REPORT

First Framing Workshop on
A Comprehensive Assessment of the Hindu Kush Himalayas: Action to Sustain the Global Asset

2-3 September, 2013
International Centre for Integrated Mountain Development

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Introduction

International Centre for Integrated Mountain Development (ICIMOD) has planned for a 'Comprehensive Assessment of the Hindu Kush Himalayan Region: Action to Sustain Global Asset'expected to be a critical evaluation of the current state of knowledge, understanding the various drivers of change and their impacts, analyses of problems and their solutions, and policy and governance implications. The purpose of the assessment is to prepare information and knowledge on global significance of the HKH region; reducing scientific uncertainty on various issues; laying out practical and latest solutions, and bringing new insights for development of this region in the changing world; value and conserve already existing ecosystems, cultures, societies, knowledge and distinctively the HKH solutions that are of importance to the rest of the world; and influence policy processes with evidences for sustainable development of the mountains.

ICIMOD organized the first framing workshop during 2-3 September 2013 to initiate the design and process of the comprehensive assessment. About fifty participants from the region and outside who are working in the region participated. This is report of the workshop that deals with issues in the HKH region; inputs to the design, content and process; and a way forward.

Workshop Report

Introduction to the Assessment and Issues of the HKH Region

The workshop commenced with a welcome address given by Dr. David Molden where he expressed his happiness for the important initiative taking place and thanked the participants for attending the workshop. He gave a brief description on the assessment, its characteristics and the framework, elaborating the 12 research questions and the chapter outlines (Annex IV). He also illustrated more on the process and how to go about it further. He emphasized on developing a concrete document after extensive consultations; brain storming sessions and writings by various authors and contributors.

Dr. Eklabya Sharma gave a brief overview about the Hindu Kush Himalayan (HKH) region, global significance of mountains. He further elaborated the importance of HKH as a global asset and emphasizing its value as the global hotspot and its importance for its culture and ethnicity. He pointed out the key issues of sustainable environment in the HKH region which are poverty and paradox, drivers of change, mountain specific policies and explained the challenges faced by the region and pointed out that knowledge gap, adaptation strategies to change, and interfaces needs special attention for strengthening in the light of sustainable development of this region. Finally, he explained that the proposed comprehensive assessment envisages addressing the key issues and meeting the challenges for sustaining the HKH Global Asset.

Major Inputs to Design, Content and Process of Assessment

The discussions were held on the scientific framing of the assessment along with plenary sessions on the assessment process. The issues that were discussed consisted of the writing and reviewing process, the involvement and engagement of the policy makers, engaging the Himalayan Council and the ICIMOD Board in the process, formation of the steering committee, and means of internal and external communication, and planning the events for the future required for the assessment.

Based on the discussion the following important points were brought forward:

1. **Need for the assessment**
   a. The question about doing this assessment and the need for this assessment must be answered and this should form the starting point of this document.

b. The urgency or need for this assessment is felt because of the imbalances that have been caused by the human system on the natural system.

c. After almost three decades of ICIMOD establishment, we do not have a comprehensive report on the mountains in this region, therefore the need for an assessment report. The assessment must look explicitly at the mountain development goals and show the conceptual nature of the report.

d. The assessment needs a clear perspective on whether it is focussing on advocacy or is just educational.

e. We need to look at what process we will be following, it is important from the point of view of understanding how this assessment is different from other assessments.

2. **Framework of the book (Chapters and sections)**

a. One of the important objectives of the assessment should be to look at how the information provided can be used to develop mountain issues.

b. During the framing of the document, consideration must be given to the relationship and the inter-linkages between the natural and human system.

c. The current state of knowledge should start with a conceptual framework, suited to the mountains.

d. There is a need to include a section on synthesis and comprehensive analysis in the draft assessment.

e. Need to look at agro ecosystems in sections that focus on food security.

f. There are chapters focusing on food, water, energy, etc but there is no mention on the interrelations and the connection between these issues. We need look at the nexus between the issues.

g. Different sections are looking at the present and future situation. There is a need to look at the analysis when we are putting this document forward.

h. We need one more section, looking at what we are doing at the operational level. How is the knowledge being generated being used on ground, what is the preparedness of the people to natural disasters?

i. Need more concrete sections looking at development policies and economic growth trajectories and how this is affecting mountain economy.

j. A lot of chapters show overlap.

k. There is a need for a separate chapter on ecosystem, focussing on what they are comprised of and how they function besides the ecosystem services.

l. Do we need to have a fixed boundary for each chapter or should we keep it flexible?

m. When looking at the way the chapters are organized, we need to consider moving the future scenario after sections 3 and 4, i.e., after the choice of actions.

n. We need to look at the state of mountain agriculture, highlighting the major issues and problems before jumping to any conclusions.

o. There is no mention of forest mitigation in the entire outline.

p. When looking at future scenarios, models should be considered for social issues also and not just climatic and ecological models.

q. Need to look at the health impacts of the changes.

r. Need to find value of the environmental asset of the mountain ecosystem.

3. **Drivers**

a. International drivers will also need to be looked at in this assessment.

b. Increased accessibility has had both positive and negative impacts on people. Besides the positive changes to people's livelihoods there has also been a change in cultural practices and perceptions and change in values of the landscape. Accessibility should be considered as one of the drivers in the HKH Region.

c. The framework needs to look at the compulsion driven changes (economic growth, policy changes-agricultural production driven policy fails to look into the loss of agricultural biodiversity and the ultimate aim of a hunger free world) and the depopulation from the mountains and the resulting changes from the same.

