



Conserving  
the **Sacred Himalayan**  
Landscape

*... one seed at a time...*





## THE MOUNTAIN INSTITUTE (TMI)

TMI is the only organization in the world developed exclusively to address the unique needs of conservation and equitable development in mountain communities throughout the world. We measure our success by the impact we have in three areas:

1. Conserving high priority mountain eco-systems
2. Increasing environmentally and culturally sustainable livelihoods for mountain communities
3. Promoting support for mountain cultures and issues through advocacy, education, and outreach.

## TMI'S MISSION AND VALUES

Mountains sustain life on earth. In a world facing unprecedented change, TMI is committed to protecting its mountains. Through empowering mountain communities and conserving mountain ecosystems, TMI ensures that mountains will continue to provide the essential resources - natural, cultural and inspirational -- needed for mankind's survival on a healthy planet.

### Our Values

1. The integration of economic development, environmental stewardship, and cultural sustainability
2. The forging of long-term commitments to the people and regions we serve
3. Teamwork and collaboration within TMI and with our partners
4. Cultural sensitivity and fluency in the regions where we work
5. Measurable accountability and concrete results in all of our projects

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The Mountain Institute (TMI) has introduced several interwoven activities to promote livelihoods and conservation.

TMI appreciates the support of the **Ford Foundation**, **MacArthur Foundation**, **Keidanren Nature Conservation Fund**, **Pro Victimis Foundation**, and **Critical Ecosystems Partnership Fund**.



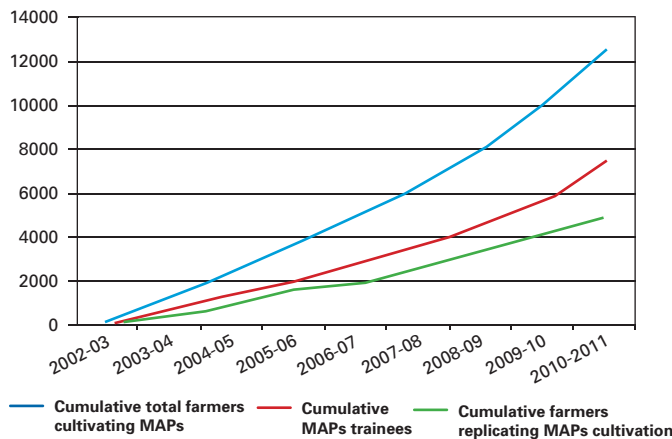
# ACHIEVEMENTS OF A DECADE

In the decade since 2001, The Mountain Institute's (TMI) achievements in the Sacred Himalayan Landscape of Nepal include increasing the income of over 12,500 farmers by offering training and support in the cultivation of medicinal plants. Of these farmers, about 6,500 farmers attended training supported by TMI, and about 6,000 replicated the medicinal and aromatic plants (MAPs) cultivation of the trainees. MAPs are now cultivated on 1,380 hectares of private lands and community forests. When a critical mass of cultivated MAPs became mature enough to harvest in 2007, the total annual income of farmers cultivating MAPs actually began to exceed TMI's program funding.

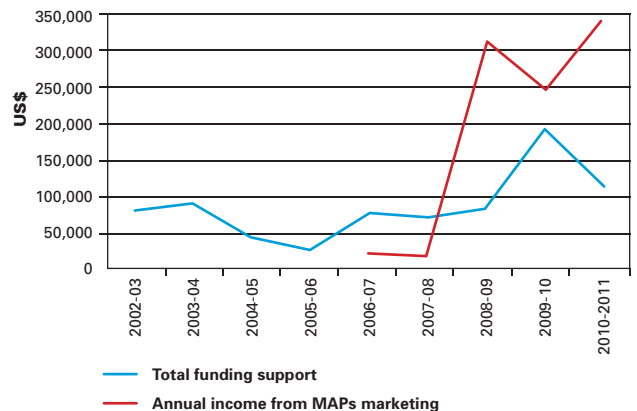
On the conservation front, TMI's work has planted over a million seedlings of native tree and fodder species, which locally managed nurseries grew and out planted on over 500 hectares of community forests, roadsides,



**Cumulative farmers cultivating MAPs**



**Total Funding vs. Annual MAPs Income**

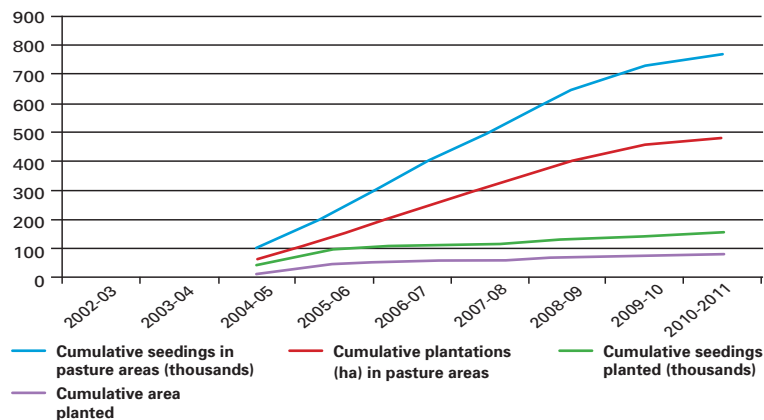


religious sites, and alpine meadows. Our impact in the area includes increasing the population of wild medicinal plant populations by up to 80% since we first collected baseline data in 2004.

By working with herders since 2004, TMI has facilitated the reduction of livestock herd sizes by 25%, from over 6,000 head of livestock previously. As a result, we

estimate a reduction in the consumption of palatable grasses of 365,000 kg per year, allowing pasture conditions (frequency and density of palatable grasses per unit area) to improve by 8 - 20% over this period. TMI supported the introduction of improved breeding stock for 3,600 households to replace unproductive livestock with more productive breeds. As of 2011, over 3,800 households now stall-feed their livestock.

### Cumulative seedlings and plantation areas



### “There have been so many changes...”



Dil Bahadur Gurung is the Chentapu CFUG Secretary in Maimajhuwa VDC of Ilam. Since the CFUG started in 2005, TMI has given support to develop its Operational Plan.

“There have been many changes. Before, there was no management of the forest. We did not know whether to cut trees or not and how much the forest had grown. Now, we have learned to plant seedlings near our home and in the fields, so we do not need to go to the jungle to collect fodder. We only open the forest from time to time for the collection of dry wood. Before, we allowed open grazing. Now, we have fewer

livestock that produce more milk because we feed them at home in stalls.

“Before, we would collect medicinal herbs from the forest; now we cultivate them in our fields. Most of us have planted herbs on the slope of the terraces so we still use the fields for crops. We started a cooperative to sell the herbs.

“We cleaned the ponds and made plantations around them, which preserves the water, especially for wildlife. We hope that this is attractive for tourists. We would like to make this a tourism area. I am satisfied to be working here with my family, which is good.”

### From Seeds to Forest Conservation

Mr. Jayaram Tamang of Maipokhari VDC-4, Ilam is a successful MAPs cultivation farmer. After receiving proper training from TMI in 2004, he planted medicinal and aromatic plants on 1.5 ha of his private land and on leasehold land, which was formerly barren. He now has a better livelihood from cultivating chiraito and producing seeds. With this income, he sends his children to a better school. Mr. Tamang is equally successful in motivating other farmers to cultivate MAPs.

“Before, I would harvest some chiraito from the forest to earn about Rs 100-200 per year. After the training, I started to cultivate it. Now, everyone in this village cultivates medicinal herbs. We had to wait 2.5 years for the plants to grow to harvest our first crop. Now, I earn Rs. 60,000-80,000 per year depending on the rainfall and the size of the plants. The cultivated crop is here so we can watch until the quality and weight is best.

“Now, we have a certificate from the government and get more for each load (40kg). We have just registered our organization, Sujma Herbal Cooperative, so that we can get a good price outside. We hear about the price from traders, the local FM radio, and our friends from the NGO.

“We do a village meeting to decide what project we want. Our community bought an improved bull with TMI support and now I have two of its offspring. Before, I had three cows, which gave little milk. Now, I have two good cows that give much more milk. TMI helped us build a 6.5 km road and fix the gompas (Buddhist temple). They also gave us the seeds to plant and harvest, and taught us how to get seedlings of champ and taxus to plant in open areas of the Community Forest.”

# INNOVATIONS FROM PAST EXPERIENCE

*“TMI has given us knowledge about medicinal herbs. It has also helped the CFUG indirectly by teaching the members first about the herbs and then as their incomes increased, about conservation.”*

Lila Bahadur Rai, Chairperson, Tappu Pattey Jimi CFUG, Maipokhari VDC, Ilam

The Mountain Institute (TMI) has deep roots in the Himalaya. It grew from an expedition in search of the yeti into a project for conservation of 2,330 square miles in north eastern Nepal. In the Makalu-Barun National Park and Conservation Project (MBCP), TMI helped the Government of Nepal (GoN) develop a national park, for the first time in Nepal and much of the world, in collaboration with its local residents (pop. 35,000). TMI combined community-focused conservation in inhabited valleys with strict preservation of the national park in the high mountains. We encouraged local people to preserve the environment by promoting sustainable livelihoods.

Through MBCP, TMI learned several key lessons about conservation and development. We realized that a grand vision applied by government and large agencies cannot be implemented without first sowing the seeds that motivate communities – livelihoods and community development. TMI learned that if it did not link livelihoods, local culture, and community development directly to conservation, then these later

activities did not happen; TMI realized that its conservation work would be more effective if the linkage to livelihoods and the needs of the community was a strong motivator.

