

# Gender Perspectives in Mountain Development

ICIMOD

New challenges and innovative approaches

FOR MOUNTAINS AND PEOPLE

SUSTAINABLE MOUNTAIN DEVELOPMENT

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## CHALLENGES AND OPPORTUNITIES



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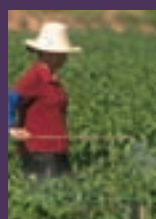
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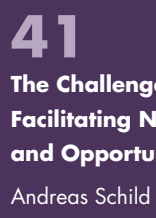
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## **Centre News**

# Dear Friends of ICIMOD,

This current issue of our periodical *Sustainable Mountain Development* is dedicated to celebrating women's contribution to mountain livelihoods and wellbeing.

ICIMOD has dedicated this issue of our periodical to celebrating women's contribution because the integration of the gender perspective in the development process is particularly significant for its agenda. Throughout the Himalayan region, long-standing customary practices have shaped the distinct rights and responsibilities of women and men, which manifest in divisions of labour and differential access to and control of various resources.

With a high level of out-migration by men, women now play an even more crucial role in mountain livelihoods, performing most of the farming and domestic work and nurturing future generations. Their skills and knowledge about the environmental resources contribute to the survival of their families in often inhospitable conditions.

However, there is still a lack of recognition of women's contribution, which is manifested in development policies and household practices that perpetuate unequal access to financial services, property, rights, legal protection, education, information, health, and other economic and social services. It furthermore prevents women from participating effectively in making the decisions that shape economic, political, and social development. Women require access to services and appropriate technologies to address their basic needs and adapt to a changing world.

Experience has shown that gender inequalities hinder the achievement of sustainable development. For this reason, many international and regional forums have asserted the importance of promoting gender equality for achieving development goals. Gender equality is one of the Millennium Development Goals, and is regarded as an essential condition to achieve the other development goals. The necessity of gender equality for mountain development was affirmed at the Bishkek Global Mountain Summit in 2002, in the preceding Thimphu Declaration of 2002, and in the Orem Declaration of Mountain Women in 2007.

Since climate change is becoming a major driver of change in mountain livelihoods, ICIMOD is concerned with increasing the capacity of mountain communities to adapt to climate change and with enhancing their resilience. In so doing, we should not assume that women have the same capacity to adapt to climate change as men. Nonetheless, despite women's greater vulnerability, their local knowledge and roles in mountain livelihoods could be a key to adaptation.

This edition of the ICIMOD periodical examines the gender perspective in mountain development, reflecting on emerging gender issues in the Himalayas and presenting innovative approaches for empowering mountain women. These short articles explore a range of complex issues from the feminisation of agriculture to the impact of climate change on women, and present innovation approaches ranging from REDD to drudgery reduction.

We would like to thank the contributing authors for taking the time to prepare these articles for sharing with a wider audience.

Sincerely,



Andreas Schild  
June 2010



# Challenges and Opportunities for Women in the Changing Himalayas

**Michael Kollmair**, Programme Manager/Senior Social Scientist, ICIMOD, [mkollmair@icimod.org](mailto:mkollmair@icimod.org)

**T**he Hindu Kush-Himalayan region is a highly diverse and dynamic area – geographically, biologically, and culturally – and is undergoing rapid change as a result of the impacts of many drivers, especially global socioeconomic change, demographic change, and environmental and climate change. Addressing the issues of women and men for mountain development in this region is thus a complex task not least in terms of the diversity of cultural contexts and national capacities. Mountain

communities are having to adapt their livelihoods and lifestyles to adapt to new challenges and opportunities brought about by the ongoing changes. However, growing economic wealth; increasing integration in global markets; increasing seasonal and permanent migration; changes in values, norms, and livelihoods; changes in land-use patterns; and changes in availability of ecosystem services like water, are reducing the efficiency of the traditional and balanced adaptation mechanisms.



The ability of women and men to adapt to these changes will depend on their capacity to access new technologies and knowledge and to make choices and exercise control over their assets. Men and women cope with these new realities in different ways, but gender inequalities could considerably limit or favour the aptitude to adapt. This compels the use of different strategies to increase the participation of both women and men in development activities and decision-making. These strategies will need to ensure equitable access to and control of economic, social, and political resources within the rapidly changing context. These are the issues that provide the context of this edition of the ICIMOD periodical.

While women in the Hindu Kush-Himalayan region face many challenges, the idea of Himalayan mountain women as victims of a multitude of threats in a remote and isolated world is not completely true; the realities are much more complex. In recent decades, women's lives in the mountains have come much closer to the mainstream with economic growth; policy and development interventions; improved infrastructure; and growing linkages to national, regional, and international markets. As Manjari Mehta shows in her article on the Uttarakhand case study, new employment opportunities, rising education levels, and emerging aspirations mean that the 'village way of life' is often no longer limited to the traditional rural-based existence. Observations from different countries in the Himalayas offer a more nuanced understanding of 'mountain women' that considers the diverse yet similar worlds in which they live. A detailed analysis of mountain poverty in Nepal in the article by Kiran Hunzai, indicates another new and surprising change in Nepal; women-headed households are on average, better off than those headed by men.

Increasing literacy rates are preconditions for and expressions of a fundamental cultural change that brings empowerment and new responsibilities that are linked to democratisation in the region. Women's literacy has increased sharply during the last two decades. In Nepal for example, the literacy rate of young women between 15 and 24 years of age increased from 33 % in 1991 to 73% in 2007 (Table 1). However, in most Himalayan countries there is still a big gap between the literacy rates of women and men. In 2007, 51% of women were literate on average, compared to 71% of men. However, the 'youth literacy rate' gap is smaller, with 71% of women and 81% of men.

Although the population is still growing, demographics in the mountains are changing as families tend to have fewer children, more men migrate for labour, and



more households move permanently to the lowlands. Increased mobility has led to migration from rural to urban areas throughout the Himalayas. Men migrate for employment to big cities, often outside the mountains and, more recently, abroad especially to the Gulf region and Southeast Asia. With many men absent and fewer children, most areas no longer have the workforce needed for labour intensive mountain farming.

Because of male migration and the reduced workforce, women, who already do a disproportionate share, are now doing an ever-increasing portion of the work for agriculture and livelihoods. This phenomenon is referred to as the feminisation of mountain agriculture and livelihoods. In her article on women's assets and rights in the context of the feminisation of agriculture in Asia, Govind Kelkar shows how the traditional systems give women less access, control, and ownership of land and other productive resources. The situation is aggravated when the national support and extension systems are still gender biased in favour of men. Equally, despite their increasing workload, rural women may experience some level of empowerment in the absence of men because they manage small budgets and make household decisions, which have a positive influence on their role in society. For example, Zhang (2002) noted that rural women in China, particularly the younger generation, increasingly control household income and make decisions about the sale of agricultural products, investment, and purchase of large items, such as houses and consumer durables.

Development policy and its implementation has still not acknowledged the fact that women do such a large proportion of the work in mountain agriculture. For example, most extension workers still picture a mountain farmer as a middle-aged man. Often women are not perceived as 'farmers' because they usually are not landowners even if they do much of the farmwork. As Govind Kelkar points out: "In Asia, despite their crucial

role in agriculture, women are largely excluded from training, extension, and irrigation management. The deep-seated social inequalities hinder women's voice in community management and farmers' associations."

Women play a central role in maintaining and improving the wellbeing of their families and the whole society. Yet, they are rarely acknowledged as agents of change with roles and responsibilities, capacities, knowledge, skills, and competencies. Together with men, they manage and use natural resources, such

"Women are rarely acknowledged as agents of change with responsibilities, knowledge, and skills..."

as wood, water, and fodder every day. Increasingly, women play leadership roles in formal and informal local networks and organisations, which are not visible to outsiders or taken seriously by men.

In most of the Himalayan region, women are responsible for supplying water and fuel and play a crucial role in food security. Since climate change affects the mountain natural resources and biodiversity that provide water, food, and energy, the depletion of natural resources has particularly negative consequences for women. Women will have to work harder to access these resources with the extinction of some plant species and changes of water sources; this will increase their already heavy workload, but also increase their awareness of changes. Women often appear to be better managers of resources. In another article, Bina Agarwal shows that 'women only' Community Forest User Groups in Nepal impose stricter rules on forest use than groups that are mixed or dominated by men. Conservation and long-term benefits seem to be more important to women than the short-term gains from the extraction of forest resources. Agarwal concludes that "despite receiving much smaller and more degraded forests, all-women groups outperform other groups and show better forest regeneration and improvement in canopy cover."

However, lack of recognition of the contribution of women to mountain societies and their development is seen in development policies and practices that perpetuate unequal access to financial services, property, rights, legal protection, education, information, health, and other economic and social services. Xue Xu gives a good example of how the lack of a gender perspective in national programmes aiming to conserve the fragile ecosystems of the rangelands has contributed

to increasing the already heavy daily burden of women. Yet, these same programmes free men considerably. Gender blind projects can prevent women from participating effectively in making decisions that shape economic, political, and social development. Although women are slowly closing the gender gap, they still lack equal access to education, social services, financial credit, assets, and appropriate technologies to address their basic needs and thus adapt to a quickly changing world.

## Conclusion

With increasing national wealth and ongoing socioeconomic development, new norms and values have entered the lives of people in the Himalayas – and old norms and values have changed or been revived. These changes affect men and women differently and create changes in gender relations, status, and expectations. For example, patriarchal family norms and perceptions of 'how a man or woman should be' are changing quickly. The penetration of TV and Internet is introducing new values and norms, or at least raising aspirations. Himalayan 'daughters' are already different to their mothers with their day-to-day realities, hopes, and aspirations diverging widely from those of their elders. These conditions and circumstances suggest that in the years ahead, women's lives could increasingly move in different directions. As the younger generation of men use new possibilities arising from their education and employment, so will the lives of younger women and girls also change drastically in most parts of the region. For a portion of them, their lives will be fundamentally different to those of their mothers and grandmothers.

The articles in this newsletter show that it is nearly impossible to achieve a comprehensive 'regional' overview of gender issues. The parallel and contradicting influences on the lives of people are too diverse to develop a simple overview. However, these glimpses of 'reality' offer insights into the more recent dynamics of gender relationships in the Himalayas. They also show the manifold ways in which mountain communities maintain their resilience, and the fact that their high adaptive capacity is generally based on an increased contribution from mountain women.

There is a growing awareness of the importance of a gendered view on mountain development problems with a specific focus on the generally disadvantaged women. However, despite all the positive developments, women are still not represented well, do not have a fair share of the resources, and are not seen as the important contributors to improved wellbeing in society that they are. This issue needs to be addressed by all those concerned with mountain development.

# Mountain Society in Transition – Reflections on gender, globalisation, and socioeconomic change

**Manjari Mehta**, Consultant, [manjari.metha@gmail.com](mailto:manjari.metha@gmail.com)

**W**hat have been the effects of contemporary processes of globalisation with their expansion of markets and an accompanying consumer culture on mountain communities, and in particular women's lives?

This is a topic of particular relevance in India, where the liberalisation of the economy has transformed highland physical and socioeconomic landscapes considerably in the two past decades. I have been reflecting on this since revisiting a body of research dating to the late 1980s in Tehri Garhwal district in what is now Uttarakhand. The pressing issues then continue today: the drudgery of women's work, the paradox of their importance to the agrarian economy (captured by men's acknowledgement that "women are our hands and legs") and yet their marginality (the admission that "our lives are like that of our buffaloes"), and the distancing of men and boys from land-based activities through education and jobs.

In the late 1980s, conditions and circumstances suggested that in the years ahead, women's and men's lives would increasingly move along different trajectories – that the younger generation of men could envision new possibilities through their education and employment while women's and girls' lives, even those with some degree of education, would remain tied to the land. Their lives would not be fundamentally different to those of their mothers and grandmothers.

In fact, contemporary realities are much more complex. Over the past two decades policy interventions, market integration, and the sheer passage of time have brought mountain households even closer into the orbit of the plains. New work opportunities, rising education levels, and aspirations have served to juggle earlier certainties about a 'village way of life' and women's lives remaining bounded by the confines of a rural-based

existence. Observations from interviews with village and town-based family members highlight some facets of contemporary village life that suggest a more nuanced understanding of 'mountain women,' one that takes into account the multiple and overlapping worlds in which their lives are increasingly embedded.

The revolutions in the communication and transportation sectors and a dynamic consumerism have helped shrink, both literally and figuratively, the distances that once defined and separated mountain areas from the plains.



Improved roads and more vehicles have made moving around much easier; satellite television has brought a once 'outside' world into people's daily lives; telephone connectivity, symbolised by the now ubiquitous mobile, has helped to forge links that would have been unimaginable some years ago.

A growing number of households have been enabled to participate in consumer spending by new forms of income diversification and dowry practices, which enable even modestly endowed households to accumulate in a manner that would have earlier been beyond their means or expectations. New work opportunities, a widening of possible educational degrees, and the new worlds promised by glossy packaging and slick advertising have helped to reshape rural behaviours, dress, tastes, and desires. This is especially so amongst the younger generation whose 'middle class' sensibilities and appearances are often not easily differentiated from their plains' counterparts. Their day-to-day realities, hopes, and aspirations have often widely diverged from those of their elders.

"New worlds promised by glossy packaging and advertising have helped to reshape rural behaviours, dress, tastes, and desires. "

Against this backdrop of rapid socioeconomic change, it is interesting to reflect on what has changed and what has not for women and girls in this new century. At one level, much has changed for the better. Electrification, gas cylinders, and latrines, now taken-for-granted features of people's lives, have significantly eased many aspects of women's work or provided them with much-needed privacy. More girls attend school and are likely to complete their high school education and a growing number can envisage some form of higher education, often in the form of a degree taken 'privately.' The education of girls is viewed as a conduit to a good marriage or at least not an impediment to one and has resulted in a rise in average age at the time of marriage.

Other facets of this new world touch women's lives. Easier travel conditions now enable women, who twenty years ago had never travelled outside their homes, to travel to the cities where their husbands and sons are employed. They no longer lose touch with their

married daughters as mobiles enable even those who are illiterate to keep connected. Televisions provide a measure of entertainment at the day's end, exposing their viewers to cultural and popular markers of modernity and introducing them to 'newly imagined needs and possibilities.' One emerging trend that does represent a significant departure from the past is that better educated and securely employed men are now establishing roots in the cities of their employment. They increasingly seek marriage partners from a new generation of mountain women raised and educated in the cities where their fathers have worked. These are young women whose dress, comportment, and speech bear witness to how far removed they are from their rural antecedents and what could be described as village sensibilities.

A generation ago, a son's marriage more or less ensured that his family would benefit from another pair of hands, a daughter-in-law who would carry the main workload to provide her mother-in-law with a certain measure of ease. Since women are moving with their husbands to the cities, some households must now adopt new types of labour-saving strategies: cultivating less land, hiring workers, and, on occasion, requesting that a town-born and bred granddaughter (rarely a grandson) be sent to the village to help out. Any new or disguised tensions thrown up by this gradual loosening of village households' once uncontested command of younger women's labour are yet to be explored. The newfound mobility of young married women certainly represents a sharp departure from earlier conventions of feminine norms and behaviour. Although it remains to be seen whether urban domiciles are encouraging them to work.

While so much has changed, so much remains the same. Expansion of the commercial sphere has reinforced the 'maleness' of the marketplace, one from which women have never been excluded but in which they lack the cultural permission to move about freely. The marketplace is also an arena that is populated increasingly by itinerant lorry and bus drivers, traders, contractors, labourers, and government employees, many of whom have no ties to the area. This presence of non-local men, coupled with easier access to disposable incomes and the availability of liquor, has also helped to reinforce the perception of the bazaar as a space that could potentially jeopardise women's safety. In certain areas closer to the roadhead, women only go into the forests in groups for fear of being harassed. Even men agree about the erosion of the shared code of honour and conduct that, until very recently, everyone observed and which ensured that even strangers would be met with a certain level of hospitality.



Uttarakhand, India\*

Other factors, such as the continued lack of local employment opportunities and a reluctance to let young women work, ensure that even well-educated girls ultimately have little option but to marry. With no more control over their fertility than their uneducated mothers before them, they are all too likely to begin their child-bearing almost immediately after marriage. However much women are able to benefit from and take advantage of this 'new' world, they still experience it indirectly. Women may no longer liken their lives to that of buffaloes as they once did. However, young women agree that however much the wider world has changed, too much remains the same for them.

Finally, there is the absorption of dominant cultural values and practices, and their underlying ideologies of gender. Dowry has long become a well-established practice. Motor bicycles, cars, televisions, even washing machines, and the occasional fridge bear witness to the extent to which this practice in the hills now mirrors longer-standing consumerist patterns of the plains. This ensures that even the most resource-poor families go into debt to make an appropriate show of marrying off

their daughters. Even more troubling is the practice of sex-selective abortion – once unheard of in the mountains and in fact very much identified as an abhorrent practice associated with the plains. Underlying both these practices is the unspoken devaluation of females.

The 'suburbanisation' of many village households, especially in the lower and middle hills, is now a fact of life. It is a process creating families consisting of urban white collar workers and agriculturalists, of those with advanced degrees along with those who are functionally illiterate, and of elders well-versed in identifying seeds for the following year's sowing and youngsters more attuned to Bollywood hits. What this heterogeneity suggests is a moment of transition for both genders, one that offers opportunities to explore new identities, social relations, and ways of being. It is also a reminder that new values, interests, and social practices, in addition to being hard to 'see' and assess, often have implications for women that are very different from those for men.

# Adaptation to Climate Change

## – Why gender makes a difference?

**Brigitte Leduc**, Senior Gender Specialist, ICIMOD, [bleduc@icimod.org](mailto:bleduc@icimod.org)

Himalayan communities face the challenges of remoteness, isolation, and harsh living conditions on a daily basis. Mountain people have developed a resilient lifestyle with the capacity to take advantage of their environment and cope with occasional natural disasters. However, scientific evidence shows that climate change is greatly affecting the mountain ecosystems and water regimes of the Himalayas, thus directly affecting mountain people who depend on natural resources for their livelihood. The anticipated intensification of natural hazards may stretch their coping mechanisms.

Natural hazards – such as flood, landslides, and droughts – affect every member of mountain communities, threatening lives and livelihoods. However, not everyone has adequate assets to face a crisis and recover from it. It is known that climate changes do not impact people equally and can exacerbate existing inequalities and vulnerabilities (Brody et al. 2008, Hannan 2002, IPCC 2001 and 2007, Lambrou and Laub no date, Lynn 2005).

Champing valley, Sichuan, China



## Why gender matters?

Climatic variability and environmental changes affect men and women differently because they have different roles in their household and society and different rights and access to resources. Although both are vulnerable to climate change, the causes of their vulnerability and their experience of it are different, as are their capacities to cope and adapt. Gender is one factor affecting people's inequitable vulnerabilities and capacity to cope with and adapt to impacts. Class, caste, race, and ethnicity are additional stress factors that can increase vulnerability (Leduc et al. 2008).

While gender relations are a significant 'pre-condition' of people's ability to anticipate, prepare for, survive, cope with, and recover from disasters (Mehta 2007), numerous experiences show that more women are victims of natural disasters. Motherhood partially explains this fact; but the main factors that place women at greater risk are related to social norms and gender roles, such as dress codes, behavioural norms, and the mode of decision making (Leduc 2008; Mehta 2007).

Although women are highly vulnerable, they also play a tremendous role in disaster preparedness and responses, as highlighted by Mehta (2007) and Enarson (2001):

- Women manage and use natural resources, such as wood, water, and fodder on a daily basis.
- Everyday tasks, such as food preservation, help them survive and cope in emergencies.
- Their family and community roles make them important 'risk' communicators.
- Their informal social networks provide them with information about members of the community who may need assistance, or who can help in times of crisis.
- As caretakers of the very young and old, women tend to be more safety conscious and risk adverse. They are more likely than men to pay attention to emergency warnings and the need for disaster preparedness.
- Women have leadership roles in informal local networks and organisations, which are not visible to outsiders or taken seriously by men.
- Many of their formal and informal specialisations – such as cooking, teaching, and involvement in health care – are vital to disaster preparedness and recovery work.
- In many, if not most, communities women are the guardians of local history, including knowledge of past hazards and how the community coped with them. They convey the stories to the younger generation.

## Lessons from the Asian Experience

- **Mortality rates for women are often higher than for men** – During the 1991 cyclone, many Bangladeshi women and children lost their lives due to their reluctance to evacuate homes and take shelter in the absence of men relatives. In earthquakes, women die in great numbers because they are more likely to be inside houses susceptible to collapse. Women's care-giving roles also make it difficult for them to take adequate precautions to save themselves.
- **Early warning systems often fail to reach women** - In the aftermath of the Bangladesh cyclone of 1991, it was found that early warning signals had not reached many rural women because information had been disseminated primarily in market places to which many women do not have easy access. It had been erroneously assumed that men would convey the information to their family members, which did not occur to the extent that it should have.
- **Women's workloads increase during crises** - Natural disasters disrupt access to the natural resources on which household subsistence depends. Women must walk longer distances for water, fodder, and fuel during crises, and the destruction of houses affects their work of cooking, washing, and child care.
- **Girls often have to drop out of school to assist their mothers** - Outmigration of men in post-disaster situations results in women having additional agricultural and household duties. This reinforces gender roles and denies girls access to education.
- **Women are economically vulnerable** - Women's vulnerability is reinforced by the collapse of social support systems, women's lack of assets, lower literacy and educational levels, and limited mobility and access to income-generating work. Some women – the elderly, widows, children, and orphans – are vulnerable to destitution and susceptible to labour exploitation, forced marriages, and trafficking.
- **Women's health and sanitary needs often go unmet** – The responsibility of women and girls for child care, water provisioning, and sanitation makes it more likely that they will come in contact with polluted water sources and the associated potential health consequences. Girls may be given less food in preference to boys and adults, thereby rendering them susceptible to poor health. Menstrual taboos create considerable stress and health complications for women and girls, especially if a lack of privacy and/or lack of latrines and clean water prevent them from attending to their needs.
- **Women are often denied adequate relief or compensation** - Men are regarded as the heads of households, so economic assistance, direct compensation, jobs, and training are often channelled through them. This makes it difficult for women – especially widows, single women, and women-heads of households – to claim compensation, as was the case after the 2005 earthquake in northern Pakistan. After the 1991 cyclone in Bangladesh, women heads of households were overlooked in the distribution of allotments of land and housing, which were based on the previous ownership patterns that were only in men's names.
- **Women face the risk of increased gender-based violence** - After the 2004 Indian Ocean tsunami, there were instances of women being battered for resisting their husbands' selling of jewellery or disputing the use of relief funds. Socially isolated women also face greater risk of domestic violence and their access to fewer resources limits their options to deal with the crisis (Mehta 2007).