4. **Policy/ Governance and Gender issues**

a. Looking at governance aspect of natural resources has to be an essential consideration for this assessment as governance influences and determines the different aspects of economic, ecological and social factors.

b. From the point of view of sustainability it is important to look at indigenous rights and security issues.

c. We need to look at different policies that have been adopted in this region and how best has this region seen the enforcement of these issues.

d. There is a need for a synthesis on gender and other issues. Gender should be integrated into different chapters. It would be good to compare the situation of the HKH region and the other mountain regions.

e. One of the focus policies should be on water use, which is very important for our region. Through this we can make suggestions to the respective governments.

f. This assessment would be giving a policy perspective and not policy adoptive (as IPCC).

5. **Interventions**

a. Issues of technology intervention and technology transfer to be covered in the sections.

b. It is important to increase the overall capacity of the locals and the policy makers.

c. There is a need to get the interventions factored into the current or future planned actions of the policy makers.

6. **Communication and knowledge sharing**

a. We need to increase resource mobilization outside the existing government system.

b. What are the strategies that need to be adopted to communicate and increase advocacy beyond government systems through this document? We need to address IPCC and other related global efforts so that this assessment is used as an input.

c. The book should target both the scientists and the policy makers. To appeal to the policy makers we need to answer the question of "SO WHAT?"

d. We need to look at how this document can be used to mainstream ownership issues of the countries and communities.

e. For this document to reach the policy makers, resource users and private sectors we need a more people's perspective and not an ecosystem perspective. The social/ life system should be used a unifying system as for the policy makers the issues affecting the people would be an important consideration.

f. The assessment must also have a summary for policy makers, top level bureaucrats and for the journalists.

g. In order to make this assessment relevant for policy makers, we need to get conclusions that can help policy makers. The message will be targeted towards policy makers.

h. It will be beneficial to have networks with civil society and individuals for increased outreach and advocacy.

i. Communication needs to be put as an influencing strategy.

7. **Miscellaneous**

   a. ICIMOD is already present in the member countries through nodal agencies; there is a need to identify what role they can play. The nodal agencies can be a key partner or contribute in the policy process.

   b. Learning's from the Iceland council should be adopted in the Himalayas when looking at the research gaps existing in the HKH region.

   c. Experts must also be sought at from Afghanistan and Myanmar to get knowledge and data from these countries.

   d. We need to keep focus on the LDC's such as Afghanistan, Bhutan, Bangladesh, Myanmar, and Nepal.

   e. Is this assessment an opportunity to do research or use existing data? It can do some gap filling research.

   f. We must try and avoid making this assessment just another book on the shelf, effort should be made to identify people from the region to bring together the findings in this comprehensive report to the political authorities across the region. Identifying people for this document should be an ongoing process through this assessment.

   g. It is fundamental to use national level data owned by the government in this assessment, to make it more relevant for the policy makers.

   h. We need to take learning's and feedback from the existing and adopted regional cooperation measures and projects in the past.

   i. Need to fill the data deficits. Data is also needed on health, food, road network etc. This assessment can bring the data to a more common platform.

   j. Bringing the different country based data to a common platform will be a major issue.

General Inputs

The aim of the publication is to reach the policy makers, investors, and decision makers. It would thus be more logical to have life systems as the unifying theme for the publication. As a policy maker, it would be more relevant to know and prioritise "what is going to affect the people?". Such type of knowledge would be more attractive to the policy makers.

This assessment should have perspective keeping in mind the policy makers so as to catch their immediate attention.

Consideration must be given as to the use of gender as a proxy for all social issues and issues of inequality. In this assessment would it be more powerful to look at gender and other kinds of social exclusion or is it more powerful to just focus on gender because it is such a huge ground.

The definition of inequality can be broadened beyond gender that would be more meaningful because gender and what happens to women is just the manifestation of the broader levels in which inequalities and all these issues of exclusion happen.

The issue of water governance should be looked at, as water deficits are increasing gradually in the HKH region. We need to look at the best practices that exist in the region. To make this assessment book more practical, issues of water conservation as a banking enterprise, water financing, water harvesting, etc. should be covered. Due consideration should also be given to livelihood issues, forest related, water relate and agriculture. Livelihood will be a major issue in the HKH region. The issue of water demand should also be considered in the book.

When looking at scenarios, besides focussing on climate scenarios one must also look at growth models. Most of the policies today focus on a production driven agenda, especially in countries with an agricultural setting and this approach has considerable impacts on agro-biodiversity and implications on a hunger free world. This aspect should be brought out through this assessment. The other aspect that needs to be looked at is migration and the long term ramifications for this, not just the remittances. Migration from the mountains has implications for economic growth. When looking at migration issues, we need data on informal migration. These issues must be addressed by the assessment.

We need to look at a strategy for communication and advocacy for taking this assessment beyond the government system. Based on the previous regional cooperation work, learning and difficulties should be addressed in the present assessment.

There needs to be more comprehensive assessments (observations) on atmosphere, water, migration, etc similar to the glacier report produced by ICIMOD. These comprehensive reports can be used for the purpose of benchmarking.

The issues of deforestation, timber ecosystem services, hydropower and micro-hydropower must be refreshed and given some consideration in the assessment. There is a lack of research on some of these aspects from the Himalayan region. Poverty has remained a major issue since the creation of ICIMOD in 1983 till today, there have been some improvements to the livelihoods of the people but inequity has increased.

We need to have research on tree species that have adaptation potential in the face of climate change, especially looking at water holding capacity and pores.

Concluding remarks

Dr. Atiq Rahman while making the concluding remarks emphasized thet the assessment is a very good initiative from ICIMOD. The process that has started into making this HKH framework has worked out really well, based on the guidance provided and the harmonization at this level of knowledge and structure is quite impressive.

