

# *The Desert Discourse of Modern China*

Dee Mack Williams
*University of North Carolina at Chapel Hill*

A broad consensus of knowledgeable opinion considers land degradation to be widespread and severe throughout North China. In particular, the phenomenon of desert expansion, especially as it occurs across the vast arid rangelands of Xinjiang and Inner Mongolia, has generated a great deal of anxiety. Official reports from China routinely assert alarming figures: over the past decade, once-fertile grassland has been lost to moving sand at a rate of 2,100 square kilometers per year, compromising the livelihood of 170 million people and causing direct economic losses of U.S. $2 to $3 billion annually (China State Council, 1994: 180-81; Wang Lixian, Wang Xian, and Zhang Kebin, 1993: 10). According to a senior minister of the Ministry of Forestry, deserts now occupy 15.9% of Chinese territory (roughly 1.53 million square kilometers), while moving dunes pose a "menace" to as much as one-third of the entire national landmass (Xu Youfang, 1993). Although such estimates tend to vary inexplicably from one source to the next, all domestic reports do seem to agree on the fundamental premise of an accelerating ecological crisis.[1]

Undeniably, Chinese grasslands are in a state of degradation and acute environmental reconstruction. However, this article seeks to go beyond restating the obvious: it seeks to qualify (and problematize)

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conventional wisdom by drawing attention to neglected social considerations that condition the way environmental change is defined, evaluated, and resolved. In particular, it disputes two prominent assumptions of the official and scholarly rhetoric in China: first, that knowledge of land degradation is objectively constructed, and second, that the current government can justifiably deflect culpability for the crisis by blaming others.

There exists in China an operative ideological framework that is directly relevant to desert research and rangeland policy. It affects not only how scholars and officials gauge the scope and severity of degradation but also how they spin a national narrative about the causes and culprits, as well as how they direct public interpretation of the social significance of desert land. The reality of this official discourse and its power to construct knowledge on environmental issues too often lies hidden behind the authority of scientific pronouncements. It deserves more explicit recognition and elucidation. As a first step toward that goal, this article briefly introduces the subjectivity that is inherent to the topic of land degradation and then discusses some specific features of the national discourse that actively shape public perceptions and interpretations of ecological transformation in North China.[2] It also compares official rhetoric against government action and suggests a possible explanation for this discourse by noting its role in the maintenance of political legitimacy.

This article is based on a year of anthropological field research (conducted during 1993-1994) in the remote pastoral township (*sumu*) of Nasihan, in Wengniute banner (*qi*), Chifeng municipality (*shi*), Inner Mongolia. Nasihan township is situated in a desert-steppe environment in the western portion of the Keerqin (Horqin) Sandy Lands, where semifixed or moving dunes occupy 90% of the landscape; officials consider only 51% of total land area to be usable (though degraded) pasture (Quanshi muqu gongzuo huiyi, 1991: 1). My host unit was the Shenyang Institute of Applied Ecology within the Chinese Academy of Sciences. The Shenyang Institute operates a small grassland ecosystem research station to monitor weather patterns, conduct experiments, and help stabilize moving sand dunes in the region. The field research included interviews with local residents

and key personnel at local, regional, and national administrative levels and has been supplemented by the analysis of official documents and policy statements, published articles, and other printed material.[3]

## *THE SUBJECTIVITY OF LAND DEGRADATION*

Although there is no consensus on the definition of land degradation, concerned scholars seem to agree on two basic principles: degradation must involve a significant and lasting decline in biological productivity, and it must result from both natural forces and human activity (United Nations Environment Programme, 1993: 133). Usually the concept implies a loss of intrinsic soil qualities necessary to sustain an economically viable agriculture, whether based on cultivation or animal husbandry. Degradation of soils typically results from a combination of physical, chemical, biological, and socioeconomic causes. Critical changes in soil structure and texture may be initiated by a variety of land utilization pressures, including deforestation, grazing, farming, and industrial activities.

So-called irreversible land degradation resulting from human impact in arid, semiarid, and dry subhumid environments is usually referred to as "desertification." This term, however, has been even more difficult to define than "land degradation." More than 100 definitions have appeared in the academic literature over the past two decades. The elusiveness of the term springs primarily from the difficulty of incorporating into rigorous language the distinctions between drought-induced changes that sudden precipitation may reverse and more permanent changes resulting from human intervention (Verstraete, 1986; Rhodes, 1991: 1139; Thomas, 1993; Thomas and Middleton, 1994). It might be preferable to avoid the term altogether, but Chinese officials and scholars use it frequently in reference to North China and Inner Mongolia.

Despite the difficulties of definition, a consensus has emerged over the past fifteen years among physical and social scientists alike that land degradation is fundamentally a social problem requiring a social solution (Spooner, 1982; Blaikie and Brookfield, 1987; Turner, 1990).

Although physical and biological forces at work in nature actually transform the soil, prevailing economic, political, and social conditions that confront local land managers ultimately determine the human activities that not only direct those forces but interpret their effects as well. Nonetheless, "degradation" conveys no precise meaning in any scientific or even economic sense. The same is true for the Chinese term *tuihua*, which denotes a movement backward. The English and Chinese terms both imply a subjectivity that underscores the relevance of a social point of reference in assessing the physical processes that are under investigation. To call something "degraded" is to assign a negative moral value to a morally neutral physical process. That assignment necessarily reflects the political and economic interests of a particular social group. Thus, it is frequently the point of view within a social conflict over land use that determines both the perception and interpretation of degradation (Heathcote, 1983; Spooner, 1984; Blaikie and Brookfield, 1987). In Inner Mongolia, cultural and political biases condition the way in which rural Mongol and urban Han populations disagree over what kind of landscape deserves to be considered "productive" and what kind of landscape deserves to be considered "waste" (see Williams, 1996, 1997).