The other dimension is women's role in mountain livelihoods. In most of the Himalayan region, women are responsible for supplying water and fuel and play a crucial role in food security (Bhattarai 2008, Brody et al. 2008, Gautam et al. 2007, Leduc et al. 2008, Sherpa 2007). Since climate change affects the water sources and the vegetation that provides sources of food and energy, the depletion of natural resources has negative consequences for women. The migration or extinction of some plant species and disappearance of water sources means that they will have to work harder to access these resources, which will increase their already heavy workload.

There is an urgent need to recognise women's capacities, knowledge, skills, and competencies as their knowledge of their environment is essential in adaptation. In many parts of the Himalayas, women manage the seeds and know which ones are more resistant to droughts or floods. This knowledge is crucial for adapting to climatic variability and environmental changes.

### Gender mainstreaming, a key to adaptation

The gender perspective is still rarely integrated in research, adaptation initiatives, and climate change dialogue (Aguilar 2003; Mehta 2007; Leduc 2008). This is despite general acknowledgement of women's roles in farm production, management of households, and caring for family members. It is also despite the growing realisation of women's role in the management of natural resources and increasing efforts to mainstream gender in development and disaster preparedness initiatives.

#### We need to tap the knowledge of both women and men to increase mountain people's resilience to climate change

In the Garo Hills of North East India, women farmers who practice shifting cultivation manage an average of 35 species of seeds. They have a rich knowledge for their preservation and diversification and about the medicinal and aromatic proprieties of the plants. They know which species adapt better to droughts or floods. This knowledge, too often undervalued, is capital for people's adaptation to climatic and environmental changes.

Brigitte Leduc. Field notes 2009

Garo Hills, Shillong, India (below); Mustang, Nepal (right)



Mainstreaming gender in adaptation strategies will broaden the scope of potential solutions by using a diversity of knowledge and skills related to natural resources management and food production. It would also capitalise on the contribution of more resources for adaptation. For this, we need to

- have a better knowledge about the different vulnerabilities of women and men to climate variability and environmental changes and the causes of those vulnerabilities;



- acknowledge the roles of women and men in coping and adaptation strategies to environmental changes;
- address both women's and men's needs for building their resilience;
- increase the participation of women in climate change dialogue and in adaptation strategies at all levels.

Climate change is already affecting the Himalayan environment and people. The impacts will be felt increasingly and will necessitate changes in people's livelihoods and lifestyles. With different roles in society, men and women face different challenges and demonstrate different reactions and methods for coping. Integrating a gender perspective into climate change adaptation and mitigation policies and strategies will address both men's and women's needs, increase the efficiency of those strategies, save lives, improve livelihoods, and protect natural resources.

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# The Need for Women's Rights to Assets in the Context of the Feminisation of Agriculture in Asia

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**W**omen's experience of the present economic growth and macro economic reforms is mediated through their gendered position within the household and outside. The problem lies in power, poverty, and inequality, not in the physical availability of resources. The deep-seated social inequalities thwart women's voices in community management and farmers' associations.

This paper aims to draw attention to the complex inter-relationship between women's role as agricultural producers and their lack of rights to land and the related factors of production.

Studies on land and agriculture in Asia and Africa show that gender inequalities affect rural and agricultural development. They have also revealed that ensuring equal rights to land and assets for women and men increases economic opportunities, encourages investment in land and crop production, improves household food security, enhances women's agency, and leads to better agricultural management (Agarwal 2003; Lastarria 2002; Kelkar, Nathan and Walter 2003; FAO 2006; Song and Chen 2006).

The trend towards the feminisation of agricultural production appears to be linked with a variety of factors, such as male rural out migration, the growing number of women-headed households, and the development of labour-intensive cash crops. These have led to changes in the traditional gender division of farmwork with women doing the tasks formerly done only by men, such as land preparation, cultivation of crops, spraying pesticides, harvesting, and post-harvest processing and marketing of the produce. If women are paid for these tasks, it is at lower wages.

Despite their increased workload, rural women have reported some level of empowerment in the absence of men as they manage small budgets and household decisions. Further, women's mobility increases as they go to the local market to sell their products. For example, in China, Zhang (2002) noted that rural women, particularly younger generation women, increasingly control household income and make decisions about the sale of agricultural products, investment, and the purchase of large items, such as houses and consumer durables.

## Feminisation of agricultural production

Throughout Asia, women are more likely than men to work in agriculture. A Gender Assessment Report on China for IFAD (2005) indicated that on average women constitute about 70 percent of the agricultural labour force and perform more than 70 percent of farm labour. A general pattern is that the poorer the area, the greater the proportion of agricultural work carried out by women.

In India, close to 33 percent of cultivators and nearly 47 percent of agricultural workers are women (Vepa 2005). This feminisation of agriculture is caused by increased needs for wages, unprofitable crop production, and distress migration of men to seek higher paying casual work in agricultural and non-agricultural sectors. This leaves women to take up low paid casual work in agriculture (Sujaya 2006; p5).

During field visits in 2003 and 2005 to four IFAD projects in Bangladesh, agricultural officers said that nearly 20 to 50 percent of the women from poorer Muslim households worked regularly in the fields. Furthermore traditional gender roles have changed in

the past 10-15 years, due to extreme poverty in some areas and changes in social norms and traditions. FAO reported other studies done in the 1990s, which noted that about 60-70 percent of women from landless and near landless households work as agricultural wage labourers (Jahan 1990).

It is difficult for all members of a household to migrate, since cities have even more limited resources for masses of the poor. Consequently, men leave to become temporary labourers in cities. Women remain behind to take care of agriculture and land (a kind of insurance for migrant workers), children, and the elderly. Thus, they have the compounded burden of productive and reproductive work. Its impact on agricultural productivity has yet to be determined.

### Women's right to land and productive assets

The question of women's land ownership remains current in most of South Asia. Furthermore, discriminatory barriers and socio-cultural rigidities continue to block women from obtaining effective control of property, assets, and resources. This issue includes access to institutional credit, and training and extension facilities.

Experiences show how crucial it is for women to have access to financial resources for increasing production. To some extent, some projects are enabling women to use their access to capital as a means of acquiring access to and control over land, or related productive assets. In parts of Bangladesh, women have taken land on lease through their loans from microfinance institutions. In other places, they have taken control over the management and income from fish ponds from their husbands with capital from microfinance organisation and training in aquaculture.

However, a recent ILO study observes that economic security is worsened by the fact that policies and institutions do not realise that promoting women's control over their incomes and resources would help boost growth and development. This is one of the 'main forms of gender inequality across the world' (ILO 2004; p 86) and is systematically neglected in social policy and income statistics.

Secure and inalienable use rights, with full control, if not full ownership, are necessary for investment. Without security of use rights, women will not invest their own money to improve the land. Effective rights for women in agriculture, along with necessary inputs and credit

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support, could increase the efficiency of resource use and thus contribute to increasing production. In Andhra Pradesh, India, women used microcredit to lease lands that were only irregularly cultivated. They developed the land with regular cultivation and higher productivity.

Security of use rights that require a wife's signature is still limited because it is not the same as having a plot of land registered in one's own name. When women purchased land in their own names, as a number of women had, they were obviously much more secure in their right to the land. To sell it they did not require the husband's signature.

Not being landowners is part of the reason why women are not perceived as 'farmers' even when they do much of the farm work. As a result, agricultural extension and information on new technologies are directed to men, even when women are traditionally responsible. Although vegetable growing is almost universally women's work, projects promoting commercial vegetable growing often train, or used to train, the men, who inevitably lose some of the knowledge if they pass it on to women. If women are accepted as owners and hence as farmers, it is more likely that they would be targeted for training as farm managers – not only as home managers.

Women's ownership of land does not only lead to higher and better quality production. It can enable them to control the use of household income for the well-being of themselves and other members of the household. A growing number of econometrically robust studies show that land and asset ownership by women has significantly better outcomes for their agency as well as for child survival, education and health, than those owned only by men (for discussion see Agarwal 1994, Kelkar 1992, Government of India 2004). With ownership of land and a general improvement in women's economic status, women's economic agency and position is strengthened. Social and cultural gender norms change when women acquire control on land/property/assets.

The findings of our research in rural Bangladesh, India, and Nepal suggest that women's control over assets or land can effectively break the vicious cycle of poverty-patriarchy-illiteracy-ill health, including HIV infection. With independent land rights, women are able to address the local world of male dominance, and of stigma and humiliation in case of any transgression of the gender norms. In rural Bangladesh, women often refer to money as being 'weighty' because if women have control over their earnings and assets they have weight within the household (Kelkar et al 2004).



Rural women can redefine their dignity against patriarchal social norms. They have aspirations for their economic agency and for change in not wanting their daughters to be as they themselves have been. This leads to the creation of new needs to bring changes in the economic and social base of the existing capabilities. The objective of production then shifts from subsistence to the maximisation of income and saving to meet new needs.



## Conclusions

An important general lesson is that the increasing feminisation of agriculture has a deep and wide ranging impact on agricultural productivity. Women's effective rights to land and assets (trees, water bodies, housing) can produce large and multiple pay offs.

However, in relations of domination, the very systems of classification and concept of relations are shared between the dominant and the dominated. Thus, the lack of property rights as a cultural norm of gender relations means that it is expected as a norm by men and by some women. This social order plays an important role in the perpetuation of gender inequality and women's exclusion from land and assets rights.

Women's unmediated control and ownership of land, new technologies, irrigation, and management skills can give them and their households a livelihood with dignity. This is a stronger measure for overcoming poverty.

"Land [like other productive assets] is an opportunity for change. It is a way to have access to other resources, such as water, seeds, new technologies, and bank loans", anonymous, India (ILC and IFAD 2004).

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# Women's Role in Biodiversity Management in the Himalayas

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**W**omen of the Himalayas are users, custodians, and managers of biodiversity and play a critical role in its conservation. Their knowledge is crucial for food security, health, and the general well being of mountain communities. It is becoming critical for adaption to the growing challenges of climate change.

Despite this, few conservation initiatives acknowledge women's role and knowledge. Even worse, their rights over the natural resources that sustain their households and communities are often challenged by changes in land use, the conversion of natural resources into commodities, and even conservation programmes. New schemes of payment for ecosystem services rarely give value to women's significant contribution to the ecosystem services.

Communities living in the Himalayas are repositories of traditional knowledge related to biodiversity, which is vital for their own survival in the mountain ecosystem. They have contributed to the enormous pool of biological resources and contributed in its maintenance through their rich culture and traditional knowledge.

Biodiversity conservation and management entails sustainable use of biological resources, which is often gendered. Studies have shown that men's and women's preferences and utilisation of biological resources and conservation practices are not always the same. Women prefer biological resources for use in households, whereas men prefer to use these resources

to earn income. Thus, women and men have traditional knowledge on different resources and different knowledge of the same resources.

In the Himalayas, women play a crucial role in enhancing, maintaining, and using biodiversity sustainably, particularly agriculture and forest resources. This role cannot be ignored. They are active participants in household and subsistence agricultural activities and invest most of their productive life in the land-based production process (ICIMOD 1997; Aumeeruddy-Thomas and Shengji 2003).

Knowledge held by men and women is different and varies according to their age, ethnicity, geographical



## Different Roles in Mountain Livelihoods: Different Knowledge on Biodiversity

Women's role in conservation – particularly in preserving high quality seeds – was noticeable among the Apatani, Mizo, Naga, and Garhwali communities in the northeastern and western Indian Himalayas. Here women were the major food producers and both men and women shared responsibility (UNDP/FAO 2001).

In the Drosh Valley of Chitral in Pakistan, men's knowledge of fruiting plant species depends on their utility for furniture making, fuelwood, thatching materials, and making sheds and shelters (Aumeeruddy-Thomas and Shengji 2003).

location, and roles in their household and society. As primary users and managers of subsistence resources, and playing a critical role in food production and caring for the wellbeing of household members, women have tremendous knowledge about medicines, food, and other uses of diverse plant species (Byers and Sainju 1994). They hold critical knowledge on biological resources and associated traditional knowledge specifically related to ailments related to reproductive health and agricultural practices.

In the Himalayan mountain communities, 80-90% of seed requirements of all farm-household crops are met through traditional seed management and exchange systems, where the role of women is very significant (Shrestha 1998; Kerkhoff and Sharma 2006). Women are custodians of traditional knowledge related to seeds and maintain a diverse genetic pool of resources, which contributes to in situ conservation (Shrestha 1998).

A study on Mizo women in North East India showed that they are primarily responsible for seed storage

through resourceful men and women. Their knowledge and practices are becoming even more critical for adapting to the effects of climate change. However, in the Himalayas, the critical role of women and men in biodiversity conservation and management and their vast repository of traditional knowledge, developed over centuries of experience, has not been well documented.

Rarely has research on biodiversity and conservation practices adopted a gender perspective and carried out a gender analysis. This may impede the development of fair access and benefit sharing policies that would protect women's rights over biological resources. It is necessary to document and recognise the gender perspective – the different roles, preferences, and needs of women and men – in biodiversity conservation and management in order to achieve sustainable mountain economies and biodiversity conservation.

### Preserving Biodiversity through Home Gardens

A study done in 30 home gardens of the Marma tribe in Rangamati Hill District in Bangladesh revealed that women were primarily responsible for maintaining home gardens that contributed to the conservation of a genetic pool of 19 perennial species of food and fruit crops (69%), timber (26%) and ornamental plants (Aumeeruddy-Thomas and Shengji 2003).

In Chandigre village, Meghalaya in North East Indian, 37 seasonal crops and 30 perennial crops were maintained in home gardens (Kerkhoff and Sharma 2006).

within the household (UNDP/FAO 2001). In Kaski, Bara, and Jumla districts of Nepal, women are major decision makers in the selection of finger millet and taro seed and decide on the criteria for seed selection. For millet, they prefer large and mature ear size, larger grains, and seed free from diseases and pests. For taro, women prefer seed from less eyed, large size, and disease and pest free stock (Baniya et al 2005).

Long-term sustainable conservation of agrobiodiversity and the future needs of genetic biodiversity can be fulfilled

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Chitral, Pakistan (left); Garo Hills, Shillong, India (below)



# The Need for a Gender Perspective in China's Rangeland Policies

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**A**n examination of rangeland projects in China reveals that if the gender dimension is not integrated in policies, those policies are likely to contribute to increasing – or even generating new – gender inequalities, and to reinforcing patriarchal systems, because women are losing control over fundamental assets while their workload is increasing.

A case study to identify the impacts of the Grassland Improvement Policy (GIP) on women was carried out in 2007. Through questionnaires, the study interviewed 360 women from 12 villages of six counties of Inner Mongolia Autonomous Region, Ningxia and Gansu provinces. It shows that although the Grassland Improvement Policy has brought some economic benefit, it changed the traditional animal husbandry production style, decreasing men's work intensity but increasing women's work time

Zoige, Sichuan, China (below); Tibet AR, China (right)



and workload. Women increasingly carry out more of the grazing work, but are losing their rights to land and are rarely included in training to increase productivity. Thus, the policy is further intensifying gender inequities.

### When traditions and laws deprive women's rights to land

A Land Contract Law was promulgated in China in 2002, and has been effective since March 2003. The article on protecting women's land rights specifies that



a woman who marries is unable to obtain a new land allocation in her husband's village if she retains her land rights in her place of origin.

However, in practice, women can rarely maintain their land rights in their place of origin after marriage. Since originally land was allocated to the entire household, no one can in practice claim part of the whole as one's own. This applies both to the land tenure right and the share of output from the land. Second, women's claim to their land rights in their place of origin is against the interests of their family as it would be perceived as a rebellion against the patriarchal system, and is thus unlikely to succeed. As a result, women's loss of their land rights directly reduces their capacity to participate in the family decision-making.

It would be imperative to ensure women's rights to land in the implementation guide for land distribution and ensure their participation in decision-making.

### When the promotion of new practices increase women's burden

A component of the project aiming to improve the management of rangeland resources focused on

the construction of fences and a shift to shed raising livestock instead of rangeland herding. This component brought about some economic benefits for both women and men who participated in the construction of the infrastructure. However, the shed raising method contributed to freeing men from the task of herding the livestock, and considerably increased women's workload by an average of two hours a day. Women must fetch sufficient fodder and water for the now stationary livestock and take care of the lambs.

The table below shows the division of labour between men and women in the case study.

Working tasks	Labour division proportion by gender	
	Male %	Female %
Lamb delivery and care	10	90
Grazing	80	20
Stall breeding	40	60
Prevention and treatment of epidemic diseases	50	50
Wool clipping and grading	20	80
Milking and processing	0	100
Cutting grass and making meadow fences	50	50
Planting feed	60	40
Breeding and genetic improvement	50	50
Selling products	60	40
Cooking and gathering firewood	0	100
Feeding pigs and chickens	0	100
Cleaning cow dung	10	90

In most rangeland areas, the project's most popular activities with women were warm shed construction, irrigation, breed improvement, and grass species improvement because the activities directly increase their income. With this income, women invest in purchasing more livestock, improving the breed, building a warm shed, sending their children to college, and improving their living conditions. However, despite their role in income generation, the social status of women in the community and in family decision-making does not seem to change.

This raises the question of whether rangeland management projects should aim merely to improve people's material living conditions or aim to promote the all-round development of people. The former goal gives importance to economic projects in which women can take part. The latter focuses on improving women's abilities to make sensible choices to ensure that women will benefit.

If rangeland management projects do not consider women's roles and the gender division of labour, they only change the traditional stockbreeding production patterns and increase women's workload, which ultimately results in the deterioration of women's livelihoods and quality of life.

Hence, it is important to integrate the gender perspective in project planning and implementation phases. The first step is to conduct a survey of local people's requirements – in consultation with both women and men – and establish development goals that consider the gender

“It is important to integrate the gender perspective in project planning and implementation phases.”

perspective in the project's general goal, sub-goals, and expected results. This will enable women to have equal opportunities and benefit from projects for livelihood improvement. Also, using a participatory approach in the project design process that seeks the suggestions and requirements of both women and men will ensure that women are at least equal participants in the projects in which they do most of the work.

### When service delivery mechanisms do not favour women's outreach

Although women do most of the production activities and therefore have more need for training, their lower social status and heavier workload means that they rarely get opportunities to participate in training. A survey conducted by the Research Centre for Rural Economy in three rangeland regions in 2007, showed that all the counties surveyed provided technical training for herders, but only 10% of the participants were women.

In the traditional local culture, men make decisions and apply new techniques, so the few opportunities for technical training and services become a man's prerogative. Men also outnumber women by three to four times in agricultural technical extension professionals and technical personnel, according to the first agricultural census held in 2000 by the National Statistics Bureau.

Integrating a gender perspective in service delivery can contribute to improving the effectiveness of training that aims to increase production. Technical training should directly target women or men according to their field of intervention taking into account the gender division of labour. Different training and extension services should be designed to address the different needs of women and men. For example, training on breeding should specifically target women because they are the main producers, which will improve the production efficiency.



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### Conclusions

Rangeland management policies and programmes are not neutral: they affect women and men herders differently. The case studies clearly show that failing to acknowledge the different roles women and men play in the production system, especially in livestock raising, not only limits the benefits for women but also contributes to increasing gender inequality.

Thus, it is essential to recognise and value women's role in the rangelands in order to provide the right support for increasing productivity and reducing poverty among rangeland communities. For this purpose, we need first to document better the division of labour and the access and control over production assets from a gender perspective, which must then be integrated fully in development and environmental programmes.

Policies must also be analysed according to their impacts on women and men. The sustainable development and management of rangelands can only be achieved when policies and programmes properly integrate a gender perspective and value the contribution and roles of both women and men.

# The Poverty Status of Female-headed Households in Nepal

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**T**he importance of gender-disaggregated data has been recognised by many organisations throughout the world for several years. The Beijing Platform for Action (1995) strongly advocated its implementation. However, although many governments have committed to establishing the mechanisms for producing such data, very few have succeeded.

Gender disaggregated data are necessary for governments and other public and private institutions to plan adequate services for the overall population which address the different needs of women and men and help bridge the inequality gaps. They also help governments, development workers, and others to understand how socioeconomic changes affect women and men differently, and how they can cope with new realities. In general, gender inequalities affect women's access to education, health care services, and financial resources, and constrain their participation in decision-making. This in turn limits their capacity to seize new opportunities and to cope with economic stresses. Knowing this leads to the assumption, for example, that households headed by women will be poorer, an assumption that can only be tested if gender disaggregated data are available.