There is a need for good science to make good policies. Policies that protect the natural resources and at the same time addresses the issues related to socio-economic use and opportunity, poverty, gender and equity. This first framing workshop has given us the opportunity for decision making on a science based rationale which is pro people, pro region and pro ecosystems.

There is need to have a common scenario setting and a common framework to harmonize the writing process for all groups.

A Way Forward

Dr. Eklabya Sharma in A Way Forward said the workshop proved to be very successful where we could get good feedback from professionals with various disciplines. There is a need to expand this group to more inclusive bigger group and get more feedback from professionals working in Afghanistan and Myanmar. With inputs from this workshop the overall structure and process of this assessment will be further concretized.

We will use the Arctic Circle assembly in October 2013 as a platform to bring policy makers on board with the idea of the assessment book. A steering committee should be formed to look into issues of the overall structure, deciding on professionals for forming chapter groups and timelines.

This assessment is envisioned as a publication coming out from an international publisher.

Specific actions as next steps

1. Workshop report will be prepared and circulated
2. Assessment will be presented in Himalaya session in Artic Circle Meeting in Iceland during October 2013.
3. The chapter outline of the Comprehensive Assessment of the Hindu Kush Himalayas: Action to Sustain the Global Asset will be revised based on the inputs from this workshop.
4. Based on the recommendations by various experts on chapters and sections, the draft will be modified and shared with respective group of people for more suggestions and inputs before finalising it.
5. Steering committee will be formed to look into issues that have been discussed on the overall structure, experts who will be working on the chapters, the timeline and resource mobilization.

Annex I: Group work

<u>**Group I**</u>

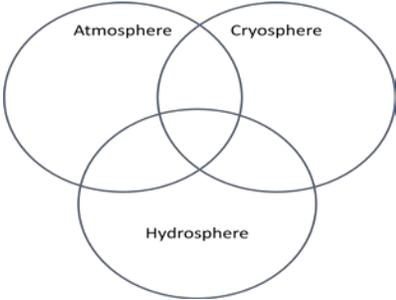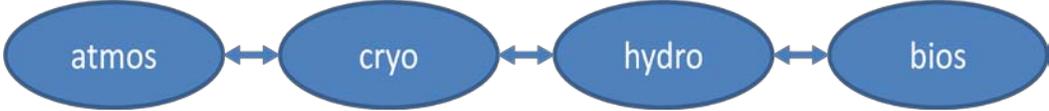| Questions	Q1: What are the most important drivers of change in the HKH region; and what are their potential impacts on biodiversity, ecosystem services, livelihoods and water resources?
Revised questions	
Status	
Drivers of change	**Social Drivers:** Poverty, Demography , Globalization , Economic development, Legislation, Institutionalization, Urbanization, Industrial development (Perverse Incentives), Agriculture, Pollution, and Tourism **Natural Drivers:** Climate, Land cover/ land use, water, natural disasters, environmental degradation, sedimentation, ecological degradation, and glacial melt.
Change (+/-)	**Positive**: Demography, Globalization, Economic development, Legislation, Institutionalization, Urbanization, Industrial development (Perverse Incentives), Agriculture, Tourism, Climate, Land cover /use, Water –Q&Q, and Glacial melt **Negative**: Poverty, Pollution, Environmental degradation, sedimentation, and ecological degradation
Scenarios (if pertinent)	**Climate and water:** HICAP, KOSHI, Yellow, Yangtze; Mekong commission Tibetan plateau,; IPCC AR V **Demographic – Economic and Energy:** Living standards survey, Dept. of Geography; National Planning paper; Economic development plans; Demographic and health; Bank reports; and HDR **Demographic – Environment and Food:** FAO report, ADB, WB; National reports; and WFP,UNEP,UNESCO
Integration	**What should be integrated**: Natural and social science; Selection process to select themes, major drivers; E.g. Gender, IRBM; and Trans boundary cooperation **How to integrate:** Use appropriate conceptual framework; Interactions and meetings **Who to integrate:** Sectoral Experts; Institutions; and Stakeholders
Policies/ Action	**What should be integrated**: Natural and social science; Selection process to select themes, major drivers; E.g. Gender, IRBM; and Trans boundary cooperation **How to integrate:** Use appropriate conceptual framework; Interactions and meetings **Who to integrate:** Sectoral Experts; Institutions; and Stakeholders
Global Asset contribution of theme	
Authors List	

Group II

Questions	Q 2: How to address human poverty, vulnerability and enhance livelihood security in ways that are locally appropriate in rapidly changing contexts? Q 3: What are the most important strategies, policies and governance arrangements for enhancing community adaptation to drivers of change, including climate change; how can they be out-scaled; and what are their impacts? Q 12: How can food security be improved and strategies to deal with food deficiencies in mountains?
Revised questions	What is the relationship between poverty and social exclusion and capacity to adapt to change (including climate change)? What are the existing institutional/ governance arrangements at multiple scales/ levels and how do these levels interact? How do various customary/ traditional/ informal institutions relate to formal statutory governments? At sub-regional and national level what are the nature, extent and areas of sharing of authority?
Status	Vision for HKH "HKH region that is prosperous, equitable, sustainable and where people are enabled to make decisions at local level that are integrated with larger society."
Drivers of change	Climate Change, Conflict, Global financial situation, Population increase, Degradation of natural resources, Technological changes, and in stability of governance
Change (+/-)	
Scenarios (if pertinent)	Realization of the vision if appropriate policies and institutional arrangements are functional to address the underlying cause of poverty and livelihood/ food insecurity. Worsened situation with regards to poverty.....if the underlying causes are not addressed.
Integration	
Policies/ Action	
Global Asset contribution of theme	
Authors List	