For this reason, TMI has devised a mechanism called ‘Conservation Contracts’ to create a commitment with the communities to carry out conservation activities. This innovation now usually starts with the community defining their needs and motivations. From there we build vision from the ‘grassroots’ as people’s priorities evolve. Gradually, we can introduce activities for community – based landscape conservation.

The experience in Makalu-Barun also demonstrated the importance of working with local partner organizations - non-governmental organizations (NGOs) and community-based organizations (CBOs). These partners have roots in TMI’s mountainous working areas and know the local cultures, customs, and languages. They have the connections to continue working in uncertain situations and once an externally-funded program is completed.

TMI learned to move beyond working in protected areas to conserve biodiversity in forests everywhere. Nepal's legislation favors communities outside protected areas because it allows Community Forest User Groups (CFUGs) to keep all of the income from MAPs collected in their forests.

As a last lesson from Makalu-Barun, TMI learned to set parameters and contain expectations so as not to imply any promises that it cannot keep. We realized the necessity of starting where the potential for success was higher, so that other communities would be more motivated to replicate our activities.

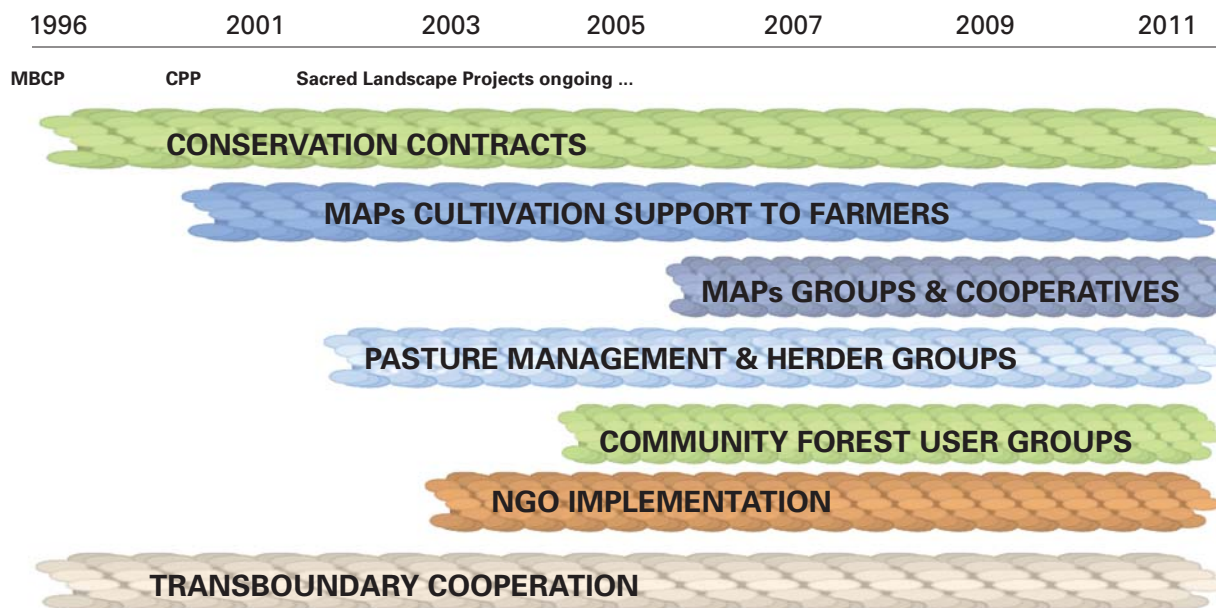
## A Decade of Conservation and Livelihoods

With the learning from these experiences, TMI was ready for new projects and programs building on the experiences of its previous work, but this came during the years of conflict between rebel and

state forces. These years became a time to work quietly in the mountains supporting one farmer and farming group at a time. This gradually built a solid foundation for future work linking conservation with the needs of communities.

TMI started with a few villagers a decade ago in Ilam. As of July 2011, TMI's program has helped over 12,500 farmers in 71 Village Development Committees (VDCs) in mountainous districts of central and eastern Nepal. To start this work, TMI first invested in people by providing training in the cultivation of medicinal and aromatic plants (MAPs). This served as an entry point to create direct economic incentives, build relationships, and gain the trust of the communities. Many of the trainee farmers have then taught MAPs cultivation to their relatives and neighbors, which has multiplied the impact of the training. Once the livelihood support is in place, usually

TMI has introduced several interwoven activities to promote livelihoods and conservation.





through MAPs cultivation, TMI has been able to introduce activities in forestry, conservation, organizational capacity building, and natural resource governance, which in combination generate greater synergy and effectiveness.

TMI has replicated these successful activities in communities across the Himalaya in order to have a greater conservation impact while continuing its needs-based approach. By improving livelihoods, TMI can strengthen the innate resilience of the Nepali and Himalayan people, such that they themselves conserve their environment to mitigate climate change and address other challenges that they may face.

By using locally-based NGO partners as the primary implementers of projects, TMI has kept the project staffing small and cost effective while reaching out to many communities. This has the added advantage of building local capacities and

sustainability -- since small local NGOs tend to stay in their communities after projects are completed.

These field activities now come under a broader vision now endorsed by the government, agencies, and civil society -- the Government of Nepal's Sacred Himalayan Landscape Initiative (SHLI).

TMI was one of the original members of the working group that designed this concept. We now implement several activities in accordance with the GoN's SHLI concept. However, TMI has taken a community-driven approach to integrate livelihood and conservation in landscape management. This programmatic approach has covered the projects funded by individual donors, and notably the **Ford Foundation, MacArthur Foundation<sup>1</sup>, Keidanren Nature Conservation Fund, Pro Victimis Foundation, and Critical Ecosystems Partnership Fund.**

## Our staff make a difference

One factor contributing to the success of the program is the TMI principle of hiring and investing in people from the local area. Karma Bhutia is from the remote northeast corner of the Makalu-Barun region. He is at home traveling through the rugged Himalayan landscape by foot and living with the local people. Karma started with TMI as an administrative assistant while a student. In the years since, he has grown in his skills and been the main staff member responsible for the conservation and livelihoods projects in the eastern Himalaya.

The 2007 WWF Young Conservation Leader Award recognized Karma Bhutia's work to conserve biodiversity through the cultivation of medicinal and aromatic plants in Eastern Nepal. This prestigious award selected Karma from 86 qualified candidates. His award commends him for his work:

*"Mr. Bhutia has pioneered medicinal and aromatic plants (MAPs) cultivation in eastern Nepal. By developing improved techniques, he has motivated 2,500 farmers to grow MAPs in private land. This innovative program has reduced pressure on wild non-timber forest products and provided sustainable income source to the farmers. Karma has also encouraged herders to grow MAPs that has resulted in reduced herd sizes reducing pressure on grazing areas. He has also helped expand MAPs cultivation in Sikkim, India. He has been working with Amchis [traditional Tibetan medical healers] and has helped various Amchi associations in conducting MAPs cultivation training."*

<sup>1</sup> John D. and Catherine T. MacArthur Foundation

## Biodiversity of the Eastern Himalaya

TMI's work in the Eastern Himalaya is contributing to the conservation of the vast and globally significant biodiversity of the region. The biodiversity of the Eastern Himalaya is incredibly rich with 25 eco-regions and thousands of plant and animal species. These broad zones extend along the Himalaya at certain elevations, with more than 7,000 species of plants, 175 species of mammals, and over 500 species of birds (ICIMOD 2008).

Several factors, including the scale, height, and complexity of the Eastern Himalaya, contribute to the diversity and volume of flora and fauna in the region. The steep rise of the Himalaya from 500 m above sea level to over 8,800 m creates a range of temperature and moisture conditions that allow everything from tropical forests to permanent ice within only 50 km distance. By acting as a barrier to the monsoon coming from the south east, the Eastern Himalaya has heavy rainfall and dense mist, which promotes plant growth and provides varied habitats for animals.

With the area's latitude close to the equator, the Eastern Himalaya has warm temperatures that allow tropical plants and animals to live at the lower elevations. The region is warmer than it should be for its latitude, because the Himalaya blocks the southerly movement of cold air. As well, the Himalayan range is at an angle from north-west to south-east, so the mountains of east Nepal are further south and the forests go higher than in the west. The eastern Himalaya is located at the juncture of two bio-geographical regions on two continental plates -- the cold, temperate region of northern Asia and the hot tropical region of the Indian subcontinent. Hence, plants and animals from both biological regions live in the Eastern Himalaya.

Gradually, TMI staff members and NGO partners have earned public recognition for these endeavors. TMI staff member Karma Bhutia won the WWF Young Conservation Leader Award in 2007 for his livelihood-based conservation work. District authorities recognized TMI's

NGO partners for conducting programs having the highest impact in the Mechi Zone in 2007. Nepal's Minister of Forests also recognized and commended TMI for its conservation and livelihoods work, especially in important Red Panda habitat in 2008.



Local, English, and Latin names of the main cultivated MAPs species in TMI's working areas

Nepali name	English name	Latin name
Chiraito	Chiretta (Gentian)	<i>Swertia chiraita</i>
Lothsalla	Taxus	<i>Taxus wallichiana</i>
Sugandhawal	Valerian	<i>Valeriana jatamansi</i>
Chameli	Giant Himalayan Lily	<i>Cardiocrinum giganteum (liliaceae)</i>
Pakhanved	Rockfoil saxifrage	<i>Bergenia purpurascens (ciliate)</i>
Seto bikhuma	Aconite	<i>Aconitum ferox, A. Spicatum</i>
Ok Aalu	Tiger lily	<i>Lilium nepalense</i>
Timoor	Nepal pepper (Prickly ash)	<i>Zanthoxylum armatum</i>
Allo	Giant nettle	<i>Girardinia palmate, var. diversifolia</i>
Okhar	Walnut	<i>Juglans regia (juglandaceae)</i>
Majitho	Indian madder	<i>Rubia cordifolia</i>

## CONSERVATION CONTRACTS: MEETING THE NEEDS OF COMMUNITIES

*“TMI gave us support to pay people to construct the road. In return, we agreed to plant seedlings around a pond near the road as community service. The plantation at the pond helps prevent it from drying out so that wildlife and people have drinking water. As well, there is moisture to help conserve the forest. We put a pipe from the source to a tap in the school. In return, the forestry group did planting in the forest. We really need to continue the TMI program and keep building people’s awareness,”* said Dal Bahadur Gurung, a MAPs farmer, Chairperson of Road Committee, and Chairperson of the MAPS Farmer Group.



