population is estimated to live below the poverty line and the society is experiencing a widening gap between rich and poor. Since 1995 the GDP returned to positive growth again and in 2004 reached 2,056 USD. In present day Mongolia, the service industry accounts for 57% of the GDP, but agriculture still makes up 20% of the GDP and semi-nomadic pastoralism remains the most important economy of rural people (*Human Development Report—Mongolia*, 2003).

Thus far only a few wildlife-related attitude surveys have been conducted in Mongolia, focusing on herder–wildlife conflicts (e.g., *livestock predation*: Allen, McCarthy, & Bayarjagal 2002; Mishra et al., 2003; or *pasture use*: Bedunah & Schmidt, 2004; Kaczensky et al., 2006) or the hunting of wildlife (Pratt, MacMillan, & Gordon, 2004; Wingard & Zahler, 2006). In 2005 and 2006 I conducted nine semi-structured interviews with respondents that either had a herding background or were actively involved in herding. Respondents were between 37 and 75 years old and, thus, had grown up during the communist era and as adults experienced the collapse of the political system and the following economic transition to a market economy. None of the respondents seemed to have profited economically from the present day market economy. Based on Inglehart's revised theory of modernization (Inglehart, 1990; Inglehart & Baker, 2000) one would expect respondents to score high on survival as well as secular-rational values. Given the country's political and religious background, Mongolia would be expected to fall somewhere between the cluster of ex-communist and Confucian countries. This remains to be tested, as Mongolia was not among the countries sampled for the World Values Surveys (Inglehart & Welzel, 2005; World Values Survey, 1981–2004).

My expectations were:

1. Given the rapid socioeconomic change over the last two generations I expected to find a high variation in WVOs among individual respondents.
2. Given the overall low income, the rural upbringing and the low level of formal education, I expected to see an overall tendency for strong materialism and weak mutualism WVOs.

Study Area and Methods

We used semi-structured interviews following a basic script and prompts asking people to tell us about experiences with wildlife that made them (1) happy, (2) sad, (3) angry, and (4) frightened. In a final question respondents were asked to tell us what they think about animals and how they treat them (see Dayer, Stinchfield, & Manfredo, 2007). The interview guide was translated from English into Mongolian by a professional translator and then back-translated into English by another professional translator to control for possible problems with understanding and wording.

All interviews were conducted by H. Otgonbayar, a Mongolian biology student at the National University of Mongolia who grew up in a herding family and is familiar with rural and urban people alike. All interviews were recorded on a tape recorder and transcribed to English language by Otgontsetseg Alexander, a professional translator with a strong background in sustainable resource management. In June–July 2005 four people were interviewed in the southeast Gobi and two in the capital Ulaanbaatar. In 2006 an additional ten people were interviewed in the southwest Gobi. However, due to a failure of the tape recorder, only 3 of the 10 interviews from 2006 were actually fully recorded and available for analysis (Table 2). All interviews lasted about 15 to 20 minutes. The six interviews from 2005 were initially coded and discussed with Ashley Dayer of Colorado State University. In February 2007 all nine interviews were coded anew by the author according to the revised WVO classification developed by Dayer et al. (2007; Table 1). The only difference was that I added the *Concern for Safety* WVO as a subcategory to the materialism WVO, which I subdivided into four subcategories: (1) *Wildlife exists for human use*, (2) *Concern for livestock*, (3) *Concern for safety*, and (4) *Hunting*. In addition, I subdivided the mutualism WVO in two subcategories: (1) *Relationship of trust* and (2) *Caring*.

Results

The prompts of happy, sad, angry, and frightened did not always work and sometimes triggered WVOs that seemed unrelated or opposite to the emotions in the questions. In general, this approach seemed to encourage people to talk about wildlife, allowing researchers to extract six different WVOs (see Table 3 for examples of each WVO). The WVOs triggered by the different emotional prompts varied most widely for “happy” and least for “afraid.” The final general question again prompted a wider variety of WVOs (Figure 1). Several statements had aspects of more than one WVO. As expected according to hypothesis 1, the WVOs varied considerably among the nine respondents (Table 2). However, there was only partial support for hypothesis 2, as both materialism and mutualism WVOs were frequently expressed, in some cases parallel by the same person (Table 2).