Group III

Questions	Q 4: How do gender equitable and inclusive approaches support sustainable mountain development, and how can these be realized? Q 5: What is the status and trend of migration across the region; what are their present impacts on livelihood and environment; and what are the possible options and their consequences for addressing immigration?
Revised questions	Gender – mountain development Natural resources Romanization women want/ women know If we honour what women do? What they want? Challenges/gaps
Status	Mountain women'; 'What mountain women can do?'; Identify similarities in equalities; Identify the cultural, socio-political context; Ethnicity, class, caste, customary laws local contexts; Opportunities; Gender is never absent; Representation at decision making levels; Ethnicity class caste; Small women/Big women; Small men/Big men; Leadership gaps; Gender roles/responsibilities; Evolving diverse contexts; and Cultural/socio-political
Drivers of change	Remittances, Agriculture practices – changing, Institutional set up – masculine, Migration, Conflict, Cyclic rolling in & out of customary institutions traditional – line agencies – new old, "Modernity" – , development of women, Information and technology, New opportunities , Education/ health care uncertainties, New challenges, and New opportunities
Change (+/-)	Migration - / agriculture productivity; Feminization of agriculture; Urbanization - / livelihood diversification; Changing aspirations – with 'development' including women; and Conflict – at scale / positive/negative consequences on social transportation
Scenarios (if pertinent)	HKH – Fast, evolving, different contexts different scales; Urbanization; Modernity; and Feminization of agriculture?
Integration	Migration and Gender Analysis – unpacking gender
Policies/ Action	Maximize the benefit of migration; Barriers to change; Policy – practice gaps; Unpacking gender: contextual pictures; Action: nested – global to local; Diversity of actors/agencies; From pigeon holing to inclusive; and Synergy from/to gender advocates
Global Asset contribution of theme	Global directives on women's engagement / representation; Positive – effective/ meaningful participation; Positive – negatives; contextual - / evolving; Need to be unpacked; Recognition of women's equal rights – to resources – to their contribution to mountain development; and Equal rights / equal opportunities
Authors List	

Group IV

Questions	Question 6: What is the state and fate of cryosphere and atmosphere, and what are the potential impacts of possible change?
	Question 7: How much water will there be, in terms of quantity, variability and quality, in the 10 major river basins of the HKH; and what are the potential impacts of change, and how can the negative impacts be mitigated? What are the best means of reducing the risk of floods and droughts, and how can they be introduced at various scales including transboundary Rivers?
Revised questions	How are the HKH atmosphere, Cryosphere and hydrosphere changing? What are the impacts of the change? What could or should be done?

Three spheres of interest — **Three Approaches**
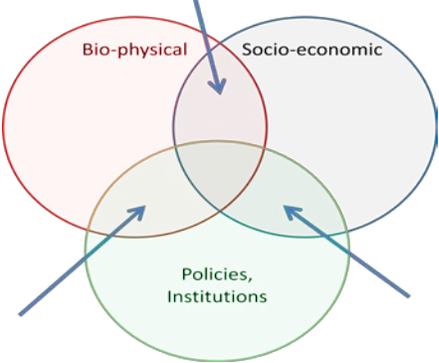
The question rephrased

How are the HKH atmosphere, cryosphere and hydrosphere changing? What are the impacts of the change? What could or should be done?
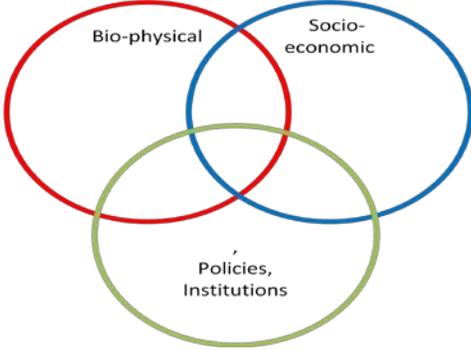
Example: Cryosphere

Revisit

Global issues of Cryosphere…

Arctic, Antarctic, other regions (Alps, Rockies, Andes)

	HKH region
	Glaciers, snow, permafrost as resources
	Impacts to… and changes:
Status	HKH, snow, glacier, permafrost
Drivers of change	Atmosphere, (Temperature, precipitation, energy balance, radiation…), SLCF, Infrastructure, population…, urbanization, and globalization
Change (+/-)	Climate change; Weather patterns; Glaciers, snow, permafrost; Water availability in the region; Glacial lakes, other lakes; and extreme events, FF, FLOFs
Scenarios (if pertinent)	1950…2050… Future water availability
Integration	Atmosphere, Cryosphere, hydrosphere, biosphere; Socioeconomic; Water budget; Extreme events and impacts; and health
Policies/ Action	Monitoring, EWS, Guidelines, Data sharing, Vision 2050, Adaptation, LU/LC, Trans-boundary cooperation, Health, and resource sharing
Global Asset contribution of theme	HKH; Climate patterns, atmospheric circulation; Economy, energy, food; Atmospheric tele-connections; Food security; and Water security
Authors List	

