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EXTERNAL MID-TERM REVIEW EVALUATION REPORT

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April 21st - June 29th , 2008

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The authors accept sole responsibility for this report drawn on behalf of the HKKH Partnership. The report does not necessarily reflect the views of the Government of China, Nepal and Pakistan neither those of the donor nor of the Implementing and Executing Agencies.

ACRONYMS

AKRSP	Aga Khan Rural Support Programme
AI	Artificial Intelligence
CAS	Chinese Academy of Sciences
CB	Capacity Building
CD	Capacity Development
CESVI	Cooperazione e Sviluppo
CKNP	Central Karakoram National Park in Pakistan
CMS	Content Management System
CTA	Chief Technical Advisor
DGCS	Directorate General for Development Cooperation, Italian Ministry of Foreign Affairs
DOP	Detailed Operational Plan
DNPWC	Department of National Parks and Wildlife Conservation (Nepal)
DPM	Deputy Project Manager
DSS	Decision Support System
DST	Decision Support Toolbox
EC	Executing Committee
ESRI	Environmental Systems Research Institute Inc.
EV-K2-CNR	EV-K2-Consiglio Nazionale per la Ricerca
GEF	Global Environment Facility
GIS	Geographic Information System
GOP	General Operational Plan
HKKH	Hindu Kush-Karakoram-Himalaya
ICIMOD	International Centre for Integrated Mountain Development
IEEE	Institute of Electrical and Electronics Engineers
IGSNRR	Institute of Geographic Sciences and Natural Resources Research
IT	Information Technology
IUCN	International Union for Conservation of Nature
IUCN-ARO	IUCN Asia Regional Office
KIU	Karakoram International University
KT	Karakoram Trust
LSO	Local Support Organization
MTR	Mid-Term Review
NAA	Northern Areas Administration (Pakistan)
OVI	Objective Verifiable Indicators
PA	Protected Areas
PMU	Project Management Unit
RPM	Regional Project Manager
QNNP	Qomolangma National Nature Preserve
RDBMS	Relational Data Base Management System
SAARC	South Asian Association for Regional Cooperation
SEO	Search Engine Optimisation
SNPBZ	Sagarmatha National Park and Buffer Zone
SOV	Source of Verification
SPCC	Sagarmatha Pollution Control Committee
SRS	Software Requirement Specifications
TAR-China	Tibet Autonomous Region of PR China
UNDP	United Nations Development Programme
UNSDI	United Nations Spatial Data Infrastructure
UML	Unified Modelling Language
UP	Unified Process
WSSD	World Summit on Sustainable Development

Acknowledgement

We hereby sincerely thank all persons in Nepal and Pakistan who made our mission possible thanks to a perfect logistical organization. In particular, we want to thank Emanuele Cuccillato, Nikhat Sattar and the staff of the PMU as well as all IUCN staff in Pakistan.

1 Executive Summary

1. The present Mid-Term Review of the HKKH Project has been requested by the IUCN, in the name of the HKKH Executing Partners. It takes place one year before the end of the Main Phase of the Project. It has been developed during 25 days included in the period 21st of April through June 30th, 2008 and involved: i) briefing sessions with the Executing Partners (EV-K2-CNR and CESVI) and the donor – the Italian Ministry for Foreign Affairs in Italy; ii) the field mission which took place from 11th to 26th of May visiting Nepal and Pakistan; iii) reporting in Italy. The schedule is attached and reveals an intensive programme and interviews agenda.

2. The Report is organised around the standard evaluation criteria and includes conclusions and recommendations. The Team tried to be as specific as possible; it should however be appreciated that the time allowed to the mission was minimal considering requirements of travelling (two countries), interviews (four core partners plus a large number of affiliated local partners), the large quantity of documentations produced by the Project and the complexity of the undertaking. Additional and more specific recommendations should be grounded on a more in-depth study of the material and on extensive discussions with all Executing Partners together and the Executing Committee.

3. Designed as a Partnership initiative under the umbrella of the Global Mountain Partnership, the Project develops a comprehensive methodological framework for natural resources planning and management of the HKKH region comprising 8 countries; pilot activities, to be replicated at regional level, focus on selected protected areas in three countries, namely the Qomolangma National Nature Preserve in China, the Sagarmatha National Park and Buffer Zone in Nepal and the Central Karakorum National Park in Pakistan.

4. The Project's goal is the reinforcement of institutional capacities for systemic planning and management of natural resources. This is fostered by an integrated approach comprising vertical and horizontal collaborations with a large group of institutions at different levels, consolidation of knowledge and provision of appropriate technologies such as GIS and Decision Support Toolbox. The Project aims at reaching local, national, regional and eventually also the global level.

5. The development of the Main Phase was preceded by a Pilot Phase and a Start-Up Phase. The Executing Partners affirm that during this period a change in focus occurred by shifting an original top-down IT approach to a more integrated and inclusive approach including hard and soft thinking and adapting the undertaking to ground realities in the three countries. The General Operational Plan, approved in May 2006, reflect these changes and becomes the main document of reference for the Evaluation.

6. The HKKH promotes an innovative methodology which combines science and research for management with bottom-up, participatory planning. The approach is sound and offers great opportunities for bridging the gap between research, policy and management and for research to become closer to those who take decisions and to the real needs of local people.

The Decision Support Toolbox constitutes a blend of soft and hard tools and methodologies: Scenario Planning contributing to a long-term vision of the development problem, the methodological approaches of Resilience and Adaptive Management, the Knowledge Base and Spatial Analysis for easy access to information, the Qualitative Analysis for capturing and sharing a common understanding, and the Quantitative Analysis to simulate different scenarios. The development of the different tools is still on-going.

7. The MTR Team appreciates the difficulty of introducing technological and methodological innovations aiming at strengthening/consolidating the institutional context and the complexity of

this multi-level and multi-country initiative. This requires focussing the evaluation perspective on processes. Partners are committed to strengthen the learning process initiated, convinced that this may lead to changing courses of action towards more systemic ways of managing resources instead than looking at different aspects in isolation.

8. Design constraints affected implementation. In particular the lack of:

- i) a thoroughly well done assessment of the institutional strengths, weaknesses and needs,
- ii) a sound system of impact and effectiveness indicators to guide and orient the execution,
- iii) a proper Project Risk Analysis accounting for institutional, technological, managerial and social risks,
- iv) a direct dialogue with the countries concerned during project formulation (it was indirectly assumed through ICIMOD).

The responsibility for these shortcomings is cross-cutting during the Project phases, from formulation to approval of the GOP. It naturally influenced the assignment of resources in function of specifically identified activities more than according to an overall developed vision and strategy.

9. Implementation has also been affected by: i) an academically interesting but quite sophisticated methodology which makes it difficult to be immediately understood by local partners; ii) implementation arrangements which required some time before the four Partners could agree around common objectives and accept established rules; iii) the weak role played by the Executing Committee in terms of strategic guidance.

10. All considered, it is recognised to the Project the capacity of being adaptive and flexible while maintaining relevance: this is reflected in the different approaches taken in the three countries with due consideration to local needs and the institutional context: in Nepal a wider application of the tools developed is possible within the context of an already well established management structure in the Park; in Pakistan the Project is playing a catalytic role in supporting the Northern Areas Government in coordinating local efforts towards the elaboration of a Management Framework and Plan for the Park; in China the dialogue started later: activities are about to start and will be directly implemented through the Chinese Academy of Sciences. The differences in capacity and data availability does not allow the Project to progress in all locations at the same pace.

11. The Project has been more efficient than effective: it has focused more on the local than the regional level and more in developing products than on designing and implementing a strategy towards a specific objective. It has embarked into many activities without a clear idea of what has more chances to survive, given the context.

Although the practical application of the tools is still in an early stage of development for a proper evaluation, tools appear sound and useful but the institutional context is generally not ready to receive this methodology: stakeholders show interest and enthusiasm for the potentiality of the system but interviews generally confirmed that most project documents and theories have not been fully understood.

12. Major achievements can be considered:

- the building up of an HKKH Partnership, with over 20 organisations at different levels and in different countries including the official, private, academic and non-profit sector with the network of researchers being particularly solid;
- the conceptualization of an innovative methodology and tools;
- a management-oriented research programme tailored to management and decision making needs: i) this is relatively rare in protected areas, ii) it is innovative in terms of both involving local communities in research activities and in providing them the results, iii) it is reverting the

common trend for which results are brought back to the North and instead allows local realities such as universities to have equal dignity with foreign and international research institutions;

- a DST as a stand-alone application, distributed on a CD, combining the knowledge base with analysis modules for the decision support mechanism, independent from existing data and being in fact a stimulus to an aiming-to-the-purpose data capturing;
- a Portal as the entry visit to the Project, containing a solid Knowledge Base.

13. Major shortcoming can be considered:

- the absence of a shared vision, supported by all Executing Partners, around which to shape the reflection about progresses in implementation; the following factors have not facilitated the common reflection: i) lack of objective and results indicators, ii) unconformities among the Executing Partners regarding their roles and responsibilities, iii) an over-concentration on activities which turns attention away from the objective and the means to assess achievements,
- the methodological framework developed is not adequately communicated to local partners,
- the hardware and software architecture of the system requires proper definition: i) it is not based on a solid assessment of institutional strengths and weaknesses and on the needs of the stakeholders, particularly decision-makers and DST users, ii) data are not structured in a Relational Database Management System (RDBMS), compliant with international standards, iii) software development documents are not completely compliant with good practice and standards, hindering the evaluation of the modules not yet completed but also future maintenance;
- searching for the Portal is not immediate unless one is looking for the KHHK Project; its overall quality could be improved.

14. It appears difficult for the Project to complete its activities and consolidate the system within the timeframe of this project phase.

15. Up-scaling the process at the national and regional level proves to be a difficult task unless more time is allowed and a communication and dissemination strategy is adopted.

16. Sustainability is not assured. It is possible that some of the tools developed will survive and will be applied if more time is allowed to the Project to strengthen processes initiated. The development of a Partnership of institutions around the original eight HKKH countries is a sound, regional, national and local success and has chances of surviving the Project's life; however at present is limited to institutions belonging to Pakistan, China and Nepal and has had limited access to the other HKKH countries. The sustainability of the Executing Partners implementation arrangements is instead questionable; this is unfortunate as all of them still have on-going activities in the areas. The sustainability of the Portal is also an open question. Activities started in Pakistan are likely to be sustainable considering the firm commitment of both the NAA Government and the intervening partners.

17. A set of specific recommendation for the consolidation of the system and the identification of an exit strategy to allow more elements for sustainability are provided in the text. This includes the development of an HKKH framework, that is the establishment of a set of data and tools agreed and shared within the HKKH Community, which could then become a reference model for high mountain ecosystems.

2 Introduction to the Mid-Term Review

2.1 Introduction to the Project

The project “Institutional Consolidation for the Coordinated and the Integrated Monitoring of Natural Resources for Sustainable Development and Environmental Conservation in the Hindu Kush-Karakorum-Himalaya Mountain Complex” (hereafter HKKH Partnership) is a regional initiative aiming at consolidating institutional capacity for systemic planning and management of mountain socio-ecosystems at local, national and regional levels in the HKKH - the largest and youngest mountain region in the world – for poverty reduction and biodiversity conservation.

The initiative is financed by the Italian Cooperation – Director General for Development Cooperation (DGCS) – with a budget of € 4 MI. for the Main Phase plus € 290.000 for the development of the Pilot Phase. It is implemented by the International Union for Conservation of Nature (IUCN) in partnership with the Italian NGO CESVI, the Italian research institution EV-K2-CNR and the International Centre for Integrated Mountain Development (ICIMOD).

Earmarked within the priorities defined in the World Summit on Sustainable Development (WSSD) Draft Plan of Implementation and of Agenda 21, the Project is a multi-scale (regional, national and local levels) ambitious initiative. It aims at developing methodological tools for natural resources and Protected Areas (PAs) planning and management and at applying these tools as pilot activities for decision-making in selected protected areas of three (China, Nepal, Pakistan) of the eight countries¹ which make up the HKKH mountain region. The three selected areas are very diverse in size, level of development and social and political conditions.

Since 1995, DGCS has an on-going general agreement with the IUCN for ecosystem management and biodiversity conservation activities, in particular on Protected Areas. For this project a specific MoU has been signed between DGCS and IUCN through its Asia Regional Office (ARO), assigning to IUCN the role of Implementing Agency.

IUCN ARO has MoUs with the Executing Agencies, namely EV-K2-CNR, ICIMOD, CESVI and IUCN Offices in Nepal, Pakistan and China for their technical roles. An additional MoU is signed with the IUCN Office in Nepal - hosting the Project Management Unit (PMU) – for administrative and logistical matters. Executing agencies are directly accountable to IUCN-ARO.

Partners/Executing Agencies have the right to sub-contract local partners, according to their own formats/rules.

The Project Pilot Phase ran from March 2004 to March 2005. The Main Phase started in July 2005 and includes the Start-Up Phase (up to April 2006) during which the institutional set-up was finalised and the General Operation Plan (GOP) elaborated. This document was approved by the DGCS on 17 May, 2006. A non-onerous extension has been approved up to June 2009 based on the fact that the GOP envisages 36 months of implementation and field activities started with the approval of this Plan.

According to the original proposal and the GOP, the Project’s *goal* is:

¹ Afghanistan, Bangladesh, Bhutan, China, India, Nepal, Myanmar and Pakistan.

“to contribute to consolidation of institutional capacity for systemic planning and management at the local, national and regional levels, focusing on poverty reduction and on biodiversity conservation through policy development and implementation programs in the HKKH region on a long-term basis”.

The *purpose* or specific objectives are:

1. “Provide tools and instruments to facilitate the consistency of various national-level actions in area based planning and management, within the framework of regional level systemic planning and monitoring”.
2. “Establish a process of application of the acquired capacities and DSS by individual countries in systemic planning and management of mountain areas at a local/national or transboundary level, within the framework of sustainable mountain development.

During the elaboration of the GOP, *expected results* changed from the original proposal (see chapters below), partly rationalizing the flow.

Project *activities* are listed according to each result in a very detailed manner and in two levels (activities and sub-activities). Reference is made to the Logical Framework contained in the GOP.

In order to put the evaluation into context, here below a small introduction to the three selected pilot areas is done with information relevant to the subsequent evaluation findings. The description is more detailed for Pakistan where the Mid-Term Review was able to undertake a field visit. In Nepal time constraints limited the interviews to key actors in Kathmandu and current restrictions impeded a visit in Tibet.

2.1.1 Introduction to the Project in Nepal

The selected protected area in Nepal is the Sagarmatha National Park Buffer Zone (SNPBZ). It covers an area of 1.400 km², including the most famous pick of the world - Mount Everest – which reputation is in itself a major tourist attraction. The area has been declared a World Heritage Site.

The SNPBZ has a long established management, covering both the core area and the buffer zone. The governing body is the Department of National Parks and Wildlife Conservation (DNPWC), under the Ministry of Forestry. A Chief Warden and his staff manages activities inside the Park and community participation through the Buffer Zone Management Committee is a fact. The Park is mostly inhabited by the Sherpa ethnic group; there are 63 villages and other small settlements with a population of around 5.900 people.

Tourism and alpinism are very important activities providing important benefits to the Sherpa local community and other ethnic groups which operate lodges, restaurants, tour agencies. On the other hand the resulting pressure on natural resources undermines the sustainability of both the people’s living conditions and of tourism. The 1981 Park Management Plan has been recently reviewed and updated, with UNDP support.

Research and data collection has been on-going in the Park for years. EV-K2-CNR has an established presence in the Park and its famous Pyramid International Laboratory-Observatory, placed at 5.050 m. a.s.l. has been functioning since 1990. Among the three selected PAs, the SNPBZ is the one with more readily available data or with easiest access.

2.1.2 Introduction to the Project in Pakistan

The well established IUCN presence in Pakistan and past and on-going research activities developed by EV-K2-CNR² in the country's Northern Areas (NAs) region have been among the main reasons for the selection of the pilot area.

