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Environmental Change and Human Security in Nepal

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Kathmandu Valley has been the site of continuous human settlement for some nine thousand years, but it was not until 1768 that the Ghurka ruler Prithvi Narayan Shah unified the tiny kingdoms of Kathmandu, Patan, and Bhaktapur into what is today the sovereign state of Nepal.[1] During most of its modern history, Nepal was an isolated and largely peaceful monarchy. Boundary disputes with the British East India Company culminated in the brutal Anglo-Nepalese War (1814–1816), which left Nepal with a much-diminished territory, but also a reputation for great military valor. Quarrels within the royal family occasionally turned violent. But on the whole, Nepal received attention from the rest of the world mainly because of a tectonic drama that has been unfolding under its surface over many millennia. The slow-motion collision of the Indian landmass and Eurasian continent created the world's highest mountains—eight of which are located in Nepal, including Mt. Everest. The first two people to climb Everest—the New Zealander Sir Edmund Hillary and Nepali native Tenzing Norgay—had a major role in shaping the world's perception of this country as the planet's premier destination for high-level mountaineering.

As we write this chapter, however, Nepal is receiving considerable attention from the global community as the site of the world's most recent experiment in democracy. Elections held in April 2008 had an unexpected and dramatic outcome as the Communist Party of Nepal-Maoist (CPN-M), which had just laid down its arms after waging a ten-year civil war against the government, won a plurality of seats. The following month the monarchy was formally abolished and Nepal became a republic. In June, King Gyanendra—who had ascended to the throne in 2001 after Crown Prince Dipendra shot and killed the previous king, the queen, and himself, owing, apparently, to his parents' refusal to allow

him to marry a woman who was not Nepalese—vacated the Royal Palace, which will eventually become a national museum. In August 2008 the Maoist leader known by his nom de guerre Prachanda (a former teacher, born Pushpa Kamal Dahal to an impoverished farming family in the Annapurna region) was elected Nepal's first prime minister. As 2008 came to an end, the people of Nepal were both exuberant and hopeful; now the new CPN-M government must address the country's high expectations, largely created by itself, for rapid and significant land reform and poverty alleviation, and for closing socioeconomic gaps linked to gender and caste.

In developing its reform agenda, the new government will have to operate in a world that is reeling from a global financial crisis owing, in large measure, to the dramatic breakdown of the U.S. banking system, a breakdown generally tied to the massive and ill-conceived processes of deregulation begun in the United States during the early 1990s. Nepal's government will have to operate in the fragile space between two rousing giants, China and India, for whom Nepal represents a thin barrier and a convenient and abundant source of fresh water. It will have to operate during the era of accelerating global climate change, which will melt its glaciers and disrupt its monsoon season. And it will have to operate in the complicated context of endogenous demographic and environmental pressures that threaten human security throughout the new republic and which, according to our analysis, were major factors in triggering and sustaining the events that, over the past two decades, transformed a quiet two-century-old monarchy into a front-page-news-dominating war-torn society, and ultimately into a new and hopeful republic.

Our argument is not intended to be an alternative to the more familiar story of contemporary democratization. According to some analysts, for example, Nepal is experiencing a typical pattern of post–Cold War conflict and change. Technology has made it almost impossible for authoritarian regimes to hide freedom and human rights from their people. Wherever political participation is sharply circumscribed, dissent, agitation, and global attention are virtually inevitable. But, while democracy encourages high expectations for personal freedom and economic gain, the processes of political change can be far slower and more turbulent than anticipated. Hence, a society's early efforts to democratize can produce widespread discontent that may erupt into civil violence, and that may be used to justify a return to authoritarian rule.

In fact, since the early 1990s and until their recent electoral success, the Maoists criticized the government of Nepal for not doing enough to address social and economic inequalities, and generally refused to participate in elections and other political reform efforts. They contended that the slow and superficial pace of reform through the first half of the 1990s compelled them to initiate the ''People's War'' in 1996 (Seddon and Adhikari 2003). Meanwhile, on the other side of the political spectrum, and despite the fact that it was the monarchy itself that legalized political parties in 1990, the royalists also expressed concerns about Nepal's experiments with democracy. Indeed, King Gyanendra justified his coup d'etat on February 1, 2005, by criticizing the elected government's inability to resolve the Maoist issue, which he promised—but clearly failed—to do within three years (Timilsina 2005).

While the story of Nepal's erratic progress toward democracy may, in broad outline, be a familiar one, it does not tell us much about those factors underlying and shaping the discontent that fueled the civil war, or about the war's direct and indirect socioeconomic effects. For this more case-specific analysis, we must place the events of the past two decades in a broader context that considers the turbulence endemic to a rapidly growing, youthful, and extremely unequal society, in which millions of undereducated and desperately poor people were (and still are) struggling to eke out their daily existence from a declining natural resource base. Ironically, Nepal's increasingly violent civil struggle undermined development initiatives and caused tourism—a key source of revenue— to drop by 40 percent. The result was a vicious cycle: the violence was limiting economic opportunity, thereby encouraging higher levels of desperation and migration, which in turn facilitated recruitment into more violence.