During the second phase of TMI’s work in the Makalu-Barun area, the Community Partnerships Project (CPP) had increasing requests for community development activities, such as wooden bridges, water pipes, irrigation improvements, and renovation of cultural sites, schools, and community buildings.

At the same time, the global community started questioning the effectiveness of Integrated Conservation and Development projects (ICDP), because the indirect linkages with community

development sometimes failed to deliver adequately on conservation objectives.

To respond to this global experience and our learning in 2002, TMI developed an innovative system of ‘conservation contracts’ with local communities to create direct links between conservation and community development activities. For example, in exchange for improving a community school roof, the teachers would agree to conduct conservation awareness programs and to mobilize the students to plant native fodder and tree species on the school grounds, bare lands near the school, and degraded areas of nearby forests.

Since then, TMI has expanded the Conservation Contract concept to working in community forests, private land, empty land around community buildings, and sacred natural and cultural sites. Conservation contracts provide for a variety of community development activities, each with a direct linkage to conservation activities. Without the conservation contracts, the community development activities provide only indirect

conservation impacts. Tying economic, religious, and cultural benefits directly to project activities helps to embed them in community life and give the project greater prominence and acceptance.

The timing of a conservation contract is crucial to building solid relationships with communities and ensuring that all of society in the working areas becomes involved in project activities. The MAPs cultivation activities were particularly suitable for conservation contracts because once the farmers master basic cultivation skills and make increased income, TMI can gradually introduce conservation activities when the farmers were more willing to accept and endorse these more long-term activities.

As part of our pilot activities to cultivate MAPs in 2002, TMI supported renovations at a local Buddhist monastery in Ilam in return for planting MAPs to make the institution more self-reliant. TMI also established MAPs nurseries on the monastery lands.

Since then, TMI's project has helped to co-fund the renovation of three village *gompas* (Buddhist temples) in the project work areas. In exchange, TMI expected Gomba (monastery or Buddhist temple) Management Committees (GMCs) to develop management plans for high altitude wetlands, where they did garbage cleanup activities and solved sanitation problems caused by intensive pilgrim use. The community members have responded well to linking local sacred values with conservation activities. As an example, in return for TMI funds to renovate a temple and improve the water tap stand, the community planted 1,000 local fodder and tree species such as rhododendron, juniper, and alder around the temple and stopped watering livestock at the water source.

Using the conservation contract system, TMI helps herders obtain improved bulls and rams, allowing them to replace unproductive animals with better genetic stock. In exchange for improved livestock, herders agree to control grazing, reduce the numbers of livestock, and reduce the number of days grazing in each pasture. Community forestry groups and the medicinal and aromatic plant groups adopt similar management norms. Some conservation contracts involve training local people to monitor changes in the forests, that demonstrate the impacts of the project and raise conservation awareness.

TMI uses a highly participatory, consultative, and transparent planning process in which it describes the activities and budget available to engage the communities, local government, non-government partners, and various formal and informal political groups. For each project, the staff explain what activities and budget are available, so as not to create expectations beyond what is realistic.

Staff members convince the community and VDC to establish a Project Coordinating Committee, with members from civil society, key informal leaders, journalists, NGO partners, district line agency staff, and various user groups. The committees develop project plans, monitor on-going activities, review program progress, recommend follow-up activities, and debate future directions. Having this informal body increases transparency in budgeting, decision-making, and the equitable distribution of project benefits. It creates a public audit process for all decisions.

By making these discussions and decisions public and transparent, TMI and its local NGO partners can operate without interference from any political party or group. TMI was one of the only agencies able to operate in these VDCs during the years of the peak conflict period.

# THE FIRST SEEDS: IMPROVING LIVELIHOODS BY CULTIVATING MEDICINAL HERBS

Traditionally, mountain dwellers have harvested Medicinal and Aromatic Plants (MAPs) from forests or alpine areas to use or to sell to supplement their subsistence livelihoods. Various studies have suggested that the harvest of MAPs may contribute 10-50% of the annual cash income of over half of the rural households in Nepal's mountainous

districts.<sup>1</sup> However, wild MAPs populations are often being degraded due to over harvesting. TMI began promoting the domestication and cultivation of MAPs as an alternative source of income to the wild harvesting in 2001.

In 2001, TMI began working with MAPs as it was investigating alternative ways to

## The Seed of an Idea

While TMI was conducting a feasibility study, Dawa Temba Sherpa of Mabu VDC in Ilam requested support for his Buddhist monastery. The TMI Himalaya Director suggested that Dawa try cultivating MAPs as a source of income. Dawa and the monks planted six species of commonly traded MAPs on six hectares of bare land around the gomba. The project has grown from this initial seed of an idea in 2002.



*Dawa said, "I was raising money to build this monastery to help young people learn about Buddhism and to provide place for senior scholars to meditate. We, the community of Mabu, are very grateful to TMI Director, Brian Peniston for opening our eyes by providing the invaluable suggestion to establish MAPs nurseries.... The MAPs nursery helped fund the gomba when we sold the products. TMI encouraged farmers to cultivate MAPs on their land to improve their livelihoods.*

*"Fifty people attended two training sessions of four and three days. Then, we planted 10,000 taxus cuttings, juniper, and MAPs in the nursery. Two years later, we had our first crop of chiraito. The taxus grows much more slowly. When we started the User Group for chiraito in 2002, we had a contract with TMI for support to construct the road if the community made plantations in the community forest. TMI also gave funds for the roof of the monastery kitchen."*

<sup>1</sup> Olsen, Carsten Smith and Larsen, Helle Overgaard; Alpine Medicinal Plant Trade and Himalayan Mountain Livelihood Strategies, *The Geographical Journal*, Vol. 169, 2003



work in the conflict situation of Nepal's decade-long insurgency. Staff members, Karma Bhutia and Tsedar Bhutia did a six month reconnaissance trip and feasibility study to assess the MAPs market conditions, prices, and value chains. They traveled on foot to remote field sites, often many days walk from any infrastructure, to survey 37 Village Development Committees (VDCs) in Rasuwa, Sankhuwasabha, Taplejung, Ilam, and Panchthar districts. Along the way, they visited wild MAPs collection sites, community forests, and pastures. Our TMI staff members began to



build the community relationships and trust that are so essential in this work as they talked with local informants including MAPs collectors, herders, and Community Forest User Group (CFUG) members.

Gradually, the number of farmers cultivating MAPs grew from 210 farmers in 2002 to over 12,500 in 2011. Of these farmers, 6,500 farmers attended training supported by TMI, and about 6,000 replicated the MAPs cultivation of the trainees. Medicinal plants are now cultivated on over 1,380 hectares of private land, national forests, and community forests.

In 2002, the pilot training of farmers and cultivation of MAPs started on private lands in parts of Ilam and Rasuwa districts, including inside Langtang National Park. The initial training covered the participants' indigenous knowledge on MAPs harvesting, new techniques for cultivation and harvesting, MAPs storage, nursery management, and marketing of MAPs products.

In 2003, the project staff continued providing technical and marketing training to the initial farmers in Ilam and Rasuwa. They also expanded the activities by establishing five community demonstration nurseries and training 250 new farmers in 12 new VDCs in Ilam and Taplejung districts, including in the Kanchenjunga Conservation Area Project (KCAP). The staff helped the communities to form three informal MAPs conservation and cultivation groups, which facilitate delivery of extension services and follow up training. The groups also strengthen the direct links between farmers and local and district traders.

By 2004, the MAPs plantation at the gomba in Ilam district had become so renowned that visitors from ICIMOD, Livelihoods and Forestry Programme (LFP), WWF Nepal, and local NGOs came for informal “on the job” training and knowledge transfer.

TMI continued to train farmers in advanced MAPs cultivation techniques. The farmers learned basic legal provisions and regulations for the collection, harvest, and sales of MAPs, and their cultivation on private lands. They also learned about markets, names and contact information of MAPs traders and factory owners, and monthly price information of MAPs species traded nationally and internationally. During training sessions, local and district-based MAPs traders made presentations to farmers, encouraging them to consolidate their MAPs products, enabling sales of larger volumes of plant materials.

During the training sessions, TMI offered the trainees seeds for MAPs, instead of the daily allowances offered by many other agencies. Hence, the participants who came were really motivated to learn practical cultivation skills. At the end of the training, each participant received about 200 grams of *chiraito* (*Swertiya chiraita*) seeds, developed an action plan for promoting MAPs, and formed a group to follow up and monitor the activities.

Many of the first farmers to adopt MAPs cultivation were more prosperous, because they had the resources and land to risk trying a new crop and activity. Still, these farmers were aiming only to supplement their family income. They planted MAPs as an intercrop between potatoes and corn, on the terrace walls, and in pastures and scrub jungle. The

production of food crops has remained their priority, thereby not disrupting their food production.