Group V

Questions	Q 8: How can forests be sustainably managed to meet human needs, and preserve biodiversity and ecosystem value? Q 10: How can ecosystems be managed to align objectives of biodiversity conservation and improved livelihoods be aligned to a number of contexts found in the HKH region? (Combined with 10 and 11).What is the value of ecosystem services provided by mountains, and how can management and supply of these services be compensated (like REDD+, PES)? What approaches (watershed, landscape and forestry) support ecosystem services, food and water security, and community resilience?
Revised questions	What is the global and regional significance of Himalayan ecosystems and how to incorporate their values at various levels?
Status	Area of ecosystems; Scale of degradation; Linkages?; Goods and services; Biodiversity (amount and values); and Types of biomes and their attributes
Drivers of change	**Natural:** Climate change, Floods / earthquakes, and Landslides **Anthropogenic:** Land use/ Land cover, Anthropogenic climate change, Globalization, Migration/ Urbanization, Fire, Industrialization, Pollution, Poverty, Demographic drivers, and Education **Global Environmental Changes:** Alien invasive species, Nutrient, Element cycling, and CO_2 fertilization
Change (+/-)	20 years
Scenarios (if pertinent)	
Integration	Interface between forests, agriculture, grasslands, and wetlands; and between natural and human (social) systems.
Policies/ Action	Mainstreaming the ecosystem services in national policies Conflict management (Conservation and development)
Global Asset contribution of theme	Asylum value for species for migratory species, evolution processes Ecosystem services to sizeable proportion of global human population Global Biodiversity (4 hotspots assets) Maker of climate (regional) Unique and cultural diversity
Authors List	identify authors for sub themes The group members of (V group) are interested to contribute Editorial team
Suggestions	Utility values – HH levels Agro-biodiversity – food security Scenario – harmonization Need for revisiting conventions/Regulations (over legislation) Scientific management Demonstrate ecosystem services of Himalaya – how it affects GDP?

Group VI

Questions	Q 9: What are the energy needs and possibilities for the people of the HKH; what are the positive and negative impacts of hydropower development, and how can they be best sustainably developed in the region? Q 11: Can the HKH region develop and be a green economy? What technologies (modern, traditional, and indigenous) and approaches will lead, and how can they be out-scaled?
Revised questions	How best can HKH region develop Green Economy? What are the issues, challenges and opportunities? What policies, technologies, finance, institutions and approaches are required to achieve a green economy?
Status	Status of Green Economy (sectors); Agriculture; Forestry; Energy; Water; Transportation; and Industry
Drivers of change	**Drivers for Green Economy:** Ecosystem Services; Low carbon targets; Food, water, energy nexus; Environmental awareness; Health awareness; and Investment **Environmental, Social and Economic Impacts-**Three Pillars **Barriers for Green Economy:** Eco fragile nature; Poor economy-market failure, no incentives; Poor infrastructure; Low penetration of government policy-Policy Failure; Low penetration of new technology; and Lack of value of ecosystem, compensation
Change (+/-)	
Scenarios (if pertinent)	Business as Usual Vision Targeted
Integration	
Policies/ Action	Adoption of inclusive green growth strategy Recognition of mountain ecosystem services and provide incentives for going green Finance, Carbon Tax Institutional Mechanism
Global Asset contribution of theme	
Authors List	

Annex II: Agenda of the workshop

Day 1: 2nd September, 2013		
09:00-09:30	Registration	
Introduction Session		
09:30-10:30	Framework and Process for the Assessment and introduction of the participants	David Molden
	Content of the Assessment – major questions and issues in the HKH	Eklabya Sharma
10:30:11:00	Tea/Coffee	
Interactive Session		
11:00-13:00	Discussion on Scientific Framing of the Assessment	Moderated by David Molden
13:00-14:00	Lunch	
14:00-16:30	Plenary discussion on the Assessment Process - Writing and reviewing process - Engagement with Policymakers - Engagement with Himalayan Council& ICIMOD Board - Steering Committee and Internal Communication - External Communication - Planning of Events	
16:30-17:00	Group Formation	
18:30-20:30	Reception Dinner	
Day 2: 3rd September, 2013		
9:30-11:30	Outline of the Assessment Group work to expand chapter outlines, and identify authors and reviewers	Participants as per designated chapters
11:30-11:45	Tea/Coffee	
11:45-13:00	Presentation of Chapter Outlines	Moderated by S. P. Singh
13:00-14:00	Lunch	
14:00-16:30	Presentation of Chapter Outlines – continued	
16:30-16:45	Closing Remarks by Dr. Eklabya Sharma	
16:45-17:00	Tea/Coffee	

Expected outcomes:
- Initial Scientific Framing of the Assessment including major questions and issues to be addressed
- A draft outline of the assessment
- A process for developing the assessment, and including engagement of policy makers
- An initial identification of authors, reviewers, and others involved in the assessment
- A core team for developing the assessment
- The way forward to develop the assessment

Annex III: List of Participants

S. N	Name	Designation	Organization/country	Email
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Annex IV: Design of Assessment (zero draft version prepared before the framing workshop)

Background

Mountains occupy 24% of the global land surface area and are home to 12% of the world's population. They provide 40% of global goods and services in the form of water, hydroelectricity, timber, biodiversity and niche products, mineral resources, recreation, and flood control. The Hindu Kush Himalayan (HKH) region is one of the greatest mountain systems of the world that spans over 4.3 million km2 covering Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan. The ice reserve of the HKH region is the largest besides the North and South Pole therefore it truly is called the 'Third Pole' of the earth. As the source of ten large Asian river systems, the HKH provide water, ecosystem services, and the basis of livelihoods for a population of more than 210 million people living in the HKH; endowed with rich natural resources, cultural heritage and four global biodiversity hotspots, the region provides indirect benefits to more than 1.3 billion people living downstream; and nearly 3 billion people benefit from the food and energy produced in the river basins that find their source in the HKH. The HKH region is truly a global resource.

In 2007, the Intergovernmental Panel on Climate Change (IPCC) Assessment Report-4 has shown that the climate change is the most prominent force for global change and the HKH region is seen as a 'data gap region' that lacks consistent, long-term data, calling for global, regional, and national attention to fill this gap. During recent years, rapid population growth, urbanization, degradation of natural resources, increased disasters, migration, economic development, and climate change have begun to pose new challenges to traditional livelihood strategies and coping mechanisms in the HKH region. Once self-sufficient people now face dire economic poverty. Mountain populations are, on the whole, poorer than the national average in the HKH region.