## *DESERT EXPANSION IN NORTH CHINA*

China has eight distinct gravel desert zones to which the Mongol term *gobi* is applied (viz., Taklimakan, Gurban Tunggut, Kumtag, Qaidam Basin, Badain Jaran, Tengger, Ulan Buh, and Qubqi [Hobq]) and four sandy desert zones to which the Chinese term *shadi* or *shamo* is applied (viz., Mu Us, Hunshandak [Otindag], Keerqin [Horqin], and Hulun Buir). Gobi differ from shadi in several respects: they consist primarily of stony or gravel deposits, they lie to the west (windward side) of the steppe zone, and their dunes are more mobile than the semifixed or fixed dunes characteristic of the east (Zhao Songqiao and Xing Jiaming, 1984: 230). Primarily as a result of strong wind transport, the soils of arid Northern China—moving across the grassland

from northwest to southeast—generally follow a progressive transition from gravel to sand to loess (Fullen and Mitchell, 1991: 26).

Together, the eight gobi regions (accounting for roughly 42% of China's total desert area) and the sandy lands (roughly 58%) are joined in a sand belt that stretches some 5,000 kilometers from west to east across the northern provinces, purportedly affecting directly or indirectly the livelihood of 400 million people (Wang Lixian, Wang Xian, and Zhang Kebin, 1993: 1). The belt extends over the so-called autonomous regions of Xinjiang, Ningxia, and Inner Mongolia and over the provinces of Qinghai, Shaanxi, Liaoning, Jilin, and Heilongjiang.

The sand belt, however, does not lie inert. Its boundaries change over time, sometimes quite dramatically. Of course, the once popular and foreboding notion of "desert creep" has been replaced in recent scientific literature by a more nuanced and complex image of pockets of deterioration that eventually enlarge and merge (see Heathcote, 1983; Nelson, 1990). Nonetheless, whether the appropriate metaphor is a moving front or isolated pockets that "radiate out," deserts are known to be dynamic and may expand into adjacent areas (they may also contract).

A vice chairman of the government of the Inner Mongolia Autonomous Region reported in 1993 that regional deserts were expanding at a rate of 3,400 square kilometers per year, which is much faster than the national rate (Zhou Weide, 1993). Of an estimated 86.7 million hectares of grassland in Inner Mongolia (nearly 70% of total land area), officials now consider 34.5% to be "deteriorated" and 21.6% to be "seriously deteriorated" or unusable. That leaves only 43.9% in usable condition (National Research Council, 1992: 18; Neimenggu ribao, 1990; cf Zhou Weide, 1993). Furthermore, officials estimate that since 1965, total grass production has declined by 30% (National Research Council, 1992: 18; Neimenggu ribao, 1990). In the Xinjiang Uighur Autonomous Region, officials estimate that natural grasslands cover 36% of the land area, though 16% (9.2 million hectares) are considered "unusable" (National Research Council, 1992: 26; Zhongguo kexueyuan, 1989). Zhang Xinshi (1992: 115) reports that 2 million hectares of grassland in Xinjiang have

been lost to sand over the past 30 or 40 years, while yields have been reduced in some regions by as much as 70%.

### *HUMAN INFLUENCE*

Chinese government officials and scholars widely attribute land degradation and desert expansion to past and present anthropogenic forces. Though climatic and physical processes first formed the deserts of China, humans have contributed to their enlargement. Officials within the Ministry of Forestry have estimated that only 500,000 square kilometers (or one-third) of current total desert area was formed by nature—"the rest has been the making of human activities" (Bureau of the Ministry of Forestry, 1990: 22). One environmental scholar contends that in the Ordos region, desert expansion caused by humans in just the past 30 years exceeds the natural amount of expansion over the previous 2,000 years (He Bochuan, 1991: 24). According to Zhu Zhenda, one of the foremost authorities on desertification in China, sand dune encroachment by natural causes accounts for only a tiny percentage of the current ecological problem. He asserts that

> only 5.5 percent of lands of desertification results from invading sand dunes, the great majority, 94.5 percent, may be described as having undergone desertification in situ initiated by human activities. According to field observations, overcultivation, overgrazing and fuel gathering each shares 25.4, 28.3 and 31.8 percent respectively, whereas misuse of water resources, road construction, and urban and industrial development are responsible for a total of 9.0 percent. [Zhu Zhenda, 1990: 70]

In short, this contemporary formula holds urban industry and the state accountable for only 9% of the national problem, while it holds rural peasants accountable for as much as 85.5%.

Especially within Inner Mongolia, grassland resources are considered to be in rapid decline, and the causes are widely attributed to anthropogenic pressures. Explanations of human impact usually begin with an account of exponential population growth. "Too many people and too many animals are pressing too hard on a fragile ecosystem"

(National Research Council, 1992: 33). By most estimates, the vegetative yield of China's northern grasslands has shrunk by half since 1950, while the number of livestock has quadrupled (Hinton, 1990: 84; for regional and local estimates, see Hu Mingge, 1990: 205-6; Cao Xinsun, 1990: 3).