As these farmers succeeded, poorer farmers were encouraged to copy their success by cultivating MAPs. Poor farmers were more likely to respect the experience of other farmers and follow their example than if they had training from project staff alone. The initial farmers began acting as farmer-to-farmer extension agents, training new farmers in remote and vulnerable communities to reach the ‘poorest of the poor’. Using a farmer-to-farmer method has proven to be particularly effective when combined with having technically qualified project staff as resource persons and providing continuing monitoring and supervision.

The project has sponsored exposure tours, taking farmers from new sites to visit successful MAPs cultivators in Ilam and Panchthar. Initially, the new farmers from Rasuwa and other districts were reluctant to plant MAPs on a larger scale, until they saw other farmers cultivating MAPs on their own lands. The exposure tours were a venue to share knowledge and techniques on MAPs conservation, cultivation





techniques, and community-based MAPs market management systems. The sharing of knowledge from farmer to farmer provided a double benefit – first, it was very effective and second, it empowered and built the confidence of the initial farmers, as their expertise was recognized by both project staff and other farmers.

In 2004, the project staff started to promote two new species of commonly traded marketable plants, to expand the number of MAP species under cultivation and to diversify the ecological and economic risks. Although it can take at least two years before farmers can harvest most MAPs, by 2006, the 154 farmers from Ilam had earned the equivalent of over US \$20,000. They sold most MAPs to local and district traders as dry material, following the simple value added processing done locally. The farmers formed informal small groups to consolidate their plant volumes and enhance their collective bargaining

positions and command higher market prices per kilogram.

The same year, six of the initial active farmers, from inside Langtang National Park, sold an average of US \$269 each of chiraito and valerian. They formed a marketing group to hire a truck and sell the goods directly to a Kathmandu factory using a contact arranged by project staff. With the profits, these farmers purchased phones to keep abreast of price fluctuations and market demands in Kathmandu. By 2006, the monks at Mabu monastery in Ilam had raised the equivalent of \$2,205 from MAPs production – an eleven times return on the initial \$200 investment within three years.

As the project staff and farmers became more engaged in the project, they came to realize more of the interrelationships between MAPs cultivation and conservation issues. First, the chiraito seed had to be sprouted in the forest and then the farmers transplanted the seedlings to their fields. Since the farmers could not sow the seeds directly on fields, they had incentive to conserve healthy forests nearby. The staff and farmers also realized that in order to increase MAPS production, they would have to manage livestock grazing, which would allow for MAPS cultivation on bare land and increased grass production in community forests.

These relationships became the basis for developing conservation contracts between TMI and the communities cultivating MAPs. As well, the increased capacity of the farmers was starting to transform their livelihoods and lives.



## FROM FARMERS TO COOPERATIVES: INVESTING IN PEOPLE

Since 2007, TMI has initiated more activities based on the needs of the MAP cultivators it trained. We helped these once marginalized farmers to form groups to strengthen their capacity to cultivate, market, and process MAPs. As a first task, most groups established MAPs collection centers in their respective VDCs. This united the farmers to deal collaboratively with a variety of issues from production to marketing and to take action for solutions.

TMI staff continued to work with MAP cultivation groups to increase their capacity to function as village and district marketing cooperatives. They helped farmer groups convert into legally recognized units, such as registered cooperatives, which constructed MAP collection depots, allowing farmers to store their products to wait out price fluctuations and to negotiate higher prices per unit (kg). TMI also supported a market information system for accurate and timely news on market commodity prices.

### Working cooperatively

One of the first MAPs cultivators, Dawa Temba Sherpa of Mabu VDC in Ilam, explained the move to work more cooperatively: *“There was a problem with the District Forest Office (DFO) not allowing us to sell MAPs in Ilam – even though we had cultivated them on our private fields. So TMI organized identification cards and royalty free status for MAPs growers. There have still been challenges. First, people were cutting the chiraito early before the plants were mature and good quality. TMI conducted training about not cutting it before the autumn and our User Group made a rule that no one should cut it before then. In 2009, TMI organized a meeting with business people, farmers, and stakeholders to make rules and regulations so that traders would not buy plants before they were mature and farmers would not harvest and sell early. This has helped to keep the quality of our MAPs in this area because if the quality drops, it would be bad for the business of everyone.”*



Dal Bahadur Gurung, a MAPs farmer, Chairperson of the Road Committee, and Chairperson of the MAPS Farmer Group said: *“We have just started a cooperative so that we all harvest after flowering so that there are seeds, which we also sell. We will also do joint marketing so we have more advantages such as a better price and quality. We dry bundles in the sun and the pack it into 40 kg loads. We need to pack the chiraito in plastic so it does not get moisture.”*

The cooperatives have gained a stronger collective voice to influence district and regional Non-Timber Forest Product (NTFP) trade policies. They have conducted simple value added processing techniques such as drying, cleaning, and grading plant material, and improving storage. As the farmers have mastered basic skills, the project has gradually introduced processing technologies that are more complex and add additional value.

Cooperatives have established relationships and purchase agreements with MAP traders, who also benefit by being able to purchase larger volumes of quality plant materials with economies of scale. TMI chose to work with the middlemen in order to engage them in helping the farmers get better returns on their yield in return for more guarantees on the quality of the MAPs and value additions. For the traders, the depot

## The Trade in MAPs

TMI supported a six-month long market assessment in 2003, in anticipation that the first cultivated plants would be of harvestable size by late 2004. Working closely with two TMI staff, two national MAPs experts collected data on twenty major marketable species harvested in the wild and used in the production of Ayurveda drugs, herbal cosmetics, juices, or miscellaneous products. They also interviewed traders and collectors in the value chain at the local, district, regional, and national levels. The team analyzed relevant national and regional policies governing MAP collection, harvest, and trade.

At that time, District Forest Office (DFO) records showed that two Nepal Government-owned companies and several private enterprises traded most of the MAPs. The critical link in the MAPs value chain in Nepal was Marwari traders, with close relations with hill-based middlemen, roadside collectors, and MAPs traders in India. They controlled exports through important border checkpoints through strong links with customs officials on both sides of the border.

At the time of the report in 2003, the collectors and cultivators got about 15-30% of the price, government royalties 5%, middlemen and roadside collectors got 10%, and unscrupulous officials 10%. The remaining 40-50% went to big traders for storage, business overheads, transportation, customs duty, and profit.

Now, with better bargaining capacity and reduced royalty fees, the farmers get about half the price of the MAPs at the district level. This is a 30-40% increase in their earnings.



Dil Man Tamang is a local MAPs trader. Although originally from Panchthar, he works out of Maipokhari VDC in Ilam and takes the MAPs to Calcutta and Delhi.

*"In the 12 years I've worked here in Ilam, the amount that each house trades has gone from about 50 kg per year to about 500-800 kg. Before, this area produced only 2,000 kg, but now it produces 15-20,000 kg per year. Now, we give NRs 362/kg (US \$ 5.17) but get only about IRs 300/kg (US \$ 6.85) in India. The price depends on the demand in foreign countries, which increases the price here. TMI has done good work with the farmers by giving them training and seeds for cultivation. This is good for conservation. By working honestly, we can increase the market and business for everyone."*

reduces the middle transaction costs so they can pay a better price to the farmers, who provide more consistent quality MAPs products in higher volumes.

Farmers selling MAPs (including taxus) cultivated on private land were not required to have permits or pay revenue, however, the systems were not yet in place to facilitate this trade. TMI suggested issuing certificates to the farmers cultivating MAPs on private lands so they can more easily promote and market their products and were exempt from royalties charged on wild harvested plants. TMI's NGO partners and District Forest Offices in Panchthar and Ilam signed an agreement to develop and distribute certificates and identity cards for farmers cultivating MAPs. TMI and its NGO partners have been facilitating the field verification and preparation of the necessary documentation including the



recommendation by the VDC Secretary, name lists, photographs, land ownership legal papers, and details of cultivated area of the MAPs farmers.

## Challenges in MAPs cultivation and marketing

Dhan Prasad Khamdak and Dipak Lungeli are employees of a TMI partner NGO, Shree High Altitude Herbal Production and Conservation Institute (SHAHPCI). They described their experiences facilitating MAPs cultivation.

*"Before chiraito was harvested from the jungle, so we are happy that it can be cultivated for the farmers benefit. This helps to conserve biodiversity and to improve the farmer's income. By having the farmers bring chiraito to a depot, we have more control over the quality."*

*"We had legal problems that have been resolved by having certificates for the farmers cultivating MAPs on private land. Then they don't have to pay the Rs 15/kg royalty on wild chiraito from the forest. This is a first in Nepal. We need to simplify the process of farmers getting ID cards because with having to show their citizenship and land survey, so only about 7% of the farmers have the ID cards. Some of the poorest farmers in the high areas plant on open land that they do not own or on land belonging to land-lords. There needs to be a way for our NGO or the cooperatives to certify these farmers."*

*"We have a problem with poor farmers not having enough to eat in the months before the harvest. If the cooperatives had a fund they could give low interest loans to the farmers so they are not tempted to cut the chiraito. The problem with the market was that the trader made a large profit but the farmers made very little. We helped the cooperatives to make a link with a national company so the farmers can get more profit. The farmers have realized that we all need to make the market more sustainable, especially with processing, labels, and value addition."*



Legalizing and registering MAPs cultivation and conservation groups with local District authorities granted these groups the authority to address conservation issues like illegal harvesting while strengthening their collective bargaining power with traders. The MAPs cultivator groups gained access to regular market pricing updates through strong links with national MAPs market information organizations. They have posted the current price information in public places and updated it monthly. Project staff have continued to provide

organizational and technical support to existing MAP cultivator groups, including sessions on changing legal policies and market conditions.

As a way of recognizing the accomplishments of successful MAPs farmers, TMI started an incentive project to motivate and empower MAPs farmers to engage more in MAPs commercial cultivation. The successful farmers were awarded with appreciation letter and NRs 2,000 each at a regional level MAPs networking workshop.