Materialism

The emotional prompt about fear-related issues with wildlife always triggered materialism statements about *Concern for safety*. However, often a response was only provided after probing more deeply into the issue. The fear of wildlife does not seem to be very prevalent in Mongolians and several respondents explicitly stated: “there is no dangerous wildlife in the Gobi.” Upon probing, a certain fear of “mad wolves” (rabid wolves, *Canis lupus*) or wolves and snow leopards (*Uncia uncia*) under certain conditions was offered (e.g., when killing wolf pups, when encountering wolves at night, during hard winters, or for small children).

Statements about *Concern for livestock* were also mentioned by five respondents and focused primarily on predation by wolves. A secondary concern was competition for pastures with wild ungulates. Respondents seem to subdivide wildlife in “good” animals (basically those that are rare or live in the mountains) and “bad” animals (large predators and locally abundant ungulates like Asiatic wild ass (*Equus hemionus*) and Mongolian gazelles (*Procapra gutturosa*). For example, Respondent 9 stated: “I think it is good to increase the number of wildlife and reserve the natural resources in its proper condition. But as for the animals like wild asses and white gazelles which are harmful to the soil and

Table 2
People Interviewed in Mongolia in June/July 2005 and August 2006

#	Sex	Age	Residence/Region	Education	Occupation	Economic situation	WVOs in the interview ¹
1	Female	48	Village-countryside/ SE Gobi	Other	Public service and a former herder	Poor	Materialism: <i>Wildlife for human use (+/-), Concern for livestock (+), Concern for safety (+/-)</i> Mutualism: <i>Relationship of trust (+)</i> Environmentalism (+) Rational / Scientific (+)
2	Male	62	Countryside/SE Gobi	Special training	Retired herder	Just enough	Materialism: <i>Wildlife for human use (+), Concern for livestock (+), Concern for safety (+), Hunting (+) Respect (+)</i>
3	Male	55	Village/SE Gobi	Other	Public service with a herding background	Just enough	Materialism: <i>Wildlife for human use (-), Concern for livestock (-/+), Concern for safety (+/-), Hunting (-)</i> Mutualism: <i>Relationship of trust (+), Caring (+)</i> Attraction (+) Environmentalism (+) Rational / Scientific (+) Respect (+)
4	Male	69	Countryside/SE Gobi	Primary school	Herder	Just enough	Materialism: <i>Concern for livestock (+), Concern for safety (+/-), Hunting (+)</i> Mutualism: <i>Caring (+) Environmentalism (+)</i>

(Continued)

Table 2
(Continued)

#	Sex	Age	Residence/ Region	Education	Occupation	Economic situation	WVOs in the interview ¹
5	Female	75	Ulaanbaatar	Primary school	Retired herder and public service	Just enough	Materialism: <i>Wildlife for human use (+/-), Concern for livestock (+/-), Concern for safety (+/-), Hunting (+)</i> Environmentalism (+)
6	Male	37	Ulaanbaatar	University	Unemployed but grew up in the countryside	Just enough	Materialism: <i>Concern for safety (+), Hunting (-)</i> Mutualism: <i>Caring (+)</i> Attraction (+) Environmentalism (+) Rational / Scientific (+)
7	Male	60	Village-countryside/ SW Gobi	Unknown	Herder	Just enough	Materialism: <i>Concern for safety (+/-)</i> Mutualism: <i>Caring (+)</i> Attraction (+) Environmentalism (+) Rational / Scientific (+)
8	Male	40	Village-countryside/ SW Gobi	Special training	Ranger and herder	Just enough	Materialism: <i>Concern for safety (+/-), Hunting (+/-)</i> Mutualism: <i>Caring (+)</i> Environmentalism (+)
9	Male	50	Village-countryside/ SW Gobi	Unknown	Herder	Unknown	Materialism: <i>Concern for safety (+/-), Hunting (+)</i> Environmentalism (+)

¹+ = support for WVO, - = opposition to WVO, +/- = no clear position in respect to this WVO.