Between 1949 and 1980, the human population of Inner Mongolia increased from 6 to 18 million. Half of the growth resulted from in-migration rather than natural increase (Ma Rong, 1984: 10-11). Han farmers have poured in from the neighboring provinces of Henan, Hebei, and Shandong. The Inner Mongolian Han population swelled from 5.2 million in 1949 (up from 1.2 million in 1912) to 16.3 million in 1982. At the root of this migratory stream has been the extensive loss of arable land all over rural China. In more recent years, urbanization, the expansion of rural industries, and changing attitudes toward land since the introduction of the "responsibility system" have all contributed to what is now regarded as a serious decline in tillable soil (Orleans, 1991; Howard, 1988: 57; Hinton, 1990: 74). The declining land base not only intensifies production pressures on plots that remain under cultivation but also transfers those mounting pressures onto lands of more marginal quality, generally toward the periphery of agrarian areas where minority populations reside. Thus, demographic pressures over the past half century have steadily increased on a marginally productive and shrinking land base.

Population pressure constitutes the general explanation for regional intensification of land degradation processes. However, whenever discussion of human causality moves from general to more specific factors and Chinese officials attempt to locate blame, rhetoric becomes much more pointed and ideologically charged. Commonly, officials deflect responsibility for environmental disaster away from anyone associated with the current regime of reformers. This is accomplished by diverting blame in either of two directions: one in space, one in time (both toward the "Other"). One strategy is to place blame on local land users, whom Chinese officials and scholars routinely portray as ignorant, irrational, backward, and uncooperative. The other is to lay responsibility at the feet of previous governmental regimes, especially the Qing, the Nationalists, and the Maoist zealots.

## *OFFICIAL DISCOURSE: BLAME THE LOCALS*

Attacks on past and present local land users are commonplace in the media. The following public pronouncement—by a senior official of the Ministry of Forestry—concerning land degradation is typical: "The cause is mainly human sabotage. Excessive grazing, rampant cultivation, unchecked digging up of herbs and misuse of water and land resources have been major factors leading to desertification" (Xu Youfang, 1993: 43). The rather curious reference to sabotage (*pohuai*) is characteristic of the accusatory tone in official discourse.[4] For example, newspaper editorials sometimes use the same language to account for all manner of national ecological devastation. An article from *Renmin ribao* asserted that

> overgrazing and blind reclamation cause degeneration of the grassland. Rare animals are killed wantonly . . . and famous scenic spots are damaged in varying degrees. Yet not all people take ecology seriously. Some ignorant people regard it as of no importance, thinking timber is more profitable than forest and making money more necessary than protecting scenic spots. [China Daily, 1987]

The notion of sabotage resonates with other government and scholarly formulaic explanations of land degradation that emphasize a mean-spirited and wanton assault by peasants on national assets. For example, a senior Chinese scientist and vice minister of Science and Technology publicly condemned "the irrational and plundering exploitation of natural resources . . . in China" (Deng Nan, 1992). In the recent high-profile document known as Agenda 21, the China State Council (1994: 181) asserted that "the formation of desertification in China is the results [sic] of over-cultivation, over-grazing and destruction of vegetation." This statement, designed for international consumption, merely reiterated a conventional formula that pervades Chinese scholarship (see Fei Xiaotong, 1984; Zhu Zhenda and Wang Tao, 1990; Hu Mingge, 1990: 204-7; Ba Gen, 1993).

Chinese officials and scholars sometimes invoke a cultural element to explain both past and present degradation of minority lands. There is a long-standing derogatory perspective that views the national minorities as ignorant and backward. The Marx-Lenin-Mao model of

hierarchical social evolution holds that different types of economic activity correspond to different levels of social advancement. Hunting and gathering is the most primitive form, followed by mobile pastoralism, then by sedentary agriculture, and then by industrial society with its class contradictions that eventually precipitate the socialist state. From this point of view, the interests of the minorities are best served by rapid assimilation to Han norms (see Deal, 1984: 23; Connor, 1984: 428-30; Tapp, 1995: 198).

Minority herders are therefore widely criticized for holding to traditional, "rely on heaven" (*kaotian fangmu*) methods of production. Environmental restoration, it is believed, can only begin once "primitive" practices have been abolished: "The traditional pasture system that relied entirely on 'Heaven' should be abandoned. Sophisticated farming techniques should be employed to improve pastureland and to cultivate supplementary feedstuffs. . . . In short, economic development and environmental quality will change to a higher and higher standard" (Zhao Songqiao, 1990: 270).

Influential people in China frequently argue that traditional Mongol herders have never concerned themselves with grassland preservation under the mobile conditions of their past. They never learned to look beyond their sheep to the soil, the theory goes, so today they have no regard for the land that farmers have long cherished (Li Yutang, 1992; Guo Yong, 1993). Han scientists working in pastoral areas sometimes endorse this crude argument: "lack of development in the area is due to deterioration of the ecological environment, a lower level of culture, technique and productivity" (Zhao Shidong, 1992: 2; see also Lin Xiangjin, 1990: 88).

Sometimes the same sentiment appears in more nuanced language. For example, Fei Xiaotong, one of China's most prestigious social scientists, has argued that the influx of Han cultivators into pastoral areas did indeed accelerate land degradation, but native herders stand to benefit over the long term because they are now compelled to manage the land and control their environment.

> If animal husbandry is to advance, people must plant their own fodder and ensilage to feed livestock. . . . Think of it as farming in service of animal husbandry. . . . The only way to raise the productive capacity is

> to reverse the vicious circle of contradiction between farmers and herders and restore the degraded environment. . . . Only on account of another people's prior intellect is it possible to realize this transformation. With this arrangement, we can certainly see how a group that stands to benefit will accept a reduction in their own population—the welcome trade for an economically backward area. [Fei Xiaotong, 1984]

Regulations and policies governing grasslands employ language in a way that subtly perpetuates this condescending perspective. For example, they explicitly call on household contractors to pursue principles of scientific planning (*kexue huafen*), energetic construction (*dali jianshe*), vigorous protection (*jiji baohu*), and rational utilization (*heli shiyong*) (see Chifengshi caoyuan jianlisuo, 1990: 7-8; Wengniuteqi renmin zhengfu, 1988: 1). Such exhortations are based on the premise that principles of conservation and initiative are basically absent among minority populations.