In this chapter, we review the broad dynamics of Nepal's recent civil conflict. We argue that environmental stress and population factors played significant roles in creating the underlying conditions for acute insecurity and instability.[2] Through a brief case study of the Koshi Tappu Wetland area, we show that this situation was evident not just in the Maoist strongholds of western Nepal, but even in remote areas of the east, thus encircling the capital region. We conclude that in the post-war period, reducing the prospect of a return to violent conflict requires careful attention to underlying demographic and environmental conditions.

In making this argument, we link to another familiar post-Cold War narrative—the persistence of certain civil wars, from Sudan and the Democratic Republic of the Congo through Cambodia and Sri Lanka to Haiti and Peru. In spite of substantial investments in peacekeeping and peace building in many of the world's chronic conflict sites, work by Paul Collier (2000a and 2000b) and others suggests that about half of all civil wars recur within ten years of a peace settlement. Peace building efforts have not been systematized in the United Nations, but they nonetheless tend to focus on a common set of objectives: disarming rebel and paramilitary groups, repatriating refugees and resettling internally displaced persons (IDPs), holding elections, establishing rule of law and public safety, kick-starting the economy and creating an environment conducive to attracting foreign investment, and organizing reconciliation processes.[3] Remarkably little attention is paid to environmental issues, although as this volume demonstrates the environment is linked in multiple ways to human security and, under certain conditions, to violent conflict as well (Matthew, Halle, and Switzer 2002).[4]

In the introduction to this volume, the literature on the linkages between environmental change and violent conflict is reviewed. The goal of the Global Environmental Change and Human Security project is to explore a related but different approach to linking the environment and security by shifting away from the state and national security as the referent and toward human security, where the referent is people. In making this connection, human security is defined "as something that is achieved when and where individuals and communities have the options necessary to end, mitigate, or adapt to threats to their human, environmental, and social rights; have the capacity and freedom to exercise these options; and actively participate in pursuing these options" (see chapter 1). Nepal is a case that straddles both camps, as it weaves together environmental change, human security, and violent conflict.

Background to the Conflict

About the size of Arkansas, Nepal is a landlocked country of almost thirty million people, located in the Himalayas between China and India. During the four decades following the establishment of India and Pakistan as independent states—a period of tremendous upheaval, turbulence, and violent conflict throughout South Asia—the kingdom of

Nepal seemed largely immune to the instability that surrounded it (Pokhrel 2001). Although many of its inhabitants were desperately impoverished—indeed, Seddon and Adhikari (2003, 11) claim that only "20 percent of those who live in rural areas are considered [food] secure in 'normal' times"—the feudal system of agriculture and government remained stable for decades after World War II. In fact, in 1975 the late King Birendra sought to have Nepal declared a Zone of Peace, perhaps as a way of fortifying it against internal dissent, as well as maintaining its independence from its two big neighbors (Pokhrel 2001).

Nepal comprises three major bioregions that run east to west, transected by a system of north-to-south rivers including the Kosi, Naranyi, and Karnali. The fertile river plain known as the Terai lies in the south along the border with India; the central hills region or Pahad is formed by two low mountain ranges (the Mahabharat Lekh and the Shiwalik) and encompasses the densely populated Kathmandu Valley; and the Himalaya mountain range forms the northern strip of the country and includes eight of the world's ten highest mountains. The economy is agrarian, although most households are not self-sufficient and rely on some nonagricultural sources of revenue (Seddon and Adhikari 2003). Nominal per capita GDP is estimated (IMF 2008) to be less than US$400; 47 percent of the population is unemployed and 42 percent lives below the poverty line. In 2007 Nepal ranked one hundred forty-second on the Human Development Index. The median age is 20; life expectancy is 59.8; and the population growth rate is 2.2 percent. Nepal is the last officially Hindu country in the world, with about 81 percent of its population identified as such. It also has a significant Buddhist population of about three million people; the combination is culturally distinctive. The literacy rate is 45.2 percent overall, which hides the enormous gender gap (27.6 percent of women are literate compared to 62.7 percent of men) common to many aspects of Nepali society (CIA 2005). About 60 percent of the population speaks a variant of Nepali, but all languages spoken in the country are recognized as official languages.

The roots of modern Nepal extend back to 1768, when Prithvi Narayan Shah, the leader of a small hill state called Gorkha or Gurkha, conquered and unified the Kathmandu Valley. The expansionism of the Shah kings was thwarted during the 1814–1816 war against the British, from which a smaller, but fiercely independent, Nepal emerged. A Shah king, regarded as an incarnation of Vishnu, governed until 1846, when

the Rana family gained control of the kingdom, took over the office of prime minister, married into the royal family, and ruled behind a symbolic monarch until 1950 (Gayley 2002, 2).

