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on population, environment, and security

## Forests for the Future: Family Planning in Nepal's Terai Region

By Leona D'Agnes, Judy Oglethorpe, Sabita Thapa, Dhan Rai, and Tara Prasad Gnyawali

A transformation is taking place in the Khata areas of rural Nepal: People dependent on forests are learning new ways to protect the source of their livelihoods. Farmers are now the front-line stewards of the environment—and enthusiastic advocates for integrating population-health-environment (PHE) programs into their community activities.

"Family planning and health issues have become an integral part of our community forestry program. Prior to the introduction of the population, health, and environment concept, we hardly had any clue on the linkages between forest management and family planning. Now we work hard to conserve forest

energy and family planning so there will be forest left for future generations," says Krishna Pariyar, secretary of Khata Community Forestry Coordination Committee, a consortium of community-based organizations that manage a swath of forest

resources and are encouraging everyone to use alternative

within Nepal's Terai region.





## Poverty and Population Dynamics in Nepal

Despite significant improvements in economic and social indicators over the past two decades, Nepal remains among the poorest countries in the world (ADB, 2007). The vast majority of Nepalese live in rural areas, where they depend upon agriculture for their livelihoods and suffer almost double the rate of poverty (44 percent) of their urban counterparts (ADB, 2001).

In less than a century, Nepal's population increased more than five-fold, to 27 million people (PRB, 2008). Population density is high in the fertile river plain known as the Terai, where 48 percent of the country's population lives in 17 percent of its total land mass (CBS, 2001). Due to high birth rates and internal migration from the highlands, the Terai registered the highest regional population growth rate (2.86 percent) in the 2001 census, significantly higher than the nationwide annual growth rate of 2.1 percent (CBS, 2001; PRB, 2008). The high birth rates are largely due to early marriage (42

In parts of the Terai where forests have regenerated and wildlife has returned, community members have developed alternative incomes through tourism (© Judy Oglethorpe/WWF-US).



percent of Nepalese girls aged 15-19 are married), which has a cumulative effect on fertility (De Silvade Alwis, 2008).

## Forests and Biodiversity Under Threat: Nepal's Terai Region

The majority of Nepal's population is heavily dependent on the country's natural resources, especially its forests. However, this essential resource has declined dramatically since the 1950s, and deforestation continues. Between 1990 and 2005, Nepal lost 1.2 million hectares, or about 25 percent of its total forest cover (FAO, 2005). Grazing, human settlement, and firewood collection are the major threats to the forest. Almost 80 percent of Nepalese rely on firewood for heating and cooking, and most still use inefficient traditional stoves (WWF-Nepal, 2006). Many people graze their livestock in forests, which are also used for food, animal fodder, building materials, medicine, and income generation.

Nepal is a treasure trove of biodiversity: Its 0.1 percent of the world's landmass hosts 2 percent of the world's flower species, 4 percent of its mammal species, and 8 percent of its bird species (MOPE, 2001). The Terai is home to flagship species such as the Bengal tiger, wild Asian elephant, and greater one-horned rhinoceros. Seventy-five percent of lowland Nepal's remaining forests are in the Terai (EOE, 2007). But this unique biodiversity is under threat: A recent study examining the causes of biodiversity loss in the Terai forests concluded that population growth was the most serious factor (Montayne, 2003).

To stem these losses, Nepal was one of the first developing countries to adopt community forest management, which promotes better management by shifting control of forests from the government to the local communities that use them. Community groups of forest users charge membership fees, levy fines, and sell non-timber forest products in order to finance their operating budgets and fund development projects. Thirteen thousand user groups, which manage 1.6 million hectares of forest area across the country, have helped reduce the deforestation rate in Nepal by 3.7–5.0 percent a year (USAID, 2006).



## FOCUS Online

www.wilsoncenter.org/ecspfocus

Livelihoods Outcomes: Study and Analysis of Changes in the Livelihoods of Bottleneck-Level Community Forest Users, a WWF report, explores livelihood gains among residents of the Terai Arc Landscape: http://assets.panda.org/downloads/wwf\_livelihood\_booklet\_final\_july8\_08.pdf

Detailed maps of the Terai Arc Landscape project, other WWF-supported projects in Nepal, and protected areas around the country can be downloaded from WWF:

http://www.panda.org/about\_wwf/where\_we\_work/asia\_pacific/where/nepal/news/maps\_nepal/index.cfm