Activities are centred around the Central Karakorum National Park (CKNP), officially notified in 1993. It is the country largest Protected Area, covering over 10,000 km² and encompassing the world's largest glacier, outside of the Polar Regions. Pressure on the environment is the result of: i) local communities use of natural resources through a system of traditional usufruct rights: hunting, grazing, forest harvesting (energy and construction purposes), agriculture; ii) tourism: it used to be an important economic activity which steadily dropped after 09/11.

The Northern Area region is inhabited by around 870.000 people, with an amazing population growth rate. The area is characterized by a unique cultural and ecological diversity. Although socio-economic indicators have largely improved during the last ten years, 33% of the population is under the poverty line, the literacy rate is low but increasing and large disparities between men and women exist.

Local communities living around the Park have traditional customary rights to the use of resources and due to the vastness of the area live relatively in isolation one from the other. Their level of awareness about their rights and duties concerning management of resources is quite high; the more than 20 years-long presence of the Aga Khan Rural Support Programme (AKRSP) has a prominent and appreciated impact in mobilizing the communities and in creating Local Support Organizations (LSO). This creates an enabling and receptive environment for participatory planning approaches to the selection of conservation models and activities in the Park.

Tourism was a major economic resource until 09/11. Today it is negligible, although the opportunities still exist and if the geo-political situation improves, it is expected that alpinism and trekking interest will recover and Chinese tourism may boost. Chinese interest in the area is significant as testified by different investments, among which the construction of the Karakorum highway. Key for the development of tourism, the highway has changed the life of many communities pushing the Government to construct internal connecting roads thus improving infrastructure, transportation and access to markets.

The Northern Areas have the status of a federally administered area; it does not enjoy the same rights as other provinces thus having relatively little administrative and fiscal autonomy. The Chief Executive for the NAs is the Federal Minister for Kashmir Affairs and Northern Areas, and States and Frontier Regions. The project counterpart at local level is the Forest, Wildlife and Parks, NA represented by its Secretary General.

At present the CKNP is a park only on paper: a management plan was drafted in 1999 by IUCN. The consulting firm Haigler Bailly was then hired by IUCN to prepare additional preparatory studies, delivered in 2006. In the same year, based on a public tender, the Government requested WWF to draft the project "Participatory Management and Development of Central Karakorum National Park", a five years multi-partnership initiative also known as PC-1³. This initiative has gathered the many organisations active in the area around the common objective of drafting the Management Plan of the Park and at the same time starting to implement some conservation activities. The Project receives parallel financing with the Government contributing Rupees 50 mil.,

² Prof. Ardito Desio summited K2 in 1954.

³ Planning Commission 1 for CKNP.

the HKKH Project 10 mil., WWF 5 mil. and the Karakoram Trust (KT) 15. Currently three different conservation models are being considered for the Park:

- i) a single large protected area, using zoning for balanced conservation resource use;
- ii) a mosaic of protected areas of different categories;
- iii) a revised CKNP with adjoining community conserved areas (not formal protected areas).

There is a tremendous need for coordination but the NAs Government has difficulties in playing this role due to shortages of staff and lack of technical and administrative capacities. The HKKH Project is becoming a key actor in the area together with:

1. WWF-Pakistan: to which the Government has delegated the lead for drafting the PC-1 project and responsibility for implementing some conservation activities;
2. UNDP/Global Environment Facility (GEF): the Mountain Area Conservancy Project (MACP), managed by IUCN, was implemented under the biodiversity focal area, outside the Park's borders and working with local communities; the impact of the project is such that the Government has recently financed a second phase contributing a considerable amount of funds;
3. IUCN: a partner to many initiatives in the area, it is playing a catalyst role in promoting the elaboration of the CKNP Management Plan;
4. the Karakorum Trust: an Italian financed initiative through EV-K2-CNR including a number of activities; a baseline socio-economic survey has already been conducted in Askole and the Upper Braldo Valley through the AKRSP;
5. AKRSP: as already mentioned, it has a key role in community mobilization and sustainable resource use with an impact recognised by both the target beneficiaries and donor organisations;
6. The Karakorum International University (KIU): recently established, it is gaining international support to serve as catalyst of international and national research and in creating a locally-based documentation centre;
7. CESVI: in addition to its role in the HKKH project, it has recently received Italian financing (*Progetto Promosso*) to support the development of CKNP and improve livelihoods of communities.

2.1.3 Introduction to the Project in China

The project proposal identified the Tibetan Autonomous Region (TAR) of the People's Republic of China and the Qomolagma National Nature Preserve (QNNP) as the pilot area. This is a huge park covering 34.000 km², founded in 1989 as a provincial level nature preserve and upgraded to national level in 1993. It is located at the borders between TAR, China and Nepal. It is divided into core zone, buffer zone and scientific experiment zone, including Tingri, Nyalam, Tingkye and Kyirong counties in Shigatse prefecture of TAR. In the South, QNNP borders with SNPBZ as well as with several other protected areas of Nepal.

QNP is the highest nature preserve of the world and possesses a unique high mountain ecosystem and Tibetan cultural identity. The master plan for development of QNNP, developed in 1994 and updated in 2006, is still waiting central Government approval; the master plan for ecotourism development was completed with UNDP and the Ministry of Commerce of China support in 1996.

The area has high biodiversity value. Pressure comes from an important tourism (especially internal tourism) activity as well as from the effects of climate change. At present the right of entry is restricted as a consequence of the protests for the Olympic Games; tourism permits are not being issued and access is limited to a few conservation agencies.

The Park has a comprehensive Management Plan; it is inhabited by a population of 61.000 persons but communities involvement in management is low.

The particular geo-political situation led the Project to choose an entry strategy through the Chinese Academy of Sciences (CAS) and its Institute of Geographic Sciences and Natural Resources Research (IGSNRR). A set of activities will be directly implemented through the Chinese Academy of Sciences (CAS). Opening a dialogue in China has proved more difficult than expected⁴; an agreement with CAS has been signed in May 2008 and activities in this area are about to start.

2.2 Purpose and Objective of the Mid-Term Review

The HKKH Project has not yet undergone a formal external evaluation. The Executing Partners, represented by its Executing Committee (EC) identified the need for an external Mid-Term Review (MTR) to assist in a self-assessment and provide advise for the remaining period of implementation.

This MTR is requested by the IUCN as IA, in the name of the Executing Partners. The donor has been consulted during the formation and implementation of the review process; it reserves its right to accept or not the findings of the evaluation.

Therefore this Evaluation should be seen as an exercise to support and stimulate the Executing Partners to develop an internal rethinking of the overall implementation process, analysing how activities and results are contributing to the purpose and how and if implementation arrangements have and are facilitating this task. The MTR follows a standard evaluation procedure; the Executing Partners made a specific request to identify more promising activities on which the Project could be focused during the last one year of operation.

Requested by the IUCN, an Internal Preliminary and Rapid Review of the Project has been undertaken in October 2007. Findings have been made available to the MTR.

External Monitoring is not systematic; there is no external monitoring reports to which the mission could have access to.

The beneficiary of this MTR are the HKKP Executing Partners and the donor.

2.3 Evaluation Plan and Methodology

In line with the ToRs, the Evaluation Team is composed of a M&E specialist, focusing on institutional aspects and acting as Team Leader, and a specialist on Information Technology. The team started a home-based desk review in Italy, visited the donor and Italian-based partners before arriving to Kathmandu on the 11 of May, 2008. The mission has been conducted through May 26th, including one week mission in Pakistan, followed by the debriefing in Kathmandu. The preliminary Report has been submitted on 16th of June, 2008; comments received and integrated and the final report, finalised in Italy, was submitted on 28th of June,2008 as per the revised time schedule, agreed with the PMU.

The MTR has been carried out following the ToRs (Annex 1) and the Evaluation Plan (Annex 2) prepared by the Team, applying the six standard evaluation criteria. The analytical process was based on a thorough review of relevant planning, monitoring and technical project documents and

⁴ The project was not discussed with Government counterparts during formulation.

completed by interviews with the IA, the EAs, major stakeholders including representatives of the Governments of Nepal and Pakistan, universities and research institutes and where possible local communities. The Project Management scheduled field visits in Pakistan; due to time and logistical constraints no field visit took place in Nepal. Telephone interviews were conducted with the Chinese counterparts.

The comprehensive list of persons contacted and the schedule is attached (Annex 3).

During the mission the team offered extended opportunities to all relevant stakeholders to detail their point of view on all aspects of the programme. This also included intermediary briefing sessions with the PMU. Briefing also took place in Italy with the donor.

2.4 Remarks

The Project Management Unit has made available to the MTR Team all resources for the smooth development of the mission. The schedule was tight and ideally more time should have been made available for an in-depth analysis of the three project areas and the massive quantity of technical and planning documents produced by the Project. Nevertheless, a perfect logistical organization allowed intensive travelling and interviews agenda.

The GOP was approved by DGCS on May 2006. Therefore this MTR has based the investigation of relevance on all planning documents while the analysis of the efficiency and effectiveness focused on the GOP and documents and tools elaborated after the approval of this document. Reference will be made to some of the outcomes of the Pilot Phase as they constitutes the justification of most of the following implementation choices.

The MTR level of comprehension of the pilot sites is not comparable as resources, time and logistical constraints limited the local visit to the NAs in Pakistan. Interviews were conducted with key stakeholders in Kathmandu in Nepal and were limited to conference calls in China. Therefore in Nepal and China judgement is based on literature review and interviews.

The technical documentation reveals an accurate study of background elements to construct a comprehensive methodology. The MTR has been scheduled for 25 days, 17 of which in the field and visiting two countries. The complexity of the undertaking does not allow an in-depth evaluation of each single technical aspect of the Project. The MTR Team focuses its analysis on the general aspects of the methodology, the soundness of planning towards objectives and results and the overall implementation. Misunderstandings may occur, possibly also due to the fact that the Project methodology tends to be over-comprehensive and it is not always easy to take hold of the vast amount of literature produced (occasional lack of clarity concerns some difficulties in understanding which document comes first as there is no consolidation by topic such as methodology, testing, application, results).

Although there is only one year left for implementation, the level of progress in terms of application of the tools developed and consolidation of the system is not mature for an in-depth evaluation of the effectiveness and impact. Judgement is referred to processes established and under progress more than on products and services ready for use and tested.

3 Results of the Mid-Term Review

3.1 Relevance of the Project

The HKKP Partnership Project intends “to contribute to consolidation of institutional capacity for systemic planning and management at the local, national and regional levels, focusing on poverty reduction and on biodiversity conservation through policy development and implementation programs in the HKKH region in a longer-term basis”.

The goal and the specific objectives identified in the project proposal have been maintained through the development of the project. The GOP, developed during the Start Up Phase, did not propose any modification in this regard. Two specific objectives are identified, one related with the provision of tools and methodologies for natural resources planning and management and the second one with their application at local, national or transboundary level:

1. “Provide tools and instruments to facilitate the consistency of various national-level actions in area based planning and management, within the framework of regional level systemic planning and monitoring”.
2. “Establish a process of application of the acquired capacities and DSS by individual countries in systemic planning and management of mountain areas at a local/national or transboundary level, within the framework of sustainable mountain development.

It is generally preferable to formulate only one project purpose.

The project is relevant to the needs in the HKKH region. The production, organization and management of knowledge is the basic element of decision-making. Therefore it is possible to establish a direct link between the Project’s activities and their contribution to the goal. As reconstructed through the interviews, the genesis of the Project informs that the specific objectives were formulated:

- based on the experience of the Executing Partners in the thematic areas;
- based on the presence of the Executing Partners in the geographical areas;
- based on a general analysis of the regional problems the HKKH system is experiencing but not on a specific rationale for the selection of the three countries and the three sites;
- without an explicit, in-depth analysis and prioritisation of the local, national and regional institutional framework, of its weaknesses and strengths;
- without a proper stakeholders’ needs analysis (decision-makers, producers of data, end and middle users);
- without an accurate analysis of risk and assumptions, except for a general reference to political and climate-related occurrences which could undermine the project success;
- without a specific reference to the policies, strategies and systems for natural resources and environmental planning of the Governments of the three countries selected for the pilot applications;
- without the identification of indicators of impact, effects and effectiveness.

Weaknesses of design could not be addressed adequately during the elaboration of the GOP. Only the stakeholders’ analysis has been partly addressed once the GOP started its implementation but not to the level of detail that the future construction of a Decision Support System requires, even in terms of the construction of the information technology architecture.

The analysis of stakeholders should have been carried out during inception and further reviewed during implementation. It should have focused on specific interests, problems and potentialities of

women and men among stakeholder groups, capturing those elements which could hinder growth and harm development, especially considering that the ultimate Project's goal aims at reducing poverty and improving livelihood of population. The HKKH Project has made Stakeholder analyses (part of activity R.1.3): it appears that a revised version of the stakeholders analysis has been planned (DOP2) and developed. Other documents report the stakeholders' analysis (A.1.4.10, A.1.5.4 First Scenario Planning Workshop on SNPBZ tourism management", May 2007 and A.1.4.1. Decision Support Toolbox Design", July 2007). A 2006 Situation Analysis document for SNPBZ extensively reports on the stakeholders but this broad analysis addresses park management issues and is limited to SNPBZ; this analysis is not tailored to the specificities and application of the decision support mechanisms and tools. There are various stakeholders analyses done by the different Executing Partners but these are not consolidated and in general not considered as aspects of the design during the elaboration of the DST in a way in which there is:

- a clear distinction of different levels of governance/interest;
- differentiation between social and economic characteristics, interest and expectations;
- analysis of sensitivity of cross-cutting issues (environment, gender equality);
- analysis of potentialities and deficiencies in terms of resources, knowledge, experience, potential contribution and implications for the project not only in terms of GIS and RS capacities but for the overall environmental and PAs management (capacity building).

An in-depth analysis would have allowed the identification of clear outcomes, Objectively Verifiable Indicators (OVIs) and Sources of Verification (SOVs) in the Logframe.

The analysis of users: the user is a specification of the stakeholder; in this context he/she is the end-user of the decision support system and the one who will interact physically with the computer to run modules both to upload information, query the system and, retrieve information or pieces of knowledge. According to most standards⁵, the User Requirement Document (URD) is the milestone for any software development and should be always produced, independently of the IT experience of the user. The lack of this analysis has important consequences in terms of elaboration of business plan, cost/effectiveness and in particular quality, an element to be taken into consideration in all Project activities: as we will see later, standard procedures for testing and validating any piece of software are based on test cases directly and univocally referred to each single and uniquely identified users' requirement.

Executing Partners considers that as an initiative based on innovation, a supply-driven approach is to some extent required and therefore users could not be perfectly identified at the onset; the MTR Team considers that:

- although this is the case and the user is not there to define its needs, the developer should "substitute" the user and do the work of defining requisites, which should then be matched and tested according to a Verification & Validation Plan. This is of paramount importance: tools developed without a sound analysis fail to meet business objectives or can be failures,
- while the supply-driven approach seems to simplify the design, this simplification gives the designer little support in identifying facts, dimensions, and measures. Conversely, the demand-driven approach brings users' requirements to the foreground but requires a larger effort. As a general rule, an informal, supply-driven approach can be taken if:
 - i) detailed knowledge of data sources is available a priori or easily achievable;
 - ii) there is a good degree of normalisation; and,
 - iii) complexity is not high.

⁵ IEEE Std 830-1993 IEEE Recommended Practice for Software Requirements Specifications and ESA PSS-05-0 ESA Software Engineering Standards Issue 2.

The relevance of the initiative, in terms of management of information, is not questioned. This is supported by an approach which has developed a conceptual and innovative framework to support ecosystem management in an integrated way and which has introduced management oriented research. In addition to ensure sustainability and ownership, there has been quite an effort to make the Project more relevant at the local levels, adapting it to specific site needs. Nevertheless the mentioned weaknesses in project design have important repercussions both on the implementation of the Project and on the functioning of the Partnership: it becomes an undertaking based on the accomplishment of tasks for which each partner takes responsibility more than on a clear identification of the benchmarks and milestones of institutional strengthening that can be reached with the resources and time available.