# PASTURE MANAGEMENT AND ALPINE CONSERVATION

Since 1996, TMI has worked with hundreds of local herders to reduce livestock herds that graze in the biodiversity rich forests and meadows of the Eastern Himalaya. It has helped the herders to improve the quality and productivity of their animals, and their incomes. Hence, it reduced the clearing of new pastures in these forests.

The advent of MAPs cultivation gave an added reason to manage herds, because freely grazing livestock were feeding

on the cultivated medicinal plants. With TMI's experience in pasture management, we began encouraging farmers to stall feed their animals to protect both the cultivated MAPs and the biologically rich forests and grasslands. By providing improved livestock breeds, TMI has helped herders and farmers to increase milk production and improve their livelihoods, which enables them to support conservation measures and advocate to conserve these fragile alpine ecosystems.

## Greater productivity from conservation of pastures

After Raj Kumar Rai graduated from college, he could not find a good job and ended up looking after his family's herd in the pasture. There he met TMI staff conducting the feasibility study. They identified him as a potential field worker. After training and mentoring, Raj Kumar was employed as a Field Officer with Deep Jyoti Youth Club in Panchthar.

*"In 2004, we made an agreement with TMI that employed three of us as local staff of our youth club. So, we started our program, which has more focus on pasture-land since our area is high along the border range (with Sikkim and West Bengal, India). We have registered seven herding groups that rotate their grazing pastures to conserve certain areas. These groups received training so the herders have developed norms to collect herbs only at certain times.*

*"We worked to convince the herders to sell unproductive stock and keep fewer animals of a more productive breed. One challenge with livestock is that you always need someone to tend them. It is easier to stall feed 2-3 animals at home. We now get the same amount of milk from two to three cows as we got previously from 15 - 20. We collect the milk in the VDCs at a cooperative cheese factory. The herders get payment one month after they bring the milk and don't have to make churpi (local dried cheese) as they did before."*

Dil Bahadur Gurung is the Chentapu CFUG Secretary in Maimajhuwa VDC of Ilam. *"We do not tell the herders to get out of the pastures, but as they realize the opportunities from having fewer, better animals and cultivating herbs, then they stop using the pastures in the forest."*



### Incentives to reduce herds

In 2006, the project continued providing technical and organizational support to farmers already cultivating MAPs but added six new VDCs to focus on reaching vulnerable herders. Besides the MAPs cultivation training, the herders received training to improve their capacity to provide veterinary services in high altitude pasture areas and as an incentive to convert from free grazing to stall-feeding. The trained herders could earn additional income when providing mobile veterinary services to other herders. This activity has benefited all the herders in the TMI working areas and reduced the loss of livestock due to a lack of veterinary services.

The project also provided improved bulls in each VDC as breeding stock and incentives to encourage stall-feeding and breeding of fewer livestock that are more productive. In return, the herders agreed to reduce unproductive livestock, adopt rotational grazing systems, and replant

bare land in former pasture areas and degraded community forestland. With this support, herders have been reducing the numbers of their unproductive livestock and getting more milk production from the improved breeds.

The project staff worked with the herders to help them form pasture user groups. The herder groups developed norms for rotational grazing, criteria to remove unhealthy livestock and reduce the size of livestock herds, and procedures for adapting stall-feeding in place of free range grazing.

### Cooperatives for better livelihoods

TMI has helped herders groups to form dairy cooperatives that produce better quality milk and dried yak cheese, which is sold in Sikkim, Darjeeling, and Bhutan. The improved and greater production of milk and its products has brought enormous changes to the livelihood of herders and improved the condition of high altitude pasture land. By 2009, more than 1,000 herders were associated with local cooperatives, which produced cheese and butter worth sales of over US\$ 36,600. This was a three-fold increase from the 2003 baseline survey data. As of 2010, the price per kg of dried cheese has changed from NRs 180/kg to over NRs 350/kg.

One cooperative has built factories where farmers bring milk that they jointly produce into cheese. Through joint production, they have saved an estimated five trees of fuel wood per day of cheese production because each herder does not have to make a fire to heat the milk. Several of these cooperatives' dairies have registered formally and obtained tax identification numbers.

## Managing pastures for conservation

The legal registration of Pasture User Groups (PUGs) of herders has enhanced the control of illegal grazing and reduced the number of unproductive livestock on the rangeland. These institutionalized alliances of herders have become the legal basis for promoting rotational grazing systems and banning new pastures in forest areas. They became self-regulating communities to improve grazing management practices, monitor pasturelands, and control and monitor

livestock movement across the national boundary with India to the east.

The project has strengthened the institutional capacity and governance mechanisms of the groups for program, administrative, and financial work. This is expected to enhance the capacity of herders to monitor pasturelands on their own stewardship and reduce damage to this fragile rangeland ecosystem. The PUGs' monitoring of the pasturelands has found that conditions (frequency and density of palatable grasses per unit area) have improved by 8-20 % since the



### From herder to conservation campaigner

Dandu Bhutia was yak herder from Gola VDC, Taplejung district with 310 yaks and 27 meadows for pasture in several places of Ilam, Panchthar, and Taplejung districts. At first, he was irritated when TMI's staff Karma Bhutia explained the threats to the area's rich biodiversity and possible solutions to mitigate the threats.

Once convinced, he said, *"I am going to reduce my herd size because I now realized that I have been responsible for destruction of the rich biodiversity of the area that we cannot replace. I hereby apologize for my innocence and thank SHAHPCI and TMI for opening my eyes."*

He started assisting the project staff to collect data on pastures, socio economic situation, and the rich biodiversity of the area. He also played the role of conservation campaigner by reducing his herd sizes. He encouraged others to follow his example and to form a Pasture Users Group. As well, Mr. Bhutia admitted his children and relatives to study forestry and environment management subjects in Darjeeling.

### Training to earn better income

Om Gurung is the Secretary of the Laliguras CFUG in Maimajhuwa VDC of Ilam and a member of a Pasture User Group. He has planted a shrub to make hand-made Nepali paper on his former pasture.

*"Before, there were 14 pastures with open grazing in the Community Forest. We might have had ten animals, but it was hard to get 20 liters of milk. Now, there are only 3 - 4 pastures in the forest with fewer animals that produce more milk. Another reason for having fewer animals in the pastures is that we have new fodder plantations. We had training to earn income from better livestock and medicinal herbs. We also learned to do monitoring transects to measure the growth in the forests and pastures."*

start of the project. Livestock herd sizes were reduced by 25 % since the start of the project, so TMI estimates that it has reduced the consumption of palatable grasses by 365,000 kg per year.

The PUGs also work to conserve MAPs species, fauna, flora, endemic species, and natural ponds of the region through

Conservation Contracts with TMI. Several PUGs have established community-based alpine nurseries to produce seedlings of alpine MAPs and tree species to the communities. This activity aims to conserve the most valuable alpine MAPs and tree species with a high demand in the market by demonstrating that they can be domesticated.





# SUPPORTING COMMUNITY FORESTS

TMI has learned that it can be effective in conservation by working in forests outside of the protected areas in Nepal to strengthen community-based natural resource management. Working outside of protected areas strengthened the formal recognition of community management of critical natural habitats, especially forests and alpine habitats. The operational and management plans have included innovations like designating special management zones for keystone species, such as threatened medicinal plants and red pandas.

## Reforestation bare land and degraded forest

Through Conservation Contracts with TMI, farmers and user groups have reforested over 500 hectares of bare land

in the project districts, often on steep, erosion prone slopes. They planted over a million seedlings of native tree and fodder species grown and out planted from locally managed nurseries that sold seedlings at a modest profit. The proceeds were used to make nursery operations and management self-reliant. The main species planted in community forests and on bare land of project areas included *Michelia sp.* (Chaamp), rhododendrons, *Juniperus sp.* (Salla), *Daphne sp.* (Lokta), *Juglans regia* (walnut), *Taxus baccata* (Lothsalla), and *Swertia chiraita* seedlings.

## Supporting community forests

TMI's project has facilitated the formation of several new Community Forest User Groups (CFUGs) and the renewal of

### ***"Our situation is improving"***

Dal Bahadur Tamang of Maipokhari VDC 4 described the changes in the CFUG.

*"We started the CFUG twenty years ago with 163 houses but no one obeyed the rules. Before, the cows would graze in the CF, eat the MAPs plants, and trample the seedlings. Now, support from TMI helped us to stop open grazing and grow new kinds of grass to stall-feed our cows. TMI gave us seedlings to plant trees and MAPs. Now, our CFUG looks as green as a national park. If I had not participated in the MAPs training and received the seeds, my life would have passed only doing hard labor for others. Now, we can educate our children with the income from the MAPs, so our situation is improving."*



constitutions and operational plans of existing user groups. It helped CFUGs to develop operational plans and register them with the District Forest Offices to facilitate and enhance the capacity of local groups to develop community forest operational plans. The registration of operational plans gave the legal authority from the district forest office to these CFUGs to manage the forest for five years.

A major breakthrough was facilitating the change in management of several forests from traditional tenure systems controlled by local leaders to more inclusive community systems. Under the traditional 'Kipat' system, a village leader made all decisions on forest management and got

most of the benefits. The government formally banned the 'Kipat' system in 1996, but prior to TMI's program; the District Forest Officers had been unable to convince local leaders to change from these traditional practices to comply with national community forestry laws.

The shift to community management helped ensure that benefits from improved forest management are shared more equitably among marginalized people. This was positive step for community management of these resources in the evolving federal Nepal.