ICIMOD carried out a small statistical analysis of poverty in Nepal using data from the 1995/96 and 2003/04 National Livelihood Standards Surveys (NLSS), which looked among others at the difference in poverty level of households headed by women and by men<sup>1</sup>. Use of this gender disaggregated data showed that contrary to the prevailing assumption, women-headed households in Nepal were on average less likely to be living in poverty than their male-headed counterparts. In 1995/96, 42% of both male and female-headed households in the country were living below the poverty line, but by 2003/04, only 24% of female-headed households were living below the poverty line compared to 32% of male-headed households, reductions of 18% and 10%

respectively. The difference was equally marked in the mountain/hill, plains, and Kathmandu valley areas, where the proportions of female and male-headed households living below the poverty line were 32% and 42%, 19% and 29%, and 2% and 4% respectively.

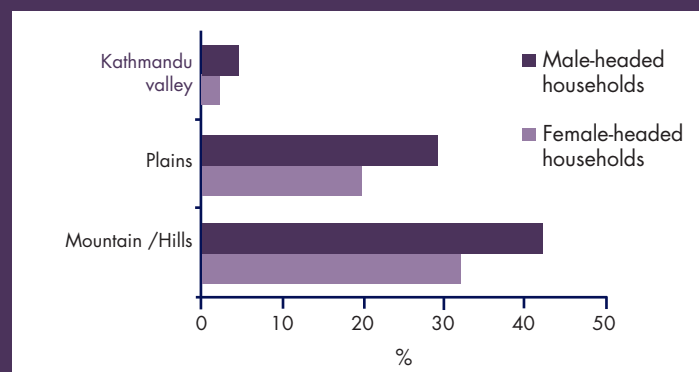
The Central Bureau of Statistics, in their interpretation of the 2003/04 NLSS data, note that "If a household's head changes from being a male to being a female (for example, by a husband departing to work elsewhere) the probability of being in poverty is reduced by 48 percent in urban areas and by 19 percent in rural areas." (CBS 2005)

Paimarang, Chitwan, Nepal



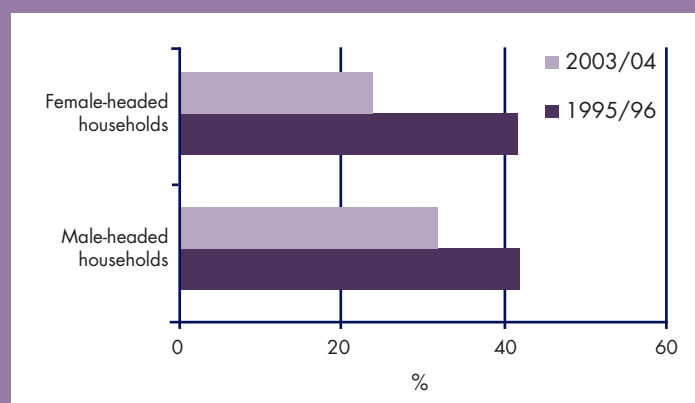
<sup>1</sup> Head of household is defined by the NLSS as the person who i) manages the income earned and expenses incurred, ii) is the most knowledgeable about other members of the household, and iii) was present in the household for at least 6 of the 12 months preceding the interview.

**Figure 1: households under the poverty line (%) 2003/04**



There are various possible explanations for this finding, all of which must, however, remain speculative until further research is carried out. One possible reason is that on average female-headed households receive more remittances; the statistics did not differentiate between households where the male head was contributing through migration, and those in which there was no male head (e.g., as a result of death, disappearance, or incapacity). However, additional data indicate that in 2003/04, 65% of the female-headed households received remittances, in contrast to only 24% of male-headed households (CBS 2005).

**Figure 2: Households under the poverty line 1995/96, 2003/04**



Another possibility is that female-headed households are less poor as a result of development efforts that specifically target them. For example, the UNDP's Microenterprise Development Programme (MEDEP) was set up in 1998 as a poverty reduction initiative to support Nepal's poverty reduction efforts. In 2009, 68% of the 44,195 micro-entrepreneurs in the project were women, and 43% of the women had access to financial services, compared to only 18% of the men (Lakshman 2010).

These findings show that gender disaggregated data can provide important information on the different position of women and men, and their different vulnerabilities and potentials in particular situations. In this specific case, the findings need to be analysed further in order to develop a more comprehensive understanding of the gendered dimensions of poverty, and the reasons why households headed by women may be less affected by poverty on average than those headed by men. Such an analysis should also examine the situation in other countries of the region.



**Dhulikhel, Nepal**

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# A Challenge in Addressing Gender Inequalities – the lack of gender-disaggregated data

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**G**ender equality and women's empowerment is one of the millennium development goals (MGDs). In many parts of the world, gender disparities continue to be large and are hampering the socioeconomic development and wellbeing of countless societies.

In order to reduce gender inequalities successfully, the first step is to identify gender disparities and their

underlying causes. This is essential in order to design effective measures to tackle the inequalities. Gender analysis requires collection, processing, and reporting of sex-disaggregated data. Unfortunately, most data collected by the information systems of governments are not sex-disaggregated and cannot be used to analyse differences and commonalities between men and women, or for further gender analysis.

Yuanmou, Yunnan, China



In remote mountain regions, gender disaggregated data are even more scarce, and this means that the specific issues that women are facing remain concealed. Often, women are affected more by poverty and suffer more from limited access to public services and infrastructure, with their social status as women being the main cause of their suffering.

In this article, I present the case of the health sector in the province of Yunnan in China to illustrate how useful gender disaggregated data can be for understanding the causes of health issues and for addressing those issues properly.

### Learning from the analysis of inpatient records: Gender roles expose women and men to different health issues

The ecohealth project 'Land use change and human health in the Eastern Himalaya – an adaptive ecosystem approach' was implemented in Yuanmou County of Yunnan Province, China. It integrated a gender analysis in the project methodology and contributed to improving the understanding of health issues related to land use change.

The project analysed individual records of inpatients admitted to the county hospital from 1985 to 2003, as a basis for understanding the major diseases and health problems of the population of the county. The goal was to detect if the health problems were associated with the land use change that had occurred in the last few decades. The land use change in Yuanmou County mainly consists of intensification of agriculture by using large amounts of pesticides, fertilisers, and other agricultural inputs.

Fortunately, the original records have information on the sex of individual patients so that some indicators could be calculated by gender. We were particularly interested in pesticide-poisoning cases as we were interested to know whether pesticide

use was causing serious health problems for local people. A total of 261 poisoning cases were identified accounting for 1.5% of the total inpatient cases admitted to the hospital in the years 1985, 1990, 1995, 2000, and 2003. Pesticide poisoning accounted for 44.4% of the total poisoning cases.

Thus although poisoning was not a major cause of people being hospitalised (1.5%), pesticide poisoning was the main cause of poisoning (44.4% of the total cases), indicating that measures may be needed to protect people from such poisoning. In addition, around two thirds of pesticide-poisoning cases were in females in almost all years, as well as overall (Table 1)

The finding highlights important questions for further study. Why were there so many more female cases of pesticide poisoning than male cases? Does it mean women have more exposure to pesticides? Is there a link to the feminisation of agricultural production? Does it mean women have little knowledge about self-protection and skill when applying pesticides? Or, is it simply because more women used pesticide to attempt to commit suicide<sup>1</sup>? Whatever the reason, the finding showed that interventions aiming to reduce the negative impact of pesticides on human health should pay special attention to women.

The records also provided information about the number of cases of injury. Injuries increased from 10.3% to 34.9% of total admissions from 1985 to 2003, indicating that they have increasingly become a major health problem in the county. In contrast to pesticide poisoning, approximately two-thirds of the injury cases were males (Table 2).

Table 1: Pesticide-poisoning cases in different years at Yuanmou County Hospital

Sex	1985		1990		1995		2000		2003		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Male	24	32.9%	9	34.6%	1	14.3%	4	57.1%	1	33.3%	39	33.6%
Female	49	67.1%	17	65.4%	6	85.7%	3	42.9%	2	66.7%	77	66.4%
<b>Total</b>	<b>73</b>	<b>100.0%</b>	<b>26</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>7</b>	<b>100.0%</b>	<b>3</b>	<b>100.0%</b>	<b>116</b>	<b>100.0%</b>

Table 2: Cases of injury in different years at Yuanmou County Hospital

Sex	1985		1990		1995		2000		2003		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Male	280	69.7%	183	63.8%	253	71.1%	567	67.0%	706	68.2%	1989	68.0%
Female	122	30.3%	104	36.2%	103	28.9%	279	33.0%	329	31.8%	937	32.0%
<b>Total</b>	<b>402</b>	<b>100.0%</b>	<b>287</b>	<b>100.0%</b>	<b>356</b>	<b>100.0%</b>	<b>846</b>	<b>100.0%</b>	<b>1035</b>	<b>100.0%</b>	<b>2926</b>	<b>100.0%</b>

<sup>1</sup> In rural China, the suicide rate is much higher among women than men, and many women use pesticide as it is easily accessible.

The questions here were: Why were there more male than female injury cases? What can be done to prevent and reduce male injuries? Data from the field survey showed that over the last three decades men had found new job opportunities in the massive infrastructure construction in the county. They worked both as drivers of vehicles and as construction workers. This could be one cause of the increasing number of injuries among men. The gender role our society has assigned to men makes them more likely to be the beneficiaries of new employment opportunities, but this also exposes them



Yuanmou, Yunnan, China

to new risks, such as road accidents and job-related injuries. Thus, interventions that aim at reducing injuries should pay special attention to men.

Thus, it appears that women and men from the research site are exposed to different health risks and this may be related to the division of labour. More research needs to be done to confirm the exact causes of the gender disparities – why are more women exposed to pesticide poisoning, and why are more men exposed to accidents. However, the most telling point of this first analysis is that it shows how important the assembly of gender disaggregated data is as a basis for understanding disparities between women and men and the causes. This information can be critical when designing prevention programmes, as it helps identification of the right target group and addressing the right cause of the health issue.

### Learning from the household survey: Decision-making power and access to health care

Inpatient data records were not available<sup>2</sup> at another project study site, in Nima Township of Nierong County in Tibet Autonomous Region, China. Thus, we conducted a household survey in two villages of the township to

collect sex-disaggregated data. Because of the low population at these sites, the data from the survey was insufficient for us to calculate men's and women's disease indicators. However, the survey revealed gender inequalities in other aspects.

For example, the survey showed that in more than 70% of families in both villages, the husbands control income and make decisions about important matters, even in the 16% of households where polyandry – in which one wife has more than one husband – is practised. In general, the gender division of labour was still quite strict, with men mainly herding the livestock and women mainly performing domestic work, such as washing, milking cows, cooking, and caring for young children.

The survey revealed the unmet needs of local women for maternal health care services. The majority of the women surveyed did not have any prenatal care during pregnancy and gave birth at home attended by untrained people. Ten percent of surveyed women had had a spontaneous abortion. Many women reported gynaecological symptoms, but few of them had sought care in health facilities. Only 17 % of women used sanitary pads during menstruation – while more than half the families had a television and telephone. This indicates that the improvement of women's health does not match the pace of economic development.

### Conclusion

Sex-disaggregated data (both qualitative and quantitative) do not represent gender analysis as such, but they are the first step in carrying out a gender analysis. In reality, the availability of such data is very limited in many settings, particularly in poor mountain areas. This poses a big challenge for gender sensitive development.

Thus we call for the collection, analysis, and reporting of sex-disaggregated data by governments, international organisations, NGOs, and all stakeholders who have committed to gender equality and mountain development. In this way, we may overcome the challenges and address gender inequalities more effectively and efficiently.

### Acknowledgements

I would like to thank the study teams of the EcoHealth project at the Tibet and Yunnan sites for their efforts in carrying out the field studies. I would especially like to acknowledge the Yunnan site study team for spending much time collecting and analysing the original inpatient records in Yuanmou County Hospital, which has provided excellent data for this short article.

<sup>2</sup> Local hospitals had not yet collected and kept these data despite the requirement from the health authority.

# The Impact of Women in Nepal's Community Forestry Management

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Existing research on gender and local forest governance has focused predominantly on women's relative absence from governance institutions and the gender equity implications. These studies provide important insights on the factors constraining women's participation.

What if we asked a different set of questions, such as what difference would women's presence make in

these institutions? How would that affect institutional functioning and outcomes for conservation and subsistence? And, how much presence would make a real difference?

This article takes these questions as its central focus. It outlines conceptually why we would expect women's presence to make a difference, statistically tests a range of hypotheses, and traces the policy implications

Sisneri, Lalitpur, Nepal



of the results. The data relates to a primary survey of community forestry institutions (CFIs) that I undertook mainly during 2000 and 2001, in hill districts of Nepal in particular, to examine what impact the gender composition of the group has on a range of aspects, in particular women's participation, rule making, rule violations, forest conservation, and firewood and fodder shortages.

Godawari, Nepal



Both quantitative and qualitative information was collected. Some initial results of this analysis have appeared in several papers (Agarwal 2009a, 2009b, 2010) and the entire range of issues is examined comprehensively in a forthcoming book (Agarwal, in press). Here I briefly present highlights of the Nepal results relating to three aspects: (1) women's effective participation in the process of decision-making; (2) the formulation of forest use rules; and (3) the effect on forest conservation.

The Nepal survey included 70 CFIs (or forest user groups) in the hill districts of Baglung, Parbat, Gorkha, and Dhading. The sampled CFIs varied in the gender composition of their executive committee (EC) – the principal decision-making body – ranging from no women to all-women, with a range of mixed-gender ECs in between. The analysis of women's participation is based on CFIs with a mixed-gender composition. The impact on forest use rules and forest conservation is based on a comparison between all-women groups and other groups. The regression analysis controls for variations in the characteristics of the EC, the institution (CFI), the resource (forest), and the location (district).

## Women's participation in decision-making

The study found that the more women there are on the EC, the greater is the likelihood of women attending EC meetings, speaking at them, and being office bearers (i.e. chairperson, vice-chairperson, secretary, or treasurer). Increasing the number of EC women ensures that there is at least some female presence in most meetings. Women's attendance rate also improves and there is evidence of a critical mass effect. Their attendance rate is significantly higher where 25 to 33 percent of the EC consists of women, compared with ECs with less than 25 per cent women, although the positive effect tends to taper off after one-third.

The likelihood of at least some women speaking up is also greater among ECs with a third or more women members. This provides empirical support for the popular view that having one-third women makes an important difference and strengthens the policy argument for promoting at least these proportions of women in decision-making bodies.

Enhancing women's numbers on the EC also improves the chances of women becoming office bearers, but not in a linear way. There is a threshold effect around 25 percent women, which is the minimum percentage

*“Enhancing women's numbers on the EC also improves the chances of women becoming office bearers”*

needed to make a difference, but the likelihood increases further as we move towards 50 percent women. Notably, though, while the EC's gender composition significantly affects the chances of a woman holding office, it has no effect on men holding office.

A person's individual characteristics matter as well. Women who are literate and currently single (widowed, separated, etc.) are more likely to become office bearers, as are men who are literate and landowners. Another factor that is likely to have influenced the induction of women as office bearers in Nepal's CFIs, although not uniformly, is the gender-inclusive nature of the constitution framed by FECOFUN (Federation of Community Forestry Users Nepal). This would have sent a strong message that women's presence as decision-makers is desirable and important.

## Forest use rule making

The gender composition of CFIs also affects the nature of the forest use rules that the groups make. It is well recognised that a key element in the sustainability of CFIs is the forest use rules and the process by which they are formulated and adapted to user needs. In Nepal, these rules show considerable diversity; and their extent of strictness (e.g. what can be extracted from the forest and how frequently) varies by forest product, the characteristics of the forest and the CFI, the CFI's location, and the composition of the EC.

Notably, although a greater presence of women in CFI decision-making does influence the extraction rules significantly, the difference women make is not always in the expected direction. Given the pressures on women, especially for firewood and fodder collection, we would have expected them to favour early rather than deferred extraction and push for lenient rules. I found, however, that all-women CFIs in Nepal, compared to other CFIs, made stricter rules. An important reason for this is that all-women groups have less freedom to make lenient rules due to serious resource constraints (smaller and more degraded forests). Age is another factor. Older EC members, including older women, tend to make stricter rules, most likely because they have lower time

preferences and fewer personal costs from forest closure, since daughters-in-law can take over some of the burden of firewood and fodder collection.

In other words, the impact of women's presence is tempered both by the characteristics of the group managing the forest and other factors, such as the condition of the forest protected. At the same time, the finding that all-women ECs make stricter rules, despite their personal hardship, indicates that their governance practices are informed by a notable concern for conservation.

## Forest conservation

Finally, what impact does the presence of women on the EC have on conservation? Measuring the impact of protection on the condition of a forest is complex. I have used two indicators for Nepal. One is based on the villagers' assessment in 2000/01 of forest regeneration since protection began. The EC members categorised regeneration as poor, good, or very good. The second indicator is based on a comparison of the forest department's written records of forest condition at the time of handover, and a forest officer's assessment of the condition at the time of my survey. By both indicators, most CFIs registered an improvement.

Saptari, Nepal



However, a comparison of all-women groups with other groups gives a mixed picture. On average, Nepal's all-women CFIs began with poorer forests than the other groups. Today, by the villagers' assessment, although a somewhat larger percentage of the all-women groups relative to other groups report 'poor' regeneration, a substantially larger percentage of them also report 'very good' forest regeneration. In addition, the forest department's assessment shows that a substantially larger percentage of all-women groups relative to other groups have improved canopy cover.

## "All-women ECs make stricter rules, despite their personal hardship"

The regression analysis supports these observations. Despite receiving much smaller and more degraded forests, all-women groups outperform other groups and show better forest regeneration and improvement in canopy cover, after controlling for other factors. This could be due to many reasons. Involving women in the EC's decisions:

- enlarges the pool of people who are committed to resource conservation,
- improves the flow of information about forest closure rules among a wider cross-section of users,
- increases the number of people keeping a lookout for intruders,
- creates conditions under which women can better use their knowledge of plants and species and forest conservation practices, and
- raises children's awareness about the need for conservation, thus increasing the chances of long-term sustainability of the institution.

Older EC members, including older women, make a particular difference, as does employing a guard to supplement village patrolling. Technical support from the forest department (including training in pruning and clearing operations) can also enhance the effectiveness of a community's forest management, although gender barriers in access to training need to be overcome. At present, such training is provided mostly to male office bearers. Finally, it is important to give women's groups larger sized forests and in a condition that allows regeneration and sustainable use, rather than the small and degraded plots often handed over to them.

## Conclusion

In conclusion, women's greater presence in Nepal's community forestry institutions has many statistically demonstrable benefits. It enhances women's effective participation in decision-making; influences the nature of decisions made, especially the rules of forest use and their implementation; and improves forest conservation outcomes.

In addition, although not measurable empirically in all facets, many gender-empowering effects follow when women are present in sufficient proportions. Speaking up at meetings, influencing decisions, participating in patrolling, holding office, and, in some cases, even asking forest officials for a forest plot, are all aspects of empowerment. Measures that help increase the presence of women in the governance institutions would thus be beneficial both because their participation is important in itself, as a constituent element of successful institutional functioning, and to better fulfil the conservation and subsistence objectives of such institutions.

Where the institutions have done less well, however, is in addressing women's domestic energy needs. Firewood shortages persist and in many cases, are becoming even more acute despite the regeneration of forests and greater availability of biomass. This has negative welfare implications in terms of the time and effort women expend in firewood collection and the health ill effects that they and the children suffer from using smokier fuels as substitutes. Notably, CFI funds are seldom used to address women's problem of cooking energy shortages. This suggests the limits of what can be achieved simply by increasing women's presence in local institutions, and to the need for support from institutions beyond the local, to address such subsistence needs. Here Nepal's major representative network of forest users, FECOFUN, could play an important facilitating role.

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# Gender and REDD: Threat or opportunity for mountain women?

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**T**he role of Himalayan women in forest management is not well recognised despite the role they play in managing trees and forests for fodder, medicine, food, and fuelwood. As a result of existing gender inequities, women seldom hold ownership and tenure rights to land, trees, water, and other natural resources. This has a bearing on women's rights to receive benefits from payment for environmental services activities (PES), including those mitigation measures related to climate change that are land-based, such REDD (reducing emissions from deforestation and forest degradation).

REDD is a set of steps designed to use market/financial incentives in order to reduce the emissions of greenhouse gases from deforestation and forest degradation. Its original objective is to reduce greenhouse gases, but it can deliver co-benefits such as biodiversity conservation and poverty alleviation. REDD credits offer the opportunity to utilise funding from developed countries to reduce deforestation in developing countries.

Women of the Hindu Kush-Himalayan region have local, specific, and sophisticated knowledge of the interlinked systems of forests, livestock, and crop production. They make huge contributions of labour and time to maintain

Chitwan, Nepal



forest and soil resources. Yet, the global community is only now beginning to understand the 'added value' these actions play in limiting and mitigating carbon emissions, through carbon sequestration in trees and soils.

The question that now arises is: does the new focus on carbon emissions mitigation through REDD provide a way for women, who have provided this global environmental service, to receive compensation for their labour? Or, does it pose a new threat to women's

Lamatar, Nepal



struggle for access to resources with which to maintain even a low level of subsistence?

### Nepal: A model for gender equitable REDD?

Nepal is world-renowned for the bold and transformative model of forest governance initiated in the early 1980s through the Community Forestry Programme. Today, 14,000 community forest user groups (CFUGs) manage over a million hectares of forest. Of these, 878 are women-led and managed. Women also comprise a significant percentage of the members in mixed gender CFUGs.

The knowledge gained from over three decades of implementing community forestry in the hill and mountain regions of the country has lessons on how to engage user group members in forest management schemes. It may even offer a way to design a payment for environmental services model that benefits rural women.