In the Project context, where most of the assumptions are undefined and many methodological approaches are combined to tackle a complex and not linear situation, the lack of a clear needs assessment risks to sum uncertainty to uncertainty, hampering an objective evaluation of products according to standard design criteria. A complex system for managing information is relevant only if there is a large quantity of data to be dealt with, if stakeholders at different levels are conscious of the potentiality of a decision support system and are ready to take ownership. The Project is making a valid and important effort in different directions and this is recognised, including being a catalyst for the coordination of initiatives and for fostering data production. On the other hand the MTR Team insists on the fact that needs' assessments are required simultaneously and in a consolidated way at local, national and regional level so that the operational side is considered together with middle and higher management. This means considering local communities participation, the institutions managing the Park but also those normally dedicated to the production and management of data up to decision levels in higher positions, those able to make the issue relevant once the decision are to be taken for common regional initiatives. Independent of the current situation, the overall ideal objective would be that of allowing decision makers to accomplish their responsibilities supported by an (information) system that strengthens data handling capabilities at national level as this is the only way to ensure that the system can be developed locally and up-scaled at regional level.

The MTR Team recognises that pressures to get the GOP approved and implementation started as quickly as possible during the Main Phase were obstacles to this rigorous analysis of needs. Ground realities proved unprepared for the application of an IT-driven approach. The HKKH tried to revert the situation adopting soft thinking for PA Management and coordination of related agencies. Independently if this is the correct approach, it does not eliminate the need for a solid knowledge of the context once the choice to develop and implement a decision support mechanism is taken.

3.2 Effectiveness

The purpose of this chapter is to give an assessment of the extent to which the Project's Results are contributing to the achievement of the programme Purpose (specific objectives). There have been no changes in the project Purpose since the initial document proposal while Results have changed during the elaboration of the GOP. The two Specific Objectives and their Results are the following:

O.1 *“Provide tools and instruments to facilitate the consistency of various national-level actions in area based planning and management, within the framework of regional level systemic planning and monitoring”.*

R.1.1 A systemic planning and management conceptual framework is developed and promoted.

R.1.2 An improved understanding of the dynamics of target socio-ecosystems is developed through scientific and participatory research.

- R.1.3 The management system and the decision making process in place are analysed and the entry points for improvements through systemic management are identified with key stakeholders.
 - R.1.4 A system to support the management of mountain areas and the related decision making process is developed and available to key stakeholders.
 - R.1.5 The capacities of key stakeholders/institutions required for the systemic management of mountain areas are built.
 - R.1.6 A monitoring scheme integrated with the DSS is set up for the target socio-ecosystem.
- O.2 “Establish a process of application of the acquired capacities and DSS by individual countries in systemic planning and management of mountain areas at a local/national or transboundary level, within the framework of sustainable mountain development.
- R.2.1 The conceptual framework, the GIS and the decision support tools developed are used by beneficiaries to manage selected protected areas (project level application).
 - R.2.2 A contribution towards the development/update of the management plans of selected protected areas sites is provided and the integration of the DSS in the planning process is promoted.
 - R.2.3 A process to promote and apply the conceptual framework, the GIS and the decision support tools developed for systemic mountain areas management at national and regional scale is initiated.

The MTR considers that one specific objective with no more than 4 maximum 5 results would have contributed to simplify the undertaking. The Logframe contained in the GOP has developed in detail activities and sub-activities but has overlooked the identification of indicators of effectiveness, effects and impacts at the level of the project purpose and of the results. The identification of benchmarks and indicators would have stimulated the Executing Partners to a constant reflection on the quality and effectiveness of the strategy to reach planned achievements and would have avoided shortcomings in project design. The Project Proposal identified a certain number of indicators in a general manner but they were not specifically attached to the results or to the project purpose.

Given the time dedicated during the Pilot Phase in building trust and an environment of cooperation among the Executing Partners and in testing a first software - finally discarded because of understandable technical reasons⁶ – real project implementation is relatively short to allow a full appreciation of progress made and the contribution of the achievements to the project Purpose.

While proceeding to the evaluation of the Project effectiveness, the following elements should be taken into consideration:

- the initiative is quite innovative and stands between research and development: the effects of innovation are difficult to be appreciated within the time frame of a four-five years project and requires to be evaluated with different or at least additional criteria than those normally used in development. The innovative character of the Management of Knowledge can be appreciated at two levels: i) tools and methodologies are not always innovative in themselves but their combination in the same Toolbox and eventual parallel use is new and has high development potential thanks to the blending of hard and soft tools and of bottom-up approaches to the development of IT systems, ii) tools and methodologies may find individual application in other situations but are new to the institutional and environmental context;

⁶ The analysis is based on the interviews with Project Management and the Report of the Pilot Phase. A more in-depth analysis would have required studying the Manual of the original DSS, a task not specifically required in the TORs and which in any case would have not changed the actual course of action.

- the four Partners were identified during the WSSD in Johannesburg; their expertise is recognised in the Project Proposal (2004) as the correct one to design and implement the present project; the real partnership came after and was not so much the result of a genuine interest among the Partners towards a specific objective;
- IUCN was naturally chosen as implementing agency due to the multilateral general on-going agreement between DGCS and IUCN; the other Executing Partners felt constrained by their resulting position;
- the initial design envisaged the development of a Decision Support System (DSS) through the use of a software which, once tested, was found inadequate to the issues to be faced; according to the Executing Partners, the ground situation resulted quite more complex and requested to take a bottom up approach so to answer real and actual problems; the DSS has been changed to a Decision Support Tool (DST) including both hard and soft technologies and tools within an holistic framework methodology thus moving away from a strictly IT approach towards a more participatory and soft one;
- the Project was not originally discussed with the countries concerned; this implies that a long period had been necessary to establish a dialogue with the counterparts; the donor relied on the capacity and network of ICIMOD for favouring and speeding up this dialogue;
- most decision support systems are not concerned with the production of data but instead designed in function of those available. Indeed here the system is concerned with data to be collected were obtainable (certainly in SNPBZ, probably in QNNP), to be produced were not available (in CKNP) and with experimental research (at least on glaciology and climate change);
- there is sometimes a problem of terminology: i) the term “research” is utilised either to define research, collection of data or a study⁷; ii) the HKKH Project utilises the terms training, Capacity Building (CB) and occasionally Capacity Development (CD) in an interchangeable way⁸;
- planning is based on semester Detailed Operational Plans (DOPs), as requested in the IUCN-DGCS agreement, and a very detailed Logical Framework concerning activities and sub-activities. Each Partner is bound to the delivery of specific outputs, generally due in each semester, based on which they are remunerated. The system is sound and probably inevitable but caused the Executing Partners to feel that the partnership was not based on real and mutual trust.

A complex undertaking, the unusual presence of four executing partners⁹ and the sheer absence of benchmarks and indicators at the level of the purpose led the PMU towards a management, designed around the capacities and previous involvement of the executing actors. In complex circumstances of coordinated action with different partners, this carries the implicit potential for frictions and lacking synergies. The situation resulted in difficulties, at least initially, among the Executing Partners. Nevertheless generally speaking their experience is the right one for implementing this initiative: ICIMOD has a regional outreach devoted to sustainable mountain development and is specialised in geo-information and earth information technologies; EV-K2-CNR has more than 20 years experience in Nepal and Pakistan in research and the CNR research connection in Italy provides for an important network outreach; IUCN has a well established presence in Pakistan, country offices in all areas and a sound and appreciated experience in natural resources conservation; CESVI has the capacity to work at the grassroots level and to be innovative in participatory methods.

⁷ Where pure research is involved, it should be appreciated that timing is a limiting factor as the results of research may not be readily available within the timeframe of a development project.

⁸ As document A.1.3.2 & A.1.4.4 reports (chapter 3.6), the concept of CB has changed over time. We refrain here from explaining the different terminology but point to the fact that Capacity Development is the most advanced concept, adopted by the UN.

⁹ Mostly used to work independently: ICIMOD is an international organisation and EV-K2-CNR is a research entity.

Agreement among the Executing Partners has greatly improved but, until now, the initial difficulties limited a more robust contribution to an overall reflection on the effects produced by the Project, thus assuring activities and results to be effectively geared towards the achievement of the purpose.

Shortcoming in implementation needs to be assessed considering: i) the complexity of the Project in terms of a multi-level and multi-country initiative, ii) the need to open a dialogue at country level and at local level, without bringing any immediately recognisable benefit to the community and iii) difficulties to shape a common vision among the Executing Partners. The Project has proved the capacity of being adaptive and flexible in proposing a decision support mechanism while appreciating ground realities and changing the implementation approach in the three countries according to what was possible and necessary. On the other hand, the need to maintain coherence with the initial design and the ambition to cover a broad area makes implementation difficult within the timeframe.

As already mentioned in the chapter on relevance, incomplete stakeholders' and users' needs analysis is a limiting factor in implementation. The MTR Team considers that if the aim of the Project is the development of tools to support decisions, a definition of what "decision-making" means should be given in order to limit the scenario to what it is useful in a given context instead of utilising a too large spectrum. In a knowledge-driven view as the one under evaluation, the development of tools is "the activity of manufacturing a (new) piece of knowledge, expressing commitment to a decision". "Decision" might refer to a course of action, a strategy of action or leading to a certain desired objective. Different levels of management can have a stake in the decision making process; it could be Strategic Planning (overall objectives and policies), Management Control (resources are used in an effective and efficient way), or Operational Control (specific tasks are carried out effectively and efficiently). Also the maturity of the context plays a role: i) an established situation suggests considerable knowledge exists about the current state, with a solid history of past events, ii) an emergent situation suggests knowledge scarcity. Other factors may have a role; concurrency (multiple decisions simultaneously in process), organisation design (centralisation versus decentralisation, hierarchic versus flat authority structure), negotiation (negotiated or unilateral decisions). Finally, the decision could be structured (established and fully understood situation, routine, programmable decision) or unstructured (emergent and unclear situation, one-shot, creative decision).

From the interview with the Technical Team (for a detailed review, please refer to Annex 4) , it appears that some of the above factors are taken into consideration during the development of the DST including:

- improve decision making ability by allowing more or better decisions within knowledge constraints;
- supplement one or more of a decision maker's abilities (analysis, knowledge collection, formulation);
- aid decision-maker in addressing unstructured or semi-structured decisions;
- stimulate thoughts about problems; and,
- reveal new ways of thinking about decision domain and partially formalize aspects of decision making.

On the other hand, current limitations appear to be:

- it is uncertain the ability to acquire/maintain knowledge (see the architecture);
- problem solving: decision analysis is not yet developed.

Considering that indicators at the level of objectives and results were not available, the following analysis is based on broad categories of outcomes.

3.2.1 The Management of Knowledge

The management of information and knowledge is the key area of the HKKH Project and it is supposed to ambitiously take place at local, national and regional level. The Project focalises initial operations at local level (Protected Areas). The approach is not argued in itself but the lack of an initial in-depth analysis of needs, weaknesses and strengths (of institutions and users) and requirements (of the system architecture and data modelling) complicate regional upscaling unless some corrections are made during the consolidation of the System. The Management of Knowledge and information as implemented by the Project can be evaluated in terms of:

Innovation: as noted above innovation can be appreciated in the introduction of new methodologies and tools, in the combined use of these items previously looked at in isolation or in introducing them to a new context. A key positive innovative aspect is that different combined views for solving problems have boosted an encouraging process of change to move away from a technological software system (technology-driven) to a way of thinking including socio-economic aspects.

The reference document for the conceptual and methodological framework (A.1.1.1, June 2007) presents a strong commitment for integrating research with policy and people livelihood in order to ensure sustainability. The methodology proposes an integrated framework based on three mutually reinforcing approaches: the Ecosystem-Based Management, the Resilience Theory and Adaptive Management. The hope is that this methodology can be of benefit not only to the target region but eventually extends to the management of ecosystems at the global level.

A Toolbox is then proposed (A.1.4.1, July 2007), composed of a blend of soft and hard system thinking of complex socio-ecosystems across various spatial and temporal scales. Soft tools include the Scenario Planning adopted in May 2007 and the three mentioned approaches. Evidence of their utilisation during capacity building activities is limited to Scenario Planning and Resilience Analysis. Reading the documents proves difficult as their organisation is not always clear. On the other hand the flow of activities and roles are quite well depicted in A.1.2.1 and the approach to support decision-making is innovative.

Partnership, networking and breach of information islands: the HKKH Project is building a sound and solid network of regional, national and local institutions; each original Partner converted outsourcing into extended partnership; local organisations, sub-contracted for the production of data, have entered this mechanism that includes training, fellowships, collaboration, institutionalisation of contacts¹⁰. This aspect is appreciated by all the interviewed. The Partnership shared vision is raising awareness of the need to breach monolithic information islands towards an effective interoperability, thus stimulating sharing and transparency of data as key elements of project success. Gender sensitiveness is very low but difficult to revert as women in technical departments are almost absent.

Digital Divide: the sum of the above considerations has reduced considerably the “digital divide” between small and bigger research institutions: the first, Government depending, have suffered limited resources available and are characterised by investigations limited to specific topics while the latter, mainly internationally funded, usually focussed on extensive production in large scale projects. The understanding of mutual cooperation, the use of modern and innovative technologies, the drill-down approach all together conferred equal dignity of role to all institutions.

¹⁰ Researchers and university professors already had collaborations with foreign universities at personal level but they were rarely institutionalised.

Capacity Building/Capacity Development: capacity assessments were conducted by ICIMOD during 2007, tailored to GIS and RS requirements in the three countries where the situation varies considerably in terms of lack of professional staff, equipment and software. An Overall Capacity Building Framework (A.1.5.5) was developed including all aspects of CB to be applied by each partner in their specific area of expertise. CB implementation principles are provided and key areas of activity identified at regional, national and local levels. It is a sound document but which comes late - March 2008 - when many activities have already been developed by each partner. The document also identifies challenges and constraints; elements which would have fed the risks and assumptions section of the Logframe concerning CD if identified when elaborating the GOP so to stimulate the elaboration of a strategy to manage risk. Among these constraints, staff retaining (Nepal) and staff availability (Pakistan, especially professional staff) are reported to be an issue. Technical training is important as it undoubtedly provides young trainees with a good opportunity to gain a valid card in the market but staff rotation and retaining are problems to be addressed by Governments: they need to find appropriate solutions and policies to take full advantage of the CB provided by the HKKH Project. This type of analysis helps the Project to understand which are external risks and assumptions over which it has no control.

The Overall Capacity Building Framework reports on the most recent theoretical approaches to capacity development, making the distinction with capacity building and providing appropriate references. Notwithstanding the Project continues to use CD and CB as interchangeable terms. Capacity Development, as defined by UNDP, includes the development of capacities at individual, organization and systemic levels. The HKKH Project attempts to develop capacities at least to the individual and organizational level. Should the Project really be upscaled at regional level, a more complete action to the systemic level should also be taken, including among others overlooked legal aspects and adoption of international standards¹¹. For the purpose of the present MTR, training and networking are key aspects to be assessed.

CB is developed through a blend of items including formal training and informal learning events, awareness raising activities, research and information dissemination, on-line sharing of information, participation to conferences and workshop, exchange visits among others. Workshops have been and are organised to present methodologies and Project results both in terms of increased knowledge base and tools developed. Large consensus and enthusiasm is registered among participants of different levels and origins (local communities, universities, government administrators and technicians, private sectors, etc.). Interviewed during the MTR mission, most participants were not able to express command and ownership of the concepts and theories presented giving the picture of an informed community, potentially with some skilled members, but definitely not an expert community. Clearly this judgment could be revised once the Project has reached further stages of development.

All countries lacked a formal data sharing mechanism. The HKKH Project developed guidelines for sharing data acquired or generated during its development and to identify the responsibilities of the custodians and users of data. According to this policy, each partner is the custodian of the data generated through it or its collaborators; it is mandatory to post *metadata* on the Web Portal in the Knowledge Base while sharing *data* is on demand but limited to project purposes. If this is the case, it means: i) not all data are stored in the Project Repository; ii) data are shared during the Project life cycle but are still owned by the producer; iii) since a reference data model does not exist, validation of data is not done at Project level but eventually according to quality procedures adopted by the single partner; iv) existence of and access to data is tightly linked to the Web Portal, v) it is unclear who will be the final beneficiary of data and which is the policy for the repository.