## Monitoring forests and vegetation

Since 2001, TMI has collected biodiversity data in each community forest on timber, firewood and fodder species harvest rates and annual consumption (by 'head load'), funds of each CFUG, determination of membership, and the governance of the CFUG. The project also collected data on basic demographics (gender, ethnicity, etc.) and economic conditions of VDCs, CFUGs, and natural resource users. It identified areas under ecological threat including over-harvesting of MAPs collection areas. The project also identified communities interested in cultivating commonly traded MAP species.

## Planning the sustainable use of forests

Om Gurung is the Secretary of the Laliguras CFUG in Maimajhuwa VDC of Ilam and a member of a Pasture User Group. He has planted the shrub to make hand-made Nepali paper on his former pasture.

*"We started the CFUG ten years ago. Before that, this forest was part of the 'Kipat' system where the village headman controlled the forest and if you took him a present, he might let you cut a tree. Ten years ago, we made our own constitution, but had no Operational Plan. Then in 2008, TMI also helped us to do the plan. It is easier to work because we know the capacity of the forest to be able to plan its use."*

To document changes in wild populations of threatened and endangered species, TMI trained four of its local NGO partner staff in ethno-botanical inventory and recording techniques, increasing their capacity to monitor changes in plant populations in the field. By 2007, several Pasture User Groups had also mastered the skills to conduct regular wildlife monitoring.

Baseline data was collected at the start of the project through preliminary surveys, using belted transect methods in various field sites to identify the status of high value medicinal plants and the impacts on forests and pastures triggered by over grazing. Surveys identified population status of wild MAPs and vegetation coverage in pastureland, using belted

transects at various altitudes, ranging from 1,500 to 4,500 meters.

By 2010, TMI saw cumulative improvements of 80 % in wild MAP populations and up to 20% in alpine pasture conditions relative to the baseline. The data in 2010 revealed a slight deterioration in the status of wild MAPs populations and alpine pastures due to inadequate rainfall rather than human influences. Thus, we concluded that climatic variability is affecting biodiversity even in well-managed areas with a short time horizon. This information suggested that finding ways to reduce the vulnerability of farmers and mountain inhabitants to climate change will be a necessary addition to TMI's activities in the coming years.



# TRANSBOUNDARY SOLUTIONS

TMI's project area includes several districts on Nepal's boundaries with India on the east and China on the north. In border districts with India, it collected transboundary information including MAP trade volumes, and condition, use, and human impacts on grazing areas. Key issues identified include hunting, poaching, and illegal trade patterns. In Taplejung district, it collected basic data on trade patterns with Tibet Autonomous Region (TAR) of China, especially for livestock, dairy, and MAP species demand and market values.

Using this baseline, TMI has worked to find solutions to transboundary issues at the community, district, and regional levels. The project has emphasized

strengthening existing conservation mechanisms rather than creating new ones. It organized a series of transboundary meetings that have resulted in the creation of transboundary coordination networks and local level coordinating bodies. These local level mechanisms required less innovation on the part of the political actors and are building on existing systems of cooperation.

## Promoting coordinated trans-boundary conservation

TMI's working area in the Khangchendzonga region has covered an area of 2,793km<sup>2</sup> in five major watersheds of Sikkim and thirty VDCs in Nepal. Other organizations working in the area emphasized transboundary cooperation at the policy level; whereas TMI has focused on building trans-boundary cooperation at the community level to coordinate management practices across national boundaries.

Our staff worked with communities in three districts of Nepal to link them with communities in Sikkim and West Bengal, India. Nepal project staff conducted several trainings for villages in the Khangchendzonga Biosphere Reserve (KBR) in Sikkim and trained



about 150 farmers to cultivate MAPs, especially former herders who lost their livelihoods to the total ban on grazing inside the KBR. The trainees in Sikkim were among the state's poorest and most marginalized ethnic groups. In return for the training, the local groups reforested degraded areas along the Sikkim border and in nearby community forests.

Nepal project staff also trained their TMI Sikkim counterparts and NGO partners in participatory organizational development assessment techniques. This helped establish baseline information about communities and their future needs.

TMI worked with Lake Conservation Committees to create community based monitoring systems and use a portion of the fees collected to support the costs of administering the programs. The border communities also developed codes of conduct for wildlife and flora and fauna management in the transboundary regions.

## Wildlife conservation in India

In India, work has continued on community monitoring of keystone species. Activities on snow leopards have produced a number of maps of critical habitats that are valuable for monitoring how climate change is affecting wildlife habitat, especially changes in alpine vegetation.

Cross-border movement of herders or traders has continued so illegal poaching and trading of endangered species was a

transboundary issue (ICIMOD 2009). Government agencies have not been able to manage the situation due to weak enforcement of forest rules and regulations, a shortage of field staff and infrastructure, and a lack of appropriate education on wildlife conservation among field officials.

To monitor the wildlife populations, their distribution, and threat status, TMI initiated a system of *Himal Rakshak* (alpine guardians), which has been officially endorsed by the Sikkim state government. They were volunteer subsistence farmers and former herders willing to support conservation activities in their high altitude communities. The Himal Rakshaks have received training, support, and a biodiversity monitoring handbook to build their capacity to collect data in prescribed formats on the status, distribution, and threats to wildlife and their habitat. They received sleeping bags, binoculars, and wildlife books.

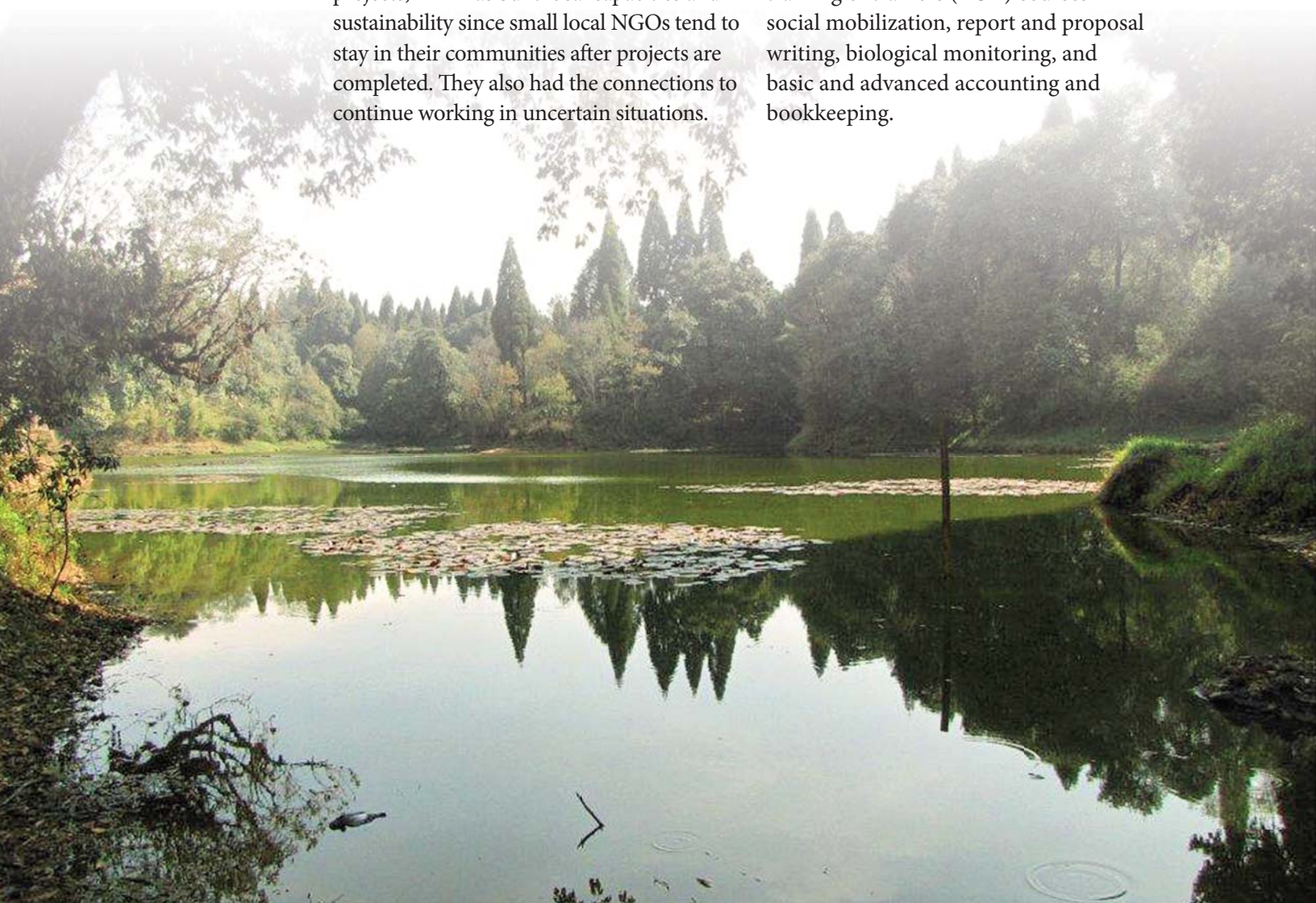
The Himal Rakshaks have taken an active interest in conservation and demolished traps meant for musk deer, blue sheep, and alpine pheasants in remote high altitude locations. They also assisted in reducing grazing pressure and spreading the message of conservation to the grassroots. The Himal Rakshaks also helped to manage the solid waste around campsites along the trekking trails. This initiative has resulted in more effective, participatory "on ground" conservation of the alpine areas jointly with the Forest Department.

# BUILDING CAPACITY AND SUSTAINABILITY WITH PARTNERS

TMI's experience in Makalu-Barun demonstrated the importance of working with local partner organizations: non-governmental organizations (NGOs) and community-based organizations (CBOs) that know the local cultures, customs, and languages. Using local NGO partners as the primary implementers of its interconnected projects, TMI has built local capacities and sustainability since small local NGOs tend to stay in their communities after projects are completed. They also had the connections to continue working in uncertain situations.