A second common theme of cultural criticism is that minority herders are lazy. One phrase in particular essentializes this aspect of public discourse and especially raises the hackles of residents in Inner Mongolia. The term *jin mao dong* (to cat the winter) is frequently used in the village among friends in reference to the production slack time during winter months. For example, when neighbors greet and inquire about the activities of one another, they will use the phrase to indicate they have no special news. Sensitivity to the phrase apparently arose in the early 1970s, when an assistant to Zhou Enlai purportedly delivered a speech in North China in which he disparagingly referred to this phrase and the slothful inaction it condones. He suggested the major problem of production for the region was the laziness of the local inhabitants who prefer inactivity during the winter to exploring ways to boost productivity. Of course, hard work does continue throughout the winter months, but it mostly involves the routine chores of survival: cutting wood, collecting dung, drawing water, and sheltering animals. Residents do not think it reasonable to expect more than this in such a hostile environment, given current levels of technology and economic opportunity.

Suggestions of laziness also creep into public discourse through other less provocative phrases. For example, the 1993 annual report of the Wengniute banner government listed both "maladaptive thinking" and "lack of initiative" as two of the greatest problems facing regional development (Wengniuteqi renmin zhengfu, 1993: 7).

## *OFFICIAL DISCOURSE: BLAME PREVIOUS REGIMES*

Official discourse also sometimes deflects criticism for ecological decline by removing the problem to an earlier time. Authorities point to the long history of resource abuse and neglect along the national frontier and blame previous regimes for aggravating or ignoring the situation.

In the closing decades of Qing rule, government officials permitted the settlement of Han farmers in the grasslands and finally even encouraged it. They were eager to alleviate mounting political instabilities that resulted in part from widespread famine and hunger for land. Incrementally, Han colonization expanded across traditional Mongol rangeland. The influx intensified after 1911, when the new Chinese republic declared that all Mongol lands belonged to China and that land titles were henceforth invalid unless ratified by local Chinese authorities (Lattimore, 1934: 105). By 1924, when the railway line was extended from modern-day Zhangjiakou to Hohhot and Baotou, land-hungry Han settlers immigrated by the millions, scattering Mongols from their most fertile grazing pasture. The population of Inner Mongolia in 1912 was roughly 2.04 million, with a ratio of 1.3 Han to every Mongol (Ma Rong, 1984: 111). By 1990, the total population had risen to 21 million, with a ratio of 6 Han to every Mongol.[5]

By nearly all historical accounts, the large-scale changes in land use and the increases in demographic pressures associated with Han colonization exacerbated ecological damage within the steppe zone. During the 1930s, for example, Owen Lattimore (1962: 421-22) called attention to the problems caused by migrating settlers who had no experience handling livestock and used the land in the only way they knew how—cultivating it, despite inadequate rainfall and unrelenting wind. Lattimore also described the implications of cropland extension for areas that remained pastoral:

> Pastures have become overcrowded, and the decrease in real nomadism means that herds are kept too long on the same pastures, with the result that the pastures become "stale" and the herds less fertile and more subject to cattle plagues; while the overcrowding of sheep and goats, whose sharp hoofs cut the turf, has a ruinous effect in destroying the

> topsoil and creating first erosion and then sand dunes that is little less wasteful than the agriculture of Chinese colonists. [Lattimore, 1962: 446]

*ABSOLVING THE MAOIST ERA*

Considering the history of colonization in Inner Mongolia, many officials and scholars since the founding of the People's Republic have laid the bulk of contemporary ecological problems at the feet of the Qing and the Nationalists. In discussing the Keerqin Sandy Lands, for instance, a recent government publication blames the Qing for the most recent round of ecological devastation in the region. Charting the ebb and flow of local desert conditions over the past ten centuries, the publication contends that

> by the beginning of the 17th century, Horqin [Keerqin] had thrived again, with tens and thousands of horses, camels, sheep and cattle grazing and breeding on the pastures. But after the middle of the 19th century, the Qing Dynasty pursued a policy of encouraging people to reclaim wasteland. People were allowed to open up pastoral land and grow crops by paying taxes to the court. . . . The destruction of forests and grassland made way for wind and sand which gradually encroached upon the denuded lands. Horqin was turned into the 800 li of deserts. [Bureau of the Ministry of Forestry, 1990: 22]

Similarly, Zhao Songqiao and Xing Jiaming (1984: 247) primarily implicate prior governments, basically absolving the People's Republic of culpability. It was under the Qing, they write, that "large tracts of sandy lands in the southwestern part of the Ordos Plateau were ruthlessly cultivated, resulting in further devastation of grasslands and an extension of the shifting sand dunes." They date the most critical desertification to the ninth through fifteenth centuries but also detail further expansion over a period of 300 years from the mid-Ming right up until the year 1949.

The Republican and Nationalist eras of government are likewise prominent targets of criticism. In a statement typical of the Maoist era, Song Qingling claimed that "before liberation the feudal ruling class, Kuomintang reactionaries and imperialists plundered and destroyed the forests, turning the north and northwest of China and the greater

part of the loess plateau into regions nearly bare of trees" (Soong Ching Ling, 1972: 23).