The government of Nepal is committed to implementing a user-based, gender sensitive, and poverty-focused forestry programme for REDD. It is developing policies and processes that support a targeted approach to benefit socially excluded groups, including women.

However, these policies under development lack clear guidelines on how to operate the remuneration at the community level. Moreover, women are not represented in the REDD consultations.

There is a clear need for pilot projects that can generate lessons that will be of interest to the government of Nepal as it strives to institutionalise gender-equitable REDD structures and processes. Since REDD is performance-based, it rewards programmes that are more effective and efficient. Hence, it will be important to demonstrate how women's involvement has made a difference in effectiveness and efficiency.

Can Nepal address this critical gap so that policies, mechanisms, and processes take full account of the differentiated rights, roles, and responsibilities of men and women? Can it promote gender equity in REDD policy and practice in order to reward women who protect and manage forest resources? Can Nepal develop women's leadership capacities, so that women in mountain areas can hold policymakers, forestry staff, and donor institutions accountable to their stated commitments to gender equity?

### Conclusions

As a mitigation mechanism for climate change, REDD provides a framework to reward forest managers for their efforts to protect, nurture, and rehabilitate forests and to expand community-based forestry systems that address the basic livelihood concerns of women and other groups depending on this resource. REDD could reduce the vulnerability of women and ecosystems to climate change while bringing new financing and mechanisms that help address poverty alleviation goals. It could reward women for their stewardship (especially regarding saving seeds and nurturing trees) through targeted and effective public governance measures that pay them for their time.

While REDD presents opportunities for positive outcomes for forest-dependent communities, it risks serious negative outcomes if REDD projects exclude rural women from decision-making processes, benefits, and the use of forests on which their households and farms rely. This risk exists because current consultations on REDD at the national and global levels, rarely include women who represent these concerns.

If a country, such as Nepal, can include women in these critical consultations, it can demonstrate how REDD – as a payment for environmental services mechanism – can value women's contributions to forest management and remunerate women for activities that mitigate carbon emissions.

# Empowering Disadvantaged Women Through Natural Resource Management Groups

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Over the last decade, the North Eastern Region Community Resource Management Project for Upland Areas (NERCORMP) spearheaded a silent revolution in community-led development and empowerment of women and indigenous peoples. NERCORMP was jointly implemented in selected districts of the North Eastern

states of Assam, Manipur, and Meghalaya from 1999 to 2008 by the International Fund for Agricultural Development (IFAD) and the Government of India.

The uplands of North East India are recognised globally for their extremely high biological and rich ethnic diversity. The region is also one of the most underdeveloped in India, with the upland communities feeling alienated and

Garro Hills, North East India



at the periphery of socioeconomic improvement due to their geographical, cultural, and political distance from the mainstream of developmental changes in India.

Over the past three decades, the central government has tried to address this disparity by facilitating a substantial flow of funds. However, much of the assistance has been considered inappropriate and ineffective, fuelling large-scale disillusionment with development efforts sponsored by the government.

With this background, NERCORMP was designed to demonstrate a new approach with interventions that were technically appropriate, culturally sensitive, institutionally effective, demand driven, and client-oriented with due recognition of the indigenous knowledge and capabilities of the communities. Simultaneously, NERCORMP would emphasise transparency and accountability. To address this formidable challenge, the project design adopted a multi-pronged strategy:

- introduce participatory planning processes and finance priority activities identified through the involvement of the entire community;
- develop self-reliant community institutions to manage implementation of project activities and sustain further development in the long term;
- strengthen the involvement of women, focusing on building up women's activities through savings and credit self help groups and integration of women into the mainstream activities; and
- change the attitudes and behaviour of the principal promoters of development in the region.

Compared to women elsewhere in India, women in these ethnic communities have greater equality and face fewer behavioural taboos, but they still lag behind men in critical areas. For example, women are active in decision making in household affairs and agriculture, but lack substantive control over property, even among the matrilineal societies, such as the Khasis, Jaintias, and Garos of Meghalaya.

All the ethnic communities of the region have traditional institutional structures with a village headman and some form of village council. Most headmen are hereditary and most councils consist of elders and clan representatives. Although decision making by these traditional institutions is said to be 'democratic and inclusive of all members of the community', women are universally excluded from these institutions and any formal participation in village affairs. Women do have their own institutions in most communities, but no say in village governance.

For the project management team, integrating women into the community decision-making processes was the most important objective during the early stages in order to gradually enhance their role in decision-making. The project had to formulate an innovative approach given the structure of traditional institutions and the practice of excluding women in community decision making. Clearly, advocating the restructuring of existing traditional institutions would be too radical an approach and unacceptable to the ethnic communities, even those having a matrilineal system.

## "Integrating women into the community decision-making processes was the most important objective"

The project had to promote a new community organisation with adequate representation of women. Therefore, after the initial social mobilisation activities, it encouraged the formation of natural resource management groups (NaRMGs) in each participating village. The NaRMGs would hold regular meetings at least twice monthly to discuss village development concerns, prioritise identified needs, and plan interventions and related activities.

Each year, the NaRMGs would prepare their work plan and budget, based on discussions held earlier during the year that identified community needs. The NaRMG also had to identify and prioritise development needs by conducting a just, inclusive, and targeted selection of households for income generation activities.

Given the intended critical importance of NaRMGs, it was essential to design membership norms and regulations that could ensure participation and empowerment of women. Membership was voluntary; households had a choice as to whether they joined the NaRMGs. If the household joined, then project membership was open to all adult members of a participating household but membership of both the husband and wife was mandatory to ensure the participation of women.

Each NaRMG elected an Executive Committee on which at least two members had to be women. The office bearers of the Executive Committee had to include at least one woman. The Executive Committee had the responsibility to oversee implementation, monitor progress, and ensure corrective measures whenever

and wherever necessary. It also had responsibility for all liaisons with the project teams, district administration, line departments, and banking institutions.

In the initial years, the communities usually elected the head of the traditional institution as the NaRMG President and one of its members, as secretary. A woman would be elected to the executive, mostly because it was mandated. The participation of women in NaRMG meetings was as passive spectators, which was expected by the project teams.



Garo Hills, North East India

In order to support women's empowerment and develop their leadership, the project teams encouraged women to form self-help groups (SHGs) with memberships based on affinity. SHGs started with savings-and-credit activities, which were complemented by capacity building measures aimed at enhancing the women's abilities in simple accounting and bookkeeping. The project also conducted capacity building in leadership and livelihood activities. Exposure visits were organised for SHG members to widen their horizons. MYRADA, an NGO experienced in exposure visits and training, conducted these activities for SHGs and women NaRMG members.

"The project teams encouraged women to form self-help groups (SHGs)"

As time progressed, the SHG meetings became forums where the women discussed savings-and-credit issues and other concerns including health, hygiene, and domestic issues. As internal lending and repayments improved within the SHGs, the project conducted

assessments and categorised the SHGs according to their performance in order to advance grants matching the SHG savings. The infusion of matching grants built the confidence of the SHGs further and the purpose of internal lending gradually shifted from being for consumption needs to being for income-generating activities.

"Offshoots of this empowerment process are the numerous small enterprises"

Gradually, SHG members gained confidence and started to be more vocal in articulating their concerns and needs in NaRMG meetings, which helped enhance transparency and accountability. Today, the NaRMG executive members are elected from among the ordinary members and many NaRMGs have a larger proportion of women executives. Offshoots of this empowerment process are the numerous small enterprises managed by SHGs; institutions, such as the women's bank, in West Garo Hills, Bilcham; and the tea factory set up by the West Garo Hills Tea Farmers' Federation.

The success of the NaRMG approach in promoting a community-led, inclusive, decision-making process is perhaps seen best in the West Garo Hills of Meghalaya. This area has become a showcase of the National Rural Employment Guarantee Act (NREGA), a flagship programme of the Indian parliament to guarantee a hundred days of employment for the rural poor. The District Commissioner selected West Garo Hills as one of the fourteen districts to pilot NREGA, knowing the effectiveness of the NaRMG as a village level decision-making body. He advised adoption of this model to form village employment councils (VECs) that implement activities under the NREGA. This led to expansion of the NaRMG model and enhanced the process of women's empowerment in the uplands of North East India.

# Engendering Energy and Empowering Women in the Himalayan Region

## Some critical issues and options

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**T**he wellbeing of mountain people in the Himalayas, especially women, depends on energy and water – the two most essential resources for human survival. These resources are becoming increasingly scarce due to poverty, population pressure, changing climate, and inappropriate development interventions. As a result, women and children are facing a greater and disproportionate workload because of the traditional gender-based divisions of labour.

With increasing water and fuel related work burdens, women have no time to participate in new livelihood opportunities. Women also face a variety of health hazards from carrying heavy loads and cooking for long hours in a smoky environment. Interventions need to empower women to meet their energy and water needs, improve their wellbeing, and reduce poverty and environmental degradation.

This paper aims to offer some future strategic options based on the learning from projects implemented by ICIMOD in the Hindu Kush-Himalayas during the last decade.

### Learning from the ground

With support from the United Nations Environment Programme (UNEP) and Swedish International Development Cooperation Agency (SIDA), ICIMOD launched a project on 'Capacity building of women for energy and water management in the rural areas of the Himalayas', through national partners at sites in Bhutan, India, and Nepal. The aim was to enable women to plan and implement household water and energy

initiatives. The project would build their capacity to organise, and identify and prioritise their own practical needs to free themselves from excessive drudgery and long hours spent collecting water and fuel. The time saved would allow them to increase their income (productive needs) and improve their status in society (strategic needs).



The project followed a 'learning by doing approach' based on gender-aware participatory action research. Based on their prioritised needs, women were at the forefront of designing and implementing environmentally friendly, pro-poor, and drudgery-reducing technologies – mainly improved cooking stoves, solar dryers, solar lanterns, liquefied petroleum gas (LPG), rainwater harvesting tank, recharging traditional springs, and sprinkler and drip irrigation. As a support mechanism, the project provided seed money for the purchase of prioritised technologies and a revolving fund for credit needs for income generating activities .

## “Women emerged as energy and water entrepreneurs and leaders.”

In less than two years, the project made a marked difference in the lives of the women, their families, and their communities. Women realised multiple benefits from the pilot intervention: saved time and fuel, reduced drudgery, improved health, better education of children, productive use of saved time, improved decision-making power, built capacity, and an emerging sense of empowerment. Since current gender relations and resource conditions burden women in the rural Himalayas heavily, the practical needs of saving time and reducing drudgery made it possible for women to participate in new livelihood opportunities and improve their standing in society.

Women emerged as energy and water entrepreneurs and leaders – running an LPG depot and production and marketing of solar dryers in Bhutan, managing a technology demonstration village and marketing of improved cooking stoves in Nepal, and recharging a traditional spring by constructing micro reservoirs to trap and store rainwater in Uttaranchal, India. The project brought gradual change in the traditionally defined gender roles with women taking up so-called 'male responsibilities'

and men showing increased involvement in household chores previously considered as 'women's responsibility'.

The formation of women-only groups helped this process. In such groups, women felt comfortable to take charge of the technology instead of handing over control to men and being passive beneficiaries. Experience showed that patriarchal attitudes and initial resistance from men to women taking on new roles can be shifted, once the benefits to the household and for the whole community are clearly explained and demonstrated through gender sensitisation.

The immediate benefits of the technologies, the clear potential for their replication, and the enthusiasm of the participating women led local governments to mainstream this good practice into their own programmes.

### Lessons learned

**Focusing on women as a target group is essential to address energy issues.** These targeted initiatives focused on women to enhance their capacity. They can create an empowering space for women and act as an important incubator for ideas and strategies that can later become mainstream interventions.



**Having the right entry point is crucial to ensure women's participation and empowerment.** Reducing the drudgery and workload of women, especially in energy and water related tasks, is a strong entry point for enabling women to participate in new livelihood opportunities and improve their standing in society. It gives more options to women to meet their productive and strategic gender needs in a sustainable way.



**Supporting the organisational capacity building of women is fundamental to their empowerment.** To change the subordinate position of women and confront the existing power relations, it is necessary to create an enabling environment at the top, mobilise women at the bottom, support women's individual and organisational capacity building, and create economic opportunities.

**Removing information barriers for the promotion of technologies is critically important.** Given the mass illiteracy and limited outreach of awareness programmes,



many rural women are unaware of energy efficient and drudgery reducing technologies suited to their needs. Women are better able to make their own choices from a range of technological options if information is easily available and an enabling environment is created to make technologies locally available, affordable, and acceptable.

**Using a participatory bottom up approach can anchor good practice to national programmes.**

The pilot project in Nepal demonstrated how a good practice at the micro level can become anchored in the ongoing national level programmes at the meso level through a participatory bottom up approach. This can be a powerful strategy to put demand pressure on district level governments for its replication and to provide a basis for policy dialogue at the central level.

**Finding sustainable energy solutions calls for addressing the three criteria of sustainability-availability, affordability, and acceptability.** Besides addressing women's needs, properly designed renewable energy options must pass these three criteria to both mitigate and adapt to climate change and create a win-win opportunity for sustainable development.

**Energy provision is not merely technology provision.**

The basic issue is not providing technologies suited to women. It is more important to empower them by building their capabilities and creating economic opportunities so that they can have a voice in decisions that are made regarding their energy choices.

## Conclusion

Throughout the Himalayan region, clean and energy efficient technologies that reduce the heavy burden of women by saving labour and reducing drudgery must be at the centre of the national poverty reduction strategies. The water and energy interventions must be integrated and implemented using an empowering approach in order to ensure their sustainability.

The question is how to enable women to choose the option(s) that best meet their practical, productive, and strategic needs. From a policy perspective, this calls for addressing the twin challenges of empowering women and engendering water and energy. However, for water and energy to become an instrument for successful poverty alleviation and sustainable mountain development, there must be a drastic change in the existing approach and fundamental readjustments of public policies.

The roles and needs of women must be integral to the decision-making process of a decentralised and efficient system. This is both a technical and a political process. It will require a shift in organisational cultures and ways of thinking, the promotion of gender goals (welfare, efficiency, equity, and empowerment), adequate enabling structures, and positive discrimination in resource allocations.

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# Empowering Women through Bay Leaf Value Chain Development

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The value chain approach is relatively new in the context of mountain development but has received increasing attention in recent years. Often, the producers of mountain products face exploitation by downstream market actors, and discrimination because of their ethnicity, caste, or gender. The social and economic barriers which prevent mountain women from participating in and benefiting from value chain development have rarely been addressed adequately.

Chitwan, Nepal

In an attempt to address this issue, ICIMOD conducted an action research project in Nepal and India on value chain development for *Cinnamomum tamala* (bay leaf), a high value medicinal and aromatic plant (MAP). Mountain communities in several parts of India and Nepal cultivate and collect bay leaves to generate household cash income. The action research was designed to address the triple bottom lines of poverty, sustainability, and gender equity in value chain analysis and upgrading.



In India, the project was implemented in Najmola valley of Chamoli district in the state of Uttarakhand. Although farming is the major occupation of the villagers, 84% percent of their income comes from non-farm sources. The action research was conducted with households from the scheduled castes.

In Nepal, the action research was conducted in Udayapur District inhabited by various castes and ethnic groups. The production and trade of medicinal and aromatic plants, especially bay leaf, is an important economic activity for the population of the region.

Women at both project sites worked an average of 15-16 hours per day, performing the overall activities for the maintenance of the household and the care of its members, as well as farming activities. The majority of the women had very limited access to income, despite their involvement in bay leaf production.

A detailed value chain analysis of bay leaves identified a number of issues and challenges for equitable, pro-poor, gender-balanced, and environmentally sustainable interventions. Issues at the production/collection level included lack of organisation of the producers and inadequate grading, packaging, and storage. Both men and women did most of the collection, but only women carried the products to market in average backloads of 30-40 kg. Women also performed most of the post harvest activities, but lacked the capacity, information, and support services to harvest and grade the products according to market requirements.

The women's lack of market information and bargaining power – along with gender-based discrimination – allowed the traders to exploit the producers.

### Gender sensitive upgrading strategies

Overall, the key issues identified that required interventions were the lack of understanding of the value chain, disorganised production, poor harvest and post-harvest techniques, and policy and regulatory constraints. There was also the lack of empowerment of the producers, notably women, who are playing a dominant role in the production and trade processes.

From the beginning, the project examined and integrated the gender dimension of bay leaf production and its value chains into the project pathway. The project carefully incorporated the gender perspective in the baseline survey to determine the status of the producers prior to project implementation and the potential differences between women and men producers in term of roles, limitations, and needs.

To improve the benefits to producers, the project and local stakeholders identified different upgrading strategies and affirmative actions were implemented in order to ensure the coordination role of women.

In addition, women at the Nepal site were involved in the market survey to bridge the information and knowledge gap. They participated equally in capacity building activities and exposure visits to increase the value of their production and form producer groups and cooperatives where women are not only members, but occupy positions in the executive committees. This contributed to increasing their power to negotiate with the traders.

### Key results of mainstreaming gender in bay leaf value chains

Women in the mountain regions play an important role in the collection of medicinal and aromatic plants. Before the project intervention, the collectors and producers were unorganised. They had poor access to information and their capacities in different aspects of bay leaf management were inadequate. Women groups or groups with equal representation of men and women were formed in the target areas so that they could be the entry point for the project interventions to disseminate new information and knowledge on bay leaf management.

*“Women's lack of market information and bargaining power allowed the traders to exploit the producers.”*

The issue of unsustainable management was a major concern in the unregulated local system of the past. Women groups enabled appropriate monitoring of the harvesting process to ensure the harvesting of leaves of the desired quality within the best harvesting norms established by the enforcing agencies.

Horizontal coordination increased the bargaining powers of the collectors and cultivators. They gained a higher price for their leaves as they had the required volume to attract buyers for contracts or to participate in auctions. Women groups had market information and with facilitation could interact with the buyers in order to understand the market and marketing mechanisms for bay leaves. The action research supported the women groups to identify the most rewarding strategies while reducing the market risks. As a result, producers in Nepal supplied 100 tons of leaves at NRs 21/kg attaining double the price they had received prior to the intervention.



Udayapur, Nepal

In India, self-help groups managed by women entered into an informal purchase agreement with Green Fiesta Private Limited, an exporter of organic vegetables and spices based in New Delhi. A direct contract was not possible because the policy of the state requires all MAPs collected from the wild to be auctioned in the government market yards. However, the informal contract was necessary to invite buyers from outside the state and break the local traders' cartel at the auction that hampers fair prices to the collectors.

During the first local auction, collectors received a price of INR 21.15/kg as compared to INR 10/kg in 2002/03 when the leaves had last been harvested from the region. With this practice, the collectors participated in the auction and their knowledge of the auction process improved. The price will not go down in coming years as the collectors cooperative will also participate in the auction.

All the above interventions had a profound impact on the capacities, knowledge, and empowerment of the local people and made positive contributions to household incomes.

## Lessons learned

It is essential to pay specific attention to women in poor households to achieve the goal of poverty reduction. Women who participated in the project now have more control of cash income. Targeting women has a greater positive impact on child and household poverty reduction, measured in terms of nutrition, consumption, and well-being. Women are more likely to invest additional earnings in the health and nutritional status of the household and in their children's schooling. In Nepal in 2009 towards the end of the project cycle, eleven girls who had dropped out enrolled back in school.

The research also revealed that women's understanding, and practices in ensuring sustainability is significant when diversifying incomes from natural sources. The producers take better care of the products and claim that the losses decreased by 50%, since the women-led intervention improved harvesting and post harvest techniques.

The impact on the empowerment of women was remarkable. In Nepal, more than half of the cooperative members are women. Exposure to training and representation in sub-groups and committees has enhanced their ability to take part in decision-making. Having the proper knowledge and skills to participate in markets, has boosted their self-confidence. They have better access to finance through group savings and strong organisation. The relationships between men and women have improved – some men are even doing chores like cooking and collecting fodder to allow women to participate in training.

The results indicate that value chain interventions need to develop a greater understanding of inclusive management to bring about meaningful shifts in governance in the organisational structure and practices at the grassroots. Expanding the leadership roles of women and marginalised people can bring positive change for the long-term sustainability of value chain development. The process of developing the value chain benefits from the specific knowledge of women since they carry out many important bay leaf value chain functions.

It is essential to integrate the gender perspective in the design phase of the interventions, and not just carry out gender activities as an add-on. In order to reduce conflicts and increase the potential of success, it is important to adopt an approach that favours collaboration between women and men – rather than working with women only – especially in a market-oriented activity where women have to relate with men at different levels. Social mobilisation and the role of agencies in facilitating the value chain process are critical.

# The Challenge for ICIMOD

## Facilitating New Gender Roles and Opportunities for Women

**Andreas Schild**, Director General, ICIMOD, [aschild@icimod.org](mailto:aschild@icimod.org)

While ICIMOD has seen how change in the HKH region creates new risks and vulnerabilities, some articles in this publication reveal new roles and opportunities for women that can be emphasised enabling us to build upon these promising potentials.

As a knowledge management organisation, ICIMOD's first priority is to contribute to a better understanding of how socioeconomic and environmental changes affect mountain women and men and their respective capacities to adapt differently. For example, the fact that women-led households appear in certain circumstances to have a greater potential to escape poverty, could be because migrant men are contributing more to the family income. Nevertheless, the growing absence of the male population certainly affects mountain livelihoods and has consequences on women's drudgery and gender roles.