## Training and building capacity

In the MAPs work, TMI helped form two local NGOs, which it trained in organizational capacity building, helping to strengthen their financial and administrative systems. TMI conducted training of trainers (TOT) courses in social mobilization, report and proposal writing, biological monitoring, and basic and advanced accounting and bookkeeping.





### From the 'grass roots'

Netra Bhadur Thapa Burja (Magar), of Sulubung-5 Ilam, was the Founder and former Chairman of SHAPSI. In 2004, he started a small organization in Maipokhari to cultivate MAPs and encourage the farmers from several VDCs. At this time, TMI was looking for a partner NGO and Netra was wondering how to register his group as an NGO. Mr. Burja never hesitated to walk to all those VDCs with seeds of chiraito in his bag even during the conflict period. His dedication to improve the livelihoods of farmers through MAPs cultivation has covered 22 VDCs in Ilam, which have become a model for MAPs cultivation. The Ministry of Forest of Government of Nepal awarded SHAPSI the Mountain Development Award-2008 along with the cash of NRs. 50,000.

Dhan Prasad Khamdak and Dipak Lungeli are staff of SHAPSI.

*"TMI has given us capacity building training at each phase at the work and now we do training in cultivation and*

*conservation. In the first year, we meet with the community to explain the program, especially for MAPs. Then, the second year, we would meet again and ask what their needs are – road, drinking water, dharma, etc. Then we would do a conservation contract for the project.*

*"At the end of each MAPs training each participant would make a commitment to plant so many ropanis of land. Since the seeds are free, even the poorest people can plant them. If they have not planted the seeds, we persuade them. At first, there was a problem of stealing, but by forming groups, this has been reduced so that everyone cuts at the same time & the quality stays high.*

*"During the conflict, we were the only NGO working here because since the project was for farmers benefit, the rebels supported it. We are happy that we were able to implement this project in this area during this time and that it has been very successful. We started with just five VDCs and have extended to 22 in Ilam."*

To keep pace with evolving project needs, TMI sent both project staff and partner NGOs for training, conducted by private sector experts, in small and medium enterprise development and livelihood and poverty analysis. Afterwards, project staff trained local MAP groups in the same procedures. These NGO partners started with limited skills but TMI has

worked to build their capacity so they could raise the necessary support to continue to work once the funding ended.

TMI worked with the NGOs to develop proposals requesting support from other agencies for long-term sustainability. The NGO partners have now received over \$80,000 funding support from other

Nima Phinju Sherpa works as a social mobilizer with the NGO partner SHAPSI.

*"We had 8 days of training by TMI for social mobilization. Karma made a schedule of the process of how we should work in the communities. Then we went with him in the villages and finally we were working on our own. From this work, I've learned that we need to conserve the forest, herbs, and vegetation. We learned how to communicate with the communities and mobilize them for this work."*

organizations, including the Critical Ecosystems Partnership Fund (CEPF), Global Green Fund (GGF), Red Panda Network (RPN), Government of Nepal (GON) Small Cottage Industry funds, and from the World Bank-supported Poverty Alleviation Fund. TMI's partner NGO in Sankhuwasabha received support from USAID following a staff exposure tour and 'on-the-job training' to TMI sites in Ilam and Panchthar districts.

### Working for transparency, accountability, and sustainability

The staff of the NGO partners gradually took on the work of the TMI project staff, who initially worked alongside them in the field. The partners helped to mobilize community members to conduct activities aimed at improving natural resource management and select participants for training using criteria including ethnic group, income

level, gender, level of motivation, and residency in a vulnerable community. Partner organizations conducted MAP cultivation training by themselves. TMI staff helped develop training curriculum and manuals, but now all local level training is conducted by local NGOs.

The NGO partners organized a review workshop with district and VDCs partners, including representatives civil society, government officials, journalists, and representatives from different political parties. Having such a broad participation ensured 'public audit' of all project activities, and full transparency and accountability by TMI and NGOs partners concerning the use of funds and equitable distribution of activities. During the workshop, the Chief District Officer (CDO) and District Forest Officer publicly recognized the project's contribution to conservation and sustainable livelihoods for vulnerable people.

## Successfully cultivating MAPs as a sustainable organization

Dhindup Tamang, of Brabal, Rasuwa District received MAPs cultivation and nursery management training from TMI in coordination with Langtang National Park in 2003. He has cultivated medicinal plants ever since. He sold his first plants in 2005 earning NRs. 1,800 for 26 kg of chiraito. By 2008, he earned NRs. 38,000 from 76 kg of the Chiraito plant, 2.5 kg of Chiraito seed, and 50 kg of Sugandhawal (*Valeriana jatamansi indian*). Mr. Tamang has continued to plant MAPs descended from the original seeds that TMI introduced in 2003.

From 2003 to 2007, Mr. Tamang faced challenges in selling his MAPs due to a lack of clear legal provisions related to cultivated MAPs trade within the national park. To deal with these legal issues and to provide a forum for communicating with park staff, he and other MAPs farmers in his area registered the Norchey Melki Gyalmo Non-timber Forest Products Users Group of Syafru VDC with Langtang National Park in 2007.

Mr. Tamang is the chairman of the group, which has over thirty active MAPs farmers as members. The group's constitution stipulates legal provisions related to cultivated MAPs within the park and buffer zone, allowing MAPs farmers to trade their product without interference by the park administration. The group has also helped established 13 private MAPs nurseries.

TMI stopped working in the area in 2005 but the success of the Norchey Melki Gyalmo group attracted further support. World Wildlife Fund gave NRs. 260,000 to construct a community MAPs nursery in 2009, National Agro-forestry Foundation gave NRs. 15,000 for operational costs, and the Syafru Village Development Committee gave NRs. 100,000 for expanding MAPs cultivation throughout the VDC area.



## Challenges in forestry

Santosh Kumar Jha is the government Assistant Forest Officer in Ilam. He described some of the challenges encountered by the forestry office in working with non-timber forest products and MAPs.

*"The DFO has limited personnel for a large area - one ranger has to cover seven VDCs and 25 CFUGs. So, it cannot meet the demands of the population. With the local knowledge and staff of the NGOs, we can coordinate to meet our objectives. For instance, with chiraito, we work together to certify the farmers and issue them ID cards. There is sometimes a contradiction between the policy and practice laws.*

*"So, although the policy is to promote MAPs, many laws do not allow for their sale. We need certification so that farmers can sell MAPs grown on private land. The main example is taxus. About three years ago, the government allowed people to sell taxus. But, people went into the national forests to cut whole branches and trees for the needles. Theoretically, we should let people sell taxus needles from private land, but we are still sorting out the problem of when they mix needles from private land with those from national forests. If we can certify and monitor those farmers with taxus on private land, then we can solve the problem.*

*"We really need to do an inventory any of the national forest to know the quantity of MAPs. But, this would be very difficult due to the remoteness of forests our lack of knowledge specific to MAPs and non-timber forest products (NTFPs). Although, we have technical knowledge of forests, we are not specialized with MAPs. We really need support to increase the capacity of the DFO staff to work in this area. With an inventory, then it would be easier to lift the ban that included products grown on private land."*



## WORKING IN UNCERTAIN SITUATIONS

TMI's first work in the Makalu-Barun Conservation Project (MBCP) started before Nepal's decade-long conflict created the need for greater reflection and consideration on how development projects were actually operating in rural areas. TMI was already evolving organizationally, but the conflict presented an opportunity that forced it to evolve more quickly. Although it is not direct cause and effect, the conflict gave new incentives to refine the implementation of programs -- sometimes it takes a catalyst to make an organization actually innovate beyond their comfort zone.

At first, these changes were reactive to the conflict and uncertain situations or adaptations to changing relationships as staff and personnel changed with the programs, stakeholders, and partners. Now, the evolution has become a proactive process that strengthens participation and monitoring. TMI's programs have continued to improve because they are more community driven and have more stakeholder ownership.

MBCP had a master plan designed by experts, but in line with the evolving thinking of the late 1990s TMI implemented its next project, the Community Partners Project (CPP)

with more participatory planning at the hamlet level to create four-year plans and activity monitoring. There were many lessons learnt during this process. TMI learned that during the planning process it should only discuss funds that have actually been committed and not anticipated funds that could raise expectations that the program might not be able to meet later.

TMI also learned to work with local NGOs since they have closer relationships with the local communities and can often implement activities during a conflict situation. INGOs and their staff members were often from outside, so their relationship with local communities was limited. The issue of personnel was important because in Nepal, there were few institutionalized principles for operating – the accomplishment of many activities depended on personal relationships, and the personal attitude and interpretation of anyone 'in-charge'. The lesson learned was the need to build and maintain relationships to both stakeholders and local people.

However, TMI has continued refining its approaches. For instance, while TMI attempted to ensure that its programs are inclusive and that the staff members are being inclusive, stronger systems

are needed to verify this. If TMI's working areas were increased, it would need more systems to ensure that its programs did not exclude poor and disadvantaged people. In the future, TMI needs to continue working to ensure

good monitoring systems that can be independently and systematically verified – this adds to the cost of the program, but is necessary. There also needs to be monitoring by TMI staff of the field monitoring by its local partners.

### Working in uncertain situations

In uncertain situations, due to either difficulties with partners or the insurgency, it was necessary to do more negotiation to initiate and implement the programs. Although more 'up-front' investments are necessary, the programs came to have more potential to last because they were planned and designed more carefully, with broader community ownership.