Nepal's contemporary political history begins in 1950, when the Nepalese people and King Tribhuvan overthrew the ruling Ranas with support from the government of India. A Nepali democratic movement had emerged alongside India's struggle to establish itself as an independent and democratic state in the 1940s. After King Tribhuvan sought refuge from the Ranas in India in 1950, the dissidents increased their agitation for democracy, leading to the "Delhi compromise," under which the king, the prime minister, and the Nepali congress agreed to hold elections (Gayley 2002). Even with India's support, Nepal's experiment with multiparty democracy was brief. When King Tribhuvan's son, Mahendra, came to power in 1962, he introduced the *panchayat* system, a form of democracy in which the king ruled with the support of numerous councils, or *panchayats*.

But democratic forces continued to demand change in Nepal. Student demonstrations led to a 1980 referendum in which 55 percent of the electorate voted to maintain a form of the controversial *panchayat* system. External events further politicized Nepal, including the collapse of the Soviet Union, the 1989 Tiananmen Square protests, expanding global support for democracy, and India's 1989 decision to restrict trade after the Nepali government signed an arms deal with China, which placed considerable hardship on the Nepali economy. By 1990, persistent protests forced the government to agree to a new constitution reestablishing a multiparty democracy, which spurred the creation of more than one hundred political parties and many non-governmental organizations (NGOs), newspapers, and other politically engaged entities (Gayley 2002). Despite these political changes, social change was slow, and the political left—the United People's Front—fragmented in 1994, when Comrade Prachanda (whose name means "the fierce one") founded the Communist Party of Nepal-Maoists or CPN-M (CIA 2005; Watchlist on Children and Armed Conflict 2005). The "Maoists claim to have prepared for (1994–96), launched (1996) and undertaken their People's War in response to this failure of development" (Seddon and Adhikari 2003).

From 1996 to 2006, when the war ended, the collapse of Nepali society was truly dramatic, resulting in close to 13,000 deaths, more than 200,000 people displaced internally, and the emigration of about 1.8

million. This decade of violence captured world attention, especially for its impact on women and children. For example, according to the NGO Watchlist on Children and Armed Conflict (2005), during the war as many as twelve thousand girls were trafficked across the border into India each year, primarily to work in dangerous settings and in the sex trade; a cascade of reports accused Maoist and government forces of raping girls; approximately two hundred children were (and still are) killed by landmines each year; and an unknown number of children were recruited by both sides of the conflict to provide military services. Hundreds of schools were destroyed or disrupted during the conflict, and teachers were targeted and harassed as well as students. Although human trafficking has plagued Nepal for decades, the scale of many of these human rights failures can be directly related to the civil war. From a human security perspective, the conflict in Nepal became increasingly brutal over the course of ten years, and hence was closely scrutinized by the United Nations and numerous human rights groups.

The Dynamics of the Conflict

According to Dev Raj Dahal (2004), the conflict in Nepal emerged from two factors. First, the conflict was generated by important structural dimensions, such as the rural-urban disparity—which was aggravated by the government's focus on the urban economy of the Kathmandu Valley—and deeply embedded discriminatory practices that defied progressive laws, such as the persistence of an "untouchable" class—the Dalits—and the marginalization of indigenous groups and women. Second, these structural conditions underlay and shaped the contrasting ideologies and practices of the liberals, monarchists, and communists. These interconnected structural and ideological factors gave rise to or reinforced political problems including corruption, politicization of public service, and human rights abuses by police and military personnel (for a more elaborate analysis, see ICG 2003; Thapa and Sijapati 2003; Upreti 2001, 2003a, 2003b, 2004a).

Shobhakar Budhathoki (2004) notes that the vested interests of the conflict's key players made resolving it extremely difficult. According to Dhruba Adhikary (2004), the key players in the conflict were:

• *The monarchy* King Gyanendra's strength was based in part on the loyalty of the "unified command" that includes the Royal Nepali Army (78,000 troops), the Nepal Police (50,000), and the Armed Police Force

(15,000). On February 1, 2005, the king declared a state of emergency and was able to assume command of the country.

· *The army*   The fight against the Maoists allowed the Royal Nepal Army—historically a ceremonial entity—to modernize its weapons, beef up its training, and gain battle experience.

· *The political parties*   During the 1990s, a dozen progressive parties gained support among the Nepali people, who continued during the war to see them as the only viable platform for democratization; however, infighting and corruption, especially following the king's dissolution of parliament in May 2002, alienated some of the population.

· *The Maoists*   The outlawed CPN-M was regarded as a terrorist organization by the state, a position to which the United States quickly and unthinkingly added its support, and CPN-M was certainly willing to act in brutal ways against unarmed civilians, but it nonetheless wielded considerable control and support in much of the countryside.