¹¹ Legal assessments are identified as a task to be developed by IUCN but limited to Protected Areas and in any case activities in this sense are eventually starting now.

The Project needs to concentrate in improving ownership of tools and innovation but the most urgent issue concerns the identification of a sound exit strategy and of one or more well defined lead-institution to be depositary of most of the acquired knowledge.

Networking. A number of over 20 local and national research and management institutions as well as international organisations is solidly gathering around the Partnership; this is a clear achievement of the Project, reported by all interviewed people. The HKKH Partnership is developing a well-built identity which has good opportunities to survive the project life and to eventually become a point of reference for mountain ecosystems if more is invested in consolidating it and in developing the reference model mentioned above.

To appreciate how the Project is proceeding towards an effective Management of Knowledge, the analysis is done with relation to the most advanced 3-tiers Architecture: a) *Database level* (reference model, RDBMS, repository); b) *Application Level* (research, acquisition of raw data, gap analysis, manipulation of data to produce information); c) *Presentation level* (end-users, dissemination of both primary and secondary data).

DATABASE LEVEL

The reference model, RDBMS and repository.

The Project rationale seeks for a systemic solution; however a HKKH reference model¹² is still missing and the Architecture of the System (hardware and software) has been defined but it would require more details and compliance with quality standards. Activities are focussed in identifying existence or lack of data; being not designed on the analysis of needs, it does not address the main issue of data use and re-use. Data collection and storage started without the creation of a Relational Data Base Management System (RDBMS); at present data are stored in a file management system, in hierarchical directories indexed and accessed via metadata managed by a Web Service (Geo-network), without being structured according to a data model, compliant with international standards. Data collected without a reference model may be difficult to be re-used and compare. The GOP provides for hardware purchases and knowledge base installation (A.1.4.7 and A.1.4.12) for key stakeholders (SNP, CKNP, QNP) and a budget is allocated (~ €55.750). The amount clearly indicates that this is not for the repository. Therefore it is unclear if a project server with a sound RDBMS will be made available and eventually where the server/RDBMS will be hosted. This can be a hampering factor for the accessing/distributing/sharing mechanism. Instead the construction of a Regional and National Framework could convert the HKKH in a real and unique reference model for high mountain regional eco-systems.

Cataloguing and harmonisation

The HKKH Project has taken a knowledge-driven approach. Although the availability of a considerable volume of information is critical to decision making, in a dynamic data management environment, the synchronisation between detailed metadata and indexed data is becoming increasingly difficult; the ability to describe, organise and access data for planning and decision making simultaneously at local/national and regional levels requires careful cataloguing. For reasons of maintainability, metadata currently tend to be located together with data on an organisational server more than published separately in an external index.

¹² The HKKH Framework should be the set of data and tools agreed and shared within the HKKH Project Community. The Framework describes the dataset (type, structure, attributes, domains, relationships...) for which local, national and regional agencies and groups require a comparable national/regional coverage specific to high mountain protected areas purposes in order to achieve their corporate objectives and responsibilities.

The development of regional, and even more transboundary activities requires that data production is paralleled by its standardisation and harmonisation (this requirement would have resulted clear if users' need analysis and data modelling were carried out at the outset). Harmonisation is not merely a technical issue; it often also entails legal and/or political decisions¹³.

An example to illustrate the issue in CKNP where data are being collected for the purpose of improving decision-making with relation to the elaboration of the Management Plan and its future implementation. The MTR Team, during the field visit in Northern Areas, had the chance to discuss with project management and local communities problems generally important in the decision-making process. It appears that there is not a reflection on the need to construct a system with a clear and well thought initial reference model¹⁴. The MTR could not visit communities in Nepal but there is no evidence that the reference model is being constructed.

Standards

The HKKH Project adopted a GIS centric approach for the development of the DST. This is correct as it provides better visualization of spatial data for handling functions at Project outset (A.1.4.8). In this way spatial data have a key role both for locating modelling results and for managing spatial and 3D analyses. However other elements should have been considered related to the integration of different modules within the GIS environment and to the adoption of a brand versus an open-source GIS application. In fact this could affect maintenance and ultimately sustainability.

The Project appears to adopt *de-jure* standards for spatial data (GSDI) and for metadata while de-facto standards ESRI ShapeFile are reported to be adopted for the exchange format of spatial data. However there is no reference to GSDI nor NSDI in the documents.

Correctly the Project has adopted international standards wherever applicable: i) LCCS for land cover mapping, iii) ISO metadata standards for geographic data. It is also developing a partnership with FAO for the adoption of the Geonetwork platform and the GLCN program for the land cover of the Himalayan Region.

A Quality Assurance Plan for the all system and specific Plans for Verifying and Testing specific products are missing. Standard quality procedures are rarely adopted.

Research, data gaps and potentialities.

The HKKH Project plays a key role in identifying the current situation of data production of local institutions and their potentialities (limited to PAs management). It captures data in a twofold way: i) through experimental researches, involving local partners currently coping with research but not with management, ii) gathering data and information for immediate use in the quantitative modelling.

¹³ As an example the classification of Forest - usually ruled by state legislation - can be classified in different ways in different countries: regional applications would be difficult and could have relevant impacts on environmental and economic levels.

¹⁴ An example of this shortcoming can be done with relation to spatial data, limiting the description to infrastructure and water, two cross-cutting elements for interventions in agriculture, tourism and generally for improving livelihood. Both the road and the hydrological networks are crucial: if a road can be used all around the year or seasonally, if it is paved or not, its width, length or slope have very different economic and social impacts (people mobility: students, sick and old persons, tourists; transport of goods: towards and from markets). Similarly, hydrology means a network of elements having a primary relationship with the catchments watershed and with other hierarchically related elements. These simple factors require consideration not only for the semantic aspect but also for the geometric (topology, spatial analysis) and temporal aspects. The concept applies also to non-spatial data: i.e. if a particular idea of time (a season indicated by the first day of the season) has been used for a particular data set of a service and another time format is used for a second data set (eventually also using a different semantics for start and end date of the temporal extent), it will not be possible to search for and use data in a consistent manner.

As noted above the term “research” is often used as synonymous of data capturing in that generating confusion for the assessment of activities. “Research” could implicitly include exploring even beyond the “domain” of the problem for the sake of advancing in science and technology; in the Project it mostly refers to bridging gaps in baseline data. This approach of exploring beyond the problem’s boundaries could paradoxically broaden the gap even more than expected or make the procedures and criteria adopted until now to gather data not comprehensive enough to accommodate new view points.

Beneficiaries and end users seem to be local researchers; local communities are involved in data capturing and are beneficiaries but it is unclear if they can play an end-users role.

The Project allows research programmes to be tailored to management and decision making needs, a rare event in protected areas, especially if considering that there is an effort to involve the communities in research activities as well to provide them the results.

Activities to monitor global systems have great importance: i.e. climate change, glaciers and forestry inventory through the establishment of permanent collection spots. Some methodologies have been shared both with local communities and with other organisations (e.g. the socio-economic survey in Pakistan is gathering consensus of local communities, WWF, AKRSP, Universities, NGOs) and could become a standard if adequately supported.

APPLICATION LEVEL - Development of the Decision Support Toolbox

The original DSS was designed on a software that, according to the final report of the Pilot Phase, was not matching expectations. This led to an overall revision of the methodology at the beginning of the Main Phase and the proposal to use a DST. The reference document is the “Conceptual and Methodological Approach” (A.1.1.1, June 2007) which emphasises multiple aspects of a complex system allowing for the adoption of a cutting-edge spectrum of concepts and approaches in order to develop decision support tools for socio-ecosystem management. Other relevant documents for the DST are the “Participatory and computer based components” (A.1.4.1, July 2007); “Specifications and System Architecture” (A.1.4.1, A.1.4.8, June 2007), “Preliminary analysis and conceptual modelling of the dynamics of key-socio-ecosystem processes” (A.1.2.1, Dec. 2007) and “Detailed Specifications” (A.1.4.1, A.1.4.8, Feb. 2008). The Toolbox includes both hard (computer-based tools: Qualitative modelling key system dynamics, Quantitative modelling of key system dynamics, Decision support toolbox software) and soft tools (Scenario Planning, Resilience Analysis).

The specifications for the DST have been issued in June 2007 and further detailed in February 2008 (A.1.4.1, 1.4.8) with description of DST different modules; conceptual modelling principles have been stated on Dec. 2007 (A.1.2.1).

Scenario Planning, Qualitative and Quantitative Modelling constitute innovations in this sense. The Scenario Planning has been appreciated by stakeholders while the Quantitative Modelling does not appear completely appropriate for the local context. Beneficiaries of innovation are identified in researchers more than in decision-makers. In combination with the knowledge base, innovations seem to lead toward a “descriptive knowledge” more than a “procedural knowledge” (knowledge about how to do something, that is what makes a decision-maker skilled) or a “reasoning knowledge” (knowing why rather than how which is what makes a decision-maker expert).

Considering the development of the System, the MTR could not undergo an in-depth analysis as the tools are ready but still being tested on real case studies (a tourism case study has been

presented during a workshop applying the software Simile¹⁵: A.1.5.5, March 2008) and the Decision Analysis Module is not yet implemented.

Scenario Planning considers two alternative techniques: one falling under the “intuitive-logic school and the other under the “probabilistic modified trends school”. The first one, more flexible, has been chosen: it relies on internal expertise within the organisation and produces narrative and qualitative description of future alternatives, based on the free creativity of participants, through matrices that allow to identify sets of information (either available or needed). The technique does not produce forecasts based on a range of assumptions; the final goal is assessing system changes over trends of key drivers, accommodating also unexpected but plausible surprises. The alternative “probabilistic modified trends school” technique is more based on “historical data” (time-series) for generating possible future trends in probabilistic forecasts and better accommodate near term concerns (decisions on primary needs). The MTR Team considers that the choice is naturally done because the second theory requires data quality/quantity which are not available, at least in the areas where the Project has been active until now. Therefore, once data are systematically collected and time-series will become available, it is possible to gradually veer from the former towards the latter technique.

The Scenario Planning can be a useful tool for long term strategy (25-30 years) but participants to Scenario Planning workshops found the concept rather complicated and unfamiliar, requested external expertise and a system able to support short-mid term planning. Therefore Scenario Planning is perceived as a theoretical exercise.

The Project’s documents (A.1.4.1., A.1.4.8) refer to Project’s requirements for the specifications of the design of the DST components. These requirements are not however clearly stated, or at least not organised in a user-friendly way. In addition, as mentioned in other sections, an exhaustive needs’ analysis is missing. Executing Partners argues that the system require to be “supply-driven” to some extent. However any product to be developed should accomplish standards for design and implementation and the analysis is always the starting point for the development of at least: i) business plan; ii) analysis of cost and effectiveness; iii) quality assurance (verification and acceptance); iv) safety & security; and sustainability.

The novelty and soundness of the Project approach is that while the DSS is strictly dependent on data availability and on their structure, the DST has been designed as a package of modules, valid independently of existing data and in addition as a stimulus to an aiming-to-the-purpose data capturing. This concept, together with the innovation of methodologies adopted, makes the Project relevant, the modules self-consistent and prone to become components of an “expert system”.

Design and standards.

The design of the tools has been made without any reference to standards. Design of a software application is nowadays performed according to a set of standard documents widely adopted and referred to for both big and small software¹⁶. This assures all users’ expectations and needs are properly tackled, that the software developed meets all requirements and can be positively verified and validated according to objective and verifiable test procedures. Furthermore standards adopted provide an essential control over the life cycle of software design, implementation and transfer (including training, handing over and start up).

INTEGRATED DST SOFTWARE USER INTERFACE

DST is currently distributed on CD as a stand-alone application module.

¹⁵ This is the software adopted by the Project for quantitative analysis.

¹⁶ ESA PSS-05-0 ESA Software Engineering Standards Issue 2.

Knowledge Base

The on-line knowledge base in the DST includes over 1.200 bibliographic references and is intended to become a key part of the Research Gateway. It is a repository of knowledge in the form of metadata, models and decision rules. The section of metadata and data has been implemented: it is possible to access and download data captured under different subjects or localities. The effectiveness of the choice to use the same Knowledge Base both for secondary and primary data is not clear: in the long run, it is possible to assume a growth of primary data both from systematic monitoring (time-series), from one spot capture and from other PAs; in addition the gateway seems not very prompt to select search criteria based on sub-menus¹⁷.

Spatial analysis

The Spatial Analysis Tool has the main purpose of a viewer of spatial and image data; in the Beta 2.0 version it appears as a user-friendly browser with some elementary GIS functions, most probably to be further developed for the final release. In fact it is still not easy to grasp for an outside user who does not know what and how to search for and its utility for spatial analysis is still rudimentary. The mentioned lack of a framework model is felt here: i) features are simply structured (generally there is no user primary keys), ii) it has a flat-file format with few attributes (usually textual or coded but in this case look-up-tables are not provided), iii) the interface is not thought for a national or regional use therefore at present it seems not possible to select first the location and then the layers to be displayed (in the Beta version provided to the MTR Team all the layers and images can be selected searching folders and subfolders for files whose prefix indicates the location while the name indicates the theme). Concerning attributes, it is quite difficult to utilise the query builder by attributes if coded-domain of possible values is not provide to help in finding the one looked for.

Modelling and scenario analysis: qualitative models

The software adopted to support Qualitative Analysis is CMap Tools which supports the use of Simile software (for systems dynamics modelling) as stated in the document "Specifications and System Architecture" (A.1.4.8, June 2007). The flow of the modelling is described in A.1.2.1 with the assumption that the finalisation of the qualitative model is the critical step in the process mainly because:

- it is the key phase for defining problems: when contribution of the stakeholders and the analyses carried out through the adoption of Soft System Tools can define the "shared vision" of the scenario;
- it allows to define needed set of data: data gap analysis evidences missing data and identifies actors involved in data collection;
- it proposes roles and responsibilities: groups of data producers and/or researchers are engaged in an on-line collaborative working environment (by Wiki in the Web Portal); CMap is the distributed modelling process running on a central server and Simile the environment to run quantitative models.

This topic-driven "community" is facilitated and moderated by the CTA, the Leading Modeller, the Modelling Advisor and the Modelling Officer; the activity of data gathering and capturing is managed by a Research Coordinator and a Domain Coordinator (the expert in a given thematic domain). The above assumptions show the importance of this phase: it should synthesise the most relevant and innovative part of the Project where the conceptual and methodological framework

¹⁷ To test the tool, "satellite-image" and search for "Land Cover SNP" were selected: the system displayed 6 results among which field spot points, surely used for land cover (satellite image-based) quality control but this is not strictly a satellite-image.

finds its finalisation. The process is still on-going; it may be that a stabilised procedure could be developed in the future but at present, for some specific themes, the models developed so far do not give evidence of the innovation and the novelty and some inconsistencies between expectations and outcomes could emerge. As an example if Forestry is taken as a centric problem in most of PAs (for all possible implications at different levels and different concerns), the Forestry Model developed by the Project does not reflect the theories developed in the Project approach (Resilience, Adaptive, EBM), nor this type of modelling has a particular added-value. The same applies to other important models such as the Land Cover Dynamics. In addition the two models do not share the same type of analysis as it can be appreciated by the fact that “afforestation”, present in the Land Cover Dynamics is quite oddly absent in the Forestry Model. The subject is instead important in both cases, given its role in conservation. Possibly this is due to the fact that the two models have been developed by two different partners (EV-K2-CNR and ICIMOD), eventually with different expertise.

Modelling and scenario analysis: quantitative models

The qualitative model is coupled with the quantitative model in order to build a comprehensive system: facts or concepts expressed in the first are run and verified in the second. *Simile* is the software tool adopted by the Project to simulate complex dynamic systems; it is a diagram-based environment where concepts are expressed as constituent parts of a model together with their linkages, described by diagrams in a not-specialist programme language. This technique is a natural step after the initial models are created and evaluated, serving as repositories of data collection. The software, through a user-friendly interface, allows the user to manage different sub-models, setting sliders to different values and to run the model to display different behaviours or indicators of performance, either on graphs and/or on a GIS environment.