In a conflict situation or during uncertain times, implementing programs required more time, effort, and money, because most development is capacity building. Before, an NGO could organize a training session by letter; but in the conflict situation, it needed time to ensure that no security operations were going on and to obtain permission to gather people for a training and workshop. The conflict situation removed the pretense that the center can provide development, so people were going back to being more self-reliant.

TMI used the Basic Operating Guidelines (BOGs) of the Association of INGOs in Nepal, which gave unified strength so that TMI was a part of a larger whole.



# OPPORTUNITIES AND MOVING FORWARD



TMI's current work area is the eastern third of the larger 'Sacred Himalayan Landscape' from central Nepal to the border with Sikkim, India. It will gradually move from east to west developing community-based conservation programs that combine proven successful conservation and livelihood activities. A major focus will be to strengthen the market elements of the program while expanding the program to reach more poor and vulnerable people and more communities. Program expansion means working with more community members in existing sites and expanding activities to new communities and sites.

In the future, the program will cover as many VDCs as resources permit and continue expanding and increasing the number of farmers involved in current work areas. This means investing in more farmer-to-farmer training, group formation and training, cultivation and technical training, nursery establishment and other core technical aspects including monitoring and strengthening enterprise capacities.

The program aims to continue expanding activities to communities in the biodiversity rich corridors between Nepal's protected areas. However, adding these new areas increases the complexity of the program – some may have better market access to Tibet Autonomous Region of China so TMI will investigate and understand the emerging Chinese markets for MAP products.

## Focusing more on poor and vulnerable households

Most households in these corridors are poor and vulnerable people from marginalized ethnic groups. They suffer from a lack of food security for up to six months per year and depend on natural resources for their livelihoods by collecting wild MAPs or seasonal migration to supplement their incomes. Women head many of these poorest households, having been widowed, abandoned, or left when their husband

migrated for work. Hence, although TMI proved the viability of its approach by first working with “less poor” farmers, it can strengthen its future work by increasing the focus on women and marginalized groups, and responding to their needs, especially since women are already about 60% of the participants at trainings for MAPs cultivation.

### Strengthening small enterprise for MAPs

The program aims to strengthen further the ability of existing MAPs groups to operate as marketing and distribution cooperatives. While some foundations are in place, these groups need additional capacity building and training to participate fully within the market system. This requires additional investments to convert these groups into effective small businesses and micro enterprises with access to financial services. It means conducting additional training in business development services, business planning, sub-sector market analysis, marketing and distribution, improved storage, and technical and market aspects of value added processing.

### Mitigating climate change impacts through conservation

Another area for future program development is that TMI has started investigating REDD (Reducing Emissions from Avoided Deforestation and Forest Degradation) mechanisms as a possible conservation strategy and long-term financing mechanism. TMI has formed a partnership with another organization that has a private sector investor interested in purchasing carbon credits. It is conducting

a feasibility study for landscape level conservation of the high biodiversity forests that sequester carbon.

Linking the current program activities with emerging instruments such as REDD, for adapting to and mitigating the impacts of climate change, offers some promise because the Government of Nepal has endorsed REDD and Nepal has been selected as a priority country for implementing REDD. In the emerging federal Nepal, one can anticipate that communities will have stronger tenure rights and management of natural resources.

### Facing challenges on the way forward

Several challenges may also shape future program directions. Nepal continues to have political uncertainty, which makes implementation more complex. So far, it has delayed programs but never forced cancellation of any activities. In such conditions, TMI’s work across national boundaries is a challenge, but by focusing on local level issues and forming groups to address them, we continue to make progress. The uncertainty also affects forestry policies. As well, the process of getting officials to certify MAPs products grown on private lands is proving to be more labor intensive and time consuming than originally anticipated.



Ironically, the success for the MAPs program has resulted in challenges to obtaining chiraito seeds. In response, TMI has succeeded in getting several farmers to concentrate on producing seed as their main product, which is proving lucrative. New plant diseases and changes in the climate, especially

drought, affect the growth of plants, especially chiraito. Future programs may need to investigate ways to store and manage water, such as drip irrigation. Finally, farmers are seeing the benefits of cultivating MAPs and the profits they can yield, so they are demanding more training, seeds, and TMI activities.

### More opportunities for the poor

Dhan Khamdak and Dipak Lungeli are staff of SHAPSI: *“We would like to develop more mechanisms for poor, women, and widows to cultivate bare land, especially in the Community Forests and National Forests. We have put MAPs cultivation in the Operational Plans we have done for CFUGs. We need to start doing well-being ranking within CFUGs in order to have equitable and transparent allocation of opportunities. The DFO and FECOFUN are positive about this. If gender was incorporated in the program, it would be more effective.”*

### More focus on women

Tula Gurung is the Chairperson of the Simpani Women’s Community Forest and a member of the Women’s Savings Group in Mabu VDC of Ilam. She has training in MAPs cultivation and improved income from the sale of MAPs.

*“Since women usually go to the forest, we are the ones most affected by conservation as we need a good source of grass and fuel wood. I have done the training and planted chiraito and taxus on my land. When I realized that this was a good way to start conservation, I used the knowledge from the training to share with other women. So just this year, we started a Community Forest for women. We had support from TMI for the registration and Operational Plan. We hope that there is more support. We feel that we can do a better job at conservation than the men and would like to plant MAPs and seedlings in the future.”*

Pabitra Khawas works as a Social Mobilizer and Field Assistant with SHAPSI: *“We really need to work to include more women more because so many of their husbands are working overseas. If their husbands send money home, it is usually to their parents. This often leaves the woman without any money to pay for school fees etc. It would be good if we worked more specifically with women so they can earn money for their kids and needs.”*



Mrs. Doma Sherpa, a resident of Chauri Chowk, Mabu VDC Ward 8 cultivates different species of MAPs in her kitchen garden. Six years ago, she started cultivating *Chameli* by collecting 20-30 seedlings from wild areas and planting them near her house. Since then, she has harvested 30-40 tubers from those plants each year and sold them to the local herb traders for NRs. 5 - 7 per piece.

*“I use this income to sustain my household expenses.”* Although she began to cultivate small quantities of Chameli on her own, she got more specific knowledge and exposure when TMI established nurseries in her area. She has now learnt the technical knowledge to nurture seedlings. Inspired by TMI’s program in the area, she has become an avid supporter and an advocate of this program. In addition to *Chameli* farming, has extended MAPs cultivation on her fields.

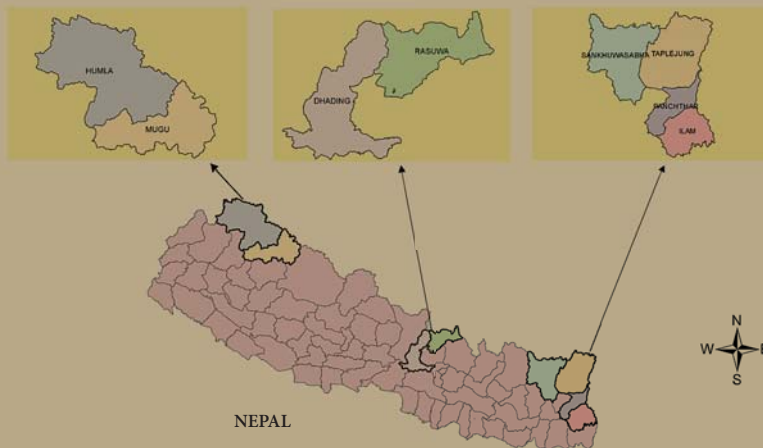
## 2011-2015 PRIORITY ACTIVITIES AND FUNDING NEEDS

TMI aims to continue promoting and expanding the conservation practices we introduced by this program, while helping communities improve livelihoods.

1. Conserve alpine and pasture regions of the Khangchendzonga area by promoting sustainable livestock management practices and increasing local livelihood for farmers (US \$ 50,000).
2. Conserve wild stock of over-harvested medicinal and aromatic plants (MAPs) by promoting sustainable cultivation and marketing as alternative source of income (US \$ 140,000)
3. Mitigate negative impacts of tourism through eco-tourism promotion. Strengthen local management capacity and scaling up and expanding the program to more areas in both Sikkim and Nepal (US \$ 65,000).
4. Conduct additional trainings in business development services, business planning, sub-sector market analysis, marketing and distribution, improved storage, technical and market aspects of value added processing (US \$ 190,000).



### The Mountain Institute Working Area



Since 2008, The Mountain Institute has been replicating the success of the MAPs cultivation activities in other mountain districts of Nepal. To date, TMI has helped train more than 800 farmers in sustainable cultivation techniques in four districts of the Karnali region of Mid-Western Nepal. TMI has also been training farmers in cultivation techniques in the Indian States of Sikkim and West Bengal, India.

As we go to press on this document, we just received an update on sales of MAPs in Taplejung, Ilam and Panchthar districts. In the 2011 harvest season, farmers reported annual sales exceeding \$340,000 US which encourages us as we replicate the program to new project areas.

### TMI would like to thank and acknowledge the work of its local partners:

Sri High Altitude Herbal Production and Conservation Institute (SHAPCHI), Ilam Deep Jyoti Youth Club (DJYC), Panchthar and Taplejung Upper Arun Development and Conservation Society, Sankhuwasabha dZi Foundation, Rural Tourism and Environmental Education Society Nepal (RTEES) in Rasuwa and Kothang, Health, Education, Empowerment and Development (HEED Nepal) in Dhading, Himali Conservation and Development Association (HCDA) in Humla, Red Panda Network (RPN) in Taplejung, Ilam, and Panchthar. As well it would like to thank for their support and cooperation Government of Nepal District Line Agencies in Ilam, Panchthar, Taplejung, Sankhuwasabha, Humla, Dhading, and Rasuwa Districts.



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