

Chand should have remembered me at least," Laudari argues.

The irate crowd pounced upon the prone officer and started to thrash him mercilessly. Chand's weapon, cap and swagger-stick had been snatched away and Laudari feared that the man would be killed. He somehow felt that he could save Chand's life as the protestors were mostly his fellow students. "I climbed on top of him and spread out my hands to stop the blows," Laudari reminisces.

He felt that the authorities would turn hostile and become more brutal in their clampdown if a police officer was killed. "Despite my efforts, a man still struck him in the eye from behind," he adds.

A sub-inspector was taking position to open fire even as Laudari was trying to lift Chand off the ground. "I hid behind Chand to save myself from the likely bullet. I got hold of his collar and carrying him in front of my chest handed him over to other policemen," he remembers. "But the sub-inspector didn't even thank me for saving a senior officer's life," he adds ruefully.

It was still drizzling when he returned at around three and decided to seek shelter. "I entered the girls' hostel fearing that the police might attack the boys' hostel. But an Armed Police Force team broke into the girls' hostel and started to hit out indiscriminately," Laudari says. He also got beaten up.

Dr Bryan Cob, who was volunteering his services during the April uprising, pulled him from the clutch of the security personnel but he was already suffering from a deep cut below the left eye, apart from several blows to the torso.

A Superintendent of Police (SP) -- he doesn't know the name -- took the injured Laudari to Bir  
*See page 3: Cops beat...*

#### UNGRATEFUL!

(Up) Gajendra Laudari helping DSP Sharad Chand who fell down after a stone pelted by protestors hit him in Kirtipur on April 6, 2006, during the Janaandolan II. Instead of thanking him, policemen later thrashed him mercilessly (below).



BHASWOR OJHA/REPUBLICA

## Nepal book final clash with Afghanistan

REPUBLICA

KATHMANDU, April 7

Nepal entered the final of the ongoing ACC Elite Trophy after beating Malaysia by eight runs in a thriller at the Harbur Cricket Grounds, Kuwait, on Wednesday.

Nepal will take on Afghanistan, who defeated Hong Kong by five wickets at the Unity Grounds on Wednesday, in the final of the tournament on Friday.

Nepal are playing the ACC Elite Trophy for the second time. Nepal had lost against the UAE in Singapore in 2002 final.

After losing the toss, Nepal bated first and put up 271 runs losing six wickets in 50 overs. Nepal lost opener Anil Mandal for four runs but opener Mahesh Chhetri and Shakti Gauchan produced second wicket partnership of 87 runs. Mahesh scored 43 off 86 balls while Shakti struck 52 runs and

became the first Nepali to score 1,000 one-day runs at the international level. Gyanendra Malla added 49 runs while Sharad Vesawkar anchored the Nepali innings with 97 not out. Suresh Navaratnam, Shahrulnizam Yusof and Eszrafiq Azis took two wickets each.

Nepal shocked Malaysia in the very first and second overs. Mehboob bowled Damith Warusavithana and skipper Khadka took the wicket of Ahmad Faiz to keep Malaysia at 1/2. Navaratnam scored 115 while Suhan Kumar added 70. Shafiq Sharif (31 runs off 18 balls), coming down the order, troubled Nepal once again. However, Nepal got rid of Navaratnam and Sharif in the 49th over. Malaysia were in need of 13 runs in the last over but Bashanta Regmi bowled out Yusof to pull off a thrilling victory.

(Details on page 16)

# Nepal for climate-change push for mountain countries

KOSH RAJ KOIRALA

KATHMANDU, April 7

With the UN Climate Change Conference held in Copenhagen last December having failed to take up the issue of saving the Himalayas, Nepal is preparing to push the agenda at the UN together with other Least Developed Countries (LDCs) around the world.

Officials at the Ministry of Environment said they are currently working to forge a Mountain Alliance Initiative for Climate Change (MAICC) to push the agenda jointly at the UN Framework Convention for Climate Change (UNFCCC) during the Conference of Parties (CoP-16) to be held in Mexico in December.

Officials said the Climate Change Council (CCC) headed by the prime minister has already approved a proposal to this effect. It is now in the process of seeking endorsement

**Since Nepal has eight of the 14 highest mountains in the world we are preparing to take a lead role to push the agenda of saving snow-clad mountains.**

— Meena Khanal, spokesperson, Ministry for Environment

from the cabinet.

The idea of jointly pushing the agenda was conceived after the UNFCCC held in Copenhagen failed to take up the issue of saving the Himalayas.

The new initiative spearheaded by Nepal aims to include all LDCs with high mountains. Small island nations that are vulnerable to the



effects of climate change are also willing to be part of the initiative.

Meena Khanal, spokesperson at the Ministry for Environment, said LDCs with snow-clad mountains like Nepal are at the receiving end of the effects of climate change such as floods, landslides, glacial lake outburst floods and prolonged draught.