The second priority refers to the opportunities that changes offer. Our hypothesis is that the changes taking place in the mountain areas are also creating new roles and economic opportunities. If this is correct, we should promote approaches to strengthen the capacity of women to benefit from the changes. However, we must be aware that changes offer different opportunities in the different parts of the Hindu Kush-Himalayas, where prevailing socio-cultural and religious values strongly influence gender roles and relations. For example, whereas in the Eastern Himalayas, the labour migration of men gives an opportunity for the empowerment of women, in Northwest Pakistan and Afghanistan, the growing wealth from labour migration of the male population tends to be used to support conservative values influenced by the traditions of Middle Eastern countries.

ICIMOD recognises that gender inequities are a major obstacle to mountain development. With our partners, we are committed to addressing gender issues together by promoting women's participation in our programmes, ensuring equitable access to economic and social

resources, and empowering women. ICIMOD advocates the mainstreaming of gender in the mountain development agenda of the Himalayan region, particularly as the regional challenges of globalisation, geo-political tensions, cross-border migration, and climate and environmental changes are demanding the invention of new approaches to address gender inequalities in the mountain context.

The core areas for ICIMOD to address the gender issues in the Himalayas can be summarised as follows:

- Promoting a deeper knowledge on the vulnerabilities, and their causes, of women and men to climate variability and environmental changes
- Acknowledging the roles women and men play in coping and adaptation strategies for socioeconomic and environmental changes
- Strengthening the opportunities for women wherever possible, notably by supporting initiatives that empower them
- Ensuring that change and innovation do not contribute to growing inequality, but instead promote better balanced and shared gain for both women and men for the benefit of the entire mountain community.

Nagdaha, Dolkha, Nepal



# International Women's Day at ICIMOD

## Celebrating mountain women and the women of ICIMOD

**Joyce Mendez**, IKM, Gender Resource Team, ICIMOD, [jmendez@icimod.org](mailto:jmendez@icimod.org)

Every year ICIMOD organises activities to celebrate International Women's Day on March 8th. In 2010, ICIMOD observed the Day with various activities celebrating mountain women in the Himalayas and the women of ICIMOD. In 2010, an internal photo contest was held on the Women's Day theme: Gender, Equal Opportunities and Equal Rights for All in the Hindu Kush-Himalayas. This was followed by an interaction programme with a panel composed of ICIMOD's new national gender focal points on recurrent and emerging gender issues in the Himalayas.



### Cross-country Sharing of Gender Experiences

#### The Changing Role of Mountain Women in a Changing World

ICIMOD's gender focal points shared their thoughts about recurrent and emerging gender issues in their respective countries.

The gender focal point for Bangladesh, **Tuku Talukder** of Greenhills, a non-government organisation and partner of ICIMOD for nearly two decades, shared how women used to be excluded in political participation and decision-making among the hill tribes of Chittagong Hill Tracts. GreenHills is challenging this issue by increasing women's access to information, building their leadership in local organisations and supporting the creation of income generating activities.

Despite the image of Bhutanese women having a more egalitarian situation, **Phuntshok Chhoden** the Gender Focal Point for Bhutan, said that overall women in Bhutan still have a low self-image and there is a need to sensitise both women and men in her country about gender equality and the importance of supporting women candidates for elective posts. With a continuing need to expose and fight domestic violence against women, it is necessary to get beyond lip service and advocacy to actually address gender issues on the ground.

**Manjari Mehta** of India spoke of issues arising out of two decades of economic liberalisation, which has intensified already changing patterns that are affecting women and men differently in Uttarakhand in the last quarter of a century. The phenomenal growth in communication (the mobile phone being emblematic) and road building, among others, has opened upland areas to values emerging from the plains, such as the consumer culture and people's notions of themselves. This affects, to a certain extent, the roles of mountain women, raising new expectations and bringing about new values that are not always positive for women. She cited female foeticide to illustrate how technology has progressed but patriarchal values that devalue the girl-child remain.

**Fang Jing**, Gender Focal Point for China, spoke of the intimate link between gender equality and development, poverty reduction, and human wellbeing. In China, rapid economic development is similar to what is happening in India. It is increasing migration patterns, making the role of urban-rural linkages more important, and giving rise to a second generation of migrants from farmer families, who do not know how to do farm work. There is lower maternal mortality rate and infant mortality rate, but also a lower sexual ratio for girls and women (100 girls for every 120 boys). Among the gender inequality issues that require changes and rethinking are infant girl foeticide or selective abortion. The issues are complex and require that social change be interwoven with appropriate interventions and policy.

**Basundhara Bhattarai**, Gender Focal Point for Nepal, spoke on a happier note, of how small interventions, such as the value chain initiative for bay leaf collectors, can make a difference in women's lives. Different stakeholders have been mobilised and the project has helped stakeholders (mostly women) to organise themselves. The technical aspects of the projects were important to improve the quality of the production and hence the incomes of the women. But the project has done more: it has increased women's power in the market place. The benefits of the project for women and for their families are significant as the project has contributed to increasing the incomes and reducing the poverty level of the producers.

ICIMOD's Director General, Andreas Schild, launched the interaction programme by discussing ICIMOD's efforts towards promoting gender mainstreaming within the organisation and its programme. "It is one day when we show and highlight the importance of women, but the spirit and theme of International Women's Day is not a one-day only event... What to do, how to do it, to see it integrated to the programmes in the HKH mountain community, promoting the role of women, and showing in ways and means that go beyond advocacy is the challenge. It involves enhancing the role of women and helping communities to adjust to change. It means the role of women is changing."

Brigitte Leduc, Head of the Gender and Governance programme, described some recent initiatives to mainstream gender in ICIMOD including

- the adoption of a gender equity policy in 2007;
- regular meetings of the Gender Resource Team composed of representatives of each Programme and Division;
- development of a series of gender guidelines;
- training sessions in which over 80% of the overall staff participated;
- gender sessions provided within sectoral workshops for programme partners; and
- the creation of national gender focal points in ICIMOD's member countries.

The gender focal points will be ICIMOD's ally in promoting gender with partner organisations in the regional member countries, act as ICIMOD consultants in activities to promote gender in the member countries, and document emerging issues and trends affecting gender.

The gender focal points are Tuku Talukder in Bangladesh, Phuntshok Chhoden in Bhutan, Fang Jing in China, Manjari Mehta in India, Tawheed Gul in Pakistan, and Basundhara Bhattarai in Nepal. They all have a long association with ICIMOD – having either once worked directly with ICIMOD or with long-standing partner organisations in the member countries. As part of their introduction as official gender focal points, they shared their experiences and described gender issues, challenges, and achievements in their respective countries.

## ICIMOD Staff Photo Contest – Winning Entries



Kamal Prasad Aryal Category: Women's contribution to wellbeing and mountain development



Paribesh Pradhan Category: Gender, equal opportunities: progress for all



Suman Jaiswal Category: Non-traditional gender roles

## Profile of an Empowered Woman Entrepreneur

# "Improving both your craft and yourselves..."

"Train in skills and use those skills in some way, study the market, expand your skills and knowledge where they can be useful, be aware of support available like loans or training. Broaden your knowledge and gain the confidence that you can change your own life, and continuously work on improving both your craft and yourselves." This is the advice of Shila Nepali, a successful woman entrepreneur to other women.



Shila Nepali's efforts to help fellow women were acknowledged in December 2009 when she was awarded 'Best Woman Entrepreneur' by the Federation of Nepal Cottage and Small Industries. Now 48, Shila has come a long way from a poor orphan to successful entrepreneur. She has overcome the social structures that make it difficult for low caste women to rise in business and enterprise. She is a role model in helping other women to help themselves out of poverty. ICIMOD's Gender Resource team met Shila at the Mega Fair Trade Event in Kathmandu during the '100th International Women's Day'. This is her story.

As a Dalit ('low caste') child in Jajarkot district of Western Nepal, Shila was forced by poverty and the sudden death of her mother to discontinue her studies when she was in Class 8. Her father remarried, but Shila often found herself hungry and struggling to address her most basic needs. She took on hard jobs such as carrying heavy stones for construction. With few options open, she decided to marry at age 16, a love marriage that produced three daughters.

As a young housewife, Shila looked for ways to help her husband fend for the family. She took training in handicrafts offered by the Women's Entrepreneurs Association Nepal (WEAN). In 2000, immediately after the training, Shila applied for a loan of Rs

50,000 from the UN Rural-Urban Partnership Programme (RUPP). With this start-up capital, she bought materials and started weaving and knitting floor mats made of dried grass and natural fibres. Shila set up a small showroom for her products in Dhankuta, but these early designs sold less than she hoped. She studied how to improve her craft, attending exhibitions where exposure to the work of others gave her ideas on new products and designs. Meantime, she sold her goods to neighbours to repay her loan.

Shila has now paid back her loan, improved and diversified her products, and found an expanding market in neighbouring districts and cities like Pokhara and Kathmandu. Many of her clients are customers she met while participating in various exhibitions, especially on fair trade. Her husband and daughters have always been supportive and help bring her goods to various places.

Shila helps other women by teaching them the skills that have transformed her own life, buying and marketing their products to encourage them. She pays the women as soon as the goods are sold, thus running an enterprise, while providing a service to poor women. In 2006, she returned to her native Jajarkot to set up the same enterprise and help other women. Recently she gave training to ten women from Rescue Nepal, an association for women sex workers, helping them transition to alternative livelihoods. In August 2006, she conducted training for the Micro-Enterprise Development Programme of Nepal.

Shila's backyard industry gives livelihoods to 60 poor and unemployed women in Eastern and Western Nepal. In 2008, her products and those of other women weavers entered the competitive export market and were exported to Korea after participation in the Korea Goods Fair. Shila teaches women knitting and weaving using natural, locally available materials, and gives tips on product quality and marketing. This year, she looks forward to bringing her training to low caste women in 75 districts in the remotest areas of Nepal. What keeps her going is the satisfaction of seeing fellow women like herself transformed into happier, more confident, empowered women.

Interview in March 2010 by **Joyce Mendez**, ICIMOD

# Centre News

## The Annual Meeting of the ICIMOD Board of Governors, 2009

The 40th Annual Meeting of the ICIMOD Board of Governors, and meetings of associated committees (Programme Advisory Committee [PAC], ICIMOD Support Group [ISG], Finance Committee, ICIMOD Foundation) were held from 17 to 20 November 2009 in Chengdu, China. The Chinese Committee on ICIMOD also met (see p 49). A field visit was organised from 13 - 16 November to the Hong Yuan grasslands, and a short visit to the Sichuan earthquake site and the historic Dujiangyan water management and irrigation site on the 16th November for participants who arrived later.

The meetings commenced with a symposium on 'Concerning Mountains and Supporting the Future' jointly organised by the Bureau of International

Cooperation, Chinese Academy of Sciences (CAS), Chinese Committee on ICIMOD (CNICIMOD), and ICIMOD. Five presentations were made introducing current research work on mountains and ICIMOD's development strategy. Dr Schild, Director General of ICIMOD, expressed his thanks for the projects designed by CAS which are to be carried out in the Hindu Kush-Himalayan region.

The Symposium was followed by an ICIMOD Centre's Day programme. ICIMOD's partners in China presented a variety of cooperation projects and discussed their implementation in a two-part programme focusing first on topics in which ICIMOD and Chinese partners had already worked together for some time, and second on topics planned or recently initiated.

### The Hong Yuan Grasslands

The Hong Yuan Grasslands was an ideal site for a field visit. ICIMOD has been collaborating with the Sichuan Grassland Science Academy (SGSA) and Chengdu Institute of Biology (CIB-CAS) in rangeland development in the area for more than a decade. The Hongyuan landscape is characterised by vast rangelands across rolling hills that are dotted with patches of sub-alpine forests and shrubs, and is one of the world's major alpine wetland areas, with tributaries of both the Yellow and Yangtze rivers meandering through the county. Major collaborative activities implemented over the years include, among others, building the capacity of local partners, improving yak breeds, developing fodder and hay-making plantations, monitoring and restoring rangeland ecology, promoting collaborative rangeland management practices, piloting alternative energy products, and experimenting with rotational grazing schemes. These efforts have led to visible positive impacts on both the livelihoods of the local people and the health of the rangeland resources of the project area.





The Board Meeting itself was chaired by Dr Yao Tandong, Vice President of CNICIMOD, on behalf of Prof Ding Zhongli, President of CNICIMOD. Mr Xiang Zhiyong, Deputy Secretary General of the Chengdu Government, gave a presentation at the opening ceremony and an opening address. Prof Ding, Vice President of the Chinese Academy of Sciences, hosted the farewell dinner, where he also held broad discussions with the meeting participants.

Among others, the Programme Advisory Committee formed working groups for in depth discussion of three

thematic papers on: 'The HKH transect initiative'; 'Climate change adaptation'; and 'Enhancing understanding of the impacts of climate and socioeconomic changes in the Koshi basin.' Valuable feedback was given that is being used to further refine and develop the papers.

The ICIMOD Support Group (ISG) commended the 2009 Report and 2010 Plan, while encouraging ICIMOD to ensure that activities were spread across all the regional member countries. Dr Christopher Graf was elected as new Chair of the group, following the retirement of Mr Kenneweg after many years of support, which was much appreciated.

The Board approved the 2009 Report, 2010 Plan, and planned budget, and a revised version of the ICIMOD Human Resource Manual, and approved the appointment of Mr Berend de Groot as Director of Programme Operations. The Board encouraged ICIMOD to pursue the possibility of hosting an event at COP-15 to provide a platform to the RMCs to highlight the problems of climate change and climate change adaptation in the Himalayas (which then took place).

## Heartfelt Condolences

### Monica Muktan



We express deep sorrow and heartfelt condolences on the untimely demise of our dearest colleague, the late **Monica Muktan**. She was a long-standing staff member who served ICIMOD for more than 15 years (1 May 1996-18 January 2010) in the MENRIS Division of Integrated Knowledge Management. Her demise is a great loss for our organisation and her contribution will always be remembered with great respect. We pray to almighty God for the departed soul to rest in eternal peace.

**The ICIMOD Family**

## New Regional Board Member



**Masud Ahmed, Secretary**  
Ministry of Chittagong Hill Tracts Affairs  
Bangladesh

Mr Masud Ahmed, Secretary - in-Charge, Ministry of Chittagong Hill Tracts Affairs, was nominated ICIMOD Board Member in September 2009, by the Government of Bangladesh. Mr Ahmed is a career civil servant who joined the Bangladesh Civil Service in 1981. In his long professional career, he has worked in different ministries and capacities and has been involved in the formulation and implementation of national planning and programming. Mr Ahmed has held many senior positions in the government including Deputy Secretary, Ministry of Shipping, Ministry of Finance; Member (joint-secretary) of the Bangladesh Economic Processing Zone Authority; and Additional Secretary, Ministry of Liberation War Affairs. In September 2009, he joined as Secretary in the Ministry of Chittagong Hill Tracts Affairs (CHTAM), which is responsible for overall planning, coordination, supervision, and formulation of policies relating to the Chittagong Hill Tracts.

Mr Ahmed completed a BA (Hons) and MA in English literature from Dhaka University, and a Postgraduate Diploma from the UK. He has also received several trainings on finance and management at home and abroad. Mr Ahmed is a vocalist, novelist, and short story writer. He is a member of several professional organisations and is actively involved in cultural and social work. He has travelled extensively.

# ICIMOD Board of Governors 2010

## Regional Board Members

### Eng Raz Mohammad Raz

Deputy Minister of Irrigation and Infrastructure  
Ministry of Agriculture, Irrigation & Livestock, Afghanistan

### Mr Masud Ahmad

Secretary-in-Charge, Ministry of Chittagong Hill Tract Affairs  
Bangladesh Secretariat, Bangladesh

### Mr Sherub Gyaltsen

Secretary, Ministry of Agriculture, Bhutan

### Prof Dr DING Zhongli

Chair, ICIMOD Board of Governors  
Vice President, Chinese Academy of Sciences, PR China

### Mr Vijai Sharma, IAS

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Ministry of Forestry, Myanmar

### Dr Jagadish C Pokharel

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Vice Chair, ICIMOD Board of Governors (BoG)  
Research and Policy Coordinator, Andean Change Program  
International Potato Center (CIP), Peru

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Senior Consultant, Vietnam

### Dr Amir Muhammed

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### Dr Linxiu Zhang

Professor and Deputy Director, Centre for Chinese Agricultural Policy  
Chinese Academy of Sciences (CAS), PR China

### Dr A K M Jahir Uddin Chowdhury

Professor, Institute of Water and Flood Management  
Bangladesh University of Engineering and Technology, Bangladesh

### Professor Matthias Winiger

Vice Chancellor, University of Bonn, Germany

**Dr Lars-Erik Liljelund**, Director General, Prime Minister's Office, Sweden

**Dr Christoph Graf**, Chair, ICIMOD Support Group

Head, South Asia Department, Federal Department of Foreign Affairs  
Swiss Agency for Development and Cooperation (SDC), Switzerland

### Dr Andreas Schild

(Ex-officio) Director General, ICIMOD

## ICIMOD at COP 15, Copenhagen

ICIMOD participated in the COP 15 at Copenhagen through various activities. The objective of ICIMOD's participation was to highlight the mountain agenda in the UN Climate Conference. The mountain agenda has been understated in the climate debate and ICIMOD's engagement was important for addressing this gap.

ICIMOD is an intergovernmental organisation permitted as an observer to the UNFCCC. To show case and disseminate ICIMOD's research work on climate change in the HKH region, it operated an exhibition booth in the Bella Centre, the conference venue, for the entire two weeks. ICIMOD's IKM unit provided support to compile materials for display, which ranged from posters, CDs, and flyers to books and research papers.

The Himalaya – *Changing Landscapes* photo exhibition was displayed at the Parliament Square as part of the Summiteers' Summit to Save the Himalayas, a rally organised by the Government of Nepal. Andreas Schild addressed the gathering, highlighting the need to do more homework in terms of understanding the changes in the mountains.



The main focus of activities was the joint side event held by ICIMOD and the Center for International Climate and Environmental Research (CICERO) on 'Facing the Challenges: Climate Change in the Greater Himalayas.' The event brought together high-level dignitaries from the Hindu Kush-Himalayan countries to discuss and elaborate on the formidable challenges facing this unique and vulnerable, but vitally important, region. Guests of honour included the Prime Minister of Nepal,

Mr Madhav Kumar Nepal; the Minister of Agriculture and Forestry of Bhutan, Dr Pema Gyamtsho; the Minister of Forest and Soil Conservation of Nepal, Mr Deepak Bohara; the Minister of Environment of Afghanistan and Director General National Environmental Protection Agency, Pakistan, Mr Mustafha Zaher; the Executive Director of the Global Change Impact Studies Centre, Pakistan, Dr Arshad Muhammad Khan; and the Minister of Environment and Development of Norway, Mr Erik Solheim. Several other important dignitaries from the region also participated, including a number of Members of Parliament from India and Nepal.

The Prime Minister of Nepal chaired the event, which was moderated by the Director General of ICIMOD, Dr Andreas Schild. He and the Director General of CICERO, Dr. Pål Prestrud, presented the case of the Himalayas, highlighting the importance of adaptation within the region and the dire consequences of not addressing climate change. Dr Schild and Dr Prestrud reiterated the need to generate more scientific data and information from the region to understand better the impacts and adaptation needs. The event ended with a call by the Prime Minister of Nepal for an alliance of mountain countries to enhance cooperation and ensure better representation of mountains in the UNFCCC process. This was the first time that these small economies of the HKH officially made adaptation in the HKH region a common agenda point at a COP level meeting.

ICIMOD speakers were also asked to present in several other programmes. Dr Bhaskar Karky gave a presentation on the Norad REDD project at a side event on REDD. This event presented a global initiative on social and environmental standards for REDD+ that aims to enhance the contribution of national REDD programmes to rights, poverty reduction, and biodiversity conservation while avoiding social or environmental harm. ICIMOD also shared its participatory carbon assessment methodology as a research outcome at the Kyoto Project meeting.

During the Climate and Development Days, Dr Mats Eriksson and Ms Julie Dekens reported on studies that focused on adaptation in the Hindu Kush-Himalayan region, and presented the film *Living with Floods*, which shows that some communities are compelled to change their cultural norms in order to adapt to climate change. Following the film, Dr Schild convened a panel focused on mountain, water, and adaptation policy, particularly

for bottom-up approaches. Robert Zomer made a presentation at the Forest Day on the potential for carbon financing in the Hindu Kush-Himalayan region under different REDD options.

To summarise the COP 15 outcomes, two areas were of particular importance for ICIMOD.

First, the ICIMOD-CICERO event provided clear evidence that there was polarisation in the Hindu Kush-Himalayan countries when it came to the UNFCCC. China and India were keen to be the main players in the climate conference as representatives to safeguard the developing countries through the G77 + China Group. Their focus was on getting the Annex 1 countries to make a commitment to new emission levels in line with the Kyoto Protocol. Other small economies in the region – Afghanistan, Bhutan, Nepal, and Pakistan – were keen to use the ICIMOD-CICERO event to highlight their common agenda for adaptation focusing on the Himalayas, an area that is marginalised at the

international level. For such small economies, the side event provided a valuable platform in addition to their three minutes in the plenary to put forward a common message that focused on climate change impacts and adaption needs in the Himalaya.

Secondly, the greatest progress made at COP 15 negotiations was on forestry (REDD-plus) and agriculture. The Copenhagen Accord has recognised the REDD+ mechanism, an area ICIMOD has been lobbying for with the SBSTA since 2007. For the first time at COP 15, the agricultural sector in developing countries was discussed and now awaits a formal decision in the upcoming COP/MOP meetings. This provides new impetus for ICIMOD to undertake research work at the landscape level by combining the forestry and agriculture sectors under the Agriculture, Forestry, and Other Land Use (AFOLU) framework. There is a dearth of data from the region under this framework.