The Root Causes of Biodiversity Loss in the Terai Arc Landscape: An Exploration of Factors Affecting Biodiversity Loss and the Relationship to Livelihoods, by Dawn Montayne:

http://assets.panda.org/downloads/finalrootcausesreportteraiarc1.pdf

At a March 2009 meeting at the Woodrow Wilson Center, Jon Miceler discussed WWF's population, health, and environment program in the Terai Arc Landscape, along with Rishi Bastakoti of Resource Identification and Management Society Nepal:

http://tinyurl.com/nepalevent

Richard Matthew and Bishnu Raj Upreti explore the links between population growth, environmental degradation, and violent conflict in "Environmental Change and Demographic Change in Nepal: Underlying Conditions Contributing to a Decade of Insurgency" in *ECSP Report 11*.

http://www.wilsoncenter.org/topics/pubs/Nepal Env Stress&Demo Change.pdf

Dung from stall-fed cattle is fed into the biodigester, and the resulting biogas provides clean cooking fuel, which reduces the incidence of acute respiratory infection in women and children, as well as decreases forest degradation and saves women time and work (© Judy Oglethorpe/WWF-US).

"Now we work hard to conserve forest resources and are encouraging everyone to use alternative energy and family planning so there will be forest left for future generations."

- Krishna Pariyar

## Combining Conservation and Health in the Khata Corridor

The Terai's Khata corridor, which links Bardia National Park in Nepal with India's Katarniaghat Wildlife Sanctuary, is a vital conduit for rhinoceroses, tigers, and elephants. It is also home to almost 25,000 people from indigenous groups, including the Tharu, whose high population growth and large average household size (7.1) have increased pressure on the forest (WWF-Nepal, 2006).\*

Communities in the corridor area are unusually poor; the average per capita annual income is under US\$50, well below the national average of US\$235 (WWF-Nepal, 2008). Diseases such as acute respiratory infections, pneumonia, typhoid, and tuberculosis are common. Poverty drives many men and women to travel to India for seasonal work; these migrant laborers are more susceptible to sexually transmitted infections (including HIV/AIDS) while away from their homes and families.

In 2003, WWF-Nepal and its local implementing partner, the Community Forestry Coordination

The Khata communities appreciated these health activities, which helped build goodwill toward the project's partners and their conservation efforts—particularly during Nepal's civil war between the government and the Maoist insurgency, when government health facilities were closed and local people, especially women and children, lacked reliable access to health services and supplies. The project's low-profile activities were able to continue, since the clinic and other health services were supplied at the local level.

In addition, the health interventions contributed directly to conservation. Households in this area are so poor that a death or major illness can force



<sup>\*</sup> All population and health data on the Khata corridor are calculated by WWF from data reported in the *Nepal Demographic and Health Survey* (Ministry of Health and Population, New ERA, & Macro International Inc., 2007).

Committee, an umbrella organization of several forest user groups, began to integrate health services into ongoing conservation work in Khata, with support from Johnson & Johnson. Initially, the project worked with the Nepal Red Cross Society, which trained volunteers in first aid and helped establish a community-run health clinic. The project raised awareness about HIV/AIDS and family planning; and improved the quality of sanitation and drinking water.

families to sell their land. Landless people are more dependent on forest resources and may illegally settle on forested land.

To reduce the pressure on forests, WWF and partners tackled two other major threats: firewood collection and cattle grazing. A revolving fund provided loans to purchase biogas units and build improved cookstoves, which curb deforestation and reduce exposure to indoor air pollution. WWF worked with communities to remove cattle from the forest and replace them with a smaller number of stall-fed cows, which produce dung for the biogas digesters; provide milk that improves child nutrition; and boost household income through the sale of surplus milk (Oglethorpe, Honzak, & Margoluis, 2008).

Yet despite the Khata project's health and conservation successes, forest restoration efforts were at risk because the population continued to increase due to early marriage and childbearing, as well as poor knowledge of family planning and low contraceptive use. On average, women in the Terai are 25 years of age and have three children before they begin to use contraception (CEDPA, 2008). The 2007 Demographic and Health Survey found that 20.9 percent of currently married women (15-49) living in the mid-western Terai region, which includes the Khata corridor, have an unmet need for family planning.

## Integrating Population and Health Into Forest Management

In 2006, USAID selected the Khata project to test whether forest user groups could implement family planning services and education in tandem with conservation, health, and sustainable livelihood activities. USAID observed that user groups were promising platforms for the introduction of PHE services because they offered access to established networks, training programs, and their own sources of funding.