"Since Nepal has eight of the 14 highest mountains in the world we are preparing to take a lead role to push the agenda of saving snow-clad mountains," she said.

There are a total of 49 countries including Nepal categorized as LDCs. Of them, 28 have mountains that remain snow-capped all year round.

Officials believe that it will be easier to forge an alliance with such LDCs since Nepal currently heads the group of 49 LDCs at the UN. Nepal took the chair of the group from Bangla-

desh on September 29, 2009.

Spokesperson Khanal said discussions will first be held at national level and then at regional and inter-country ministerial level meetings before formally putting forth the agenda at CoP-16 in Mexico.

The body will seek to have UNFCCC recognize Least Developed Countries with high mountains separately and provide them funds to take necessary measures for adapting to the effects of climate change.

During CoP-15 in Copenhagen, Nepal had pushed the agenda of 'Saving the Himalayas' from melting due to global warming. The government also organized a cabinet meeting at Kalapathar at the base of Mt Everest ahead of the Copenhagen conference to draw the attention of the world to the plight of the Himalayas. But the voice Nepal raised went largely unheard.



# LUCC Research Agenda and HKH Region<sup>a</sup>

Narpat S. Jodha, ICIMOD, Kathmandu

— Mt. perspective  
— Trans B.

## Introduction

LUCC research is oriented towards the process causality analysis, where links and interactions between human behavior and biophysical attributes of land resources are focussed. The purpose is to identify the nature and functioning of human driving forces rooted in social, economic and political structures, which influence biophysical processes and in turn are affected by the latter. By way of responding to the changed situation, the human behaviour initiates the next round of affecting and being affected by changed biophysical conditions. The basic premise of our discussion is that the pace, pattern and process of this dynamics of change is primarily conditioned by the biophysical features of the focussed area as an integrated unit and its links with the external world. This we explain with the help of situation in Hindu Kush Himalayas. The discussion is based on the inferences from different studies and observations, which in turn are integrated into a framework called mountain perspective frameworks (Jodha et.al. 1992). We also believe that understanding of a process can help in designing the methods for assembling and integrating more quantitative data being sought by LUCC.

## Two-way Adaptation Process

One of the simplest ways to describe and understand the changing nature-society interactions or what LUCC calls human processes influencing and being influenced by biophysical processes (finally reflected in landuse-land cover changes), is to look at the whole dynamics of change as a two-way adaptation process.

Accordingly (i) guided by a range of mechanism to satisfy survival or accumulation instincts, society adapts its needs to the imperatives (capacities) of biophysical resource and thus live within the ecological limits imposed by the latter, or (ii) adapt (or amend-or over extract) the biophysical resources to meet its rising needs/greed. Under the first type of adaptation process the biophysical limits, have the primacy, while the second part of the process is dominated by social-economic forces. The consequences of the two are quite different for land use and land cover changes.

Enquiring into these processes has to start with recognition and fuller understanding of biophysical circumstances of a given ecosystem, the next step is the juxtaposition of the imperatives of these biophysical features as objective circumstances with the attributes of human interventions directed to use or live with the biophysical resources. This can provide broad understanding of nature-society interaction processes and their consequences reflected in land use/cover changes. We illustrate this approach by focussing on situation in the mountain areas.

## Mountain Specificities

Biophysical circumstances of mountain areas could be described as mountain specificities i.e., the special features, which due to their incredibly higher degree and impacts help separate mountain and hills from plains. They are inaccessibility, (or limited accessibility), fragility, marginality, diversity and niche and people's adaptation mechanisms to live with these

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to the changing needs. Besides production and resource use practices, adaptation include formal/informal institutional arrangements.

Their implication from the view point of land cover/land use can be summed up in terms of environment/ecology friendly social system – ecosystem links. Maintaining land cover through well adapted resource harnessing methods, conservation and protection measures etc. are ensured because of the collective stake in the health of resources, access and proximity based knowledge of resources, and regulation of pressure on resources by different means (institutional regulation, migration diversified and rotational production systems) (Jodha 1998).

### **Gradual Change: The Major Turning Points and New Driving Forces**

As mentioned earlier, the above situation was very closely linked to the relatively isolated, low-population and subsistence oriented societies, who had limited demands (mainly to meet substance needs rather than for external trade), and limited capacities/means to extract resources. However, the situation changed with decline of the above features. The changes took place mainly during the current century-when mountain became major source of timber, hydropower, minerals and of late entertainment (eg., through tourism). The mountain areas got physically, administratively as well as economically linked with the production and marketing systems in the plains. The process got accentuated during the last 5-6 decades, when development and welfare became the formal state responsibility. With this change the mountains' external links and their impacts became more effective.