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## CNICIMOD Committee and ICIMOD Planning Meeting, Chengdu, China

The CNICIMOD Committee and ICIMOD Headquarters jointly organised a Planning Meeting with Chinese partner institutions on 24 and 25 August in Chengdu, China. Several bilateral discussions between Chinese partners and ICIMOD staff preceded the main workshop. There were in-depth discussions with each partner on present and future activities, joint projects, and promoting regional cooperation in the different thematic areas of ICIMOD's strategic programmes. The objectives of the Planning Meeting were to

- share and discuss ICIMOD's five year medium-term action plan (2008–2012);
- plan a detailed annual programme for 2010 in China's mountainous provinces;
- make all of ICIMOD's partners in China aware of the role and responsibilities of the CNICIMOD Committee;
- discuss how to strengthen the CNICIMOD Committee;
- expand and enhance China-ICIMOD co-operation by developing joint research and action programmes; and
- mobilise research funds from Chinese institutions.

The main workshop started on 25 August chaired by Prof Hu Pinghua. Prof Dan Wei, Director Institute of Mountain Hazards and Environment (IMHE), welcomed

the participants and gave his expectations. He regarded this as a good opportunity to obtain feedback from different partners to strengthen the CNICIMOD Committee, and to build partnerships between Chinese institutions and other Hindu Kush-Himalayan countries. He also highlighted the role of the CNICIMOD Committee and asked ICIMOD and the Chinese partners for cooperation and support in coordinating ICIMOD related collaborative programmes.

Dr Madhav Karki, ICIMOD's Deputy Director General Programmes, explained the objectives, presented ICIMOD's strategic framework, and highlighted the role of ICIMOD in regional cooperation for sustainable mountain development, specifically in the Chinese context. Representatives of ICIMOD's strategic programmes presented their programmatic frameworks and highlighted present and future activities with Chinese partners.

After the overview, participants divided into three groups to define further the activities for 2010. The Chinese partners presented their group work and further shared with CNICIMOD Committee members. Later, the panel discussion focused on how to strengthen the CNICIMOD Committee and its coordinating role with Chinese partners and ICIMOD.

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## ICIMOD-Nepal Day: Nepal Partners Highlight the Success of their Partnership Programmes with ICIMOD

An ICIMOD-Nepal Day workshop was organised on 5 March, the first day of a two-day event, to share the results of ICIMOD's work in Nepal with partners and the development community. Participants were mainly from government ministries and departments, universities, and development and non-government organisations.



ICIMOD's Nepali partners highlighted the activities and achievements of six ongoing joint programmes. The first presentation focused on the increased income achieved by communities in remote hill districts of Nepal from high value niche products, such as medicinal plants and beekeeping, using the value chain approach. The second described a key pilot study undertaken in Nepal by ICIMOD, FECOFUN and ANSAB on reducing carbon emissions from deforestation and forest degradation (REDD).

The subject of the third talk was glacial melting and glacial lakes, and ICIMOD's work with the concerned government department and Tribhuvan University. The inventory of potentially dangerous lakes in Nepal has been refined, and identified six lakes as high priority for investigation. This enables a more reliable communication of risk to the vulnerable communities.

The Department of National Parks and Wildlife Conservation discussed their ICIMOD-supported work on participatory and cross-boundary landscape conservation, including regional protected area conservation corridors as in the Sacred Himalayan Landscape (SHL), and the setting up of the regional High Altitude Wetlands Initiative. The Department of Livestock Services (DLS) of the Ministry of Agriculture described how range and pasture lands are of critical importance, and ICIMOD's contribution to the development of Nepal's Rangeland Policy, which will soon be implemented.

Finally, a representative of IFAD's Western Upland Poverty Alleviation Project (WUPAP) highlighted a major partnership success with IFAD by describing the contributions of ICIMOD to this 11-year project. WUPAP focuses on technology transfer and market-based livelihood improvement in Nepal's 16 western districts and has achieved significant income enhancement with environmental conservation.

Read more in the press release <http://www.icimod.org/?page=797>.

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## ICIMOD Celebrates the International Year of Biodiversity 2010

This year, 2010, ICIMOD joins the world in celebrating the International Year of Biodiversity (IYB). It is an opportunity to highlight the unique biodiversity richness of the Hindu Kush-Himalayan region (HKH); a richness that is influenced by extreme diversity in climate and complex topography. The rich biodiversity has been nurtured by the traditions and cultures of the more than 200 million people who live in the region, cherished by people living downstream, and acknowledged by people across the globe for the goods and services provided to almost one-third of humanity.

Conservation and sustainable management of biodiversity is a national priority for all the HKH countries, all of whom are signatories to the Convention on Biological Diversity (CBD). The eight countries have together committed 39% of the HKH regions' terrestrial area for the establishment of about 488 protected areas (PAs).

ICIMOD is committed to facilitate and support the conservation and management of biodiversity in the region. Its framework for biodiversity management has been designed around the three objectives of the

Convention on Biological Diversity (CBD). ICIMOD has been promoting an ecosystem approach to biodiversity conservation in seven transboundary conservation landscapes across the HKH, based on the elements of the CBD Programme of Work on Mountain Biodiversity. It focuses on transboundary conservation landscapes promoting habitat connectivity or corridors, and advocates the development of a regional cooperation framework for implementation of the CBD at the regional scale.

ICIMOD promotes cooperation of strategic partners within a commonly agreed regional approach, considering concrete development activities aimed at improving the lives and livelihoods of mountain communities and strengthening their resilience capacity. It also supports its regional member countries in designing and implementing practical strategies, legislation, and guidelines on access and benefit sharing (ABS), which is one of the three goals of CBD.

ICIMOD is promoting IYB 2010 by highlighting the HKH in global events, facilitating regional events, and supporting partners' biodiversity initiatives at the national level. Among the global events, the SBSTTA-14 Meeting in Nairobi and the CoP10 Meeting in Nagoya are of particular importance. ICIMOD considers such events

At Cop 10, ICIMOD's two side events will focus on mainstreaming the Programme of Work on Mountain Biodiversity into regional and national priorities, especially by enhancing regional cooperation for improving the regional knowledge base on biodiversity and climate. It aims to highlight the region's vulnerability towards climate and other environmental changes.

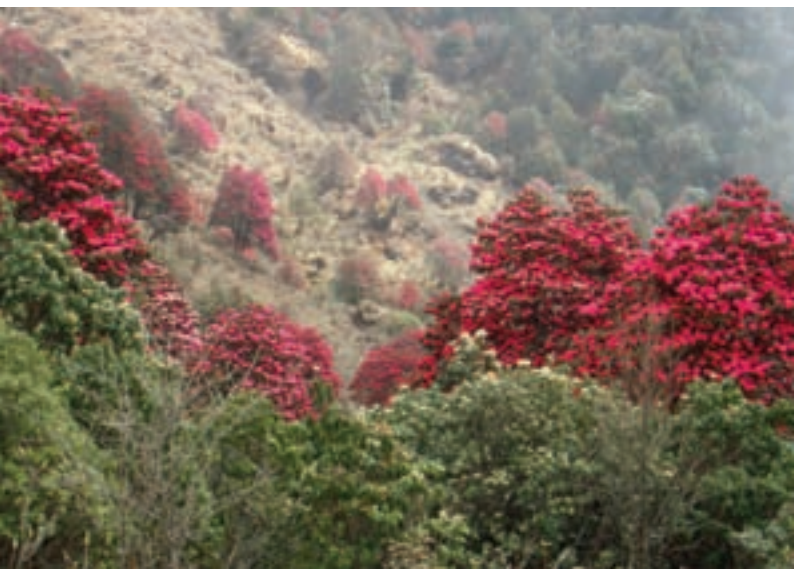
Other ICIMOD activities supporting the IYB objectives include an e-discussion on biodiversity and gender, training on biodiversity data management (in



collaboration with the Global Biodiversity Information Facility and Global Mountain Biodiversity Assessment), training on biodiversity management and climate change, and a photographic contest on mountain biodiversity. At the national level, ICIMOD organised a biodiversity show for partners and the general public in Nepal to convey the motto of IYB – Biodiversity is life, Biodiversity is our life.

Please visit ICIMOD's dedicated IYB web page at [www.icimod.org/iyb](http://www.icimod.org/iyb) for news, stories, and events related to the 2010.

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as a platform to voice the collective efforts of ICIMOD's regional member countries for biodiversity management.

The SBSTTA-14 meeting will particularly highlight the status of CBD implementation and development of an ABS Regional Framework in the HKH at a side event organised in partnership with the HKH member countries. The objective is to raise awareness within the regional and international community about the implementation status of CBD in the HKH, keeping in view the Programme of Work on Mountain Biodiversity.



International Year of Biodiversity

## Workshops, meetings and training events (October 2009 – April 2010)

Event	Date	Place
<b>2009</b>		
First International Training on 'Participatory Integrated Watershed Management'	5 – 15 October	Kathmandu, Nepal
Brown Bag Seminar: International Conservation Law – Some Reflections, Professor Bharat Desai, Chairman of the Centre for International Legal Studies, School of International Studies of Jawaharlal Nehru University, New Delhi, India	6 October	Kathmandu, Nepal
Governance Inception Workshop	6 – 8 October	Kathmandu, Nepal
International Fund for Agricultural Development New Project Inception Workshop	9 – 11 October	Kathmandu, Nepal
Brown Bag Seminar: Mountain Perspective Framework. Dr NS Jodha, Senior Associate Scientist, ICIMOD	13 October	Kathmandu, Nepal
Chittagong Hill Tracts (CHT) project closing workshop	14 – 16 October	Kathmandu, Nepal
Photo exhibition: Himalaya – Changing Landscapes	25 – 31 October	Berne, Switzerland
Regional Training on Harmonised and Standardised Rangeland Mapping of HKH Region	26 – 30 October	Kathmandu, Nepal
Training on Hydrological and Carbon Stock Appraisal Tools in the Context of Payment for Environmental Services (PES)	26 – 30 October	Kathmandu, Nepal
Participatory Flood Hazard Mapping and Socioeconomic Vulnerability Analysis	26 Oct. – 2 Nov.	Guwahati, India
BRAHMATWINN International Symposium supporting integrated water resource management in the upper Brahmaputra River Basin	8 – 9 November	Kathmandu, Nepal
National Planning Workshop on Development of Sustainable Energy for Rangelands-DESER II	7 – 8 November	Pokhara, Nepal
Ford Foundation Capacity Building Meeting	8 – 9 November	Kathmandu, Nepal
Brown Bag Seminar: Dynamos'olidaire – Briefing on Local Sustainable Projects. Tanguy de Belmont, Engineer, Dynamos'olidaire	9 November	Kathmandu, Nepal
Regional Value Chain Experience Sharing Workshop	10 – 11 November	Kathmandu, Nepal
Ford Foundation Project Review meeting	12 November	Kathmandu, Nepal
ICIMOD Board of Governors' Meeting	16 – 20 November	Chengdu, China
Development and Harmonisation of Land Cover Classification of Bhutan within the HKH Region	16 – 20 November	Thimphu, Bhutan
Start-up Meeting for the Project Development and Application of Ecological Approaches in Pest Management to Enhance Sustainable Potato Production of Resource-poor Farmers in the HKH Region of Bhutan, Nepal, Pakistan and India (Sikkim)	24 – 26 November	Kathmandu, Nepal
Overseas Development Institute (ODI) Country Workshop	25 November	Kathmandu, Nepal
Brown Bag Seminar: Knowledge Management. Mr. Jan Schwaab, Head of GTZ Knowledge Management and Ms. Sonja Windheuser, Knowledge Management Expert, GTZ	27 November	Kathmandu, Nepal
Research Workshop on Tenure and Institutions in Shifting Cultivation	29 Nov. – 2 Dec.	Paro, Bhutan
Overseas Development Institute (ODI) Country Workshop	30 November	Dehradun, India
Consultative Technical Workshop on High Altitude Wetlands in the HKH	3 – 4 December	Kathmandu, Nepal
Workshop on GLOF Risk Assessment and Mitigation Study of Potential GLOFs in Nepal	10 December	Kathmandu, Nepal
Photo exhibition: Himalaya – Changing Landscapes, Kathmandu International Mountain Film Festival (KIMFF)	10 – 14 December	Kathmandu, Nepal
National Workshop cum Training on Development and Harmonisation of Land Cover Classification of Myanmar within the HKH Region	14 – 18 December	Nay Pi Taw, Myanmar
National Workshop cum Training on Development and Harmonisation of Land Cover Classification of Bangladesh within the HKH Region	21 – 24 December	Bangladesh
National Planning Workshop on Development of Sustainable Energy for Rangelands (DESER), Phase II	29 – 31 December	Islamabad, Pakistan
<b>2010</b>		
Inception meeting of HIMALA with NASA and USGS	6 – 8 January	Kathmandu, Nepal
Half-day Interaction Programme on Koshi Basin Project	15 January	Kathmandu, Nepal
International Fund for Agricultural Development (IFAD) Annual Review and Planning Workshop cum sharing of Methodology for Vulnerability and Poverty Assessment	25 – 27 January	Kathmandu, Nepal
Workshop – 'The Greater Himalayan Wetlands Information System'	1 February	Kathmandu, Nepal

2nd Phase Project Workshop on Documenting Land Adaptation to Climate Induced Water Stress and Hazards in the Greater Himalayas	2 – 5 February	Kathmandu, Nepal
Workshop on GLOF Risk Assessment and Mitigation Study of Potential GLOFs in Nepal	3 February	Kathmandu, Nepal
National Planning Workshop on Development of Sustainable Energy for Rangelands DESER II	5 February	Bhutan
Training Workshop on Gender and Climate Change for Gender Advocates in Nepal	10 – 11 February	Kathmandu, Nepal
Brown Bag Seminar: Adaptive management of China's grassland ecosystems to global change. Professor Dong Shiku, Visiting Scientist, ICIMOD	10 February	Kathmandu, Nepal
Satellite Remote Sensing for Air Quality Analysis in the Himalayan Region	15 – 19 February	Kathmandu, Nepal
Flash Floods in the Himalayas – State of the art in flash flood risk management: knowledge sharing workshop	15 – 16 February	Kathmandu, Nepal
Regional Workshop on HKH Regional Statistical Database	18 – 19 February	Kathmandu, Nepal
Training on documentation and dissemination of SLM technologies and approaches using WOCAT tools	15 – 20 February	Min Tai Bin, Myanmar
National Workshop on Development and Harmonisation of Land Cover Classification of Nepal within the HKH Region	22 – 26 February	Kathmandu, Nepal
Local Level Workshop for Dissemination of Findings on the Field Investigations and Discussion for Thulagi glacial lake	22 February	Besisahar, Lamjung
Workshop on Research Land Use Options and Extension Approaches in Shifting Cultivation	24 – 27 February	Bandarban, BGL
Local Level Workshop for Dissemination of Findings on the Field Investigations and Discussion for Tsho Rolpa glacial lake	26 February	Charikot, Dolakha
Regional Workshop on Statistical Data Sharing	28 Feb. – 1 Mar.	Kathmandu, Nepal
Himalayan Trails Regional Workshop	1 – 2 March	Kathmandu, Nepal
Rangeland Consultation Workshop	2 – 3 March	Islamabad, Pakistan
Brown Bag Seminar: Tourism Trail Development and Approaches. Mr Guy Scheider, Geographer and Senior Researcher, Via Storia and Mr Werner Meyer, Rural Infrastructure Engineer, Swiss Federal Institute of Technology (ETH)	3 March	Kathmandu, Nepal
ICIMOD Nepal Day	5 – 6 March	Kathmandu, Nepal
Snow and Glacier Melt Runoff Modelling in the Indus Basin	8 – 12 March	Islamabad, Pakistan
Inception Workshop Designing of Climate Change Adaptation (CCA) Participatory Action Research (PAR) in High Mountain Agribusiness and Livelihood Improvement (HIMALI)	11 March	Kathmandu, Nepal
Brown Bag Seminar: Grazing and management of vegetation dynamics in nature reserves in North-West Europe: Lessons for the Himalayas. Dr Jan Bokdam, Lecturer, Conservation and Plant Ecology Group, Centre for Ecosystem Studies, Wageningen University and Research, The Netherlands	11 March	Kathmandu, Nepal
Local Level Workshop for Dissemination of Findings on the Field Investigations and Discussion for Imja Glacial Lake	12 March	Solukhumbu, Nepal
Meeting with National Gender Focal Points	15 – 17 March	Kathmandu, Nepal
ICIMOD's Fourth International Training on Low Cost Soil and Water Conservation Techniques and Watershed Management Activities	15 March – 6 April	Kathmandu, Nepal
Knowledge Forum: Three Unlearned Lessons – Problems of Scholarly Research within a Political Arena. Jack D Ives	17 March	Kathmandu, Nepal
Steering Committee Meeting of Beekeeping	17 – 18 March	Kathmandu, Nepal
Mobile Photo Exhibition: Himalaya – Changing Landscapes	22 – 27 March	Canberra, Australia
Mobile Photo Exhibition: Himalaya – Changing Landscapes	5 - 25 March	Sydney, Australia
Regional Training on Biodiversity Management and Climate Change	22 – 31 March	Kathmandu, Nepal
Participatory Curriculum Development Workshop on Beekeeping in Nepal	7 – 9 April	Kathmandu, Nepal
Training on Flood Hazard Mapping and Socioeconomic Vulnerability Analysis – 2	7 April – 1 May	Dhaka, Bangladesh
First Regional Workshop: Kailash Sacred Landscape Conservation Initiative (KSLCI)	11 -13 April	Almora, India
Hands on Training on Fruit Tree Planting, Pruning and Organic Vegetable Farming Techniques	15 – 16 April	Kathmandu, Nepal
Himalayan University Consortium (HUC) Annual Meeting	22 – 23 April	Kathmandu, Nepal
Inception workshop on Koshi River Basin Transboundary Programme	22 – 23 April	Kathmandu, Nepal
Knowledge Forum. Mr David Malone, President of the International Development Research Centre (IDRC)	23 April	Kathmandu, Nepal
Joint Sino-Nepalese field visit to Koshi Basin	25 April-30 May	Koshi Basin, Nepal
ICIMOD – SANDEE Consultation Meeting	27 April	Kathmandu, Nepal

## Hosted institutions

### Mountain Forum/ Mountain Partnership Development

#### Formation of The Mountain Partnership Consortium and Regional Arrangements

In 2009, the Board and Advisory Committee meetings of Mountain Forum (MF) and Mountain Partnership (MP) started discussions on a future joint strategy to enable the functions and tasks of the two mountain development related networks to be integrated and consolidated, taking into account their different mandates and objectives.

A working group was formed to draft a concept proposal; it proposed that a consolidated structure would be both feasible and more viable, and could attract other stakeholders to join, including donors engaged in supporting and promoting the vision of sustainable mountain development (SMD). As a first step in creating a new mountain partnership, the governance structures of Mountain Forum and Mountain Partnership – the MF Board and Mountain Partnership Advisory Committee – were dissolved as of 1 April 2010.

A joint meeting of various stakeholders including the donors was held on 1 April at FAO in Rome to discuss the options and future steps for setting up a new Mountain Partnership Consortium (MPC). The Italian Co-operation organised a launching event for the new Consortium on 31st March, at the premises of the Italian Foreign Ministry. Invitees included the participants of the meeting and diplomats and representatives of key mountain countries including France, Austria, Pakistan, and Argentina. Two working groups were formed by the stakeholders meeting to draft a strategy for the MPC outlining the vision, mission, and key outcomes; incorporate the views expressed in the meeting; focus

on how the SMD agenda should be pursued; and propose a new governance structure for the consortium. The intention is to finalise the document during the Peth Summit in September 2001.

It is expected that the new structure and action plan for the MPC will become effective on January, 2011. The foreseen changes should lead to better coordination of the work programmes of existing and new partners of the Mountain Partnership Consortium.

### Asia-Pacific Mountain Network

Established in 1994, Asia-Pacific Mountain Network (APMN) is a knowledge-sharing platform connecting mountain regions and members through dialogue and networking on mountain development issues in and for the Asia-Pacific region. The network is managed by ICIMOD and has acted as the Asia-Pacific node of Mountain Forum since 1996, supported generously by a small grant from the Swiss Agency for Development and Cooperation (SDC). As of 31 March 2010, APMN had more than 265 organisational users from 25 countries and 1,900 individual users from 40 countries, an increase of 25% from 2009.

The present functions of Asia-Pacific Mountain Network and Mountain Partnership at ICIMOD as knowledge exchange facilitators is expected to remain largely unchanged, although in future the work will be governed by the new strategy of the MPC and some functions strengthened and/or improved.

APMN moderates two discussion lists (mf-asiapacific) and (mf-centralasia), has its own programme and webpage [[www.icimod.org/apmn](http://www.icimod.org/apmn)], and produces the biannual Asia Pacific Mountain Courier. Since January 2010, APMN has been overseeing four additional lists (mf-geography, mf-global, mf-summary, and mf-women) and has taken charge of the Mountain Forum Online Library (MFOL). As part of ICIMOD's Integrated Knowledge Management (IKM) team, APMN helps to organise knowledge forums, document knowledge, repackage it, and share ICIMOD knowledge with a wider audience.

In the previous six months, APMN published a second thematic issue of the Asia Pacific Mountain Courier on 'mountain biodiversity', as the APMN community's

MF Node Managers' Meetings 2009, Lima, Peru



response to CBD's call for knowledge input to its Conference of Parties (CoP) 10 to be held in Nagoya, Japan later this year, and issued 20 thematic e-digests on 'climate change', 'biodiversity and forest', 'water and hazards', 'mountain livelihood and technology', and 'gender and climate change'. It supported youth groups to conduct activities on conservation and climate change; co-organised a media competition for journalists; and explored new areas for information sharing and advocacy of the mountain agenda, including extensive use of the social networking site, Facebook. APMN also participated in the Knowledge Management for Sustainable Development (KMDS) conference held in Kathmandu in December 2009, with a presentation on APMN activities, and contributed to ICIMOD programmes to celebrate International Mountain Day 2009 and World Wetlands Day 2010.