Table 3
Example Statements Typical for the WVOs of Mongolian Respondents

WVO	Example statements
Materialism <i>Wildlife exists for human use</i>	<p>#2: Besides, . . . wild ass, is it possible to bring them together in a special or certain area and grow them? Is it possible to take such kind of a measure or not? Same as how people are protecting a Prezewalski horse now. Today, number of wild ass is increasing and people's livelihood is deteriorating. It seems that people who are poor sometimes use wild ass for their own use. And the state is trying to control this through a law and regulation and government resolution was made on this, I heard it recently. It would be good if a government, Ministry of Nature and Environment takes an organized measure on hunting wild asses and give permissions to local people to hunt some number of wild asses to use for their livelihood.</p>
<i>Concern for livestock</i>	<p>#1: There is an occasion that wolves met livestock in pasture and attacked them. Instead of eating one livestock, they kill ten and twenty of livestock without eating them fully but just eat one leg or cut the throat. I feel sad about it because they kill the livestock in big numbers without eating fully.</p>
<i>Concern for safety</i>	<p>#8: Nothing. (<i>after the interviewer's probing</i>) Well, people are afraid of a mad wolf. I heard that in some places, sometimes a wolf does not run away from a family home even if people try to scare them away. Some wolves keep coming back. So herders are afraid of that.</p>
<i>Hunting /Fishing</i>	<p>#4: Then we saw the wolf running from the just nearby from the northeast. We run after with a car and killed it immediately. Now the head of the wolf is hung at the administration building.</p>
Mutualism <i>Relationship of trust</i>	<p>#1: We have many ibex and argali in a mountain. They are not afraid of women, when they graze their livestock. They come closer to livestock herds and follow us in the pasture. That makes me feel so happy because it seems like they know and understand that women are warm and loving people and will not do any harm to them. It is very obvious that they are afraid of men and run away when they see men. They recognize men and women by their voices. They recognize women's soft light voice when they shout to their livestock and follow them.</p>

(Continued)

Table 3
(Continued)

	Example statements
<i>WVO</i>	
<i>Extended family</i>	#3: I think people should protect, love and care for a wildlife as they do for their livestock.
<i>Caring</i>	#4: Well, it is very sad to see a baby gazelle left behind without a mother.
<i>Attraction</i>	#3: For example, when you are travelling in Gobi steppe and you see a camel, which is a pride of the Gobi people or wild asses, or gazelle herds, you feel very nice, don't you? The nature can be beautiful itself, but it's a wildlife that makes it more beautiful and lively and people can see it and feel happy. People feel proud of their country and talk the beauty of nature in relation to the existence of wildlife.
<i>Environmentalism</i>	#6: Wildlife is getting rare these years. For instance, marmots. They were very abundant before. And gazelles as well. Well, gazelles are said to be animals that don't have permanent habitat. Our area and environment also degraded and have little grass. So maybe because of change in nature, they are moving around. I think wildlife is connected to each other.
<i>Rational / Scientific</i>	#7: Today many people say that wolves need to be killed and destroyed. But I think it's wrong. Certain number of them has to exist. Well, it is true that wolves are dangerous to other wildlife and livestock. But on the other hand, wolves are significant in a way that they contribute to clean environment by reducing carrion (remaining of dead animals) as well as they make other livestock and animal vigilant and strengthen them physically.
<i>Respect</i>	#3: And it encourages poachers and bad people to enjoy their freedom on nature with an idea that they can do and kill anything and make a profit out of it. But there are people who also treat nature with a business interest and with an interest of making profit. They treat nature very badly and violently.