Government statements issued through the Maoist era tended to reinforce the sense of a magical cut-off date around 1949. In a publication prepared in 1975, for example, the Department of Desert Research of Lanzhou summarized the official view:

> Over the years before Liberation in 1949, the people living in China's desert areas were oppressed and exploited. As their natural resources were wasted and plundered, they were forced to retreat before the advance of wind-driven sands. Since the founding of the People's Republic of China, they have embarked on the mass movement, "in agriculture, learn from Dazhai." In the spirit of self-reliance and hard struggle that typified Dazhai, the famed agricultural production brigade, . . . comprehensive measures were developed in a co-operative spirit, with scientific and technical personnel working closely with the farmers. As a result, a number of achievements were realized, the basis for sand control established, and considerable progress in animal husbandry and agriculture recorded. [Department of Desert Research, 1982: 4]

Other scholars argued from case studies in Eastern Inner Mongolia that the sandy dunes had been subjected to reckless cultivation, overgrazing, and deforestation until 1949, when government-initiated sand control measures began (in the mid-1950s) to stabilize and restore vegetation with tree shelterbelts (Zhao Songqiao, 1990: 263-70; Chonghalakoushu and Jisizhengli, 1986: 105).

A propaganda piece appeared in the early 1960s about the very village where I conducted my field research (see Manduhu and Nasendelger, 1963). Despite several factual errors, the article is noteworthy, first, as an illustration of how the official discourse of the collective era attempted to remove current problems of production to an earlier period. Second, it is significant for the explicit connections it draws between economic exploitation and desert control, a subject largely absent from discourse in the reform era.

The theme of the article is that "where the rich failed, the poor have succeeded." The authors recount that a hundred years earlier, the pastures of Nasihan attracted two Mongol nobles who brought their herds and their serf labor to graze the area. But they were unsuccessful

in their attempts to draw water, so they abandoned the "wasteland." In 1959, however, the newly organized collective dynamited underground rock ("at the very same spot where the two lords had failed") to create a reliable well that permitted prosperous settlement. "Four years later, land which had been nothing but shifting sand dunes had changed to luxuriant grazing grounds covered with thick grass and low bushes" (Manduhu and Nasendelger, 1963: 26). The article further claims that reserves of winter fodder were so abundant that "bad weather no longer constitutes a threat to the herds" and concludes with a resounding affirmation that, thanks to communal living, "prosperity had come to the grasslands." These exaggerated claims are especially interesting when contrasted with the fact that today scientists and local government authorities praise contemporary privatization policies (in similar hyperbolic terms) for introducing a new era of prosperity.

In placing the blame on former political regimes, the intelligentsia of the Maoist era felt free to draw more explicit connections between resource exploitation and socioeconomic exploitation than is now fashionable among the post-Mao reformers. Newspaper articles from the era consistently glorified the "Liberation" from nature that followed the "Liberation" from feudalism with titles such as "The desert surrenders," "We bend nature to our will," "How we defeated nature's worst," "Hard work conquers nature," and "The united will of the people can transform nature" (Murphey, 1967: 319; Salter, 1973).

Despite the rhetoric of good stewardship and/or mastery over nature, however, the Maoist era was not so kind to the national rangelands either. After taking power, the new government did initiate some new programs and methods to control moving sand dunes. For example, it established and funded the Institute for Desert Research in Lanzhou to conduct experimentation and research on dune fixation techniques. And collective organization in the north motivated some aggressive experimentation in land rehabilitation. Yet, relative to other programs and concerns, land degradation in border regions of the country did not receive all that much attention at the national level. As a scientist in Lanzhou put it in his opening remarks at a UNEP seminar hosted by China in 1978, "For more than thirty years since the founding of the People's Republic, work has been done and some results achieved in the control of desertification. But still we would

have to say that our work has just begun, that there lies before us an arduous and long-term task" (quoted in Walls, 1982: 59).

The early concerns to control desert expansion in the 1950s lost out to other priorities in subsequent decades as blueprints for the development of the national economy changed (Renmin ribao, 1991; China Daily, 1991). Through the long series of collective-era production campaigns, officials reminded local leaders repeatedly of the secondary value of protecting rangeland compared to other more pressing objectives, such as increasing grain output and industrial production. Under Mao, fairly fertile rangeland was converted into poor farmland all across pastoral China on an unprecedented scale. Even if local grasslands were not themselves converted, as in Nasihan township, the injunction to "grow grain everywhere" effectively trained human and livestock population pressures increasingly on a shrinking land base of inferior quality. During the collective era, national rangelands came under unprecedented demographic strain. Yet, the amount of money per unit area invested in pasture improvement was less than one-seventieth the value of animal husbandry products per unit over the same time period (Watson, Findlay, and Du Yintang, 1989: 226).

### *ABSOLVING THE REFORM ERA*

The reformers who came after Mao added the Maoist government to the list of those culpable for the nation's ecological problems. Considered less neglectful than the Qing or the Nationalists, to be sure, the Mao years are still often used as a foil against which to prove the enlightened engagement of the reform government. The year 1978 has become somewhat of a new magical cut-off date for ecological irresponsibility in much of the desertification literature. For example, Zhao Songqiao (of the Institute of Geography, Chinese Academy of Social Sciences [CASS]) has written that

> since the founding of the People's Republic of China, great efforts had been taken in the 1950s to combat this desertification process. . . . Then came the so-called Great Leap Forward and Cultural Revolution periods. . . . This led to a dramatic acceleration of the desertification process. . . . Since 1978, great efforts have been again undertaken to harness the Mu Us Sandy Land. . . . Thus, the desertification process

> is now getting checked, and the de-desertification process is asserting itself. [Zhao Songqiao, 1990: 265-66]

Likewise, Zhu Zhenda has written that present desert-like features across much of the northern landscape have been shaped chiefly over the past 50 to 100 years, but mostly in the past half century. In the Keerqin desert, he asserts, human-induced desertified land increased from 20% of the total area in the 1950s to 53.8% by the end of the 1970s (Zhu Zhenda, 1990: 62, 65, 70). Concerning Wengniute banner, grassland scientists have claimed that "reckless" (*wu jiezhi de*) land use intensified especially over the past 30 to 40 years (Kou Zhenwu and Xue Cai, 1990).