After 2007 IPCC AR4 report, International Centre for Integrated Mountain Development (ICIMOD) has started to focus on filling the data gap in the HKH region. Since then, some progress has been made to prepare the HKH level studies specifically relating to biodiversity, Cryosphere and climate change. Since 2008 publication on protected areas, policy and practices on biodiversity conservation, glacier and snow cover, eastern Himalaya climate change synthesis, state of art report on climate change and impacts are available. Although some progress has been made on regional knowledge generation there are significant limitations in the amount of information and evidence to inform policy and practice. Wide-ranging consolidated knowledge is required. A comprehensive assessment of the HKH region is desired which would be used as reference document for baseline, future scenarios, informed policy planning and regional cooperation. This is the genesis and rationale of this proposed comprehensive assessment book on HKH.

Design of the Comprehensive Assessment:

ICIMOD is planning to coordinate the publication of the 'Comprehensive Assessment of the HKH Region: Action to sustain Global Asset' which will be a critical evaluation of the current state of knowledge, understanding the various drivers of change and their impacts, analyses of problems and their solutions, and policy and governance implications. It will be multi-institutional process aimed at generating stimulating ideas on how to manage mountain ecosystems for sustained services for the well being of both mountain and downstream people; to help reduce poverty and food insecurity, reduce disasters, enhance resilience and adaptation, and promote environmental friendly infrastructure development. The knowledge generated will be contributing to the socio-economic prosperity and environmental sustainability. The findings will enable better investment and management decisions for the mountains especially the HKH region in the near future.

The assessment is envisaged to have a broad and diverse partnership of researchers, academicians, practitioners and policymakers using a process that engages networks of partners to produce and synthesize knowledge and elaborate on innovative methods and responses. An assessment, as distinct from a review, will be undertaken for decision makers rather than scientists, is driven by specific problem rather than more general scientific curiosity, and requires a clear judgment as well as objective analysis. The target audience of this assessment will be the people who make the investment and management decisions in mountain development, natural resource managers, private sector investors, policymakers and civil societies. In addition, the assessment should aim to inform the general public about important mountain issues so that everyone can help to make better decisions through the political processes in the HKH countries.

The purpose of the assessment is to prepare information and knowledge on (1) global significance of the HKH region, (2) reducing scientific uncertainty on various issues, (3) laying out practical and latest solutions, (4) provide new insights for development of this region in the changing world, (5) value and conserve already existing ecosystems, cultures, societies, knowledge and distinctively the HKH solutions that are of importance to the rest of the world, and (6) influence policy processes with evidences for sustainable development of the mountains.

The 12 questions defined in 2012 by the core team who envisioned the Comprehensive Assessment presented below. A set of framing questions will be further identified and discussed with policy makers.

1. What are the most important drivers of change in the HKH region; and what are their potential impacts on biodiversity, ecosystem services, livelihoods and water resources?
2. How to address human poverty, vulnerability and enhance livelihood security in ways that are locally appropriate in rapidly changing contexts?
3. What are the most important strategies, policies and governance arrangements for enhancing community adaptation to drivers of change, including climate change; how can they be out-scaled; and what are their impacts?

4. How do gender equitable and inclusive approaches support sustainable mountain development, and how can these be realized?

5. What is the status and trend of migration across the region; what are their present impacts on livelihood and environment; and what are the possible options and their consequences for addressing immigration?

6. What is the state and fate of Cryosphere, and what are the potential impacts of possible change?

7. How much water will there be, in terms of quantity, variability and quality, in the 10 major river basins of the HKH; and what are the potential impacts of change, and how can the negative impacts be mitigated? What are the best means of reducing the risk of floods and droughts, and how can they be introduced at various scales including transboundary Rivers?

8. How can forests be sustainably managed to meet human needs, and preserve biodiversity and ecosystem values.

9. What are the energy needs and possibilities for the people of the HKH; what are the positive and negative impacts of hydropower development, and how can they be best sustainably developed in the region?

10. How can ecosystems be managed to align objectives of biodiversity conservation and improved livelihoods be aligned to a number of contexts found in the HKH region? (Combine with 10 and 11). What is the value of ecosystem services provided by mountains, and how can management and supply of these services be compensated (like REDD+, PES)? What approaches (watershed, landscape and forestry) support ecosystem services, food and water security, and community resilience?

11. Can the HKH region develop and be a green economy? What technologies (modern, traditional, and indigenous) and approaches will lead, and how can they be out-scaled?

12. How can Food Security be improved and strategies to deal with food deficiencies in mountains?

Process and Coordination:

The process used will draw from the experience of other assessments, engaging a network of people with in depth knowledge of the region. The assessment will have a link to policy makers in the region through various processes through a policy reference group (to be identified). This policy reference group will also be involved in framing the overall assessment, and in communication of results.

ICIMOD will coordinate the overall assessment process over the next three years aiming to produce the publication by middle of 2016. The process will include a framing of the assessment, engagement with policy makers, an active communication program, drafting of chapters, extensive review, and development of a summary document.

The following functional roles are identified: overall coordinator (ICIMOD), chapter lead authors and chapter authors, review editors and reviewers, and a team to develop the summary and recommendations. The process will strive for a diverse group coming from different countries in the region and outside, from different backgrounds (physical and social sciences), women and men. It will encourage scientific discussion and

debate around topics relevant to sustainable development in the HKH region, and be a means to foster scientific collaboration.