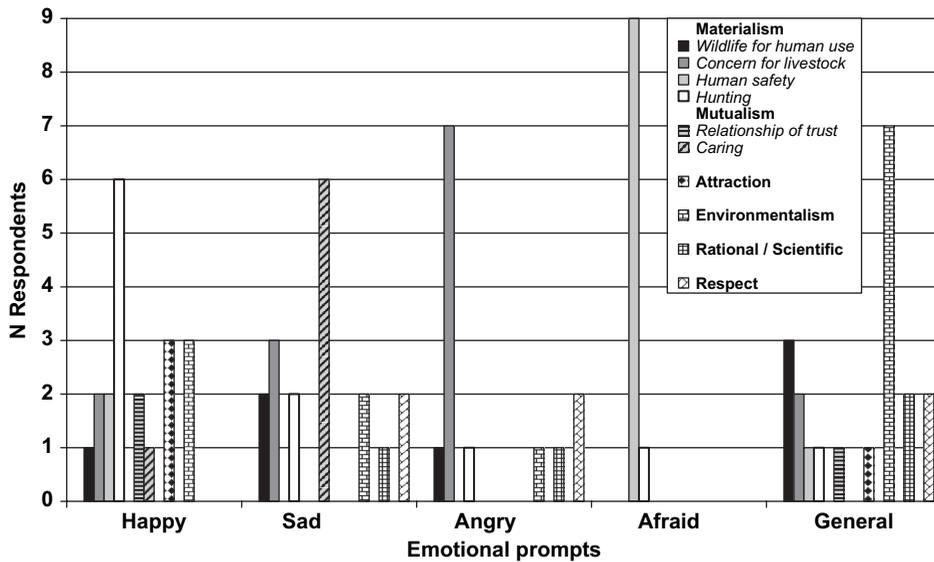


Figure 1. Wildlife value orientations expressed by Mongolians in response to four basic emotional prompts and a general question about how they feel about wildlife.

earth, they can be decreased or limited in number. But the animals that are under the strict protection or animals like marmot, argali, ibex, saiga, wild camel, Gobi bear needs to grow in number.”

Seven respondents made statements concerning *Hunting*. Four were in favor of hunting, with one person almost exclusively focusing on this part of human–wildlife relationship, whereas three were neutral or opposed hunting. Stories from wolf hunts or capture attempts of adult wolves or wolf pups were the stories most often told. One respondent made it quite clear that he opposed hunting. Others mainly opposed “hunting triggered by greed” (commercial use of wildlife) and here the Materialism *Hunting* WVO starts to mix with the Respect and Environmentalism WVO.

Respect

Respondent 3 stated that hunting “encourages poachers and bad people to enjoy their freedom on nature with an idea that they can do and kill anything and make a profit out of it. . . .There are people who also treat nature with a business interest and with an interest of making profit. They treat nature very badly and violently.”

All respondents seemed to hold a very strong basic value of respect in regard to hunting/killing: for example, not wasting the hunted animal, not causing unnecessary suffering, only allowing sustainable hunting. When adhering to these norms, subsistence hunting and the reduction of problem animals (e.g., livestock predators like wolves or pasture competitors like wild ass and Mongolian gazelles) seemed largely accepted.

Mutualism and Attraction

A mutualism WVO with a focus on a *Relationship of trust* between people and wildlife was only expressed by two respondents and focused on wildlife being part of the family

like livestock. This idea was expressed in the following statement by Respondent 3: "I think people should protect, love and care for wildlife as they do for their livestock." A mutualism WVO with a focus on *Caring* was expressed by five respondents and statements focused on young ungulates abandoned by their mothers (due to hunting or predation) and/or ungulates being helplessly exposed to adverse weather conditions. The attraction WVO focused on the joy of seeing wildlife and its beauty.

Environmentalism and Rational/Scientific

Environmentalism WVOs were expressed by eight respondents and focused on decreasing wildlife populations and habitat deterioration due to adverse weather conditions or the breakdown of the socialist system. A rational/scientific WVO was expressed by four respondents who acknowledge the importance of medium and large predators for the integrity of the ecosystem. An example for both an environmental and a rational/scientific WVO are captured by respondent 6 in the following statement: "Wildlife is getting rare these years. For instance, marmots. They were very abundant before. And gazelles as well. Well, gazelles are said to be animals that don't have permanent habitat. Our area and environment also degraded and have little grass. So maybe because of change in nature, they are moving around. I think wildlife is connected to each other [Environmental]. It is wrong to hate and kill a wolf because a wolf always catches the most sick and weakest animals and prevent disease spread. If we kill more wolves, there might be disease spread [Rational/Scientific]."

Discussion

Due to the very limited sample size of only nine respondents, the findings cannot be considered representative for the rural population of Mongolia and should be treated as preliminary insight. However, I do believe that they provide some interesting insights in the challenge of transferring concepts of WVOs cross-culturally. Based on Manfredo et al.'s (2007) hypothesis, the relationship of our respondents and wildlife would have been expected to be one of domination with the prevailing WVO being a materialism one. Evidence from our semi-structured interviews does not support such a linear path, but rather provides a more complex picture. I see a possible explanation in the cultural roots of the Mongolian herding society.

When working with Mongolian pastoralists it becomes very clear that livestock is considered a part of the family. People live in very close relationship with their livestock, both in spatial and economic terms. For most rural people livestock is the main source of income. The right to use them as source of meat, milk, wool, and skin remains largely unquestioned and qualifies as a domination orientation (Ingold, 1994).