Following the improved infrastructure, mountain produce and resource flows to plains led to higher pressure of demand on mountain resource. Exposure to external world and even rudimentary medical facilities led to health revolution leading to rapid growth of population. State run relief and welfare activities killed the local (demand) rationing measures. State's own focus on enhancing supplies rather than management of demand led to the programmes directed to increased resource extraction for local food supplies as well as exportable niche products (timber, herbs, fruits, water, hydropower) for the plains.

This account reveals a generalised picture of key driving forces namely, state intervention, market forces and population (both in quantitative and in qualitative terms (see Table 2). Which gave primacy of human factor in place of ecology in the use and management of mountain land resources. The consequences are reflected in terms of changed land uses, decline in land cover and biophysical degradation of resources, inducing people to initiate next round of resource extraction. The both needs and capacities to extract resources leading to further resource degradation are much higher now than before Table 3, summarises the major changes and their consequences by comparing the traditional and present day situation of nature-society interactions in mountain areas.

### **Relevance for LUCC**

The above description of the situation in mountain areas as indicated under Table 1 to 3 is supported by several micro-level studies and qualitative observations. They help describe the process of nature-society interactions in diverse mountain situations. In fact in some cases, they have helped in designing interventions to arrest or reverse these trends of resource degradation and in the process help alter landuse and land cover. But all these may appear to be marginal concerns to LUCC research at this stage, because it seem to focus on the need quantified information on land use/cover at more aggregate levels.

**Table 2 Interactions and implications of rapidly changing socio-economic circumstances in mountain areas**

<i>Socio-economic changes interacting with biophysical factors, i.e. increased human interventions in mountain areas</i>	<i>Limited accessibility. Semi-closedness: limited dependability of external support: local resource focus of activities</i>	<i>Fragility and marginality. Incompatibility with high intensity uses, focus on diversified, low cost, low risk activities</i>	<i>Diversity. High potential for diversified, interlinked activities: location specificity</i>	<i>'Niche' Products: activities with comparative advantage, including human adaptation measures</i>
Population growth changed expectation levels/altitudes; per capita increased activities guided by profit motive or forced by poverty	Excess pressure on local resources with limited outlets; resource-use intensification, over-extraction, degradation (croplands, pasture, forest)	Indiscriminate resource-use intensification; disregard of resource-extensive, diversified cropping practices; dependence on external subsidy; discard of usage regulations; group action	Pressure of food needs; reduced diversification of cropping; reduced resource regeneration; diversity of food systems replaced by limited grain types	Pressure of food needs; disregard or misuse of natural potential for diversified and better suited activities and their complementarities
Market forces trade links; pressure of external demand; changes in people's attitudes, expectation	Integration with mainstream market situation despite low physical accessibility; additional pressure on resources; market driven corridors of changes; intra-regional disparities	Distant demand induced over use of resources; backlash of selective commercialisation of agriculture; decline of environment-sensitive agronomic practices; poverty of ethnic minorities and women with decline of common lands	Market-driven, narrow crop specialisation, reduced diversification; marginalisation of traditional knowledge, and practices supporting interlinked diversified land uses, favouring accessible areas	External demand-induced over-exploitation of major niche, e.g. hydropower, horticulture, marginalisation of petty 'niche' local concerns, traditional small scale activities, biodiversity
Public Interventions a) Imposition of generalised development interventions, including investment priorities, technology choices, macro-economic policies-price, tax, trade, resource extraction	Reduced isolation, increased integration and level of activities, leading to unmanaged increase in pressure on land resources-crop land, forest, pasture	Promotion of increased use intensity; degradation of fragile/marginal resources; public relief, subsidy encouraging pressure on land without upgrading resource base	Subsidies, incentives for intensification, reduced diversification of crops, access-determined narrow specialisation (e.g. horticulture) with backlash on food supplies, food systems; widening gaps between areas with different accessibility	Over-exploitation of areas with high potential (e.g. horticulture, high value crops); disregard of side effects of local concerns; emergence of a dual sector economy (accessible-inaccessible areas)
b) Infrastructure for accessibility, integration, market-driven harnessing of 'niche'	Application for improved mobility, integration; priority to areas with high potential; regional inequities, emergence of dual systems	Priority to production over conservation; indifference to resource limitations and local community concerns; increased intensity of fragile resource use	High cost, external input-based, narrow specialisation; focus on limited crops and attributes; disregard of traditional know-how, and institutional arrangements for diversification of land use, cropping	Market-driven over-extraction of 'niche', disregard of side effects on environment and people's survival strategies; traditional know-how; limited local participation/benefits
c) Technology and institutional support: narrow focus, directed to short-term needs, sectoral orientation, external origin/orientation, non-participatory	Inaccessibility-induced invisibility of problems/opportunities making development measures as inappropriate impositions	Focus on current production, high use-intensity; disregard of resource limitations and long-term consequences; sustained through subsidies, e.g. cropping on steep slopes; disregard of traditional know-how	Narrow specialisation, through incentives and support systems, technologies/R & D disregarding organic linkages and performance of total cropping systems; marginalisation of traditional farming systems; increased dependency on subsidisation	Focus on revenue generation; meeting external demand; extraction levels disregarding the side effects; locally useful area-specific potential given low priorities