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### South Asian Network for Development and Environmental Economics (SANDEE)

SANDEE has now settled into its new Secretariat office on the ICIMOD site. SANDEE's core activity is research support. In winter 2009 (Cycle 19), SANDEE received 40 pre-proposals and invited 7 research proposals for grants. Five grants and one study grant were awarded following the research and training workshop held in December 2009. The grant topics range from organic agriculture to household response to natural disasters.

We also conducted the following training programmes:

#### Introduction to Quantitative Environmental Economics, 23-27 January 2010, Pokhara, Nepal

This was a practical course for Nepali participants designed for teachers and researchers who want to understand and apply economic tools in valuing environmental goods and services. The course tried to provide a general introduction to environmental economics and to inform students about specific methods and strategies for undertaking valuation exercises.

#### TERI – SANDEE Policy Workshop on Climate Change, 5-11 February 2010, New Delhi, India

The Climate Summit in Copenhagen in December 2009 was not as successful as desired in setting implementable targets for reducing climate change. This workshop was organised in conjunction with TERI's Delhi Sustainable Development Summit 2010 in recognition of the need for researchers and professionals in South Asia to understand the implications of the Copenhagen meetings for climate policies in our countries. It aimed at understanding immediate research and training requirements in South Asia in general, and India in particular.

#### Policy Research and Proposal Writing Workshop, 30 March-2 April, 2010, Kalutara, Sri Lanka

SANDEE organised a four-day proposal writing workshop in Colombo together with the Institute of Policy Studies of Sri Lanka (IPS), for Sri Lankan researchers. The workshop enhanced skills in writing proposals; participants worked on improving literature reviews, and focusing on research questions and methods.

### SANDEE Research Support (Cycle 19)

Name	Country	Research Topic
Ziaul Haider	Bangladesh	Economics of rice residue burning in the South-West Region of Bangladesh
Ifikar Husnain	Pakistan	Is organic agriculture economically viable?
Paramita Prajna Mishra	India	Recreation vs. pollution? A study of Hussain Sagar lake and its surroundings in Hyderabad
Ghosh Santadas	India	Dynamics of household responses to natural disasters – Observations from Sundarban after cyclone Aila
Saravana Kumar	India	Economic impact of climate change on yield variability of major food crops in Tamil Nadu
Moshahida Sultana (Study Grant)	Bangladesh	Factors that influence two conflicting groups – farmers and fishermen – to participate in integrated water resource management: the case of coastal areas of Bangladesh

## Partnership development (October 2009 - March 2010)

ICIMOD is continuing its unique regional role of enhancing the social and environmental security of mountain people and ecosystems by establishing strategic partnerships with both government and non-government institutions and resource centres in the Hindu Kush-Himalayan region and outside. ICIMOD has entered into agreements with different partners and institutions during the past half year, some of which are highlighted below.

### Biodiversity and climate change adaptation

ICIMOD has been promoting trans-Himalayan transects for biodiversity conservation, management and long term environmental monitoring of ecosystem services. In 2009, ICIMOD entered into a partnership agreement with UNEP to promote regional cooperation in transboundary biodiversity conservation and sustainable development. In order to develop a regional cooperation framework, ICIMOD signed agreements with the following institutions in the region during the second half of 2009 and early 2010.

- Institute of Geographical Sciences and Natural Resources Research (IGSNRR) and Chinese Academy of Sciences (CAS), China
- Kunming Institute of Botany (KIB) and Chinese Academy of Sciences (CAS), China
- GB Pant Institute of Himalayan Environment and Development (GBPIHED), India
- Ashoka Trust for Research in Ecology and the Environment Eastern Himalayan Programme (ATREE-EHP), India
- Ministry of Forest and Soil Conservation (MoFSC ), Nepal
- Central Botany of Tribhuvan University, Nepal

### Water and disaster risk reduction

ICIMOD, through its Integrated Water and Hazard management programme, plans to investigate water related issues through periodic monitoring and proper management of water resources that have an impact on the livelihoods and ecosystems of the region. ICIMOD entered into agreements with the following institutions in order to contribute concrete measures for optimal use of water and land resources and sustainable management of water services and water induced disaster risk reduction.

- Kunming Institute of Botany (KIB) and Chinese Academy of Sciences (CAS), China
- Aga Khan Rural Support Program (AKRSP), Pakistan
- The Mountain Institute (TMI), Nepal
- Aaranyak, India
- Stockholm Environment Institute, Thailand
- United Nations International Strategy for Disaster Reduction Secretariat (UNISDR) – Thailand
- Union for Conservation of Nature and Natural Resources (IUCN), Pakistan
- Asian Development Bank, Philippines
- The Ministry for Foreign Affairs of Finland, (for establishment of a Regional Flood Information System)

### Knowledge sharing and capacity development

A demonstration project for Reduced Emission from Deforestation and Degradation (REDD) is being implemented by ICIMOD in collaboration with Asia Network for Sustainable Agriculture and Bioresources (ANSAB) and the Federation of Community Forest Users Nepal (FECOFUN). ICIMOD signed a Letter of Agreement with ANSAB-Nepal to establish a Project Management Unit (PMU) to create an easy and efficient environment for implementing the project; and a second LOA with the Faculty of Geo-information Science and Earth Observation (ITC) of the University of Twente to assist ICIMOD in developing a remote sensing based monitoring, reporting and verification protocol for the project.

A strategic collaboration was established between ICIMOD and the Food and Agriculture Organisation of the United Nations (FAO) to recognise and pursue collaboration in priority areas of mutual interest and benefit.



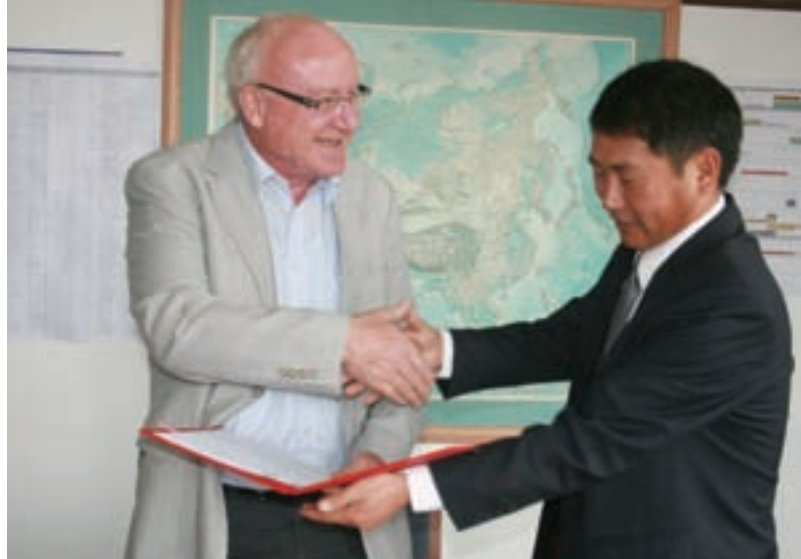
## Local governance in the HKH region

ICIMOD has commenced a programme to strengthen the capacity of selected local government institutions and civil society organisations by enhancing their knowledge, skills, and practices for demonstrating good governance in poverty alleviation and natural resource management. Letters of Agreement (LOAs) have been signed with the following institutions:

- The Mountain Institute, India
- Namsaling Community Development Centre (NCDC), Nepal
- Nepal Chepang Association (NCA), Nepal
- Green Hills, Bangladesh
- Aga Khan Rural Support Program (AKRSP), Pakistan
- National Trust for Nature Conservation (NTNC), Nepal
- Nepal Participatory Action Network (NEPAN), Nepal

## Promoting value chains for sustainable livelihoods

To improve livelihoods through knowledge partnerships and value chains of bee products and services in the Himalayas, ICIMOD signed agreements with various regional institutions including the Eastern Bee Research Institute (EBRI), Yunnan Agricultural University, Kunming, China, and the All Pakistan Beekeepers and Exporters Association, Peshawar, Pakistan.



## Strengthening strategic collaboration

Lyonpo Pema Gyamtsho, Minister of Agriculture and Forest, Royal Government of Bhutan, visited ICIMOD on behalf of the Ugyen Wanchuk Institute for Conservation and Environment (UWICE) in late March 2010 to sign a Memorandum of Understanding (MoU). The MOU will help further promote strategic collaboration in areas of mutual interest.

Jon Miceler, Director Mainland Asia and Managing Director Eastern Himalaya Program, WWF-US, visited ICIMOD in March for the signing of an MoU with the World Wildlife Fund (WWF)-US.

These MoUs between ICIMOD and different regional partners are expected to assist ICIMOD in fulfilling its strategic plans and outcomes, as well as contribute to enhancing research and knowledge generation capacity in ICIMOD's regional member countries.

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## Financing of New Projects

ICIMOD has obtained financing for the following new projects:

- Establishment of a Regional Flood Information System in the HKH Region Project, 3 years 2 million Euros, supported by the Ministry of Foreign Affairs, Government of Finland
- Highland Mountain Agri-Business and Livelihood Improvement, 2-year project of US\$695,000 supported by Asian Development Bank
- Innovative Libraries in Developing Countries – 2-year project of US\$40,000 supported by Elsevier Foundation.
- Climate Change Impact in Pakistan, 8-month project of US\$200,000 supported by the Asian Development Bank
- Flash Flood Risk Reduction- 2-year project of US\$285,000 supported by USAID



## Outreach News and Activities

### Media briefing and ICIMOD media reports competition award ceremony

'Why should Nepal be concerned about climate change?' was the title of the media briefing organised by ICIMOD on 6 March 2010 as part of the two-day 'ICIMOD in Nepal' event. Dr Andreas Schild, Director General of ICIMOD, welcomed 33 media representatives, who also heard from Dr Madhav Karki, Deputy Director General about the focus of ICIMOD activities in Nepal and the Nepal Day workshop held on 5 March.

The panel for the discussion included Dr Arun B. Shrestha, Climate Change Specialist; Dr Bhaskar Singh Karki, Resource Economist; Ms Basundhara Bhattarai, Gender Specialist; Dr Krishna Prasad Oli, Regional Coordinator, Kailash Landscape Initiative; and Mr Pradeep Mool, Remote Sensing Specialist; and was moderated by Ms Noorin Nazari, Governance Specialist. The panellists gave a brief introduction to various topics, which was followed by a lively discussion in which the journalists challenged ICIMOD professionals with questions on glaciers, climate change, REDD, and other hot topics.

The briefing was followed by an award ceremony for the ICIMOD competition for journalists 'Media Reports on Climate Change in the Himalayas' held in 2009. Dr Schild presented awards to the three winners present, Mr Dhruba Basnet for Ms Laurie Anne MacGregor,

Mr Ramesh Prasad Bhushal, and Ms Smriti Felicitas Mallapaty. After the ceremony, participants joined in the Open House events. Television channels and journalists interviewed various ICIMOD senior management members and staff.

Nira Gurung, [ngurung@icimod.org](mailto:ngurung@icimod.org)

### ICIMOD knowledge forum

An occasional Knowledge Forum series was recently introduced to foster scientific discussion on issues of mountain concern and to share global, regional, and member country knowledge and perspectives with stakeholders and interested persons. In the first session on 17 March, we were privileged to hear the views of Professor Jack D Ives, distinguished scientist and scholar on mountains, on Three Unlearned Lessons: Problems of Scholarly Research within a Political Arena. Read more at <http://www.icimod.org/?page=866> and see the video clip at <http://www.youtube.com/icimod#p/u/0/pOelWuLDxe4>. Our second distinguished speaker (23 April) was David Malone, President of Canada's IDRC, who shared some insights and reflections on development in general, and Nepal in particular, in a thought-provoking session on The Changing Context and Content of Aid Policy. Read more at <http://www.icimod.org/?page=1017> and see the video clip at <http://www.youtube.com/icimod#p/u/5/oS52K7K8kHl>

### Winners of the ICIMOD Competition 'Media Reports On Climate Change In The Himalayas'

The International Centre for Integrated Mountain Development (ICIMOD) organised a competition for journalists, with a thematic focus on climate change in the Himalayas from 24 September to 15 December 2009. The aim was to capture published media reports and to encourage journalists to write on mountain, and especially Himalayan, issues in the run up to COP 15 in Denmark. Read more <http://www.icimod.org/?page=770>

#### International Category

Winner: Anjali Derryn Nayar, Canada, for 'When the ice melts'  
Runner Up: Laurie Anne MacGregor, UK, for 'Moderelvenes død - Death of a mother river' (translated)

#### Regional Category

Winner: Farrukh Ahmed Chishtie, Pakistan for 'Glacier flooding: A renewed threat'.  
Runner Up: Ramesh Prasad Bhushal, Nepal, for 'Cash on forest to fight climate change and earn foreign exchange'

**Outstanding Regional Young Journalist Award:** Smriti Felicitas Mallapaty, Nepal, for 'Glaciers take the heat'

**Special Mentions:** Mahfujur Rahman, Bangladesh, for 'Climate change impact on extended Hindu Kush-Himalayan region', and Joydeep Gupta, India for 'From a receding glacier, an SOS to the world'

Congratulations to all the winners!



## ICIMOD's Open House: Learning and knowledge exchange

"It was a delightful Saturday morning and as soon as I opened my eyes I was in a good mood. It was not because I could sleep till late and I need not worry about hurrying for school but because I was going for an open house fair." Prizma Ghimire, school girl  
*Himalayan Times*, 25th March 2010

The day was 6th March 2010 and the fair was the ICIMOD Open House. ICIMOD has been operating from its headquarters in Kathmandu for 26 years, and it is natural for the Nepali people to have high expectations. The 3,000 plus visitors to the Centre were not disappointed. The day started with a lively press briefing where national and international press representatives questioned much debated reports on the speed of glacial melting and other topics.

The Open House followed. Inside, visitors joined groups and learned from ICIMOD staff about studies on glacial lake outburst floods, flood forecasting, climate change impacts, transboundary biodiversity, rangelands and highland yaks, aromatic and medicinal herbs, Asian honey bees, geographical information systems, ICIMOD's online books, and many other topics.

Outside, there were 26 stalls, mostly organised by the Centre's partners. The themes ranged from biodiversity and its importance for people and the environment with displays of plant and animal species, to alternative (mainly solar) energy products, honeybees and rural income, medicinal herbs and value chains, models for rural development, community forestry, and other sustainable mountain development issues.

Visitors were treated to a street drama depicting the issue of scarce water resources and the importance of environmental conservation. Film shows were offered on a variety of topics. Quizzes, entertainment, and tempting food stalls supported the good mood. The beautiful flowers and lawns of the ICIMOD garden were also much appreciated and formed a backdrop for many personal photographs.

Read more in the press release  
<http://www.icimod.org/?page=798>

Milan Raj Tualdhar, [mtuladhar@icimod.org](mailto:mtuladhar@icimod.org)



## ICIMOD's message and mission shared with the Australian Nepal community

The Nepal Embassy in Australia requested ICIMOD to display the photo exhibition 'Himalaya - *Changing Landscapes*' at their Showcase Nepal programme in Canberra mark the 50th year of diplomatic relations between Nepal and Australia. To reinforce the key message of the exhibition, the Embassy collaborated with ICIMOD to organise a technical seminar on the theme 'Climate change impacts on the Himalayan environment and people'. Invitations were given to the Australia-Nepal Parliamentary Friendship Group, Department of Climate Change, Department of Foreign Affairs and Trade (DFAT), AusAID, the Australian media, and NGOs, as well as teachers and students from the Australian National University (ANU) and University of Canberra.

The exhibition attracted many visitors, including the Australian Foreign Minister Mr Stephen Smith, Deputy Speaker of the Australian Parliament, other MPs, foreign ministry officials, ambassadors based in Canberra, and professors, students, the general public, and schoolchildren. Dr Madhav Karki and Dr Don Gilmour, former Project Manager of the Nepal-Australia Community Forestry Project, gave a joint keynote presentation 'Climate and socioeconomic changes in the HKH region and need to build community resilience'; Prof Martin Thomas gave a presentation on wetlands; and Dr Raju Adhikari from CSIRO, Australia presented on collaboration through biotechnology knowhow. The interest generated led to a series of meetings with AusAID, DFAT, and ANU officials and professors on collaboration between ICIMOD and Australia.

The photo exhibition was later shown in Sydney (5-25 March 2010), where it drew a large number of visitors.

Madhav Karki, mkarki@icimod.org

Dr Madhav B Karki with the Australian Minister of Foreign Affairs, the Hon. Stephen Smith and the Nepalese Ambassador HE Mr Yogendra Dhakal and Mrs Dhakal



## Himalaya – *Changing Landscapes* photo exhibition in Berne, Switzerland

The Himalaya – *Changing Landscapes* photo exhibition was shown from 25 to 31 October 2009 at the Weisenhausplatz in the heart of the old city of Berne, Switzerland, sponsored by Swiss Development Cooperation (SDC). This was an excellent location for attracting the general public. Four university students volunteered and provided excellent and essential support. Visitors included many people who had visited or worked in Nepal, including some ICIMOD alumni, and several school groups who had specific questions and assignments. They found the exhibition informative, interesting, and visually beautiful. Climate change specialists from the University of Berne highly appreciated ICIMOD's efforts to raise awareness about the impact of climate change among the Swiss public.

A media event was held at the exhibition ground on 26 October. Dr Madhav Karki from ICIMOD and Mr Jean-Bernard Dubois from SDC welcomed the guests; Mr Peter Gueller, the first regent of ICIMOD, spoke about the history of ICIMOD; and Prof Bruno Messerli spoke about the impacts of climate change in the Himalayas. The event and a related press release received excellent press coverage; ICIMOD and the exhibition were featured on the cover of the main Bernese newspaper, 'Der Bund', and in many other publications, which attracted many people to visit. Read more at [www.changing-landscapes.com](http://www.changing-landscapes.com).

Nonna Lamponen, nlamponen@icimod.org

## Travelling photo exhibition, 'Himalaya: The Changing Scenario', in India

As a collaborative effort with ICIMOD, a mobile photo exhibition on 'Himalaya: the Changing Scenario' was organised in different states in India by GB Pant Institute of Himalayan Environment and Development (GBPIHED), Almora, Uttarakhand, India. The aim of the exhibition was to draw the attention of people to the enormous impact of climate change on the world's highest mountain range, including effects on water resources, agriculture, biodiversity, livelihoods, and many other sectors. The photographs by Fritz Berger, Alex Treadway, Toni Hagen, Alton Byers, Fritz Muller, and Erwin Schneider represented the changing scenario in the Hindu Kush-Himalayan region.

The exhibition was held first at the GB Pant Institute of Himalayan Environment and Development (GBPIHED) itself from 10 to 12 September 2009. It was inaugurated by Prof VPS Arora, Vice Chancellor, Kumaun

University, Nainital, Uttarakhand, India, on the occasion of the Annual Day celebration on 10 September. Other important delegates included Prof VK Gaur, FNA, distinguished Professor, Indian Institute of Astrophysics, Bangalore; Dr RS Tolia, IAS, Chief Information Commissioner, Government of Uttarakhand; and Ms Radha Bahan, Chairperson, Gandhi Peace Foundation, New Delhi. Around 500 people visited the exhibition including journalists, celebrated photographers, the general public, and students from different institutions.



Prof VPS Arora, VC Kumaun University and Dr LMS Palni, Director, GBPIHED with other visitors at the photo exhibition

The exhibition then travelled to Shimla, Mohal-Kullu, and Srinagar from 29 October–7 November 2009. In Shimla, the exhibition was held at the Peter Hof, HP State Guest house, during the Himalayan Chief Ministers' Conclave on 29 and 30 October. In Mohal-Kullu, the exhibition took place at the Himachal Pradesh Unit of GBPIHED on 2 and 3 November, inaugurated by Mr AK Malik, CO of Seema Suraksha Bal (SSB), Shamshi. In Srinagar, the exhibition was held at the Garhwal unit of GBPIHED on 6 and 7 November, inaugurated by Mr R.S. Negi, Inspector General and Director of the SSB Academy, Srinagar.

There were many important visitors to the exhibition including the Honourable Chief Ministers of Himachal Pradesh and Uttarakhand, the Union Minister of State for Environment and Forests, and the Minister for Environment and Forests, Jammu and Kashmir. Other high-level government officials from various ministries and departments of Himachal Pradesh and other Himalayan states, vice chancellors of different universities, directors of central and state government departments, scientists from different organisations, members of civil society, and

forest officials also attended. Visitors expressed the need to organise more exhibitions like this to create awareness of the impact of climate change on the environment.