However, the dependency is not as one-sided as it may seem. People protect their livestock from predators and adverse environmental conditions, care for the young and wounded, and make sure they have access to water and pasture. It seems one cannot thrive without the other—a classical example of mutualism in a biological sense (Hoeksema & Bruna, 2000). Gazelles (*Gazella subgutturosa* and *Procapra gutturosa*), ibex (*Capra ibex*), and argali (*Ovis ammon*) resemble domestic sheep and goats and Przewalski's horses (*Equus przewalskii*) resemble domestic horses in appearance and behavior. Like domestic stock these animals are viewed with great passion and seem to be regarded as the wild relatives of the extended human-livestock family. Thus, mutualism WVOs have most likely been part of pastoralist Mongolian's culture for a long time, rather than being a phenomenon of recent societal changes.

More surprisingly, materialism statements on *Wildlife for human use* were rare and respondents seemed to strongly oppose the use of wildlife other than for subsistence. However, respondents did not see a contradiction between seeing animals (both livestock and wildlife) as part of their extended family and using them for consumption. The Gobi areas are largely unsuitable for agriculture and semi-nomadic pastoralism is the only form of land use possible, allowing for no other alternative than a livestock based diet. Slaughtering an animal for consumption is a necessity in the Gobi, as opposed to most industrial or post-industrial nations, where it is largely a luxury.

Nevertheless, killing an animal is not something taken lightly and nothing one likes to talk about. During my work in Mongolia it became quite clear that people typically do not like to kill animals or be associated with killing animals. Taking pictures of a person slaughtering livestock or of people selling meat is not much appreciated. For hunting, strong norms have been in place since the times of Chinggis Khaan (Becker, 2004) and were later enforced with the adoption of Buddhism (Paterson, 2006). For respondent two, who was most interested in hunting wildlife, a strong materialism *Hunting WVO* was coupled with a high respect *WVO*. In addition, hunting of almost all wildlife species has become illegal, due to decreasing population trends (Wingard & Zahler, 2006), and might further discourage respondents to talk about this aspect of the human-wildlife relationship.

Wolves are an exception. The attitude toward large predators like wolves largely follows what one would expect for pastoralists. Wolves are seen as a threat to a person's livelihood—the classical example for a materialism *Concern for livestock WVO*—and reducing the number of wolves is seen as a necessity (Reading, Mix, Lhagvasuren & Tsevenmyadag, 1998; Enkhsaikhan, 2002). The wolf is the only wild animal that people freely admit they hunt and enjoy hunting, which closely resembles the concept of recreational hunting in other societies. But even for hunting wolves, strong norms exist. Inflicting unnecessary suffering is believed to have negative consequences for the hunter and his family. When collecting wolf pups, at least one should be left alive for the bitch (Enkhsaikhan, 2002). Contrary to the Christian European tradition of negatively viewing the wolf (Lopez, 1978), Mongolians often see the wolf as beautiful, intelligent, and possessing great hunting skills. Additionally, the wolf is acknowledged as a "cleaner of the ecosystem," expressing a rational/scientific *WVO*.

The high importance of environmental issues reflects the dependency of local people on natural resources. Contrary to a farming society where emergency supplies can be accumulated, semi-nomadic pastoralists can do very little stockpiling, rendering them more susceptible to environmental changes. Under these conditions, environmental integrity becomes an existence rather than a belongingness need for rural people (Brechin & Kempton, 1994). All respondents commented on wildlife species becoming rare and most asked for better protection. Despite a strong environmental *WVO*, illegal hunting of wildlife has become the number one threat to the survival of Mongolia's wild fauna (Wingard & Zahler, 2006). The increasingly broad gap between rich and poor people, a huge market for wildlife products in China, the lack of law enforcement, and an open access mentality with respect to natural resources presently seems to undermine old norms and beliefs (Pratt et al., 2004) and/or disrupts the hierarchical succession between value orientations, attitudes and norms, behavioral intention, and the resulting behavior (Pierce, Manfredo & Vaske, 2001).

Based on this case study from Mongolia, I believe that the hypothesis of Manfredo et al. (2007) and Teel and Manfredo (2007) may be applicable to the post-industrial Western world, but are only of limited value in making predictions for societies with widely different economic and cultural realities.

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