Beyond these indigenous actors, the United Nations, the United States, the United Kingdom, neighboring countries such as China and India, NGOs, and donor agencies became embroiled in the conflict through their attempts to help broker a peace agreement. The end result was a complicated political landscape of scrappy, entrenched interests, none of which appeared able to win the civil war or spearhead the formation of an alliance that could achieve peace and restore good governance. Because of this, many assessments of Nepal prior to 2006 were quite bleak (Budhathoki 2004; Pokhrel 2001; Asia Development Bank 2005), although some observers did believe a peaceful settlement was possible (Dahal 2004).

Consideration of demographic and environmental factors was absent from most analyses of the conflict. Their significance, however, affirms many of the arguments made over the past fifteen years in the literature on environment and security (see, among others, Deudney and Matthew 1999; Homer-Dixon 1999; Peluso and Watts 2001).

Demographic Factors

As other chapters in this volume point out (e.g., chapter 10 by Betsy Hartmann), simple relationships among population growth, resource scarcity, and security have been a mainstay of the environmental security literature, providing concise but woefully incomplete and misleading

analyses that obscure or exclude issues of inequality and can be marshaled to support draconian and unjust policies. Still, in the case of Nepal the broad effects of the rapid growth in population experienced in the past few decades merit consideration in the contexts of the multiple forms of exclusion, marginalization, and inequity that have been central features of the country's political and economic institutions and practices.

Much of the population of Nepal is young, underemployed, undereducated, and insecure. According to the 2001 census, 40 percent of the population is under age 15 and the median age of the population is 20.1, compared to the global average of 26 (United Nations 2002). More than 40 percent of the people live below the poverty line, and unemployment and underemployment are 17.4 and 32.3 percent, respectively (National Planning Commission 2003, 58, 99). The official literacy rate, which differs from other sources, is 65.5 percent for men and 42.8 percent for women (Central Bureau of Statistics [CBS] 2003). Approximately 12,700 people have been killed in the ten-year civil war.

Population in this resource-thin country has increased more than fivefold in less than a century. Between 1911, when the first census was taken, and 2001, Nepal's population increased from 5.6 million to 23.2 million, and population density rose from 38.3 to 157.3 people per square kilometer (CBS 2003, 3). In 2001, the population growth rate was 2.25 percent and the total fertility rate was 4.1 per woman. Although agricultural output has kept pace with population growth (Seddon and Adhikari 2003), human welfare has not improved in many areas of Nepal, which was ranked one hundred forty-second in the 2007 Human Development Index—and last in South Asia. Indeed, while in terms of population, Nepal ranks fortieth in the world, it ranks ninety-third in terms of land size (most of it unusable for human settlement of agriculture) and one hundred sixty-seventh in terms of per capita income.

Population growth has not been uniform across the country, which is understandable given the relative scarcity of natural resources in the northern mountainous area. The rapid growth of the population in the Terai (plains) has resulted from a combination of births and migration from mountains and hills, as people are lured by better physical facilities such as electricity, transportation, communications, education, and health; more productive agriculture land; and other job opportunities in the plains. The 2001 census summarizes internal migration: 62.8

percent rural-to-rural, 25.5 percent rural-to-urban, and 3.5 percent urban-to-urban migration (CBS 2003, 141). The rate of urbanization is also faster in the Terai than elsewhere in Nepal. Because the Terai is situated along the border with India, it also experiences informal and seasonal immigration. Finally, it is estimated that 200,000 to 300,000 people were internally displaced owing to the armed conflict and most of them moved into district headquarters and urban areas.

The situation in Nepal reflects the principal findings of Phase III of the State Failure Task Force, which found "the odds of failure to be *seven times* as high for partial democracies as they were for full democracies and autocracies." Moreover, "low levels of material well-being" doubled the odds of state failure, and "countries with larger populations and higher population density had 30–percent and 40–percent greater odds of state failure, respectively" (Goldstone et al. 2000, vi).

Environmental Factors

Nepal is experiencing significant environmental pressures. About 48.4 percent of the population lives in the Terai, which constitutes about 17 percent of the total land (Subedi 2003). This land is the most productive in the country: the average yield of Nepal's major crops (barley, maize, millet, paddy, wheat, and potatoes) is 1.71 metric tons per hectare in the mountains, 2.08 in the hills, and 2.61 in the Terai (Subedi 2003). In fact, only 20 percent of the entire country is suitable for agriculture, upon which 78 percent of the total population relies for subsistence. Arable land is scarce in Nepal, and its cost is out of the reach of most people. The *Nepal Human Development Report 2004* indicates that the bottom 47 percent of households own only 15 percent of the total arable land, whereas the top 5 percent own around 37 percent (UNDP 2004). According to the same report, 29 percent of the people are landless and more than 70 percent of the peasants own less than one hectare of arable land. This skewed distribution of land in favor of elites was a focus of criticism by the Maoist insurgents—who also promised that once in power they would oversee massive land reform and poverty alleviation.