Chapter coordinating lead authors will work with the authors for designing and developing the contents. Reviews for each of the chapters will be done in coordination with review editors and overall coordinators. All contributors will be recognized for their role in the publication.

A Steering Committee will be formed to oversee the process, with day to day coordination from ICIMOD.

A Draft Outline of the Assessment

An initial framing workshop and consultation with policy makers will define the frame of the assessment. As a zero draft, a core team has identified four sections of the assessment, namely: (1) Current State of Knowledge, (2) Trends and Drivers of Change and Their Impacts, (3) Potential Solutions (4) A Summary for Decision Makers will be prepared based on the results of the process.

Zero Draft Outline:

Summary for Policy Makers

Chapter 1:   Introduction

Chapter 2:   Current State

Chapter 3:   Drivers and Trends

Chapter 4:   Future Scenario

Chapter 5:   Poverty, Vulnerability and Livelihoods

> *Remittance; Ecotourism; High value natural products; Rural and urban linkages (Strengthening) centres; Adaptation to climatic and non-climatic changes; and Non-farm sector development.*

Chapter 6:   Gender equitable and inclusive approaches

Chapter 7:   Sustainability of the HKH environments

> *Maintain forests, wetlands, rangelands, Reverse degradation, Biodiversity conservation, with focus on Carbon sequestration and carbon management (REDD), Connecting Himalayan communities to global program, Valuing of ecosystem services and payments – recognition of Himalayas as an ecosystem service providing region of global significance, green economy*

Chapter 8:   Management of Forest resources

Chapter 9:   Future energy needs

> *Hydropower and dams; Biomass; Alternative and clean energy.*

Chapter 10:   Sustainability of water use

> *Water for food; Energy; Ecosystem; Small scale irrigation; and Farm and household use.*

Chapter 11:   Food Security

> *Food security situation on ecological zonation basis; Transportation, accessibility and distribution of food; Strategies for food security in mountains; Kind of crops, increased production to increase food security; Market factors; Wildlife crop depredation,*

compensation, crop insurance; Natural calamities: floods, hail storms, drought, snow storms; Agro-biodiversity and gene pool (seeds) conservation.
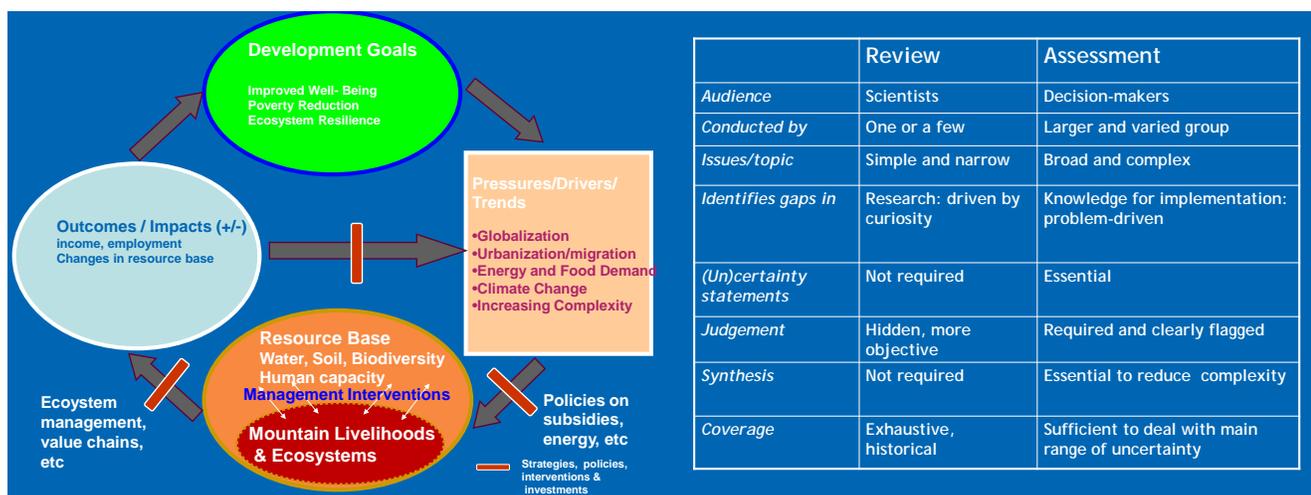
Annex V: David's Presentation

First Framing Workshop: Comprehensive Assessment of the HKH: Action to Sustain the Global Assest

ICIMOD 30

International Centre for Integrated Mountain Development

Kathmandu, Nepal

THREE DECADES
FOR MOUNTAINS AND PEOPLE

The HKH – A Global Resource
Big Issues:

- Poverty – Sustainable Mountain Development
- Ecosystem Management
- Cryosphere, Water, Energy, Forests
- Rapid Change

- How do mountains feature in country/regional/global policy discourses?

What is an assessment?

An Assessment

- **Is a critical and objective evaluation of information, for guiding decisions on complex, public issues**

- **It is based around policy-relevant or user/stakeholder questions**

- **It is designed to inform a specific audience or 'authorising environment'**

- **Science-Policy-Public Interface**

An assessment

- **Focuses on identified policy questions/issues**
  - Judgement on veracity and uncertainty of evidence, clearly labelled, is required
- **Is a medium for evaluating and synthesizing existing research findings ….**
  - Most data are already collected, peer-reviewed and in public domain, or in other assessments
  - Can be 'gap-filling', and contain new (re)runs of old models and syntheses
- **Is not a personal advocacy piece**
  - Represents a 'balanced' and evidence-based view from the writing team, with external review, and demonstrated response to the review

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Characteristics of an Assessment