The quantitative model was officially presented during a workshop on tourism, a couple of months before the MTR visit; it appears that there are several quantitative sub-models that are being developed for SNPBZ and that they will be merged in an overall model of the socio ecosystem; this process will be completed later in 2008 or early 2009 depending on the pace of delivery of the data required. It is therefore too early to assess performance and efficiency of the tool. Cooperation with Simulistics (the software house) is in progress also for the interface with GIS; a video clip illustrates the possibilities to visualise on ArcGIS the simulation while the model is running. The CTA reported that further efforts will be deployed to fully integrate different modules of the DST.

Decision Analysis

This last module of the DST is still under implementation. “Detailed Specifications “(A.1.4.1,1.4.8, Feb. 2008) reports that the Decision Analysis Module will provide Multi Criteria Decision Support (MCDS). This will allow decision makers to carry out multi criteria analysis and ranking on the various scenarios from System Dynamic Models outputs and come up with the best scenario amongst them. It is reported that some specific MCDS tools will be developed for environment, tourism, energy and probably for other key areas. Although this piece of software is not yet completed, the MTR Team could have given a judgement on this obviously key decision-support tool if this module were designed in its entirety and compliant to good practices and international standards as mentioned in other sections of the report.

PRESENTATION LEVEL

The presentation of HKKH Project is twofold: the Integrated User Interface (IUI) of the DST stand-alone CD and the Integrated Web Portal (IWP) and Dissemination products. The DST- IUI is an integrated environment encapsulating the DST modules already described above. Here below a brief review of the other presentation products.

Web Portal

The Project identity is visualised mainly through the Web Portal, the entry point to HKKH-Partnership. This is correct as nowadays Internet access is a basic and powerful tool to access, disseminate and divulgate information. A broad range of information has been posted on the Web, logically clustered under different locations and topics. The attempt is to be transparent and share all possible information. Although at present a few technical limitations (see below), some good re-engineering could improve the Portal consistently and propose the HKKH Project as a clearinghouse for topics concerning Protected Areas in High Mountains.

Concerns have been reported about the choice of a Project Web portal on which to post all information based on the fact that: i) it drains a lot of energies from the Executing Partners and can eventually become a bottleneck, ii) the creation or strengthening of Parks web sites would have better assured services to local communities, easiest access to the information (to reach the HKKH Project one currently needs to know its existence) and ultimately maintenance and sustainability.

Participatory 3D Modelling

Participatory 3D Modelling for SNPBZ (A.1.4.11, June 2007). P3DM integrates participatory resource mapping and spatial information to produce a stand-alone scaled relief model, constructed through the active participation of the community with facilitation by mapping experts. It has been applied in SNPBZ.

Outreach products

There are a number of on-going activities for dissemination and presentation of results and a Communication and Outreach Plan has been prepared. It is still too early to evaluate impact, successes and shortcomings.

Outreach products include brochures, posters, maps, hand outs distributed locally in SNP. Workshops are also utilised as well as training, presentations and dissemination of results (A.1.1.2, A.1.5.6 and A.1.5.8) in order to: i) develop and communicate a clear and coherent image of the Project and ii) provide training and reference material to beneficiaries at national and regional levels to promote the approaches and tools developed. It has been allocated a quite consistent budget of € 94.750, out of which € 32.500 for training material (A.1.5.6) and € 36.300 for Project presentations and dissemination of results (A.1.5.8). The Project reports 3 participations to international conferences and ideas for posters to be placed at SNP Tourist Information Centre for "average trekkers". Training material is reported to have been produced for the workshops held so far and recorded on CDs. It will be adapted for on-line publishing once the new version of the IWP will have been released.

3.3 Efficiency

Evidence of the level of efficiency is proved by making the assessment of the relationship between the activities and the results as planned in the Logframe attached to the GOP.

An overview of implementation arrangements is essential to understand the way the HKKH Partnership functions and how this contributes to smooth and efficient progress.

As explained in the introduction to the Project, IUCN, in its role of IA, is charged with managerial and administrative functions; all official correspondence from DGCS is channelled through the

IUCN-ARO (represented by the Head, Country Group II). IUCN Nepal hosts the PMU. IUCN plays also a technical role through its countries' offices in China, Nepal and Pakistan.

Funding goes through the multilateral channel under the general agreement between DGCS and IUCN; differently from traditional project management, DGCS transferred all funds to IUCN at project start. These circumstances provide for a certain flexibility in implementation modalities; nevertheless the DGCS-IUCN agreement for the HKKH calls for specific planning requirements such as the provision of DOPs, and thus reporting, on a semester basis.

Implementation agreements have been signed by IUCN and the other Executing Partners, including the IUCN country's offices. ICIMOD headquarters is in Kathmandu; CESVI and EV-K2-CNR have a permanent representative in Kathmandu, hosted within the PMU, in IUCN-Nepal premises.

The Executing Partners subcontract local partners for the implementation of their specific activities, agreed in the GOP.

The **Logical Framework** attached to the GOP is a detailed document in terms of description of activities and sub-activities, nevertheless providing for some flexibility to allow further identification of specific activities when elaborating the semester DOPs. Formally the LF is a well structured document, organised, consistent and well indexed for an easily and smooth computer-based analysis; this facilitates its utilisation in semester technical and financial planning and reporting, by means of the same numbering and structure. It is accompanied by a "Logical Implementation Framework".

The Project is complex in content involving many partners occupied in implementing various activities at multi-country and multi-level. Although not exhaustive of the complex undertaking, an effort for simplification may be worthy to provide a quick overview of actions under implementation. The following table attempts to summarise activities by Partner, country and levels:

Table

All partners	Regional level	Remarks
	<ul style="list-style-type: none"> • Make research relevant to managers and decision-makers. • Look at innovation of technological tools, with a holistic and integrated approach. • Shaping a common vision and identity of the Partnership • Provide for transboundary activities (between at least Nepal and China PAs) • Communication: Web Portal, Knowledge Base, articles and over 50 technical working papers produced, publications • Capacity Building 	
Nepal	National and local level (SNPBZ)	Remarks
All Partners		
Recipient: DNPWC	<ul style="list-style-type: none"> • Strengthen PAs management institutions and decision-making processes: on-the-job and formal training, exchange visits (with Pakistan and China)... • DSS Tools and technologies applications: Qualitative ecosystems models, Quantitative System Dynamics models • Analysis of decision-making processes 	
IUCN		
Recipient: DNPWC	<ul style="list-style-type: none"> • Establish and strengthen institutional relationships with authorities, partners and local communities (buffer zone) (Mostly done) • Legal framework analysis and advise: review of SNPBZ regulations, forming a Task Force, consulting local communities and stakeholders (Mostly to be done) • Biodiversity assessment and qualitative modelling of wildlife: Literature review and gap analysis done; initiated collection of data involving the Buffer Zone Council and local people. Qualitative model done. • CB on-going on Management Plan and legal user rights. MP being translated in Nepalese, to be soon published and presented. 	
ICIMOD		
Partners:	<ul style="list-style-type: none"> • Land use and GIS applications • DSS Tools and technologies applications: demo systems dynamics simulation model development • CB 	
CESVI		
Partners: NGO Mountain Spirit; Local	<ul style="list-style-type: none"> • Research/data collection by means of questionnaires agreed with SNPBZ local counterparts in tourism flows and population dynamics, i.e. i) visitors survey, ii) porters survey, iii) immigration dynamics. Questionnaire tested and validated with the communities. Porters' survey completed. Visitors' survey includes 	<ul style="list-style-type: none"> • Some initial difficulties with Park authorities, also collecting similar data but utilising the army, are now settled. • The Buffer Zone Council requested local people involvement in data

communities	<p>two point in time data collection, the second still running. Survey on population dynamics still to be done. Analysis partly done and partly on-going. Data not yet modelled.</p> <ul style="list-style-type: none"> • Establishment of a social monitoring system • Scenario Planning: application of tools to learn from the future • CB: on-going 	<p>collection and to receive analysis of results: Mountain Spirit utilises Sherpa people for surveys and now involve different people from the community</p> <ul style="list-style-type: none"> • Only immigration dynamics being analysed; data are not collected on Sherpa's emigration.
EV-K2-CNR		
Partners: Kathmandu Univ.; SPCC; Naples Univ; Padoa Univ.; Simulistics	<ul style="list-style-type: none"> • Research/data collection in i) waste management, ii) energy iii) climate change on glaciers, iv) forestry • Establishment of an environmental monitoring system • Waste Management activities • CB 	
Partners: Tribhuvan University	<ul style="list-style-type: none"> • Research/data collection in water quality • CB 	
Partners: Resources Himalaya	<ul style="list-style-type: none"> • Research/data collection in forestry 	
Pakistan	National and local level (CKNP)	
All partners		
Partners: NAA, WWF, AKRSP, UNDP, KT, KIU	<ul style="list-style-type: none"> • A participatory management approach for conservation • Elaboration of Management Framework for preparation of CKNP Management Plan • Creation of an Institutional Network around KIU and expansion of HKKH partnership • Strengthen PAs management institutions: on-the-job and formal training, exchange visits (with Nepal) 	
IUCN		
Partners: NAA	<ul style="list-style-type: none"> • Technical and legislative advise • Coordination and several workshops organised to facilitate the Management Plan process • A road map developed for CKNP participatory planning process from here to 2013. All partners agreed on a zoning system • Development of Management framework and level I Management Plan • CB 	IUCN Pakistan had an important role in pushing the planning process of CKNP: process started to unfold.
ICIMOD		
	<ul style="list-style-type: none"> • Development of GIS baselines at park and valley levels (three selected valleys) • CB 	
CESVI		
Partners:	<ul style="list-style-type: none"> • Data collection and analysis of socio-economic (integrating in one 	Methodology and questionnaire jointly

AKRSP	questionnaire forestry and glaciology data collected under EV-K2-CNR responsibility) on the whole area based on secondary data and on three valleys based on primary data (Bagrot, and other valleys) ¹⁸ . <ul style="list-style-type: none"> • Scenario Planning done • CB: on-going 	developed with AKRSP which provides support for data collection
EV-K2-CNR		
Partners: KIU, Italian CNR research network	<ul style="list-style-type: none"> • Baseline data and research on glaciology, forestry, wildlife, biodiversity • CB 	
China	National and local level	
All partners		
Partners: CAS, IGSNNR	<ul style="list-style-type: none"> • Creation of an institutional dialogue and connection with CAS. • Research/collection of environmental and social information and data, data gap analysis • MoU signed with CAS: all activities (to be still started) will be directly implemented through CAS/IGSNNR. • CB • Exchange visits with Nepal • Information exchange for transboundary activities SNPBZ and QNNP • Fellowship programmes 	

¹⁸ CESVI has recently received a new financial allocation by DGCS (“Progetto Promosso” for activities in the area linked to ecotourism, data collection, forestry) and has the intention to cover the other communities utilising the collaboration and eventually funds of WWF and AKRSP, even beyond the HKKH life. This activity is done in collaboration with EV-K2-CNR.

Management is characterised by the presence of a one-person managerial position. Originally the PMU was conceived to be composed of a Chief Technical Advisor (CTA, initially envisaged as a part-time position) and a Regional Project Manager (RPM, originally envisaged as a full time position). The two roles have been combined in one position, starting from the Main Phase of the Project; the workload results too cumbersome. The CTA/RPM is assisted by a Deputy Project Manager (DPM), a secretary and a Communication Officer.

The CTA/RPM is accountable both to IUCN and to the Executing Committee (EC). This is composed of two representatives from each Partner: one at the political level and one at the technical level. It has an orientation and guiding role but apparently this has not been properly played. The EC is said to function in a bureaucratic way and the role of the technical representative, also involved in implementation, is prominent, with less independence of judgment than required.

The CTA has taken over a significant amount of workload. Most of his time has been absorbed in the first period by the needs to solve unconformities within the internal partnership which led to the development of an extremely detailed Logical Framework and Workplan in terms of activities to assure each partner would really contribute to agreed products in a timely manner and according to an established strategy. Although this is correct in itself, it has not been combined with a parallel attention to results and objectives: as already noted the Logframe is very weak with relation to development of impact and effectiveness indicators resulting in the lack of a constant reflection on the way forward and on how and if things are moving towards the desired direction.

The CTA management has been efficient. As it is possible to appreciate by the table below, considerable time is spent in planning and management leaving less time than required for his technical and advisory role. Nevertheless his technical contribution to the project methodologies and framework is evident. The efficiency and effectiveness of the technical coordination has been limited by the fact that, according to the GOP, the CTA has to coordinate a team of persons (Technical Team) who are not accountable nor report to him. A major effort is done in ensuring an homogenous quality of the reporting mechanism, the technical documents and tools produced, not an easy task when different people with different background, writing and reporting skills are involved.

	CTA/RPM	DPM	CO	PA (project assitant)
Coordination of activities	10%			
Technical advice	10%			
Facilitation and participation to trainings and workshops	5%	5%	10%	
Monitoring	10%			
Development of procedures and formats	10%	10%		
Drafting of technical documents	5%			
Development of agreements and TORs	10%	5%		
Reporting	15%	15%		
Internal communications	10%	15%	20%	15%
Finance management (budgeting and reporting)	5%	25%		
Development and Management of knowledge repository	5%		20%	15%
Communications and outreach	5%		50%	
Administration and coordination of operations		25%		70%
Registry management				20%
	100%	100%	100%	100%

Unconformities are perceived among the Executing Partners concerning the overall organisation, in particular complaints relate to the time required to submit the complex and detailed technical and financial reporting mechanism. The situation has greatly improved over the last one year and generally the internal partnership is functioning and producing high quality products.

Although a structured **Monitoring System** has not been prepared (essentially a Manual and a system of sound and well defined indicators at all levels), monitoring is well done at the level of activities. Products to be provided each semester are identified for each Partner and monitoring takes place in an efficient and effective way. The system is criticised by the Executing Partners both because very demanding and because planning and reporting takes place each semester. A request for an annual planning has been discussed with the donor and refused. Nevertheless the MTR considers that at this stage of development, changing the planning system would result in more disadvantages than advantages. In addition semester planning is a specific requirement of the donor to IUCN.

Sub-contracts and MoU regulating the relationships between the Executing Agencies and local institutions are well drafted and usually inclusive documents, a reference for monitoring the performance of local partners. IUCN does not exert a strict control on the relationship between the Partner and the local counterpart provided products are delivered as agreed and timely.

The management of the **budget** is sound in terms of reporting. About half of the budget has been spent up to now. A considerable amount is absorbed by international and local staff (about 52% more or less equally divided between international and local staff and consultants). Within the personnel budget CESVI manages the 17,7% of the total out of which 28,6% of the international personnel budget and 3,7% of the national personnel budget; ICIMOD manages the 37,4% of the total out of which 8,5% of the international personnel budget and 74% of the national personnel budget; EV-K2-CNR manages the 26,3% of the total out of which 43,6% of the international personnel budget and 4,4% of the national personnel budget; finally IUCN manages the 18,5% of the total out of which 19,3% of the international personnel budget and 17,9% of the national personnel budget.

Equipment and supplies account for 10,2% of the total (for the scientific equipment to be purchased by EV-K2-CNR and hardware and software by ICIMOD). Considering the type of project, one could expect a large amount to be invested in specialised technical equipment purchase but the amount devoted to this component is relatively low (software € 80.000, computer hardware € 25.000 and images and base data € 31.000). It is reported that the property of the material purchased will be transferred to Park authorities in the end; the MTR Team was not provided with a clear exit strategy for ensuring sustainability and maintenance of the processes initiated and of the material eventually purchased.

Travels and per diems account for 10,9% of the total budget. Contracts with third parties account for € 137.368, that is 3,4% of the budget and is completely allocated to EV-K2-CNR.