In fact, during the civil war the CPN-M developed detailed analyses of Nepal's economic structure, which it characterized as "semi-feudal" and "semi-colonial," along with clear recommendations for change (International Crisis Group 2005). The proposed reforms included "changing production relations" by "confiscating land from feudals," "mixed own-

ership" of land, "a protected and regulated economy," "planned development" on the Maoist model, and "balanced development"(6).

Terai areas are highly prone to flooding—facilitated by deforestation—during the rainy season, which compels people to move. According to UNDP (2005, 61), forest cover declined from 37 percent to 29 percent between 1990 and 1995, a trend that appears to be continuing. The growing population depends primarily on traditional energy sources, 90 percent of which is provided by burning wood for fuel. In fact, the use of fuel wood increased slightly from 1995 to 2003, while other traditional energy sources such as cow dung declined; kerosene use remained constant; and petroleum gas (LPG) jumped from 0.99 percent of energy in 1995 to 8.2 percent in 2004 (UNDP 2005, 66). The extremely high dependency on wood for fuel has also created air pollution and respiratory problems, in addition to producing deforestation. Flooding, land scarcity, and wood collection cause people to encroach on ecologically fragile areas such as Siwalik (CBS 1998).

The general environmental trends in Nepal are well-summarized by L. P. Sharma:

The Midland region of Nepal is at present under the serious attack of environmental maladies. The deforestation has already been severe, so in most of the places, there is acute shortage of wood, fuel wood, and fodder to run daily life. The soil erosion has been non-stop phenomena [sic] aggravated floods and landslides. In most of the hill districts of Nepal, there is shortage of food supply on account of low productivity and ultimately the carrying capacity of the land has been seriously distorted. The out migration process to the valleys, plain lands and urban areas for better opportunities has been a regular practice. (1998, 23)

On the whole, environmental governance in Nepal is uneven and often ineffective, a reflection of the broader political processes that have afflicted the country (Upreti 2001). There have, however, been improvements in some environmental indicators. Land protected to maintain biological diversity increased threefold from 1995 to 2004 (UNDP 2005, 61). The proportion of the population with sustainable access to safe drinking water increased from 46 percent in 1990 to 81 percent in 2005, and the proportion with sustainable access to improved sanitation has jumped from 6 percent in 1990 to 39 percent in 2005, a gain realized primarily in urban areas (UNDP 2005, 70). Ironically, in some cases conservation efforts exacerbated the environmental scarcity experienced by the growing population of poor and landless, making them more receptive to the rhetoric of the CPN-M. This is clear in our case study of Koshi

Tappu, but it is also validated by our work throughout the region with the International Union for the Conservation of Nature (IUCN 2005).

Case Study: Koshi Tappu Wetland

A case study was conducted in 2004 in the Koshi Tappu area by an IUCN research team (including the authors). This wetland area, located on the eastern Terai plains near the border with India, includes the Koshi Tappu Wildlife Reserve and the sixteen villages surrounding it. People moved into this remote and sparsely inhabited wetland only in the mid-twentieth century, a migration designed by the Nepali government with the explicit goal of reducing population pressure on the resource base of Kathmandu Valley. Today some 78,000 people live in an area where the resources they depend upon are steadily becoming less available owing to changes in land tenure, poor conservation practices, and depletion. Primary resources include gathering grass for roofing and fodder; fishing; collecting fuel, including dung and driftwood; irrigation farming; collecting rocks for construction; grazing livestock; and gathering cattails for mattresses (Bastola n.d., 4–5). The region's population growth rate is 2.8 percent, adding more pressure on resources (3).

Nepal leased five thousand hectares of the wetland to India in 1954 to permit the construction of a dam so that water could be diverted to irrigate farms in the Indian state of Bihar. A wildlife reserve, established in 1976 and expanded in 1979, is now classified as a Ramsar Wetland of International Importance.[5] Little or no compensation was offered for the residents' decreased access to resources and the Maoists channeled frustration with this situation into support for their insurgency.

During in-depth interviews conducted on site, representatives of the nineteen ethnic groups dependent on the case study area's natural resources explained that their traditional or customary rights to local natural resources have been curtailed or denied (Upreti 2004b; Matthew 2005).[6] Consequently, their livelihoods have become increasingly perilous, and their willingness to engage in protest and crime has increased.