- **Process: open, transparent, reviewed, widely representative**
- **Technically accurate, evidence-based**
- **Aims to reduce complexity, but add value to existing information**
  - summation, synthesis and sorting of what is known and widely accepted from what is not known or not agreed or uncertain
- **Conducted by a team of experts**
  - broad range of disciplinary and geographical experience; different knowledge systems
  - able to work together and have fun – team rapport is necessary

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Framework for the Assessment

- **Concentrates on issues or questions**
  - Gives focus / keeps us on track
- **Four important components**
  - Development Goals
  - Pressures / Drivers of change
  - Resource Base
  - Outcomes / Impacts

- Contains *key messages* covering strategies, interventions, investments & policies

	Review	Assessment
Audience	Scientists	Decision-makers
Conducted by	One or a few	Larger and varied group
Issues/topic	Simple and narrow	Broad and complex
Identifies gaps in	Research: driven by curiosity	Knowledge for implementation: problem-driven
(Un)certainty statements	Not required	Essential
Judgement	Hidden, more objective	Required and clearly flagged
Synthesis	Not required	Essential to reduce complexity
Coverage	Exhaustive, historical	Sufficient to deal with main range of uncertainty

Draft Questions – 1 Sept 13

1. What are the most important drivers of change in the HKH region; and what are their potential impacts on biodiversity, ecosystem services, livelihoods and water resources?
2. What are the most important strategies, policies and governance arrangements for enhancing community adaptation to drivers of change, including climate change; how can they be out-scaled; and what are their impacts?
3. How do gender equitable and inclusive approaches support sustainable mountain development, and how can these be realized?
4. What is the status and trend of migration across the region; what are their present impacts on livelihood and environment; and what are the possible options and their consequences for addressing immigration?

12 questions cont…

5. What is the state and fate of cryosphere, and what are the potential impacts of possible change?
6. How much water will there be, in terms of quantity, variability and quality, in the 10 major river basins of the HKH; and what are the potential impacts of change, and how can the negative impacts be mitigated? What are the best means of reducing the risk of floods and droughts, and how can they be introduced at various scales including transboundary Rivers?
7. What are the energy needs and possibilities for the people of the HKH; what are the positive and negative impacts of hydropower development, and how can they be best sustainably developed in the region?
8. How can ecosystems be managed to align objectives of biodiversity conservation and improved livelihoods be aligned to a number of contexts found in the HKH region?

12 questions cont…

5. What is the state and fate of cryosphere, and what are the potential impacts of possible change?
6. How much water will there be, in terms of quantity, variability and quality, in the 10 major river basins of the HKH; and what are the potential impacts of change, and how can the negative impacts be mitigated? What are the best means of reducing the risk of floods and droughts, and how can they be introduced at various scales including transboundary Rivers?
7. What are the energy needs and possibilities for the people of the HKH; what are the positive and negative impacts of hydropower development, and how can they be best sustainably developed in the region?
8. How can ecosystems be managed to align objectives of biodiversity conservation and improved livelihoods be aligned to a number of contexts found in the HKH region?

Chapters of the Assessment

Section 1: Current State of System and Knowledge
- Chapter 1:   Introduction – Setting the Scene – the HKH Region
- Chapter 2:   People, culture, environment, poverty & vulnerability
- Chapter 3:   The Natural Resource Base: Ecosystems, Ecosystem Services & Biodiversity, Forests, Cryosphere and Atmospheric Systems, Water Resources
- Chapter 4:   Natural Resources Management: Policy, Institutions and Governance, traditional and modern practices for Hilly and Mountain Areas

Needs an Overarching Question

ICIMOD 30 — THREE DECADES FOR MOUNTAINS AND PEOPLE

Chapters: Section II

ICIMOD 30 — THREE DECADES FOR MOUNTAINS AND PEOPLE

TRENDS AND DRIVERS OF CHANGE AND THEIR IMPACTS

Chapter 5: Climate Change

Chapter 6: Demographic Changes including Migration and Mountain Urban Centers

Chapter 7: Degradation, pollution, Land Use and Land Cover Changes

Chapter 8: Regional and Global drivers: including Increased demand for energy, forest and water resources, economic growth and Tourism

Chapter 9: Future Scenarios

Key Features of HKH Assessment

ICIMOD 30

- Covers HKH Mountains
- Address key policy issues with scientific evidence
- Draws from a diverse group of authors and reviewers from region and outside
- Encourages regional scientific cooperation
- Engages with Policy – country, regional, global
- Provides policy relevant recommendations on a regional and country level

Elements

ICIMOD 30

- An assessment book
- A summary for decision makers
- Country level synthesis and summaries
- Platform for discussion with policymakers
- Communications/communication strategy

Participants

ICIMOD 30

- Chapter authors – 2 CLAs, Lead Authors, contributing authors, diverse group
- Reviewers – given credit, several per chapter
- Review editors – make sure CLA's have responded 2 reviews
- Steering Committee – make sure process is on track
- Secretariat – day to day management, communiciation

Policy Linkages

ICIMOD 30

- Provide authorizing environment – "sponsors"
- ICIMOD Board
- Himalayan Council?
- Others – CBD,…. Suggestions

- Early in process, validate big questions/issues, receive results

Process

- Frame the assessment – scientific plus policy
- Establish Steering Committee and identify key participants
- Outline book chapters
- Develop first draft – review
- Develop second draft – review
- Finalize, edit
- Summary for decisionmakers
- Country Summaries

- Tip: develop key messages from the beginning, but change over time

Proposal Development

Contents:

Expected outcomes: validated policy messages, mountain perspective on country regional and global agendas, regional cooperation, advancement of science

Process:

Funding: for workshops, communication, secretariat, editing and publishing, but limited staff time

Thank You

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