Operations, management and recruitment utilise 10,6% of the budget but includes capacity building activities such as the production of outreach material, organisation of workshops, training. Overall being the Project designed to strengthen local capacities, this component should better reflect its importance. The overhead is a considerable 14% of the budget.

The quality of the **methodological and technical documents** is outstanding as an attempt to provide a comprehensive methodology using different approaches combined in a unique framework. The documents are sound but have a series of shortcomings:

- i) they are addressed to researchers more than decision-makers and are not accompanied by dissemination papers so that a wider public can be reached. It can be argued that this is not necessary if researchers are the target; however as the system supports decision-making, an attempt to better serve this category of stakeholders could be done,
- ii) searching for content is not always immediate: numbering and names are not always consistent and search by activity often does not work,
- iii) there is a vast amount of literature produced and documents are not re-organised under the same subject; texts are often almost entirely repeated in subsequent documents (see

A1410_A154 and A141). Overall this confuses the external reader and does not encourage easiness of reading.

The **development of tools** has been evaluated in the above chapter of effectiveness.

In terms of efficiency, a brief assessment (without the details a Web Administrator would do) of the Portal design and content is developed below according to the Web Standards Awards criteria:

Mandatory criteria:

- main pages should be validated as HTML 4.01 or XHTML 1.0 compliant using the World Wide Web Consortium (W3C) validator; exceptions may be done for inclusion of rich media, such as Flash;
- pages must ideally maintain a separation between data and presentation, such as that enabled by the coupled usage of XHTML and CSS;
- appropriate tags must be used to mark up data;

Other site evaluation criteria:

- visual appeal;
- degree of separation between data and presentation;
- quality of code;
- usability;
- accessibility;
- uniqueness.

Considering that the Web Portal has a key role in terms of visibility and as a “gateway” to the Project and its knowledge system, an assessment is given in terms of its quality and effectiveness as a means to discover contents and disseminate information:

- W3C: a quick review has verified numerous errors, some of them trivial but fine tuning is recommended to reduce to a minimum the number of inconsistencies;
- Tags: home page and other pages have a limited number of meta tags, images do not have Tag Alt;
- Quality: the CMS adopted seems not having an engine to optimise images; this shortcoming, if known, should have been contrasted adopting any available software to size images because in general heavy images slow down browsing and act as disincentive to the usage of the portal;
- Quality: some modules are not integrated in the CMS and seems to be an external form attached to the portal (e.g. Wiki);
- Quality: some menus are obsolete in the design and not compliant with CSS3 standards (e.g. news);
- MapServer: the application is not customised and seems not indexed to the underlying data; besides raster are not optimised slowing down browsing;
- Accessibility: one of the most important aspects of accessing Web is the process of improving volume and quality of traffic by the adoption of Search Engine Optimisation (SEO). There are different shortcomings: i) the titles of web pages do not bring any added value or search criteria; in other words, titles should illustrate the content (e.g. Environment in High Mountain Protected Areas) so that searching for it will immediately lead to the portal. The same holds true for the titles within web pages: they have not the necessary emphasis to allow a SEO to discover at once the Portal contents. Therefore it appears the Portal is for internal use more than a mighty tool to disseminate valuable knowledge;
- Usability: the Portal is quite slow in general, maybe a symptom of loose design (i.e. some 2.6Mb images to be displayed in a pop-up take minutes with a fast 20Mb ADSL), discouraging potential users to browse and search for data;

- Visual appeal: a Web Portal graphic design should highlight main topics and prioritise functions and menus according to the importance and relevance of hits. The look-like interface of the Portal is flat, does not capture the attention of user toward the main topics and all the hits have almost the same dimension and importance.

As previously seen, **Capacity building and training** activities are identified for all project components and implemented by each partner, absorbing an important part of the Project's energies and time. A capacity building framework has been established only in March 2008 but activities have been implemented since the beginning. The provision of equipment is envisaged but it does not represent a very large component.

Table – Summary of Training

Training	N. of events (local, national, regional)	Type of event	N. of participants per gender	N. of participants by scale	N. of involved institutions
	24 (15-5-4)	2 long-term; 3 training on-the-job; 17 workshops	519 (♀490-♂29)	267 local; 127 national; 125 regional.	29

Clearly the Project attaches great importance to CB activities. Information about training events can be found with details on the HKKH Web Site at present only if authorized but it is planned to be open to the public in the near future.

Training material is usually stored in CDs for dissemination and as a self-learning package which can be re-utilised and used as a reference. Additionally the material is posted on the web and can be downloaded, representing an additional instrument for replicating the training. Training reports are well done; each workshop has been evaluated through a questionnaire, the information processed and included in the workshop report.

A few deficiencies or constraints emerged during interviews and meetings with stakeholders at different levels:

- i) training relative to IT tools raise a lot of interest but subjects are not easy to be understood;
- ii) the level of technical preparation of most participants is low and does not allow full grasp of concepts,
- iii) the high turnover of personnel lower the impact of training and the continuity of the action¹⁹.

3.4 Impact

This chapter is normally applicable to completed projects or programmes, which have been running for several years. It assesses the contribution of the project in a broader context, referring to the relationship between Programme Purpose and the Overall Objective.

Although the HKKH Project has been running for almost four years if the Pilot Phase is taken into consideration, the level of implementation is still low with relation to the Main Phase. Progress can be appreciated in the development of the methodologies. The development of the tools and applications is still on-going. In Nepal activities are more advanced than elsewhere. In Pakistan it took quite some time to open a dialogue with local counterparts, including all international agencies involved in the CKNP; the processes initiated have significance and the IUCN presence before the

¹⁹ As an example: in Nepal, the SNPZ Chief Warden can move with a frequency of one-two years. A suggestion has been made to train also some Sherpa representative in basic operations so that some specialised knowledge remains within the community. A certain turnover of personnel, especially during the Pilot Phase, is registered even among the Partners contributing to losing some experience considering their involvement in training both as trainers and/or beneficiaries.

Project and its commitment to be there after it constitute an added value to the sustainable elaboration of the Framework Management Plan and future implementation. In China activities are starting now and there is no much to be evaluated. All considered Project implementation is not mature enough to justify a deep analysis of impact. The analysis would have been difficult in any case as: i) the Project did not even attempt to define indicators and benchmarks, ii) in some case, as in Pakistan, the presence of a large number of actors, makes the question of the attribution gap a real issue and would require an in-depth evaluation.

Nevertheless, as already seen, there are areas in which positive effects are starting to manifest such as in bridging the gap between research and management, in creating a solid Partnership identity which has chances of sustainability and in initiated processes of change that have the potentiality to become effective. This can however only happen if a process of consolidation is implemented, more time is allowed and all partners, international and local, manifest a clear will to develop the system in a sound way. To do this, it is probably necessary to go back to the start and conduct the stakeholders' and needs' analysis in a much more detailed way than it has been done.

The MTR is required to concentrate in the identification of activities which have more chances of success and on which to focalise during the last period of this phase.

3.5 Sustainability

The sustainability of the achievements of the Project is a matter of concern. It is possible that some of the tools developed survive and are applied if more time is allowed to the Project to strengthen processes initiated. The DST, and in particular the qualitative model, have great potentiality to become an "expert system" in the sense of Artificial Intelligence (AI). Some of the main topics of the AI are already implicit in the DST, namely reasoning, automatic programming, knowledge representation, patter recognition, and partially learning. The qualitative model is quite close to support natural language²⁰, it is reasoning-oriented and customisable, provides visual outputs understandable for the user, could hold facts and assertions about a problem area. At present it is used for describing the problem, capturing and shading knowledge, building a common understanding among stakeholders, identifying data needed (gap analysis) for the subsequent quantitative module (*Simile* software) to run simulations according to a "forward engineering": it begins with basic knowledge about a problem area, examines knowledge and keeps track of implications until they are discovered to provide a solution. Being possible to learn from experience, the model could be refined until the correct formulation is found; if it proves to function, it can be validated and reutilised in similar circumstances (pattern recognition), provided data are available and possibly maintained in a RDBMS.

On the other hand a data-driven system cannot be implemented without a stable and structured hardware architecture, in particular if the system is web-based and has many characteristics of a data warehouse. Therefore it is imperative to identify the final recipient or beneficiary of the system, the one who will take over responsibility for maintenance and therefore ensure sustainability (at a minimum a system administrator, a web master, a database administrator plus a system manager who oversees all the activities of the IT centre). This item has been overlooked and should be considered as soon as possible by designing an overall exit strategy guiding the last phase of the Project towards key capacity building and institutional strengthening activities to ensure as much as possible sustainability.

The sustainability of the tools developed has to be seen as separated from the sustainability of the capacity building programme. Tools have not only a local relevance; they may also have a regional and eventually global relevance where the context could be more ready to receive this type of innovative systems. Although the development of tools is still on-going, there is the need to invest

²⁰ Concepts and variables could be expressed as verbosely as needed.

in promoting the tools through the organisations of workshops and the production of communication and dissemination material so that the entire 8 country partnership can be reached.

The sustainability of the Web Portal is questioned. Although a Web Master is involved, Executing Partners are currently requested to feed it with data collected and produced information. A decision on how to maintain the portal after the HKKH Project life has not yet been taken. This is linked to the identity of the Partnership and a decision should be taken as soon as possible, considering there is only one year of implementation to go. The simplest solution is to leave the Portal with the Partner which has developed and currently manage it (ICIMOD which envisages the possibility of integrating it under the framework of the Mountain GeoPortal); this appears a viable solution but it is also the less effective one in terms of institutional strengthening. In addition there is the risk that once the Project is no longer there, ICIMOD (or any other partner) could loose interest or not have dedicated resources to maintain it. Should the Project decide to individuate a recipient institution, appropriate training should be developed for forming skilled personnel in Web Managing. Hand over of material is supposed to be done to local institutions: ICIMOD should do it but it all depends on agreements to be still taken for continuing activities and system maintenance.

The sustainability of actions in Pakistan is likely thanks to the firm commitment of the NAA Government and the partners for the management of CKNP.

Executing Partners appear to be committed to continue operations in one way or the other, regardless of the presence of the HKKH Project. EV-K2-CNR has leveraged additional funds for research in Pakistan and is solidly present in Nepal. ICIMOD regional outreach will continue and CB has been carried out even in the past. CESVI will certainly continue for a while in Pakistan. IUCN is definitely present in all the three countries. This does not mean that the achievement reached by the HKKH Project and the processes initiated will be sustainable and strengthened: there are still many divergences among the Executing Partners to act jointly and towards common objective to assure that they will find the willingness beyond the Project for keeping together. Nevertheless it would be disappointing if the enlarged network of institutions and the Partnership's identity vanish.

4 Conclusions and recommendations

4.1 Conclusions

The Project develops a conceptual framework harbouring different aspects of natural resources planning and management, fully aware of geographical, political, ethnic, cultural and religious factors diversities of high mountain protected areas in the HKKH countries. It was designed as a Partnership initiative under the umbrella of the Global Mountain Partnership. Reinforcement of institutional capacities is fostered by an integrated approach comprising vertical and horizontal collaborations with a large group of institutions at different levels, consolidation of knowledge and provision of appropriate technologies such as GIS and DST for planning, management and monitoring. The Project has the ambition of consolidating the institutional context and developing tools and methodologies that can be relevant not only at regional but also at global level. A few but key design limitations affect overall implementation, in particular the lack of:

- i) a thoroughly well done assessment of the institutional strengths, weaknesses and needs,
- ii) a sound system of impact and effectiveness indicators to guide and orient the execution,
- iii) a proper Risk Analysis accounting for institutional, technological, managerial and social risks,
- iv) the development of a direct dialogue with the countries concerned during project formulation (it was indirectly assumed through ICIMOD).

The responsibility for these shortcomings is cross-cutting during the phases of the Project: certainly during formulation but also during the Pilot Phase and the elaboration of the GOP. It finally led the assignment of resources where specific needs were identified within chosen protected areas more than according to an overall developed vision and strategy.

The Project has been more efficient than effective: it has focused more on the local than the regional level and more in developing products than on designing and implementing a strategy towards a specific objective. However the ambition to work at the regional level had to be confronted with the evidence of geographical, political and technical constraints for the coordination of planning and management activities within the countries and among them. A dialogue with the countries concerned developed at Project outset: this was immediate in Nepal where some of the Executing Partners were already well established and then in Pakistan where the IUCN presence made the difference. Dialogue with China developed later and took quite a long time to materialise in an agreement.

The MTR Team appreciates the innovative character of the Project, the complexity of this multi-level and multi-country initiative as well as design constraints and the difficulty of introducing technological and methodological innovations in a generally weak institutional context (except probably China which has stronger IT capacities and a more enabling institutional environment but where activities are just about to start). In addition the provision of tools for decision-making is perceived by local communities as having no concreteness, limiting initial acceptance. On the other hand, the tendency to academically cover a broad range of issues in terms of methodology, implementation arrangements which required some time before the four Partners could agree around common objectives and the weak role played by the EC in terms of strategic guidance complicated implementation.

All considered, it has to be recognised to the Project the capacity, during implementation, of being adaptive and flexible while maintaining relevance: this is reflected in the different approaches taken in the three countries with due consideration to local needs and the institutional context. Consistency in terms of keeping the three countries involved in the type of methodological framework developed is sought but the differences in capacity and data availability does not allow

the Project to progress in all locations at the same pace. Overall it appears very difficult for the Project to complete its activities and consolidate the system within the timeframe of this project phase: this is the consequence of various factors: i) novelties introduced in terms of methodology are such both for the Executing Partners and for the countries context, therefore it takes time to establish roots; ii) the GOP was not strategic enough but on the other hand very ambitious in terms of activities to be developed; iii) notwithstanding the management efforts to keep the partners working towards common objectives, chances to meet (both at the operational and strategic levels) and jointly consolidate their works have been limited by pressure to keep implementation going, distance of locations as well as the basic initial incomprehension concerning their respective roles and responsibilities.

This situation requires focussing the evaluation perspective on processes more than on products. Executing Partners are committed to strengthen the learning process initiated, convinced that this may lead to changing courses of action towards more systemic ways of managing resources instead than looking at different aspects in isolation.

4.1.1 Development of a Partnership and a Vision.

As partners gather around the Project, the HKKH Partnership takes shape and builds an increasingly stronger identity with more than 20 organisations at different levels and in three of the eight countries of the HKKH Partnership including the official, private, academic and non-profit sector. The network of researchers appear to be particularly strong: the local level is linking up with the academic sector abroad, especially in Italy where a wide range of Italian universities and research institutes, mostly linked to CNR, provides support in different activities (Annex 5).

The lack of development of a common vision was one of the issue identified at the end of the Pilot Phase as a limiting factor: Executing Partners tried to develop this common understanding both internally and with the extended partnership by clearly defining each others' roles and identifying products to be delivered. The effort is valuable but has not yet achieved the required clarity:

- the Project still suffers from an over-concentration on activities which turns attention away from the objective and the means to assess achievements,
- the methodological framework developed is not of immediate understanding for local partners,
- Executing Partners have not developed a clear architecture of the DST, based on a solid assessment of institutional strengths and weaknesses and on the needs of the stakeholders, particularly decision-makers and users of the DST.

The MTR Team could not spot documents trying to summarise and reflect on the vision and on the progress achieved. Semester reporting does not serve this purpose as it is more a list of activities performed than a reflection on effects and impact. However there is one document which seems to go in that direction: this is the "Briefing note on the development of a multi-scale project implementation strategy".

4.1.2 Development of the methodological framework.

The HKKH promotes an innovative approach which combines science and research for management with bottom-up, participatory planning. The methodology is sound and offers great opportunities for bridging the gap between research, policy and management and for research to become closer to those who take decisions and to the real needs of local people. This means long processes as real and effective participation requires long periods of concertation but also greater chances of sustainability: no matter the quantity and quality of information you gather, if this is not shared with people, ownership will not automatically result. The Project has encouraged a solid process of change shifting from a technology-driven approach to an integrated thinking system

harbouring socio-economic aspects. Innovation does not only concern the creation of a new object; it is innovative something which is original to the context in which it finds application. The process of integrating local perceptions with research and modelling for the management of fragile and complex mountain ecosystems is new. The Resilience Theory, Ecosystem Based Management Approach and Adaptive Management are not new approaches *per se*: what is new is their parallel and combined utilisation. Nevertheless there is not yet clear proof of how this applies when the DST is at stake.