The problem has at least three interactive causes. First, local people have seen few benefits from the development of the dam, the Koshi Barrage, in part owing to barriers such as language and lack of information but also because the government felt no obligation to share the benefits of this project or provide compensation for the losses it caused. For example, the construction of the dam relied heavily on labor imported

from India. Second, in the 1950s, the availability of abundant natural resources and fertile land attracted a large number of migrants from nearby hilly regions. Even as population pressure on the resources mounted, the construction of the East-West Highway made the area accessible to more migrants from other parts of the country (Heinen 1993; Sharma 2002). Finally, conservation efforts, including the decision to protect the area as a Ramsar site owing to its remarkable biodiversity, further restricted the local population's access to essential resources, including fish, birds, forest products, and grasses. Reserve wardens soon introduced the political corruption endemic throughout the country, allowing some people to access the reserve's resources for a fee or other considerations. The resources that are available to the residents are woefully underserviced. Since irrigation facilities are inadequate, farmers depend upon rainwater. Much of the area lacks a reliable means of transportation, making it extremely difficult to reach the market, schools, and hospitals, especially during the rainy season. During the civil war, the Maoist insurgents promised to return the reserve land to the local inhabitants, thus underscoring their appeal to the beleaguered residents.

Conclusions

As in the rest of the world, the population of Nepal increased by sixfold during the course of the last century. This rapid growth occurred in a mountainous and land-locked area with few natural resources. There is no doubt that this growth also occurred in a context of inequality and political exclusion (Cincotta, Engelman, and Anastasion 2003; Upreti 2004a). But the Gini index for Nepal, in the mid-1940s throughout the past decade, is roughly the same as in the United States—on this basis the country is a little more inegalitarian than the developed countries with the lowest Gini indices, but by no means one of the least equal countries in the world. If we base our calculations simply on land size, and assume a constant value, then the ratio between those who are among the top five percent of the nation (with 37 percent of the land) and those who are in the bottom 47 percent (with 15 percent of the land) is 24 to 1. Unequal, certainly, but not in itself an adequate basis for explaining why it is that 42 percent of the population is living below the poverty line. The proximate answer is that the resource base is not able to support an agricultural economy of this magnitude. Under

conditions of scarcity such as these, elites may not see a way to protect their privileged position and also raise the living standards of non-elites.

The situation in Nepal is loosely akin to what historians call "feudal anarchy." This particular type of social breakdown occurred in Europe when land holdings became smaller and smaller under the burden of population growth, to the point where they could no longer support the people who depended upon them, but alternative livelihoods did not emerge quickly enough to meet demand. The lag between the erosion of traditional livelihoods and the creation of new ones was exaggerated by the behavior of elites who, through culture or calculation, resisted socio-economic change. The end result, of course, was a massive power shift away from the royalty toward the emerging merchant class, risk-taking entrepreneurs willing to displace traditional power holders and also to help serfs transform themselves into proletarians, a transformation made possible by the massive and unsustainable use of natural resources, and especially energy.

It may be, as Francis Fukuyama has suggested, that liberal democracy is simply a superior form of social organization, and all societies will gradually gravitate toward its political and economic forms. It may be that the processes of decolonization, democratization and liberalization, promoted by the United States after World War II, placed pressure to conform on all parts of the developing world, including Nepal. But it may also be the case that the processes of political change that began in Nepal in the 1950s were in an important sense a response to endogenous demographic and environmental pressures of the kind that linked Kathmandu Valley to Koshi Tappu.

Insofar as this is true, the new government of Nepal may discover that violence itself is not enough to trigger constructive processes of social change, and that foreign models to emulate are in short supply. What does an agrarian economy do to accommodate the livelihood needs of some twelve million destitute people? Especially when there is no new land available to cultivate and climate change threatens traditional agricultural practices. The only proven strategies for agricultural intensification are costly ones, like irrigation and fertilizer use, designed to reduce environmental risks, but prone to create new types of problems, such as soil exhaustion, within a few years. The answer must lie in cultivating new livelihoods, which in Nepal means developing sectors such as hydroelectric energy, water harvesting, and tourism, none of which appear likely to deliver millions of new jobs quickly.

The challenges Nepal faces are shared by other densely populated, resource-poor, war-torn countries such as Cambodia, Rwanda, and Haiti. Once peace has arrived, these places have tended to become magnets for donor countries and NGO activity, and the danger has been that a bubble of foreign aid will act like an antibiotic administered to an individual suffering from both malnutrition and parasites: a rapid improvement followed by a relapse into illness.

The excitement in today's Nepal is widespread and sincere. In short order, the violence has largely come to an end; the monarchy has been removed; the population has voted in reasonably fair and open elections; and a new regime has been put in place. These are remarkable accomplishments, and many observers thought them impossible ones just two years ago. But in terms of human security, much remains to be done. People have voice, and the Maoist regime may well succeed in diminishing gender and caste discrimination, dismantling the costly dowry system, and redistributing land. But these measures will only be the first step toward providing people with the "options necessary to end, mitigate or adapt to threats to their human, environmental and social rights [and] the capacity and freedom to exercise these options" (see chapter 1) Nepal needs also to find a pathway to human security and from there on to sustainable development.

Notes

1. Adapted and updated with permission from Richard Matthew and Bishnu Upreti (2006).

2. For a general discussion of the relationship among population factors, environmental stress, and state failure, see Goldstone et al. 2000.