Frequent praise for a massive afforestation program that was initiated in 1978 represents another case in point. The official "spin" on this project is that before 1949, "ruthless" deforestation led to widespread land erosion, but after the founding of New China, the people of the Sanbei Shelterbelt Regions devoted themselves to afforestation, transforming the denuded mountains and harnessing the drifting sand.[6] After 28 years of experimentation, a concrete plan for the nationwide development of shelterbelts was put forward in 1978. Since then, officials claim, there has been marked improvement of the environment (even as degradation accelerates). Today, this project, dubbed China's "Green Great Wall" (*lüse changcheng*), is described domestically as the "top ecological undertaking in the world" and a tremendous feat of engineering (Li Jianshu, 1990: preface). Premier Li Peng himself has also cited the Northern Shelterbelt as evidence that China (in the postreform era) has "vigorously promoted scientific and technological research on [the] environment." He praises the project as a "Great Wall against sandstorms" (Li Peng, in China State Council, 1994: 3).

No doubt, after years of neglect during the Maoist era, the problem of desert expansion has gained more attention, at least rhetorically, since the reform era. Officials and scholars routinely declare it to be a national "top priority" (Xu Youfang, 1993; Wang Lixian, Wang Xian, and Zhang Kebin, 1993: 10). The public is reminded frequently of "ambitious programs" through the 1990s to transform 6.6 million hectares of desertified land, mostly with aerial seeding, scientific research, and the "popularization of technology" (Xu Youfang, 1993).

In contemporary China, the struggle to control the desert is often contextualized in a discourse of modernity, invoking the prowess of advanced scientific technologies to dispel the ancient threats of sand drift that menace more backward societies. The consistent political message conveyed to the public since the reform era has been: thanks to the technological harvest of our Four Modernizations, we will finally subdue and control our northern deserts.

Aerial seeding is a prominent weapon in this propaganda campaign. China began to experiment with broadcasting grass seeds from airplanes in 1979. Glowing reports of this continuing project surface repeatedly in the media, and they usually tap into both or either of two themes that play an important role in the official discourse: science and internationalism. These themes help to identify the reform era with progress and advancement toward the goals of modernization. For example, the successful aerial seeding of an area that averages less than 200 millimeters of precipitation annually was trumpeted as a great breakthrough, made all the more impressive by the marveling of foreign experts who had believed it was not possible (China Daily, 1988). Afforestation projects also expect to achieve greater public reverence by invoking an aura of scientism. For example, a recent news report informed readers that "the composition of [the] shelterbelt forest system was based on countless laboratory experiments involving computer modeling and wind-tunnel tests. As a result, the shelterbelt forest was planted in a configuration designed to provide optimum protection for vegetation and the surrounding environment" (Jiang Wandi, 1994: 18).

The symbolic importance of the new campaign for desert control is further illustrated by the sheer number of bureaucratic agencies now charged with the responsibility for carrying out the national anti-desertification campaign. Indeed, the complexity of the bureaucratic structure seems designed to sacrifice effective action just for the propaganda value of portraying a comprehensive team effort. The State Council of China has set up a National Coordination Panel for Desertification Control to assume responsibility for a unified plan of attack. The panel consists of officials selected from all of the following: National Afforestation Committee, Ministry of Forestry, Ministry of Water Conservancy, Ministry of Agriculture, Chinese Academy of Sciences, State Planning Commission, Ministry of Finance, Ministry

of Energy, Ministry of Railways, State Science and Technology Commission, National Environment Protection Agency, State Administration of Land Management, State Administration of Taxation, People's Bank of China, Office for Promoting Economic Development in Poverty Areas, and the Office of National Agricultural Integrated Development (China State Council, 1994: 182; Wang Lixian, Wang Xian, and Zhang Kebin, 1993: 10). The reform government's emphasis on programmatic response has manifested itself in other new directions as well. For example, since 1991, China has convened three biannual national conferences for the control of desertification.

## *REALITIES OF THE POLITICAL ECONOMY*

Although the current regime may have devoted more money and bureaucratic attention to the problem of desert expansion than previous governments, it does not necessarily follow that it has intensified efforts on the ground to control desert expansion in meaningful ways. Indeed, many scholars and others attribute the deepening environmental and ecological crises all over China to the decentralization of post-Mao economic reforms. William Hinton has been particularly outspoken: "Thus began a wholesale attack on an already much abused and enervated environment, on mountain slopes, on trees, on water resources, on grasslands, on fishing grounds, on wildlife, on minerals underground, on anything that could be cut down, plowed up, pumped over, dug out, shot dead, or carried away" (Hinton, 1990: 21). Vaclav Smil has asserted, "After two decades of suffering and material deprivation, the Chinese countryside of the 1980s was in no mood to join en masse any movement aimed fundamentally at conservation and efficiency. Not surprisingly, accelerated consumption, accompanied by waste, pollution, and degradation, was the tenor of the decade" (Smil, 1993: 195).