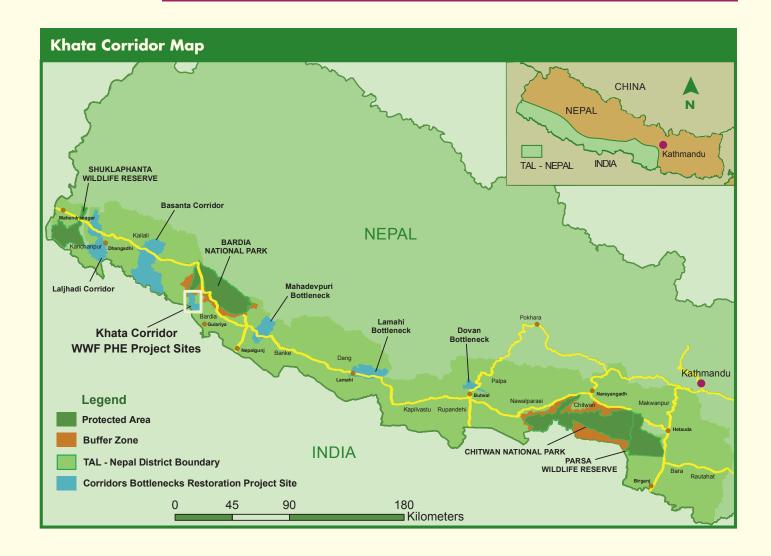
In the pilot project, WWF partnered with the Adventist Development and Relief Agency to train field staff and volunteers to deliver family planning services and education. Over a two-year period, Root Causes of Biodiversity Loss in Terai Forests

Over-harvesting of trees for fuel wood and timber: Increasing population, coupled with the lack of affordable alternative energy technologies, drives demand for fuel wood and thus deforestation. The extremely high dependency on wood for fuel also produces indoor air pollution and respiratory problems.

Overgrazing of livestock: Increasing population, combined with decreasing size of land holdings per capita and the continued popularity of raising livestock, will continue to increase grazing's impact on Nepal's landscape.

**Encroachment and settlement:** As the population grows, more forest is cleared for cultivation. The conversion of forests to fields increases soil erosion and flooding.

Source: Montayne (2003).



181 staff and volunteers helped the project roll out PHE services to an estimated 22,000 people living in 3,095 households. Activities included:

- Teaching illiterate women and girls about family planning, reproductive health, and environmental issues;
- Educating youth and adults about safer sex and using condoms to prevent HIV/AIDS and unwanted pregnancy;
- Conducting media campaigns that explain the connections between population, health, and the environment;
- Promoting increased energy efficiency in the home;

- Improving monitoring and reporting of acute respiratory infection cases among under-five children by female community health volunteers; and
- Coordinating with workers at government health centers to assure an adequate supply of family planning products and to establish referral mechanisms for other services.

#### **Successes of the PHE Approach**

The PHE approach has helped transform people's attitudes toward family planning and improve their understanding of its contribution to sustainable livelihoods. Contraceptive use among couples in Khata increased from 43 percent in September 2006

to 72.6 percent in September 2008 (WWF-Nepal, 2008). Interviews suggest that community members realize that limiting family size can contribute to their continued prosperity. Whereas before they viewed family planning solely as a means to better health, now they also call it a practice for "better management of their forest assets" (D'Agnes, 2007).

The project also increased the number of households adopting biogas and smokeless, fuel-efficient cookstoves in Khata from 11 percent in 2006 to 19 percent in 2008, resulting in 1,524 metric tons of firewood saved annually. Moreover, about 1,320 households installed solar lamps, which, according to users, resulted in "savings for their family" from reduced expenditure for kerosene (D'Agnes, 2007). The project's data show a reduction in the incidence of severe cases of acute respiratory infection among under-five children living in the project area, which suggests that the increased use of clean energy technology has improved health conditions in Khata.

Neighboring villages are now clamoring to share these benefits. The Khata groups are helping their neighbors meet government requirements to form their own user groups to sustainably manage their own natural resources.

Devi K.C., secretary of the Gauri forest user group and a community-based distributor (CBD) of family planning services and products, says that clients, especially men, are now becoming more comfortable talking to women distributors about contraceptives. "Previously, people were reluctant to speak about family planning. Now, women CBDs who are more conversant and informed on reproductive health and family planning openly talk to forest user groups about sexual and reproductive health—and people listen to them," says Devi.

She also sees great benefits from the peer education programs that encourage women to discuss their reproductive health problems. For instance, many local women suffer from prolapsed uteruses caused by lifting and carrying heavy bundles of firewood. Despite the pain, women were reluctant to talk about this problem until approached by peer educators. Women and men in the community are now trying to obtain government services to help these women.