3. This analysis is based largely on Matthew's personal involvement with the new UN Peacebuilding Commission and his direct participation in UNEP postconflict assessment activity in Africa.

4. Our analysis is based in part on the extensive personal experience of Upreti with many aspects of this issue, as a researcher, consultant, and policy advisor living in Nepal throughout the period under consideration; and in part on two field research trips to Nepal made by Matthew.

5. The Convention on Wetlands, signed in Ramsar, Iran, in 1971, is an intergovernmental treaty that provides a framework for national action and international cooperation for the conservation and use of wetlands and their resources. There are presently 147 contracting parties to the convention, with 1,524 wetland sites, totaling 129.2 million hectares, designated for inclusion in the Ramsar List of

Wetlands of International Importance. For more information, see http://www
.ramsar.org/.

6. The main ethnic groups are Sunaha, Khanwas, Mallahs, Bote, Mushahars,
Bantar, Gongi, Mukhia, Dushad, Sahani, Kewat, Danuwars, Darai, Kumal, Bar-
hamus, Dhangar, Pode, Kushars, and Majhi.

References

Adhikary, Dhruba H. 2004. *Contemporary conflict dynamics in Nepal*. http://
www.fesnepal.org/reports/2004/seminar_reports/paper_conflict-reporting/paper
_dhruba.htm (accessed November 15, 2008).

Asian Development Bank. 2005. Nepal. *Asian development outlook 2005* (part
2, South Asia). http://www.adb.org/Documents/Books/ADO/2005/nep.asp (ac-
cessed November 15, 2008).

Bastola, Rabin. n.d. *Ramsar sites: Threats and opportunities for community de-
velopment*. http://www.fern.org.np/publications/ramsar.htm (accessed November
15, 2008).

Budhathoki, Shobhakar. 2004. The King's Communist conundrum. *Asian
Affairs*. http://www.asianaffairs.com/oct2004/nepal.htm (accessed September 22,
2005).

Central Intelligence Agency (CIA). 2005. *Nepal*. http://www.cia.gov/cia/
publications/factbook/geos/np.html (accessed September 22, 2005).

Central Bureau of Statistics (CBS). 1998. *A compendium on environmental sta-
tistics of Nepal*. Kathmandu: CBS.

Central Bureau of Statistics (CBS). 2003. *Population monograph of Nepal*, vol.
1. Kathmandu: CBS. http://www.cbs.gov.np/Population/Monograph/volume1_
contents.htm (accessed November 15, 2008).

Cincotta, Richard, Robert Engelman, and Danielle Anastasion. 2003. *The secu-
rity demographic: Population and civil conflict after the Cold War*. http://www
.populationaction.org/resources/publications/securitydemographic/index.html
(accessed September 22, 2005).

Collier, Paul. 2000a. Economic causes of civil conflict and their implications for
policy. Paper for the World Bank Group. http://www.worldbank.org/research/
conflict/papers/civilconflict.pdf (accessed November 15, 2008).

Collier, Paul. 2000b. Doing well out of war: An economic perspective. In *Greed
and grievance: Economic agendas in civil wars*, ed. Mats Berdal and David
Malone, 91–111. Boulder, CO: Lynne Rienner.

Dahal, Dev Raj. 2004. *Conflict dynamics in Nepal*. http://www.fesnepal.org/
reports/2004/seminar_reports/report_conflict-mangmt_decont.htm (accessed No-
vember 15, 2008).

Deudney, Daniel, and Richard A. Matthew, eds. 1999. *Contested grounds: Secu-
rity and conflict in the new environmental politics*. Albany: SUNY Press.

Gayley, Holly. 2002. Gyanendra's test: Nepal's monarchy in the era of democracy. *Harvard Asia Quarterly VI* (1). http://www.fas.harvard.edu/~asiactr/haq/200201/0201a009.htm (accessed September 22, 2005).

Goldstone, Jack A., et al. 2000. *State Failure Task Force report: Phase III findings*. http://www.cidcm.umd.edu/inscr/stfail/SFTF%20Phase%20III%20Report%20Final.pdf (accessed September 22, 2005).

Heinen, J. T. 1993. Park-people relations in Koshi Tappu Wildlife Reserve, Nepal: A socio-economic analysis. *Environmental conservation* 20 (1): 25–34.

Homer-Dixon, Thomas. 1999. *Environment, scarcity, and violence*. Princeton: Princeton University Press.

International Crisis Group (ICG). 2003. *Nepal: Back to the gun* (Asia Briefing No. 28). Kathmandu/Brussels: ICG.

International Crisis Group (ICG). 2005. *Nepal's new alliance: The mainstream parties and the Maoists* (Asia Report No. 106). Kathmandu/Brussels: ICG. http://www.crisisgroup.org/home/index.cfm?id=3810andl=1 (accessed November 15, 2008).