With regard specifically to the grasslands, Liu Yuman (of the Institute for Rural Development, CASS) has linked accelerating land degradation with a lack of macrolevel management to control animal populations and pasture reconstruction. He argues that this situation is not new in China but has become "much more serious since the early 1980s" (Liu Yuman, 1990: 97-98).

The reformers have basically abandoned pastoral households by ignoring a low investment ratio in animal husbandry relative to crop cultivation and forestry. According to Zhou Li (Institute of Agricultural Economics, CASS), "only a pitifully small portion of scarce [agricultural development] resources has gone into improving livestock production" (Zhou Li, 1990: 48). In Inner Mongolia, he argues, investment in livestock production constitutes only 10.8% of total agricultural investment, though livestock accounts for about 26% of total agricultural output (see also Liu Guizhen, 1993: 2).

Zhou reports that state subsidies for pasture rehabilitation have never been included in any five-year plan at the central government level (Zhou Li, 1990: 47). Without such support, the pastoral provinces and autonomous regions do not have adequate resources to support grassland development. He also reports a failure to invest in technologies that might exclusively benefit the grassland population, such as superior arid-zone plants that might resist extreme temperatures and drought. Likewise, insufficient planning at the national level has resulted in critical shortages of useful material supplies like fence wire. Within the animal husbandry subsector of the national economy, small ruminants such as sheep and goats have not received much emphasis compared with poultry, pigs, dairy cattle, and draft animals (Longworth and Williamson, 1993: 2).

Furthermore, real incomes in some pastoral regions of Inner Mongolia have not improved since about 1983, whereas income levels have increased significantly in most agricultural regions of China since the early 1980s (Longworth and Williamson, 1993: 101). In part, this is because comparative price advantages have moved in favor of crop production relative to animal husbandry. For example, the price of grain tripled in the 1980s relative to the price in the 1950s, but the price of live sheep increased by only a factor of 2.6 (Zhou Li, 1990: 50).

Despite public rhetoric, the problem of wind and soil erosion in desert-susceptible areas does not enjoy high priority in terms of government investment or public finance. Although I cannot find comprehensive government statistics on past expenditures for disaster mitigation, individuals within my host unit assert that desert monitoring and control efforts have historically received much less money than other national hazards, such as flood, fire, and earthquake, which generally affect more populated regions. This will apparently continue

well into the future. According to the latest report of the China National Committee of the International Decade for Natural Disaster Reduction (1993: 9-14), central and local governments are allocating money for long-term disaster prevention measures through the 1990s in the following order of priority (and estimated cost): comprehensive water conservancy (102.4 billion yuan); shelter-forest engineering and fire prevention (30 billion yuan); seismic monitoring, resistance, and prevention (10.1 billion yuan); grassland management, including control of rodents, insects, and fires (6.1 billion yuan); national desertification control and prevention (4.5 billion yuan); marine disaster forecasting and warning (200 million yuan); monitoring for pestilence and crop disease (180 million yuan); and landslide control (57 million yuan).

In short, the central government does not seem to be prepared to make the large capital investments that would be required to develop the arid lands along the northern frontier into the kind of productive regions that officials claim to desire. The land and the people who are most directly exposed to the threat of desert expansion remain economically and politically marginal in the scheme of central government concerns. Even when the region does manage to attract large investment capital, local herders are likely to be bypassed in the development process.

For example, the new "Grain Distribution and Marketing Project," involving a total investment of about U.S. $1 billion, has recently begun in the Northeast. The World Bank has extended a twenty-year loan in the amount of U.S. $325 million to support the government's grain sector reform program, which intends to achieve greater efficiency in grain production and marketing on a national scale. Specifically, the project hopes to introduce for the first time in China a large-scale, fully integrated, bulk grain logistical system in three major production and consumption corridors. The major production corridor is the Northeast, and Chifeng city is one of many depots along the transportation route that will be upgraded. Apparently, surplus feed grain from the Northeast will be shipped by rail to the Yangzi River valley and the Southwest (especially Guangxi province) to be consumed there by the livestock of predominantly Han farmers who stand to increase their production for market (Song Tingmin, 1994). It seems there are no plans to channel any of the grain to neighboring areas of

Inner Mongolia, where chronically undernourished livestock might be fattened and shipped out, to achieve the same national goals of market development and reductions in transport cost for the outflow of grain.

In summary, despite prevalent Han stereotypes that traditional Mongol culture devalues and destroys the land, there is evidence to support a contrary view. The Han central authorities have systematically undervalued national rangelands. On one hand, officials sound the alarm of degradation but, on the other, neglect the land and its inhabitants and thus perpetuate the acceleration of soil erosion. It is not surprising, therefore, that residents who live in areas threatened by desert encroachment find the constant government rhetoric of self-congratulations ridiculous. In my host village, for example, the ecosystem research station displays a plaque presented by the People's Government of Wengniute banner. The plaque praises the Han scientists with a couplet: "Heart blood has become sweet dew/The desert has become an oasis." Village residents scoff at such platitudes. One old herder told me that if he had written the verse, it would state the reverse: "An oasis has become a desert under the government's management." Some residents use the colloquial phrase *bimen zaoche* (load the cart behind closed doors) to refer to the way in which local cadres (and scientists) invent official statistics to suit their own purposes, building a grand public facade to hide the unromantic realities.