# Clean Energy Technology Generates Multiple Benefits for Khata Families

#### Acute respiratory infection (ARI)—

often caused by smoke and pollution from indoor cooking fires—is a serious problem for women and young children in Nepal. In the Khata corridor, the WWF PHE project has promoted biogas and improved cooking stoves to help address this problem, as well as relieve pressure on the forests and reduce the amount of time women spend collecting firewood.

Biogas digesters are connected to household latrines. Human waste, along with cattle dung, produces biogas in the digester, which is piped to the nearby kitchen and used for cooking.

A total of 586 households (19 percent) in Khata are now using biogas or improved cookstoves, saving an estimated 1,524 metric tons of firewood annually (equivalent to about 3,800 trees). Women also report great savings in time and work, allowing them to engage in forest management and PHE activities organized by their user groups.

Source: WWF-Nepal (2008).

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- Devi K. C.



#### **Strategy for Sustainability**

From the outset, the project required that NGO partners and forest user groups contribute funds to maximize the project's long-term sustainability; to date, these contributions total more than \$37,500 over two years (compared to USAID's contribution of \$80,000). WWF plans to phase out its financial support of the Khata project, so sustaining the project's conservation and health gains will be a challenge. But with the return of peace to Nepal, the Ministry of Health has recently reopened the local sub-health post three miles away, so the government will play a larger role in providing health care to these communities.

WWF and the Khata Community Forestry Coordination Committee worked with 24 user groups to integrate family planning and clean energy interventions into their five-year community forest operational plan amendments to ensure that PHE activities will continue. WWF-Nepal has also worked with Department of Forestry personnel and educated them about the benefits of integrated approaches to family planning, health, and community forestry management. The district forest officials have indicated their support for the revised operational plans (WWF-Nepal, 2008).

#### **Conclusions and Recommendations**

Based on WWF-Nepal's experience, we offer the following conclusions and recommendations for programs seeking to integrate family planning and reproductive health into forest management:

• Providing health and livelihood assistance helps win a community's trust and can simultaneously protect the environment. Access to basic health services and family planning was a priority in Khata. By responding to these needs, WWF-Nepal and its partners were able to gain the community's trust and participation in conservation activities. This experience shows that providing health and family planning services linked to environmental activities not only improves health, but can also help relieve environmental pressure.

- Environmental NGOs can successfully promote reproductive health and family planning in partnership with health organizations. Remote communities in areas of high biodiversity often lack knowledge about family planning and how it contributes to sustainable livelihoods. Evidence from this project shows that environmental NGOs can quickly learn to facilitate such processes with appropriate partnerships, training, and support.
- PHE integration is fast and inexpensive. Integrating family planning and health services into community forest management programs can be achieved quickly and at relatively low cost. Because the Community Forest Coordination Committee was already organized and adept at governance, the project saved significant time and an estimated \$10,000 that otherwise would have been required to achieve the same level of community mobilization. Leveraging the user groups' community development funds also improved the project's cost effectiveness.
- Partnering with natural resource management groups helps health projects reach vulnerable populations. Working with community organizations like forest user groups can add value to family planning and health programs. Through this partnership, the project was able to promote family planning in disadvantaged, difficult-to-reach communities as a way to improve their livelihoods.
- Successful advocacy communication is key. By demonstrating how PHE both improves health and reduces vulnerability to poverty, the project was able to catalyze the support and participation of forest user groups. NGOs should include representatives of their target audiences in the process of developing key messages and identifying the best messengers.
- Partnering with user groups makes PHE projects more sustainable. Communities that recognize that rapid population growth threatens forest resources are more likely to support family planning and reproductive health activities. Rather than creating a new PHE project or agenda, NGOs should first look for an existing natural resource management program that could serve as a platform for implementing family planning and reproductive health initiatives.



Providing health and family planning services linked to environmental activities not only improves health, but can also help relieve environmental pressure.

Feeding cattle in stalls prevents them from trampling and browsing in the forest, enabling it to regenerate. The cattle also provide milk, which improves child nutrition and generates household income (© Judy Oglethorpe/WWF-US).

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This report is made possible by the generous support of the American people through the United States Agency for International Development's (USAID) Office of Population and Reproductive Health. The contents are the responsibility of Woodrow Wilson International Center for Scholars and do not necessarily reflect the views of USAID or the United States Government. Views expressed in this report are not necessarily those of the Center's staff, fellows, trustees, advisory groups, or any individuals or programs that provide assistance to the Center.

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Community foresters in Khata (courtesy Heather D'Agnes).

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