The MTR Team appreciates the complexity of the undertaking and the genuine effort to make things happen. The Project deploys young, skilled people for developing activities; the advantage in terms of enthusiasm, eagerness to learn and debate, easiness in the participatory approach, a greater familiarity with the techniques and the internet community is counterbalanced by the disadvantage of not benefiting from those reasoned solutions which come from experience. An aspiration to cover a broad methodological and technical spectrum and an excessive sophistication even in the formulation of activities, sometimes shift the undertaking from complex to complicate. Documents have the structure and approach of research papers, used for disseminating views and for providing a state of the art of the scientific arena and bibliographic references to illustrate all possible alternatives. Overall this results in embarking into too many dispersed activities without a clear idea of what has more chances to survive, given the context.

The Project appears to have taken a “water fall” rather than an “incremental” or “spiral” approach for the development of the DST. Project Management claims it is “incremental” as modules are developed one after the other. The MTR Team considers incremental the approach where: i) the system is conceived in its entirety at the outset, ii) it is then developed in all its phases simultaneously for a certain percentage (i.e. 20%), iii) it is tested and fine-tuned iv) another percentage is planned and implemented and this goes up in an iterative way up to its completeness.

The approach adopted overlooked implicit risks (political, managerial, technical) and proceeds as if time was not a limiting constraint. Although this may be the reflection of the Executing Partners’ long-term commitment²¹ in the countries, it is unlikely that the Project can consolidate the system and the processes initiated up to their sustainability within the next year of project implementation.

4.1.3 Development of the Decision Support Toolbox

The DST constitutes a blend of soft and hard tools and methodologies: Scenario Planning contributing to a long-term vision of the development problem, the methodological approaches of Resilience and Adaptive Management, the Knowledge Base and Spatial Analysis for easy access to information, the Qualitative Analysis for capturing and sharing a common understanding, and the Quantitative Analysis to simulate different scenarios.

The development of the different tools is still on-going. Although not completely mature, applications of the Toolbox are already in place, according to the different context in SNPBZ and CKNP in terms of scenario planning, qualitative system analysis, knowledge base, basic GIS data layers. At present, quantitative analysis is applied only in SNPBZ. The modular approach allows to flexibly respond to different needs and background capacities/data availability.

Accompanying documents for the design and implementation of the DST software are not compliant with good practice and standards, hindering the evaluation of the modules not yet completed and/or released; in addition this also hamper future maintenance and the completion of the tasks in case this can not be done within the timeframe of the HKKH Project.

²¹ IUCN presence is confirmed in Pakistan even after the project life in terms of commitment to the elaboration of the CKNP Management Plan; EV-K2-CNR and CESVI leveraged additional financing in Pakistan and will be implementing new activities.

Scenario Planning has been widely applied and has raised quite some interest both in Nepal and Pakistan; sometimes it is perceived as a theoretical exercise. It is interesting to note that in Pakistan has immediately favoured the identification of the macro drivers, with more focus on geo-political issues and possible big investments (ex. Chinese investments) as drivers of change.

Data availability and standardisation have been identified at the end of the Pilot Phase as key limiting factors and made difficult to run the first DSS. The problem is being solved by the identification of data to be collected in priority research areas. Clearly if information is not available, the system can not function but the process is stimulating the production of data. The importance of the DST is in its being independent from existing data and being a stimulus to an aiming-to-the-purpose data capturing.

Metadata are stored in the Web Portal while data collected are kept by the custodian and shared upon demand, according to the data sharing policy.

4.1.4 Development of research

Research is a major successful activity of the Project, allowing research programmes to be tailored to management and decision making needs. This is relatively rare in protected areas. The innovative aspects rely also in the effort of involving local communities in research activities and in providing them the results.

A management-oriented research programme has been defined based on gap analysis and is being implemented. However problems linked to structuring data are still present as standards have not been systematically adopted and what is more important there is no clear evidence that institutions are being strengthened in their capacities to store and manipulate data. As far as the MTR Team could appreciate data collected are kept within ICIMOD, in separate files and not in a database, and an exit strategy for assuring the sustainability of the processes initiated has not yet been identified.

Investigations have been conducted for years both in Nepal and Pakistan but rarely results have been shared with local researchers and institutions; the HKKH Partnership is certainly creating a solid link between research in the North and the South, reversing the common trend for which results are just brought back to the North and supporting local realities such as universities to catch up with and have equal dignity with foreign and international research institutions. Additionally communities are increasingly more aware of their rights and claim to have the results of investigations kept locally²².

4.1.5 Knowledge Management, outreach products and communication

The management of knowledge has progressed through the development of the different tools. The HKKH Portal is the entry visit (www.hkkhpartnership.org). It contains all information on the Project, documents, metadata and data collected and elaborated but not yet aggregated in information layers. Access to the Portal is not immediate unless one is searching for the KHHK Project; its overall quality could be improved. The Portal is regularly updated by all Executing Partners. A Wiki based collaborative platform has been set up.

²² In Nepal, the Sherpa's communities asked a well known researcher and supporter in the area to help them draft a policy research document to regulate and have some more control on research activities; the Park has a library and requires to have hard copies of every research done. In Pakistan the University of Karakorum is setting up a Documentation Centre to collect all documents and research done and to be done in the area.

The Knowledge Base contains over 1.200 records which can be accessed and downloaded from the HKKH Web Portal. The DST is a stand-alone application, distributed on a CD which combines the knowledge base with analysis modules for the decision support mechanism. Training material has been recorded on CDs and distributed; it should be posted on the web but it has not yet been done. There is a well structured training database, accessible to Project members. A large number of articles and working papers have been published.

The hardware and software architecture of the system has not yet been properly defined. Data are stored in a file management system, in hierarchical directories indexed and accessed via metadata; they are not structured in a RDBMS, compliant with international standards. Should the Project decide to elaborate a Framework of high mountain ecosystem, the HKKH Partnership could become a standard, global reference model; this would clearly require an effort for data harmonization and cataloguing.

4.1.6 Up-scaling.

Up-scaling the process at the national and regional level is not an easy task for different reasons:

- as reported by Project Management there is no coordination between the planning and managing authorities in the HKKH countries; given geo-political, geographical and technical realities regional integration can only be a long-term objective;
- Project development does not proceed at the same pace in the three countries and a comparative analysis is complicated by marked institutional, social and geo-political differences²³. An in-depth evaluation of needs accompanied by a risk analysis during the inception phase or at least during the preparation of the GOP would have helped in tailoring the implementation to the capacity of decision-makers and operators to receive technology-driven tools;
- the architecture of the system has not been defined in all its parts in order to allow the adoption, even legally, of standards²⁴;
- the Project has focalised activities at local level and the development of common regional policies does not appear a possibility at hand. At present regional outreach may be limited to: i) the sharing of the Knowledge Base, ii) the exchange of metadata information at the regional level (the 8 countries) and iii) transboundary exchange of data between the SNPBZ in Nepal and QNNP in Tibet.

4.1.7 Institutional strengthening and sustainability

Although the practical application of the tools is still in an early stage of development for a proper evaluation, tools appear sound and useful but the institutional context is generally not ready to receive this methodology. At best some of the tools will be applied individually but the complexity of the system appears difficult to grasp. Stakeholders show interest and enthusiasm for the potentiality of the system but interviews generally confirmed that most project documents and theories have not been fully understood. Universities in all countries are interested and have laboratories which can carry on some of the activities started. Research activities with the universities will also serve for students PHDs.

²³ Among others: easiest access to information in Nepal and lack of data in Pakistan; advanced technological institutions in China with relation to the other countries; security problems; different enabling environments for effective community participation: probably difficult in China, facilitated by AKRSP activities in Pakistan.

²⁴ It has to be noted that the "Briefing note on the development of a multi-scale project implementation strategy" developed by the Project clearly recognize this element as a limiting factor to upscale the project at national and regional level.

Sustainability is not assured. It is possible that some of the tools developed survive and are applied if more time is allowed to the Project to strengthen processes initiated. In order to prove the regional and global relevance of the tools and methodologies, the Project needs to start investing in promoting them through communication actions (dissemination papers, workshops...). These must be tailored to different audiences, including local communities which need to know what the project is all about²⁵.

Capacity building activities have been extensive in terms of the number of events organised and the subject touched but the MTR Team was not able to capture evidence of the effects upon participants. As already stated, the level of understanding has been low in many cases and the lack of the needs' analysis does not permit a firm judgement about their perceived utility in daily ecosystems management.

The sustainability of the Partnership and its identity is a regional, national and local success and has chances of surviving the Project's life. This network is becoming to have an identity under the HKKH Partnership and the effort done should not be lost. The sustainability of the implementing arrangements with the four Executing Partners is questionable beyond this phase project's life.

The sustainability of the Portal is also an open question. As long as the Project is there, all Executing Partners feed the Portal but a clear strategy for maintaining it has not been identified. Its maintenance is relevant not for the Project itself but as an element of the HKKH Partnership.

Activities started in Pakistan are likely to be sustainable considering the firm commitment of both the NAA Government and the various partners involved in PC-1 and the likely presence of all partners even beyond the Project life.

4.1.8 Planning, Management, Reporting

Project management is generally recognised as efficient by the Executing Partners. The circumstances described above obliged the PMU to strict management actions, not always appreciated by the Executing Partners. It represents an important workload for the CTA and the PMU in general. Quality may be variable but the partners performance is generally timely in delivering agreed products and efficient in managing the assigned, individual budget. Partners have been reluctant to be strictly monitored and would have preferred to enjoy an "equal partners situation". Their perception of rules and reporting being cumbersome adds friction in the relationship with IUCN in its managerial and administrative role. This is aggravated by the fact that IUCN Nepal thematic and technical role has not been fulfilled as planned up to now: although IUCN Nepal is currently catching up since it has contracted a dedicated person for the purpose, Partners felt that control over this office to deliver technical product was less strict than elsewhere.

Overall performance results efficient, considering the workload. Monitoring meetings have been held periodically through the established system, in particular through the EC and the Technical Team. The EC appears not to have played its steering role; partners manifested perplexities on its bureaucratic way of functioning and on the confusion between the technical and political roles played. The EC Minutes of the Meetings reflect that these gatherings are centred more on discussion of operational matters than on strategies and outcomes. This is among the reasons for which effectiveness is limited, at least up to the present level of implementation. The management system enables the identification of key problems and bottlenecks and foster communication among the partnership and the stakeholders but results and objectives are not measured by OVIs, resulting in a limited vision of the strategy to reach the initiative specific purpose.

²⁵ It has been reported that SNPBZ communities could have been more supportive of some of the Project actions if communication messages were designed in an appropriate way, considering the complexity of the system developed.

As mentioned the reporting system is occupied with detailed activities more than with the effects the Project is and would produce. This is partly justified by the need to tie the Executing Partners to the delivery of timely and precisely identified products. Consideration of indicators and benchmarks would have allowed: i) a more coherent monitoring, based not only on a periodic performance-checking according to defined OVIs at the level of activities but also on an appreciation of the effects, not to say the impact, the Project is producing, ii) the possibility to adjust and re-orient the strategy, eventually selecting those actions, among the many the Project has embarked with, more promising of success with relation to the specific purpose of strengthening the institutional set-up at the local, national and regional levels.

4.1.9 Conclusion specific to Nepal

The HKKH Project has changed the original approach, based on the development of a top-down DSS to a more participatory approach in order to have local communities part of the process and included in the selection of priority actions. Nevertheless some of the Executing Partners consider that the process has not been enough participatory and that if the DST is applied as a laboratory exercise, its sustainability is at stake. The introduction of the Toolbox and methodologies has not been fully understood, at least initially.

The Project found itself obliged to try to tackle some practical problems (ex. installation of water purification facilities, waste management...) as entry elements in the community; this was considered the only way to possibly introduce novelties in future management approaches. Impact is still very low. The lessons learnt from the application of the AKRSP approach in Pakistan could guide in this respect: there are organisations which are better placed than others to enter a community and when the approach is seriously addressing local needs and encourage participation, results are extraordinary even for introducing novelties which the community does not recognise at first as priorities.

4.1.10 Conclusions specific to Pakistan

HKKH acted as a catalyst to unfold the process of elaborating a management plan for the CKNP and having the Government to take the lead in the process.

The PC-1 project is a broad, unrefined document. Financial resources are not a matter of concern and the government is financing the coordination of activities through the PC-1. Coordination is the priority in order to develop a common understanding, otherwise people will not want to be coordinated. Although coordination requires stronger efforts, the PC-1 initiative is certainly positive in gathering all Executing Partners around a common objective and it is the first step towards effective coordination. The NAA, through the Forestry Department, is clearly willing to take the lead in coordinating the implementation of PC-1 as it could be appreciated by the opening words of the Secretary General during the HKKH May 2008 workshop and the interview the MTR Team had with him. The SG had a key role in making this project possible and got involved in the details of its design. A genuine interest in seeing things moving and solving problems can be appreciated. He exhorts participating institutions to provide monthly financial and technical reports, based on the format Government will provide; the recently nominated Government focal point²⁶ will consolidate the report and present it to the Planning Department. Regrettably local government suffers from a chronic shortage of manpower; it requires capacity building to put its staff in conditions of implementing activities and monitoring the process²⁷. The PC-1 has established a Steering Committee but it is still not working.

²⁶ Also acting as HKKH focal point.

²⁷ A possible risk is how fast they will be able to recruit professional staff.

PC-1 does not include the participation of AKRSP; this is a major setback due to their key role in communities mobilization and in favouring the creation of LSOs, community organizations that should be recognised by any institution and government department wanting to work at grass-roots level. It is reported that following the May workshop, the NAA Administration has been encouraged to revise PC-1 and eventually include the AKRSP among the partners.

PC-1 seems to assume that within 2009 the HKKH Project will deliver the Management Plan and baseline data for 17 local valleys. The HKKH project made it clear in a written form that its participation will end in 2009 and the products to be delivered are limited to the Management Framework of the CKNP, environmental baseline data and socio-economic baseline data for three valleys²⁸ (as it concerns collection of primary data while the study on secondary data²⁹ will cover the entire area). This misunderstanding should be cleared.

It is important to consider that the Management Plan is a point of departure, not of arrival. The interviews with the communities showed that it already exists a great deal of awareness about people's rights to use the resources but also their duties of conserving them. This makes the context open to receive proposals for conservation, provided alternatives are offered for livelihood (this may include energy alternatives, employment opportunities through training, medicinal plants, expanding trophy hunting opportunities...).

Tourism is a resource for the area but geo-political and security issues are hampering opportunities. In this sense, tourism should be regarded as an important but complementary economic opportunity and dependence on it should be avoided due to its high volatility.

The synergy between the HKKH Project and the KIU offers important opportunities for creating a solid network of institutions around the university, linking foreign and local researchers in a way in which both can benefit from the other, building the capacities of senior professors and students and of the different departments of the university, ensuring that foreign researches have link with the local institutions and are kept locally. Developed during the International Conference promoted by KIU in April, 2008, particularly promising is the idea of creating a Central Documentation Centre where KIU collects all literature, documents, reports produced on the Northern Areas and digitalised them; this would create a valid point of reference for Northern Areas conservation, for both national and foreign partners.

The project is conducting an integrated study at valley level in Bagrot including socio-economic survey (CESVI), forestry, glaciology, biodiversity and wildlife (EV-K2-CNR), land cover and GIS basic data (ICIMOD). For coordination purposes CESVI, in cooperation with IUCN, EV-K2-CNR and AKRSP, developed a questionnaire merging socio-economic, forestry and climate change data collection with the advantage of less disturbance to the communities and coordination among researchers. However it constitutes various research grouped in one questionnaire more than a research articulated into different components with the risk that the whole remains a little unlinked.