Source: adapted from Jodha and Shrestha (1994), based on synthesis of evidence and inferences from more than 30 studies and documents (some of them cited in Table 14.1) covering mountain areas in Asia, Latin America, and Africa

However, as mentioned earlier we feel that an understanding of the process through a conceptual frame work should precede the efforts focussed on detailed pure numbers. In the light of the above, the main contribution of the above discussion would be an advocacy for evolving a framework e.g. Mountain Perspective Frame Work, which could help in understanding the interactions between biophysical processes and socio-economic processes in mountain areas. This can also help in predicting the consequences of globalisation and related changes on the above processes in mountain areas (Jodha 1997). The **mountain perspective**, put in simple terms, means understanding and incorporating the imperatives of mountain specificities (such as inaccessibility, fragility, diversity, etc.) in designing and implementing interventions in mountain areas to facilitate environmentally and socially sustainable use of mountain land resources.

### **The Required Framework**

- (i) Once the framework of enquiry is accepted, through LUCC efforts, more quantified information too can be assembled. The ways to aggregate the same can also be developed. The framework has already been used for development plans in many cases in the HKH region such as development strategy under Agenda 21 for Tibet (China), formulation of Agricultural Perspective Plan (APP) for Nepal and Action Plan for Himalayan region by the Indian Planning Commission.

As already mentioned above, the availability of a framework (with possible amendments) offers a first opportunity to shape LUCC research effort in Mountain areas.

- (ii) This framework or parts of thereof can be validated using RS data as Mountain Farming Systems Division and MENRIS at ICIMOD are currently doing.
- (iii) The framework can help identify past and present constraints obstructing building of data base for mountain areas, as discussed below.

### **Mountain Perspective and Data Question**

Through indirectly alluded to, the implications of mountain specificities in the context of data and information as required by LUCC can be briefly commented on.

Despite ethnographic studies, micro-level economic investigations travelers' observation, and formal records by state agencies, mountain in the present day formal statistical sense are least researched in terms of building data base and records. There are several reasons for the same:

- a) Invisibility of mountains for the mainstream statistical systems caused by physical inaccessibility and communities' lack of external exposure or marginal status, obstructed the systematic data collection in mountain areas on larger scale except for prospecting niche-products for use by the mainstream economy.
- b) Diversity, fragility and marginality also restricted the applicability of standardised norms/yard sticks/methods for collection and assessment of information in mountain areas.
- c) Hence development and welfare interventions, planning for harnessing niche or controlling resource degradation have taken place in vacuums as far as the precise data are concerned. Most of the initiatives have taken place on the basis of broad understanding of qualitative description/ understanding of the process rather than

**Table 4      Data Opportunities in HKH region: Emerging Trends and their Implications**

<b>Emerging Trends</b>	<b>Compulsion/facilities/needs for data</b>
Improved accessibility; and recognition of concerns for mountain areas and people	Reduced extent of "inaccessibility and marginality-led invisibility" of mountain areas and people conducive to information gathering
Emerging global awareness and concern for mountains as source of biodiversity, fresh water, nutrient and moisture flows	Required strong data base and emerging support For the same, to plan for conservation, protection and management of mountain ecosystems and their global contributions
Increased focus on development and welfare interventions in mountain areas and recognised unsuitability of externally evolved development measures	Due to various mountain specificities (e.g. diversity, marginality, etc.) high information intensity of designing and implementation of development interventions can serve as a compulsion for building area specific data base
Seriousness of resource degradation in mountain areas and its off site impacts (eg. Floods, silting of down stream dams, etc.)	Integrated upland-low land resource management constrained by lack of usable data on erosion etc. on requisite scale
Emerging conflicts between development and environment in mountain areas	Data needs of evolving environment friendly development options
Emergence of multiple agencies (stake holders) e.g. NGOs, donors, communities and government agencies to address specific problems/issues in mountain area, unusability of routine records	Scattered large volume of purpose-specific data collected by multiple agencies requiring their integration and synthesis to serve as a source of strong data base
New developments on information prospecting and synthesis	New methods and tools ranging from PRA (Participatory Rural Appraisal) for household and community level information gathering to GIS and Remote Sensing to get specific information at landscape/watershed or regional levels; framework based on mountain perspective for purpose specific synthesise of scattered information/data.
Existing data base and its enhancement	ICIMOD's collaborative initiatives with national agencies in HKH producing or accumulating data on diverse aspects; GIS-RS applications for data collection, and Mountain Perspective Framework to synthesise data