International Monetary Fund (IMF). 2008. Nepal. World Economic Outlook Database. http://www.imf.org/external/pubs/ft/weo/2008/02/weodata/index.aspx (accessed March 3, 2009).

International Union for the Conservation of Nature (IUCN). 2005. *Livelihood security in South Asia*. http://www.iucn.org/places/asia/livelihood/index.html (accessed November 21, 2005).

Matthew, Richard A. 2005. Sustainable livelihoods, environmental security and conflict mitigation: Four cases in South Asia. Poverty, Equity and Rights in Conservation Working Paper Series. Geneva: IUCN. http://www.iucn.org/themes/spg/Files/IUED/Case%20Study%20South%20Asia.pdf (accessed September 22, 2005).

Matthew, Richard, Mark Halle, and Jason Switzer, eds. 2002. *Conserving the peace: Resources, livelihoods, and security*. Geneva: IISD.

Matthew, Richard, and Bishnu Upreti. 2006. "Environmental Stress and Demographic Change in Nepal: Underlying Conditions Contributing to a Decade of Insurgency." *Environmental Change and Security Project Report* 11:29–39.

National Planning Commission. 2003. *Tenth five-year plan*. Kathmandu: National Planning Commission.

Peluso, Nancy, and Michael Watts, eds. 2001. *Violent environments*. Ithaca, NY: Cornell University Press.

Pokhrel, Gokul. 2001. History of conflict in Nepal. http://www.fesnepal.org/reports/2004/seminar_reports/paper_conflict-reporting/paper_gokul.htm (accessed November 15, 2008).

Seddon, David, and Jagannath Adhikari. 2003. *Conflict and food security in Nepal: A preliminary analysis*. Kathmandu: Rural Reconstruction Nepal. http://europa.eu.int/comm/external_relations/cpcm/mission/nepal_food03.pdf (accessed September 22, 2005).

Sharma, L. P. 1998. Geography. In *A compendium on environmental statistics of Nepal*, Central Bureau of Statistics, 20–27. Kathmandu: CBS.

Sharma, R. K. 2002. *Conservation and sustainable use of wetland resources in Nepal: Socio-economic and cultural dimensions.* Kathmandu: IUCN Nepal.

Subedi, Bhim Prasad. 2003. Population and environment: A situation analysis of population, cultivated land and basic crop production in Nepal in 2001. In *Population monograph of Nepal*, vol. 2, 1–36. Kathmandu: CBS. http://www.cbs .gov.np/Population/Monograph/volume2_contents.htm (accessed November 15, 2008).

Thapa, Deepak, and Bandita Sijapati. 2003. *A kingdom under siege: Nepal's Maoist insurgency, 1996 to 2003*. Kathmandu: The Printhouse.

Timilsina, Amga R. 2005. *A plan for the post-conflict reconstruction of Nepal* (FPIF Policy Report). Silver City, NM, and Washington, DC: Foreign Policy in Focus. http://www.fpif.org/fpiftxt/683 (accessed November 15, 2008).

United Nations. 2002. Population ageing: facts and figures. *Building a society for all ages*. http://www.un.org/ageing/prkit/factsnfigures.htm (accessed November 21, 2005).

United Nations Development Programme (UNDP). 2003. *Human development report*. New York: United Nations.

United Nations Development Programme (UNDP). 2004. *Nepal human development report*. Kathmandu: United Nations Development Programme.

United Nations Development Programme (UNDP). 2005. *Nepal Millennium Development Goals: Progress report 2005*. http://www.undp.org.np/publications/ mdg/index.html (accessed September 15, 2005).

Upreti, Bishnu Raj. 2001. *Conflict management in natural resources: A study of land, water and forest conflict in Nepal* (published doctoral dissertation). Wageningen, Netherlands: Wageningen University.

Upreti, Bishnu Raj. 2003a. Social exclusion, centralism and conflict: Challenges for conflict transformation in Nepal. Paper presented at the Social Science Baha conference, The Agenda of Transformation: Inclusion in Nepali Democracy, Kathmandu, Nepal, April.

Upreti, Bishnu Raj. 2003b. *Management of social and natural resource conflict in Nepal: Reality and alternative*. New Delhi: Adroit Publishers.

Upreti, Bishnu Raj. 2004a. *The price of neglect: From resource conflict to the Maoist insurgency in the Himalayan Kingdom*. Kathmandu: Brikuti Academic Publications.

Upreti, Bishnu Raj. 2004b. Sustainable livelihoods, environmental security, and conflict mitigation in protected areas of Nepal: Trend and challenges (preliminary draft report). Kathmandu: IUCN.

Watchlist on Children and Armed Conflict. 2005. *Caught in the middle: Mounting violations against children in Nepal's armed conflict*. New York: Watchlist on Children and Armed Conflict (January). http://www.watchlist.org/reports/ nepal.report.20050120.pdf (accessed September 25, 2005).