4.1.11 Conclusions specific to China

Starting of activities has been difficult both because of geo-political difficulties of working in Tibet and also due to the fact that the Project had not been initially discussed with the country during formulation. Dialogue had to be started from scratch and now an agreement with CAS has been signed to start working at national level focussing on research activities and capacity building. Only a few conservation agencies are allowed to work in the area; difficulties increased during the last period as a consequence of the protests for the Olympic Games which restricted foreign access to Tibet.

²⁸ Discussion were on-going at the time of the MTR and eventually could be up to 8 valleys.

²⁹ It basically includes literature review and the data collected and being collected by AKRSP which conducts socio-economic detailed studies on the communities every four years.

Hopefully activities will at least i) stimulate activities for exchange of information at the transboundary level between the two protected areas in Tibet and Nepal, ii) create a partnership between international and national institutions, iii) promoting international standards such as LCCS and ISO metadata standards. Considering the fact that CAS is a sound scientific institution, with a lot of in-built capabilities, activities are likely to be implemented smoothly. The link between Chinese and foreign research partners can be beneficial to both sides and make the standardisation of information collected possible.

4.2 Recommendations

The MTR Team provides some suggestions and recommendations for the near and long-term future but the time allowed to the mission is not enough to enter into the details of planning. In any case it would require extensive working meetings with all the Executing Partners together so to jointly identify most promising activities by joining daily management experience with the external fresh eye. It would be professionally dishonest to provide specific recommendations which are not grounded on a deeper study of the situation as well as mix technical with evaluation work.

Generally it is recommended to spend the next one year of implementation in:

- i) consolidating the system in its entirety, at least trying to consider the below indications, especially the elaboration of an HKKH Reference Framework, system architecture and RDBMS; this could be applied to a significant and demonstrative use-case;*
- ii) identify an exit strategy for sustainability including identifying leading-reception institutions at country level and a coordinating institution at regional level, the handing over mechanism and the maintenance mechanism for the Portal;*
- iii) formulate clear results and objective OVIs to lead the strategic thinking and thus the identification of activities on which to focalise implementation but also thematic areas of intervention: a possibility, to be discussed, could be identifying one thematic aspect at regional level (i.e. climate change) and one-two thematic aspects at national/local level by taking an approach to support planning (such as in Pakistan) and an approach to support implementation decisions. It appears important that the two aspects are clearly kept separated.*

4.2.1 Knowledge Management

The first single and more urgent issue is the consolidation of the knowledge management system. A system conceived as human and technological resources, pieces of hardware, software and knowledge management is a complex machine that require all the components to be geared to produce the maximum result. Whatever solution will be adopted (either empower an actual partner or focalise on a recipient institution), an IT centre should be structured as a unique system, although made of different components: hardware architecture possibly 3-tier, backup unit, software architecture, RDBMS, Web Portal, staff devoted to system managing. Maintenance becomes therefore no more an issue related to singular aspects (like Web, data management, database, hardware pieces) but a major, consistent activity to be carried out according to a well consolidated Maintenance Plan compliant in each part to specific ISO standard.

If the decision is taken to consolidate the system, the donor and the Executing Partners should develop a strategy for focalising on the most important issues during the last phase of the Project and if there is an intention and willingness to continue with a second phase, identify long-term issues. Whatever the case, although late in implementation, the users and stakeholders needs' analysis should be undertaken.

Some specific recommendations:

Development of a HKKH framework: the development of a HKKH framework would leverage the production/collection of data, essential for the Project, thus optimising the process by ruling out redundancy, eventual useless data and also contributing to sustainability. It is recommended to define the “domain” of the HKKH Project Core Data³⁰ according to prioritised areas of intervention (i.e. climate change, forestry...); within each area, conceptual and logical data model should be developed adopting either E-R (entity relationship) or UML notation. When and if a RDMBS will be adopted, also the physical model should be defined; this will allow to identify spatial and non-spatial classes, their types of data, attributes (multiplicity, property, coded values, domains, rules for splitting, logical and spatial constraints, etc.), logical, physical and attributed relationships (cardinality), parameter-list, class or feature operations.

A stepwise action to build and populate the HKKH Project framework includes: i) identify data needs by environmental (thematic) issue; ii) structure list of data needs, grouped thematically (packages); iii) prioritising needs, based on obligations, sector user value and cross-cutting needs; iv) definition of Data Project Core Data Regional Level; v) definition of Data Project Core Data National and Local Level; vi) Harmonisation of Data Project Core Data; vii) Data Project provision and infrastructure (the Project IT Centre).

Standards: The goal of HKKH Project is an open, cooperative infrastructure for accessing and distributing information products and services; most of these services are thought to be accessible on-line while others, at present, are distributed on a stand-alone CD. The adoption of the HKKH Project Framework should allow to access a distributed network of databases, linked by common standards and protocols to ensure compatibility and interoperability of data and services. In fact, by ensuring that electronic data content and services located in national and regional organisations are implemented according to common standards, they become easily accessible and can be combined seamlessly across administrative borders, thus enhancing regional relevance.

Therefore adoption of standards becomes a priority not yet efficiently tackled by the Project. Although the correct model to data harmonisation is still debated (global domain – GeoSciML - and/or jurisdictional context - INSPIRE), most data models draw from a common ISO basis. If HKKH proceeds to data modelling, it is recommended that ISO standards are adopted. This will make it compliant in any case with UNSDI directives, claimed to be referenced to by the Project. There are various reasons for which data modelling is recommended, among others:

- transboundary: edge or theme matching at regional level;
- cross-sector: the complex eco-system requires data-sets for sector-based applications;
- cross-type: raster versus vector datasets;
- overlap: different sources and processes for different datasets;
- shareness: partners' networking.

Although HKKH Portal is not currently designed for a Web Service, the adoption of international standards would also improve data sharing and eventually real-time interactions between applications. In fact if sharing is a goal, a software-independent exchange format other than the commercial ShapeFile should be adopted: the XML-based encoding format (e.g. GML Geographic Markup Language) might represent a valid option. A quite comprehensive analysis of related issues is summarised in the INSPIRE Architecture and Standards Position Paper.

Outreach: it is recommended to invest some time in identifying lessons learnt and in preparing dissemination papers and eventually publications to make the system known and raise interest at the regional level. Communication products should be tailored for different audiences.

³⁰ Data central to a particular core purpose; sometimes used to distinguish from “reference data” (those being a reference (either spatial or legal) for information).

4.2.2 Knowledge Management Tools

Web Portal: in addition to fine-tuning the system according to the resulting evaluation provided in the chapter on efficiency, in order to support the development of applications/content and promotional efforts, it is recommended to monitor the utility of the Web Portal considering:

- Visitors: individuals can be tracked by the IP addresses, domain names and cookies (visitors should be counted only if a visit is alive – browsing – longer than a prefixed idle-time limit – say 10 min.)
- Hits: number of single action on the site or site section as it is recorded by the Web server.
- Page: count any document, dynamic page or form visited in a valid session.
- Page view: hits to files designated as pages
- Forum: number of topics posted and number/frequency of threads
- Knowledge base: number of documents downloaded.

Risk Analysis: it is not an instrument of the Toolbox; the MTR Team suggests to consider its development and inclusion in the Toolbox. It involves matching the identification of risks and assumptions in the right column of the Logframe (never done in the Project) with consideration for a more in-depth analysis of risks (long and medium term) including: environmental, political, financial, operational, organizational, strategic, cultural among others. A distinction can be made between: i) risks arising from factors potentially under the management control (e.g. poor design, ineffective management, poor performance of contractors...), ii) risks that arise from wider policy and institutional environment, only controllable by decision-makers elsewhere (e.g. poor policy environment, institutional weakness, lack of political will...), iii) risks that are essentially uncontrollable (e.g. natural disasters, political instability, interest rates...). Any identified risk should be accompanied by a management response so to identify a way to closely monitoring them. Within the Project timeframe, a six months evaluation of risks should be done at the time of semester reporting, using it as an element for overall reflection on the soundness of implementation. As an element of the Toolbox, a mitigation plan could be proposed with relation to identified risks and likely management responses. Managing for risk is imperative in adaptive management.

4.2.3 Repository

Storage: due to the fact that: i) the Project is strongly IT-oriented (the Knowledge Base is a “virtual” library and the DST is software and GIS-based), ii) the methodology adopted is knowledge-based and aimed at intercepting continuous ecosystem dynamics data, it is recommended to:

- compulsory design a sound and solid data model,
- design and deploy a well balanced system architecture possibly based on a 3-tiers (Web-Application-DB) approach,
- allow for safety and security of data (ISO 17799) considering the very valuable amount of data collected.

RDBMS: all the above considered, the MTR Team considers the adoption of a RDBMS imperative. Advantages are clear:

- it allows the system to grow in terms of extension (other PAs at national and regional level) and knowledge base,

- the trend of managing knowledge is that of coupling metadata and data within one and the same database for the sake of synchronisation and maintainability,
- it is widely adopted for spatial data,
- it is probably the unique solution to cope with dynamic changes both spatially and temporally,
- it is a mighty tool to accommodate consistently time-series.

The choice of commercial or open-source solutions depends mainly on the strategy and criteria for sustainability.

Spatial analysis: if the intention is to perform spatial analysis, all related tools should be provided (it should include some more specific functions to be more effective, i.e. the possibility to perform spatial joins, convert features to raster, make surface analyses (such as aspect and slope which may eventually allow 2 instead than 1 yields in cultivated lands), raster analyses and adjustments (transformation and rubber-sheet) of both features and raster to ease overlaying different documents). If on the other hand those functions are provided by off-the-shelf software such as Arc GIS and the intention is to visualise the outcomes, then reference can be made to these packages and the tool can be a simple browser; the terminology should be revised accordingly.

4.2.4 Partnership and Implementation arrangements

A second Project phase may be an opportunity to consolidate the system and the Partnership by also involving and informing the remaining HKKH five countries by fully utilising the ICIMOD network. The HKKH Partnership is a fact: there are more than 20 organisations involved at different levels and in three countries. This identity deserves consolidation.

Implementation arrangements may however change. It is recommended that the Executing Partners reflect on the opportunity of keeping this implementation arrangement as it is now or change it if unconformities are still present and can not be solved.

The perception of the MTR Team is that Executing Partners are kept together by the Project and not by a real interest of doing things together and benefiting from the synergies of joint work. Individual discussions with the Executing Partners were held and the impression is that, although a way of functioning has been found and somehow the relationship improved since the beginning, unconformities are still present. The MTR Team did not have the chance to discuss the issue with the four Partners together, represented by their political members. It is suggested that a frank and open discussion takes place among the Executing Partners to reflect on:

- project progress in terms of strategy and achievements and not in terms of activities performed,
- a strategy to complete current activities in the best way up to the end of the Project,
- their willingness to eventually request a second phase and consequently the implementation arrangements they would like to see.

Ideally this discussion should be externally moderated.

There is the need to make the EC more effective to play its assigned guiding and steering role; at least two activities could serve this purpose: i) a joint elaboration of the indicators of effectiveness as the exercise keeps people focused on the strategy and the objectives, ii) a clear separation of technical and political roles: technicians, involved in project implementation, should advise their political representatives but leaving decisions to the institutional role in an unbiased way.

4.2.5 Sustainability

It is recommended to identify at country level a leading-institution to be the receptor of the tools developed and at regional level an institution functioning as coordinator. In addition, it is suggested to identify: i) an appropriate mechanism for handing over at country level, ii) an exit strategy to ensure sustainability of major achievements and their continued development. ICIMOD could be the regional coordinating institution but it is difficult to ensure continuity if a receptor institution is not identified at country level.

The HKKH Web Portal is a powerful tool to access, disseminate and divulgate information. A broad range of information has been posted on the Web, logically clustered under different locations and topics. Some good re-engineering could improve the Portal consistently and propose the HKKH Project as a clearinghouse for topics concerning Protected Areas in High Mountains.

4.2.6 Planning, Management and Reporting

No changes are proposed to the Logframe at this stage in order not to upset the current planning system. No changes are proposed to the current reporting system for the same reasons and because it proves effective.

However, although late in implementation, the identification of impact and effectiveness indicators is highly recommended. The MTR Team started to discuss this process with project management; Executing Partners are exhorted to proceed in the exercise as this will guide the rest of the implementation and help focussing on those activities which have more chances to be successful. The discussion could utilise as a basis:

- the “Briefing note on the development of a multi-scale project implementation strategy”: a document developed by Project Management³¹ which is a sound although preliminary reflection on the overall strategy for continuing activities,
- the Logframe and the exercise initiated by Project Management for the identification of indicators,
- the next EC Meeting and
- this Evaluation Report, should all Executing Partners and the Donor find it useful.

Reporting would greatly improve if, once indicators are established, tables are prepared for reporting achievements showing simultaneously planned, achieved and still to be done activities. In addition it would be a much more interesting reading if reasoned ideas are provided. It is not enough to know if things have been done or not; overall what is needed is a joint reflection of the meaning of each achievement.

To ease access and reading of technical documents, it is recommended to rename files in a consistent manner, revise extension (it happen that a file downloaded has no extension at all: for users not familiar with computer science it could be difficult to assign the right extension although declared in the tag (e.g. A1413_Orientation), organise them by subject³² in order to make easier search by activity and subject.

4.2.7 Recommendations specific to Nepal

Following information collected on site, in Nepal it is recommended that the HKKH Project:

³¹ This document has been approved by the EC in November 2007.

³² As an example, the socio-economic research developed by CESVI: consolidate under one document the methodology, the development and results by using one document and annexes.

- raise the profile of its intervention from the local to the national level by strengthening the involvement of the national institutions so that tools and methodologies experimented can at least be replicable in other PAs;
- ensure that the actions developed in the SNPBZ are really relevant to both the national and local level: the MTR Team has collected complaints from both the local level Park Management and informed people reporting voices from the communities. These are common objections: communities always ask for very concrete solutions to their immediate problems but evidently there is the need to at least improve communication as this indicates that either actions were not considered key activities for implementing the Management Plan or they were not well understood.

4.2.8 Recommendations specific to Pakistan

Following information collected on the site, in Pakistan it is recommended that the HKKH project stimulates the revision of PC-1 in order to take into account at least:

- the new initiative following up the completed CPMC Project³³ which represent an important investment for working with the communities, outside the Park's borders;
- the need to involve the AKRSP, a key partner in the area for its extraordinary experience in mobilizing local communities and stimulating the creation of Local Support Organizations³⁴;
- the clear establishment of roles and responsibilities of each partner so to avoid misunderstanding, overlapping and raising false expectations: considering all acting organisations, this is a task on which to support the Government. On the other hand, it is also necessary stricter coordination among the 4 Partner as they are acting together under the HKKH Project but also individually under other initiatives. As most of these initiatives are funded by the same donor, failure to coordinate and provide a solid, integrated way of action could led to confusing the NAA Government and the other partners. Should this happen, all Partners would be losing out;
- the need to establish a mechanism of M&E with benchmarks and indicators for the entire project and for each partner considering the fact that this is an unusual situation where each partner financially contributes a certain amount and implement the related activities without a strong coordination mechanism;
- support the NAA in recruiting staff as far as possible (the process seems to be under way) and in coordinating CB efforts by the different Partners;
- promote gender-sensitiveness
- the questionnaire developed for Bagrot Valley will be tested only on 8 of the 23 valleys/Union of Councils. It is recommended to explore possibilities for other initiatives to extend it to the other valleys more or less contemporarily in order not to loose its comparative value.

4.2.9 Recommendations specific to China

The MTR Team was not exposed to enough in-sight to be able to express recommendations about activities in China. Reports from Project Management appear motivated and justified in terms of the approach chosen and no major comments are given.

³³ A Government funded project as a follow up to the first phase implemented by UNDP-GEF.

³⁴ For some unclear reasons the AKRSP has not been included in PC-1 as a partner but the organization has declared its availability of taking part in it; during the recent HKKH organized workshop "HKKH Partnership Project and Support to the Development of CKNP" (22-23 May, 2008), aimed at starting to shape a vision for CKNP Management Plan, AKRSP has been invited to participate.