

Water Brings Health and Wealth to Nepal

Winrock International

Improving Lives and Livelihoods Worldwide



Bil Bahadur Chundara and Maha Chundara with their cabbage crop and drip irrigator. Access to water for productive uses has let farmers like the Chundaras double their annual income.

“[The project] has given us ways for better living.”
- Mahan Chundara

Mahan Chundara never thought that she would own a greenhouse. She certainly never thought she would purchase one herself, with income she earned from selling cauliflower, cabbage and other specialty crops.

Ms. Chundara, 31, lives with her husband and four children in Dharapani, Nepal, a village almost exactly in the center of the country. Before the greenhouse, the family's income came from her husband's wages as a day laborer and from the small piece of land, just 0.6 acres (0.025 ha), on which they grew cereal crops, such as corn, millet and rice.

Eighty percent of Nepalis are farmers. They usually grow low-value cereal crops on very small tracts and their average annual income is US \$100-\$200. They struggle against undeveloped infra-

structure for reaching markets, minimal education levels and poor health care. For the Chundaras and other members of the Dalit (oppressed) community, survival is even more difficult because they have limited access to natural resources like water and land.

Providing multiple-use services (MUS) for water is a key component of a Winrock project to improve the incomes and lives of smallholder farmers in Nepal. Since 2003, the [Smallholder Irrigation Market Initiative](#) (SIMI) has installed multiple-use water systems in 64 villages.

In Ms. Chundara's village, Winrock and its local partners organized women to plan a project that would get more water into the village. The women set up a collective fund to help finance a multiple-use water system. Large tanks now collect spring water which is gravity-fed into communal taps throughout the villages. Any water not used domestically flows into homestead garden plots where 78 percent of the households involved use drip and/or sprinkler technology to grow high-value vegetable crops like cucumber and tomato.

The Nepali farmers have reaped numerous benefits from the multiple water services. Annual household incomes have risen by approximately US \$200. Much of that increase is due to vegetable production: 50-70 percent of household income now comes from vegetables, compared to 10-20 percent before the MUS scheme. In her first of three annual growing seasons, Ms. Chundara earned US \$23 from a plot of just 90 square meters.

The farmers also saw health benefits: households that only ate 0.3 kilograms of vegetables per day before the scheme

are now eating 2 kilograms of vegetables per day. Ms. Chundara told Winrock staff that was pleased to see her family eating more vegetables.

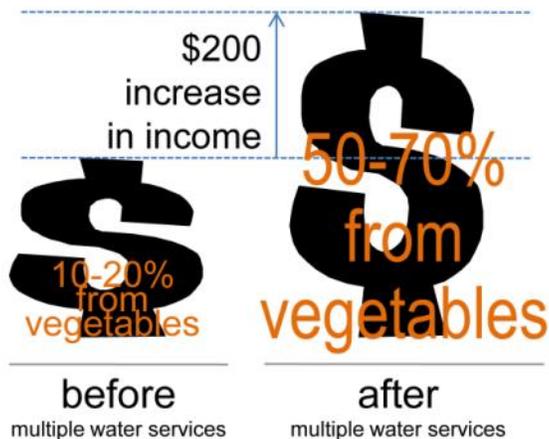
The multiple-use scheme has social benefits too: 76 percent of households reported that more girls were going to school, the result of increased ability to pay for school fees and perform household tasks, such as fetching water, without relying on girls' labor.

These positive results are in keeping with those of other multiple-use schemes. According to a [Bill and Melinda Gates Foundation study](#) that looked at multiple-use schemes in 10 African and Asian countries, once basic domestic needs are met (approximately 20 liters per person per day), each additional liter per day generates an estimated US \$.5-\$1 per year of income. Increasing the water available for a family of five from 20 to 100 liters per person per day can mean an added US \$200-\$400 in annual household income.



A SIMI project participant tends to her squash. In the background, a small water tank provides water to a simple drip irrigation system.

Benefits from multiple water services



In urban and rural settings across the globe, increased water access allows poor people to undertake additional activities, such as livestock raising and gardening, that generate significant financial, health and social benefits for their families.

Back in Dharapani, Ms. Chundara is excited about using her new greenhouse to grow tomatoes during the rainy season. Tomatoes are not normally grown during this time, so she expects they will fetch a high price. Ms. Chundara says, "SIMI has given us ways for better living."

Winrock International is a nonprofit organization that works with people in the United States and around the world to empower the disadvantaged, increase economic opportunity, and sustain natural resources.