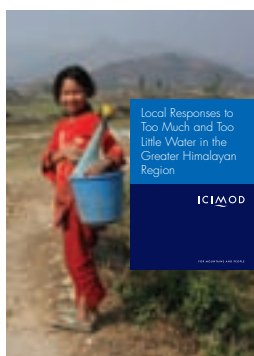
GB Pant Institute of Himalayan Environment and Development; Kosi-Katarmal, Almora-263 643, Uttarakhand, India, psdir@gbpihed.nic.in

### Other outreach events

- **World Water Day, 22 March 2010:** read the ICIMOD message on 'Clean water for a healthy world' at [www.icimod.org/?page=855](http://www.icimod.org/?page=855); the national-level World Water Day Celebration – 2010 coordinated by the Nepal National Water Week was also supported.
- **World Wetlands Day, 2 February 2010:** read the ICIMOD message on 'Caring for wetlands: an answer to climate change'; 'Himalayan Wetlands' website launched ([www.icimod.org/wetlands](http://www.icimod.org/wetlands)); flyer prepared on Consultative Regional Workshop on High Altitude Wetlands in the HKH Region; interaction programme held on the Greater Himalayan Wetlands Information System (GHWIS); partnership programme held on with the Department of National Parks and Wildlife Conservation; and support provided to local level organisations, Langtang National Park, and Youth Network for Social and Environmental Development (YONSED)
- **International Mountain Day 2009, 11 December 2009:** read the ICIMOD message on 'Disaster risk management in mountains' at [www.icimod.org/?page=665](http://www.icimod.org/?page=665); supported Government of Nepal's Summiters' Summit to Save the Himalayas at COP 15, Copenhagen, Denmark, and staged mobile photo exhibition, 'Himalaya – *Changing Landscapes*'; local level youth groups Eco-Friends Nepal, and the Climate Change in Coalition (3c) helped to launch a programme on 'Youth in Climate Action 2009' observing both International Mountain Day and the Global Day of Action for Climate Change 2009 on 12 December
- **7th Kathmandu International Mountain Film Festival (KIMFF), 10 to 14 December 2009:** staged mobile photo exhibition, 'Himalaya – *Changing Landscapes*' at the City Hall, Kathmandu

## ICIMOD Publications

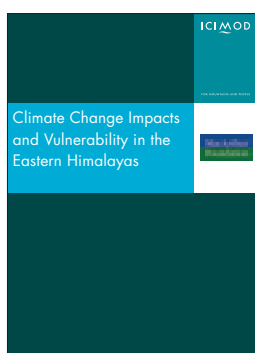
The major documents published by ICIMOD between November 2009 and April 2010 are shown below. All publications can be downloaded free-of-charge from [www.books.icimod.org](http://www.books.icimod.org). Hard copy publications can be ordered from the Distribution Unit, [distri@icimod.org](mailto:distri@icimod.org). They can be provided free-of-charge to institutions actively involved in sustainable development of the greater Himalayan region.



ICIMOD (2009) *Local Responses to Too Much and Too Little Water in the Greater Himalayan Region*. Synthesis report, Full case study reports on CD-ROM inside. 70p. ISBN: 978-92-9115-128-8

The main aim of the research project 'Documenting and Assessing Adaptation

Strategies to Too Much, Too Little Water' was to document adaptation strategies at local or community level to constraints and hazards related to water and induced by climate change in the Himalayan region. This includes how people are affected by water stress and hazards, their local short and long-term responses, and the extent to which these strategies reduce vulnerability to water stress and hazards. Case studies were carried out in Chitral District, Pakistan; the Koshi basin, Nepal; Bihar, India; Assam, India; and Yunnan province, China between June 2008 and September 2009. A single synthesis document was prepared, and the results of each case study summarised in separate documents provided on a CD-ROM that accompanies the main document.



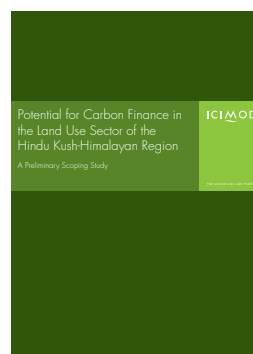
Sharma, E; Chettri, N; Tsering K; Shrestha, AB; Jing F; Mool, P; Eriksson M (2009) *Climate Change Impacts and Vulnerability in the Eastern Himalayas* 32p. ISBN: 978-92-9115-134-9

Little is known in detail about the vulnerability of mountain ecosystems in general, and the Hindu Kush-Himalayas in

particular, to climate change. However, in these areas of extreme slopes and rapid changes in climatic zones, it is likely that there will be marked impacts on biodiversity, water availability, agriculture, and hazards, and thus on general human wellbeing. Countries face the challenge of developing the detailed scientific knowledge needed to assess the current situation, make projections of likely

impacts, and plan for adaptation, but little detailed or long-term research has been carried out in these poorly accessible areas.

This publication presents a short summary of the findings of a rapid assessment carried out by ICIMOD, together with partners, in the Eastern Himalayas, with support from the MacArthur Foundation, to support planning for more detailed studies. The results of surveys, workshops, stakeholder consultations, and technical papers by individual experts were synthesised and used in climate models to develop preliminary climate projections for the region and assess climate change vulnerability. These results are intended to help inform conservation policy at national and regional levels, and stimulate the coordinated research that is urgently needed.



ICIMOD (2009) *Potential for Carbon Finance in the Land Use Sector of the HKH Region: A Preliminary Scoping Study*, 42P ISBN 978 92 9115 132 5

Improved management of natural resources is a potentially valuable approach for climate change mitigation and carbon sequestration

and can be encouraged through the use of financial instruments. This publication summarises the results of a preliminary scoping study to provide an initial assessment of carbon finance opportunities in the HKH region. The study notes that, within the region, adaptation and mitigation must be considered as complementary approaches. It concludes that the REDD mechanism alone (reducing emissions from deforestation and forest degradation) will provide relatively less benefits within the region, whereas the more comprehensive agriculture, forestry, and other land uses approach (AFOLU) is more promising. The biophysical mitigation potential in the region is substantial but highly dispersed so that a holistic landscape approach is likely to be most appropriate. There is an urgent need to reduce scientific uncertainty and for regional institutional capacity building in carbon finance, and appropriate policy and implementation mechanisms.



Ives, JD; Shrestha, RB; Mool, PK (2010) *Formation of glacial lakes in the Hindu Kush-Himalayas and GLOF risk assessment*. 56p  
ISBN 978 929115 137 0

Widespread thinning and retreat of glaciers is leading to the formation of numerous meltwater lakes in their lower sections. The lakes frequently

accumulate behind end moraines that are inherently unstable. As the lakes increase in size, hydrostatic pressure and associated factors can lead to catastrophic drainage (glacial lake outburst floods, or GLOFs); over the last thirty years more than twenty have occurred in the Hindu Kush-Himalayan region with loss of life and extensive property damage downstream. This report outlines a methodology for mapping glacial lakes and identifying those that may be dangerous. Preliminary findings on selected glacial lakes are presented. While the danger has sometimes been much exaggerated, it is nevertheless essential that a rational basis for risk assessment be developed. Given the extremely mountainous, inaccessible nature, and high altitude of the immense area involved, application of a wide variety of remote sensing techniques is promoted as a necessary first step. This must be followed by detailed glaciological and geophysical field investigation of those lakes that warrant more thorough investigation. In this manner, a more secure understanding can be obtained of what responses are needed in order to protect populated areas farther downstream. More extensive scientific information about glacial lakes, enhanced by monitoring and early warning systems together with mitigation measures, is needed. The report details the information that has already been acquired from selected possibly unstable lakes. It is intended to provide information for planners, policy makers, and development scientists, and a basis for regional collaboration aimed at reducing the glacial lake hazard.

### DVDs

*In the Grip of Drought*. ICIMOD, (2009) DVD (11.35 mins)

*Living with Floods*. ICIMOD, (2009) DVD (11.55 mins)

*Climate change in the Hindu Kush-Himalayan region: selected publications on impacts, adaptation, and others from 1986 to 2009*

### Electronic (Online) Only

Local Responses to Too Much and Too Little Water – Case studies

- Yufang Su; Qiaohong Li; Yao Fu (2009) *Diversified Livelihoods in Changing Socio-ecological Systems of Yunnan Province, China*

- Das, P; Chutiya, D, Hazarika, N (2009) *Adjusting to Floods on the Brahmaputra Plains, Assam, India*

- Singh, P; Ghose, N; Chaudhary, N; Hansda, R (2009) *Life in the Shadow of Embankments – Turning Lost Lands into Assets in the Koshi Basin of Bihar, India*

- Dixit, A; Upadhya, M; Dixit, K; Pokhrel, A; Rai DR (2009) *Living with Water Stress in the Hills of the Koshi Basin, Nepal*.

- Nadeem, S; Elahi, I; Hadi, A; Uddin, I (2009) *Traditional Knowledge and Local Institutions Support Adaptation to Water-Induced Hazards in Chitral, Pakistan*

ICIMOD (2009) *Inception workshop report: Kailash Sacred Landscape Conservation Initiative*

ICIMOD (2009) *Consultation Workshop Report: Towards Developing the Brahmaputra-Salween Landscape*



### Annual Report 2009

#### Newsletters

*Water Storage: A strategy for climate change adaptation in the Himalayas: Sustainable Mountain Development, No. 56, Winter (2009)*

*Asia Pacific Mountain Courier: Newsletter of the Asia Pacific Mountain Network, Volume 10, No. 2, January 2010*

*CNICIMOD Newsletter: Newsletter of the Chinese Committee on International Centre for Integrated Mountain Development, (published by CNICIMOD) Volume 3, No.2, October 2009  
Volume 4, No.1, April 2010*



## Information sheets

Predicting Floods in the Himalayan Region: Using satellite rainfall estimates and models, IS 5/09

Gender Mainstreaming in Rangeland Resources Management, IS 6/09

Co-Management of Rangelands in the Hindu Kush-Himalayas: Using collective wisdom and collaborative action to cope with challenges, IS 7/09

Climate Change and the Hindu Kush-Himalayan Rangelands, IS 8/09

Sustainable Energy for the Himalayan Rangelands, IS 9/09

Managing Flash Flood Risk in the Himalayas, IS 1/10

Glacial Lakes and Associated Floods in the Hindu Kush-Himalayas, IS 2/10

Understanding Mountain Poverty: Exploring the specificities of poverty in the mountain areas of the greater Himalayan region, IS 3/10

Hindu Kush-Himalayan Glaciers: Frequently asked questions (FAQ 1)

Regional Geo-data Sharing Initiative in the Hindu Kush-Himalayan Region (GIS/RS 1)

## Project and other flyers

2009

Facing the Challenges: Climate change adaptation in the greater Himalayas

Potential for Carbon Finance in the Landuse Sector within the Hindu Kush-Himalayan Region of Asia

2010

Kailash Sacred Landscape Conservation Initiative: Developing a transboundary cooperation framework for conservation and sustainable development in the Mt Kailash region of China, India, and Nepal

Climate change impacts on the water resources of the Indus Basin: Capacity building, monitoring and assessment for adaptation

The International Year of Biodiversity: Biodiversity is life. Biodiversity is our life

GLOF Flyer on HKH Glacial Lakes (in Nepali)

GLOF Flyer on Nepal Glacial Lakes (in Nepali)

GLOF Flyer on Thulagi Glacial Lake (in Nepali)

GLOF Flyer on Tsho Rolpa Glacial Lake (in Nepali)

GLOF Flyer on Imja Glacial Lake (in Nepali)

The Hindu Kush-Himalayan Conservation Portal

Consultative Technical Workshop on High Altitude Wetlands in the Hindu Kush-Himalayan Region

## E-discussion summary

The Young Can Do! Let's Protect Forests with Our Hands, April-May 2009

Gender and Climate Change, October 2009

## Other publications by ICIMOD authors

Chettri, N (2010) 'Cross-taxon congruence in a trekking corridor of Sikkim Himalayas: Surrogate analysis for conservation planning.' *Journal for Nature Conservation* 18: 75-88. <http://tinyurl.com/29scdvl>

Giriraj, A; Babar, S; Jentsch, A; Sudhakar, S; Murthy, MSR (2010) 'Tracking fires in India using advanced along track scanning radiometer (A)ATSR data.' *Remote Sensing* 2(2): 591-610. [www.mdpi.com/2072-4292/2/2/591](http://www.mdpi.com/2072-4292/2/2/591)

Karky, BS; Skutsch, M (2010) 'The cost of carbon abatement through community forest management in Nepal Himalaya.' *Ecological Economics* 69: 666-672 <http://tinyurl.com/2uabp9t>

Rasul, G (2010) 'Policy root in environmental degradation: The case of Chittagong Hill Tracts of Bangladesh'. In McNeill, JR; Padua, JA; Rangarajan, M (eds) *Environmental history: As if nature existed*, pp 220-239. Oxford: Oxford University Press

## New appointments at ICIMOD (to April 2009)



**Mr Berend de Groot**, Director of Programme Operations, Directorate

Mr Berend de Groot assumed office as the Director of Programme Operations on 15 January 2010. He has over two decades of experience in working

for the European Commission and Swiss Development Cooperation in Asia and Africa as a senior official at different political and institutional levels. Prior to joining ICIMOD, he was Head of Operations in the EU Delegation to Afghanistan, in charge of the EU cooperation programme. His key areas of involvement have been policy and institutional reform processes, human resource development, rural development, environment, humanitarian aid, and validation of knowledge systems in a broad range of programmes. His assignments in Afghanistan, Pakistan, and Madagascar have provided him with a good insight on mountain specific issues. Mr de Groot is a national of The Netherlands, and is also fluent in German, French, and Portuguese. He has an MSc in Agricultural Sciences with specialisations in tropical livestock production and natural resource management from Wageningen Agricultural University.



**Ms Aneeta Gauchan**, Research Assistant, Human and Institutional Development

Ms Gauchan completed her Masters degree in forestry from the Institute of Forestry, Pokhara in December 2009, and has joined ICIMOD as a research assistant

in the Human and Institutional Development (HID) Unit. Previously, she worked for two years as a programme coordinator for a livelihoods project at the Centre for Biodiversity and Environment Conservation (CBEC), and as a freelance consultant for NGOs such as ACAP, NTNC, LEED, and ComForM, on data analysis and database management in social projects. Born to an indigenous mountain community, Aneeta has an interest in subjects like natural resource management, biodiversity conservation, livelihoods, and climate change in the HKH. She wishes to excel and explore her interest through networking and research at ICIMOD.



**Ms Kiran Hunzai**, Poverty Analyst, Sustainable Livelihoods and Poverty Reduction Programme

Ms Hunzai is from the Hunza Valley in Northern Pakistan and joined ICIMOD as a Poverty Analyst in September 2009.

She has a Masters degree in rural development with a focus on community based research techniques from the University of Sussex, England. In Nepal, she has worked with Mercy Corps as a livelihood consultant and with the World Food Programme, Vulnerability Analysis Mapping (VAM) Unit where she provided assistance for management of food security data and information required for the accurate analysis of household food security in Nepal. Prior to coming to Nepal, she studied and worked in Pakistan, Sri Lanka, Malaysia, and England.



**Dr Bhaskar Singh Karky**, Resource Economist, Economic Analysis Division, Sustainable Livelihoods and Poverty Reduction Programme

Dr Karky was appointed as a Resource Economist working in the Economic Analysis Division in

2010. He first joined ICIMOD in November 2007 as a researcher and then as a coordinator for the REDD project implemented in India and Nepal. Dr Karky is a Nepali national and holds a PhD in the economics of climate change policy from the University of Twente, the Netherlands. He has an MSc in Agricultural Development Economics from Reading University, UK, and a BSc in Agriculture from the University of Western Sydney, Australia. Prior to joining ICIMOD, he worked for the National Trust for Nature Conservation, the Centre for Micro-Finance, and Danida in Nepal. Dr Karky has published numerous papers focusing on climate policy, REDD, payment for environmental services, micro-finance, and renewable energy. He is also an avid trekker and mountain biker.



**Ms Malvika Joshi, Finance Assistant, SANDEE/ICIMOD**

Ms Malvika Joshi is working as a Finance Assistant with SANDEE and ICIMOD. She holds a Bachelors degree in Business Studies from Tribhuvan University Nepal and is undergoing ACCA

Certification. She has worked as a financial consultant in Naviworld Nepal, done financial consultation for ERP implementation assignments, and worked as an accounts manager and procurement manager in Naviworld sister concerns for the past two years. She has also worked as a senior sales executive in international call centres in Kathmandu.



**Dr Rajan Kotru, Watershed Management Specialist, Environmental Change and Ecosystem Services Programme**

Dr Rajan Kotru is a development specialist with over 25 years of experience in conceptualising, planning, implementing,

monitoring, and evaluating research and development cooperation projects, mainly in forest ecosystem dynamics and sustainable natural resource and watershed management. He holds a PhD in Forest Management and Silviculture from Ludwig-Maximilians University, Munich, Germany, and Master and Bachelor degrees in forestry sciences from the same university. Born in Kashmir, India, and having worked in the German Alps and in the Hindu Kush-Himalayas, Rajan has a rich knowledge of mountain development issues and innovative solutions. He has worked in Bhutan, China, Germany, India, Nepal and Pakistan for WB, DFID, GTZ, and KfW. He brings a seasoned policy and management practice outlook to watershed management, forestry and livelihoods, local governance, decentralised water governance, forest ecosystem services, monitoring and impact evaluation, and institutional building.



**Mr Eak Bahadur Rana Magar, Project Coordinator, REDD Pilot Project, Environmental Change and Ecosystem Services Programme**

Mr Rana, a Nepali national, joined ICIMOD in November 2009 as Project Coordinator for

the REDD Pilot project in Nepal. He will coordinate with partners, manage the project, and liaise with local ministries and stakeholders, to institutionalise forest carbon accounting, monitoring, and registration; and help develop a national forest carbon fund, and REDD payment distribution in Nepal. Mr Rana gained extensive experience in forest resources management and livelihood improvement during many years of work with CARE Nepal in various capacities. His most recent experience included working in a REDD initiative in Nepal where he was involved in various activities implemented by the Forest Ministry's REDD Forestry Cell under the World Bank's Forest Carbon Partnership Facility scheme. He has rich experience working with government, civil society, and NGOs. Mr Rana has a Master of Science in sustainable resource management from the Technical University of Munich, Germany, specialising in forest ecosystem management.



**Ms Liza Manandhar, Programme Assistant, MENRIS, Integrated Knowledge Management Programme**

Ms Liza Manandhar joined ICIMOD as Programme Assistant in the MENRIS Division in May 2010. Previously she worked as

Marketing and Public Relations Assistant Manager at the Hotel Soaltee Crowne Plaza, with responsibilities including event management, coordination and promotion of events, and ensuring brand standards. Prior to this she worked at the Radisson Hotel Kathmandu as Executive Secretary for the Managing Director, Joint Managing Director, and Chairman; and for Soaltee Hotel Limited, as the Executive Assistant to Executive Chairman and Chairman Emeritus. She brings extensive experience in corporate business in Nepal, especially in office administration and management, and has a background in business administration and management.



**Dr Krishna Prasad Oli**, Regional Coordinator, Kailash Sacred Landscape Conservation Initiative, Environmental Change and Ecosystem Services Programme

Dr Krishna Prasad Oli was appointed Regional Coordinator for the Kailash Landscape Initiative in November 2009. His main responsibility is to manage the project, support collaboration among the partners, and implement the project to develop a regional cooperation framework to manage the Sacred Kailash landscape. Dr Oli started his career as an agriculturist and livestock specialist in Nepal in 1976. He has worked with Winrock International to design agricultural research in farms and stations and with The World Conservation Union (IUCN) Nepal as Senior Environmental Planner and Programme Coordinator for 12 years. He has supported the preparation of a transboundary biodiversity corridor plan for the Eastern Himalayas, environmental and veterinary laws for Nepal, environmental impact assessments, and research on natural resources governance. He holds a Masters degree in Animal Science from the University of Edinburgh, and a law degree and PhD in geography from Tribhuvan University (TU).



**Dr Laxman Joshi**, Payment for Ecosystem Services Specialist, Economic Analysis Division

Dr Laxman Joshi from Nepal joined ICIMOD in April as Payment for Ecosystem Services (PES) Specialist. He comes with a rich knowledge and experience in PES programmes and smallholder agroforestry systems in Southeast Asia, and also brings a wealth of knowledge about local knowledge, adaptations, innovations, and farmer decisions related to agroforestry and natural resource management. Before joining ICIMOD, Dr Joshi worked as a scientist for more than a decade at the World Agroforestry Centre (ICRAF) based in Indonesia. At ICIMOD, he will oversee the PES programme and support the Centre in developing PES schemes to enhance ecosystem services and the wellbeing of mountain communities in the HKH region. Dr Joshi has a PhD from the University of Wales, Bangor, UK.



**Ms Naina Shakya**, Fundraising and External Relations Officer, Directorate

Ms Naina Shakya joined ICIMOD as Fundraising and External Relations Officer in Directorate in April 2010. Prior to joining ICIMOD, Ms Shakya worked with the Asian Institute of Technology (AIT) in Bangkok for 7 years in various capacities, most recently as Coordinator of Partner Relations and Development in the External Relations and Communications Office. She brings with her relevant experience in fundraising activities by establishing and managing strong collaborative relationships and networks with government agencies, international development agencies, academic and research institutions, INGOs, NGOs, and the private sector. She was also involved in the fundraising events for the 50th anniversary of AIT and preparation of promotional and communication strategies. In earlier years, Ms Shakya worked for various projects with USAID/Nepal, Save the Children/UK, ADB/Philippines, and Focus on the Global South/Philippines. She has a Master's degree in business administration with a specialisation in marketing from Kathmandu University and a second Master's degree in sociology from the University of the Philippines, Diliman, Manila.



**Dr Garrett Kilroy**, Coordinator Koshi Basin Programme, Integrated Water and Hazard Management Programme

Dr Garrett Kilroy is from Ireland and has been living in Nepal since April 2008. He holds a BSc in environmental sciences and a PhD in environmental hydrogeology from Trinity College Dublin. Professionally he has worked mainly in the areas of strategic environmental assessment, groundwater protection, and river basin management. Before coming to Nepal, Dr Kilroy worked on the implementation of river basin management for the Irish Government and the European Commission. For the last two years, he has worked as a consultant for the Irish Environmental Protection Agency and for Concern Worldwide Nepal. At ICIMOD, he will be developing the transboundary programme on the Koshi river basin.



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