## *ENVIRONMENT, POLITICS, AND COSMIC HARMONY*

Why would Chinese officials be so concerned to deflect the blame for land degradation away from themselves—what makes their culpability so dangerous? The long tradition and lasting influence of Chinese natural philosophy provides one explanation. In imperial China, the natural environment was conceived primarily in the context of political harmony. For millennia, rulers based their legitimacy on the notion of a "mandate from Heaven." The emperor, as Son of Heaven, was responsible for maintaining harmony between Heaven and Earth. Evidence of proper governance was manifest by harmony in both the social and natural order. By the same token, natural

disasters could be construed as evidence of disharmony; ordinary people associated them with incompetence among the ruling elite and perceived them as a sign of Heaven's discontent (see Needham, 1956: 359-63; Huffman, 1986). According to some scholars, this association was made plausible by underlying beliefs that "the structure of the world was similar to the structure of the human body and that both were endowed with the capacity of speech. Ritualized speech and physical activities were thus perfect vehicles for the harmonization of the microcosm with the macrocosm" (Grapard, 1994: 379).

The traditional art of *fengshui* both derived from and helped to perpetuate this natural philosophy. The beliefs and practices of feng-shui permeated traditional Chinese society at the grassroots, teaching urban and rural people alike to be closely attentive to nature-related symbols and to the possibility of writing symbols into nature (Bruun, 1995: 184).

Given the natural philosophy and its pervasive influence, it is not surprising that dynasties themselves were sometimes the victim of natural disaster. Widespread devastation and social turmoil resulting from floods, earthquakes, and famine have historically contributed to the collapse of imperial authority. For example, the worst drought in the past 500 years hit Northern China in the waning years of the Ming dynasty (1634-1643). It contributed to a veritable army of refugees heading north that precipitated social unrest and the eventual fall of the dynasty (Reardon-Anderson, 1995: 55-56).

These ancient associations have not disappeared with the socialist state. The masses reacted uneasily, for example, when a terrible earthquake hit Tangshan, near Beijing, in July of 1976 (not long before the death of Mao). A popular slogan, highly charged with political significance, circulated widely after the event: "Criticize Deng, resist quakes, and recover from disasters" (Huffman, 1986: 75; Renmin ribao, 1976).

Since 1949, the Communist Party has struggled to induce a radical departure from the traditional views linking nature and governance. In the words of Rhoads Murphey, "Nature is no longer to be accepted but must be 'defied' and 'conquered.' . . . Nature is explicitly seen as an enemy, against which man must fight an unending war" (Murphey, 1967: 319). To some extent, the new rhetoric has only intensified the potential symbolic importance of nature and the environment for

contemporary Chinese authorities. Once the metaphorical gauntlet was thrown down, the government could hardly afford to appear to be losing control.

Even into the reform era, many environmental issues have taken on highly symbolic political meaning. The reformers, for example, have been hesitant to permit the growth of green activist organizations for fear that they will serve as a launching pad for political opposition (Lam, 1993; Associated Press, 1994). Also, in the debate over development programs in recent years, environmental issues have become symbolic means to question the political and moral legitimacy of factions within the government, if not the entire Communist Party. Debates over conservation of wildlife (see Schaller, 1993) and the Yangzi River Three Gorges Project (see Dai Qing, 1994; Sullivan, 1995; Topping, 1995) are two of the most conspicuous examples. The cultural myth of responsible domination over nature still influences the political process.

## *CONCLUSION*

Past and present political factions in China have found great propaganda value in showing themselves to be at work in taming the desert and in appearing to be more effective at the task than their predecessors. The northern deserts continue to present challenges to the natural environment such as those that have historically tested the administrative skills and the legitimacy of the central government. The language of official and scholarly discussion about deserts has been neither casual nor objective. Even today it adheres to an important fiction that the state has created about itself and the effectiveness and benevolence of its policies in minority areas.

The discourse of the current regime claims to have done much to ameliorate the inherited legacy of irresponsibility, but it also concedes that deterioration has not been arrested, mostly because of continued irrational land use among ignorant or culturally backward herders and farmers who resist modernization. While often critical of short-sighted land-use policies from earlier periods, contemporary Chinese authorities and scholars primarily scapegoat the common rural people. The ideological framework that actively structures the way Chinese

authorities formally conceptualize and discuss rangeland issues is not constructive in alleviating contemporary problems of resource management at the household level. Official discourse functions as an obstacle to the generation of new knowledge and potential insight.

## NOTES

1. For example, Chen Changdu (1987: 81) estimated that desert in China occupies about 20% of total landmass, whereas the China State Council (1994: 180) recently put the figure at 8%.

2. A full treatment of the topic might also explore the subtle differences in perspective that arise between Chinese officials and scholars, Han and ethnic minorities, and Chinese and foreigners. An exhaustive account of all these concerns is beyond the scope of this article, although the discussion here will indicate the outlines of these distinctions.

3. Many important manuscripts originally written in Chinese on the topic of land degradation have been translated for publication in English.

4. *Pohuai* generally means "to destroy." In this case, it was the Xinhua News Agency (1990) that rendered the translation of "sabotage."

5. There are several historical complexities that such broad generalizations do not take into account. One is the fact that the territorial boundaries of the Inner Mongolian Autonomous Region have not been static. Another is the fact that since 1979, many residents who formerly registered as Han began to change their ethnic classification to Mongol to take advantage of new privileges for national minorities, especially exemptions from the one-child policy.

6. The Sanbei Shelterbelt Region encompasses 551 counties in north, northwest, and northeast China. The reforestation project is expected to take more than 70 years. In the end, the afforested area is to cover 35.083 million hectares.

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*Dee Mack Williams earned a Ph.D. in anthropology from Columbia University in 1996. He is currently a visiting scholar and faculty associate in the Department of Anthropology, University of North Carolina at Chapel Hill.* *He is supported by a junior postdoctoral research grant from the American Council of Learned Societies/Chiang Ching-kuo Foundation.*