

# the second high level consultative meeting

The consultation on the further development of the project was carried out at the official 'Second High Level Consultative Meeting' that took part after the technical conference. The Minister for Water Resources from Nepal, Academician Dipak Gyawali, was the chief guest of the Opening Session and inaugurated the meeting. Opening remarks by Dr. J. Gabriel Campbell and Mr. Eisa Al-Majed set the scene for the meeting, and after further elucidation by various speakers of the background to the project and the objectives of the meeting, discussions were held on the draft project proposal. This chapter summarises the deliberations.

## Session 1: Opening

*Chair: Mr. Md. Sayef Uddin, Secretary, Ministry of Water Resources, Bangladesh*

**Dr. J. Gabriel Campbell**, Director General of ICIMOD, welcomed the honourable Minister for Water Resources and the participants. He set the tone for the meeting by saying that this was an excellent opportunity to exchange information and come to a mutual understanding on the current state of flood forecasting in the region. He thanked those who had participated in the technical conference and said that their presentations had helped to clarify the existing capabilities and to outline the complexities and difficulties that face this region. While the region still has much to learn and needs to acquire additional technology, there is already a considerable pool of local expertise here to build on. The challenges are especially great since the flood plains of the Hindu Kush-Himalayan region are unlike those found elsewhere in the world. The HKH region has a very distinct physiography, and the water resources, the land use, and the socioeconomic institutions in the region are unique. Accordingly, the solutions most appropriate for this region will be different from those found elsewhere.

Dr. Campbell hoped that the meeting would focus on the opportunities for flood forecasting, which is the most cost-effective way to help save the lives and property of the poor people of flood-prone areas, and which is the highest policy priority accorded them by the governments of the region. He also hoped that it would provide an opportunity for the joint learning that would pave the way to a better understanding of the dynamics of flooding in the region. This complex phenomenon is a function not only of hydrological and rainfall events, but also of the topographic and geomorphologic processes that create landslides, flash floods, and other disasters. For this reason it is best to work together to share information and jointly develop communication and mitigation strategies. Investment in a regional framework for flood forecasting can also provide some scope for economic development in the region. It is also important to look at the economic opportunities for the poor people who depend on the flood plains for their livelihoods and whose investments, though small in dollars

and euros, may represent their entire life's savings. Economic development must be approached in a broader sense – and this applies to all types of investments whether in hydroelectric facilities, infrastructure, increasingly sophisticated water regimes, or the regional water transfer between river systems.

Much of this new investment will hinge on first providing regional communication and information sharing, the essential first step that builds confidence and prepares the groundwork for large investments to take place. Here there is an opportunity to provide the kind of framework that will not only save lives but possibly also provide scope for investment within the region. Technology can help to increase opportunities and to do it in a way that is more efficient and more effective. Everyone was encouraged to keep in mind the big picture, and he hoped that everyone would join in these efforts in a fully committed, but voluntary, way. Here there is a real opportunity to take the region to the next step.

**Mr. Eisa Al-Majed**, the Regional Director for Asia and the Pacific of WMO, thanked the organisers and remarked that it was an honour to address the participants on behalf of the Secretary-General of WMO. The exchange of know-how, data, and information is an important prerequisite to strengthening the resilience of those societies and national economies that are prone to floods and other water and weather related disasters. Anything that can be done to protect the lives and property of these people will surely help lead to the sustainable development of their nations as well as directly helping to alleviate poverty. The analysis of recent and historical flood disasters throughout the region (especially in the Ganges, Brahmaputra, Indus, Mekong, Yangtze, and Yellow River basins) demonstrate that timely access to reliable hydrological and meteorological data and information is essential. Timely and reliable data can improve flood forecasting, flood management, disaster prevention, and preparedness.

The WMO has developed the concept of a World Hydrological Cycle Observing System (WHYCOS) based on its over 50 years of experience with the implementation of global, regional, and national programmes and initiatives aimed at improving the services of national meteorological and hydrological agencies to the general public. WHYCOS has a global mandate and is being implemented world-wide through regional projects, the first of which started in 1995. There are two projects being developed with a view to implementation in Asia in addition to HKH-HYCOS: the Mekong HYCOS and the Aral Sea HYCOS. WMO is willing to work in close collaboration with regional members in the HKH region to support the development of a regional flood information system, which it is hoped can be achieved in close cooperation with the national meteorological and hydrological services in the region. The very successful cooperation between WMO and ICIMOD, now formalised through a memorandum of understanding, is an important basis.

On behalf of WMO, Mr. Al-Majed thanked the regional and international organisations and the development partners like ADB, DANIDA, JICA, USAID, UK, World Bank, and others for their support to the hydrological and meteorological services and to this regional initiative. Building on the experience from the existing bilateral agreements between countries in the region, it will be possible to develop a regional framework which could pave the way for uniform region-wide access to real-time data, information, and know how. The objective of this regional framework will be to improve flood forecasting as an important element in integrated river basin management, and to increase the capacity of national meteorological and hydrological services to provide

timely and accurate forecasts, warning, and information. WMO was pleased to see how much progress the consultative process had made since 2001; the review and approval of the project document is an essential step towards the implementation of this, important project. He assured participants of WMO's support of the project and hoped that the objectives of the meeting would be achieved.

**Dr. Wolfgang Grabs**, Chief of the Water Resources Division of WMO, outlined the **objectives and expected results of the meeting**. He began by saying that floods are an impediment to socioeconomic development in the region; the flood plain areas of many countries of the HKH have witnessed an increase in poverty rather than development. In order to enhance socioeconomic development and investment opportunities, it is first necessary to safeguard investments in these areas by seeking a framework for integrated, basin-wide flood management. While there is no simple way to effectively control large floods in the region, there do exist a number of both structural and non-structural measures that can help to mitigate the damage. These measures were discussed earlier in the meeting and include improved flood forecasting (using improved meteorological and hydrological models) and information dissemination.

The sharing of flood data and information is an important first step towards regional cooperation for flood forecasting that can build confidence between countries and agencies. There had been significant progress since the first meeting in May 2001. Dr. Grabs again outlined the objectives of the current meeting, which had been presented prior to the technical conference (Chapter 2 Opening Session). The main points were to discuss and agree on the technical, managerial, and implementational aspects presented in the draft project document, help in finalising the project proposal, prepare an action plan, and provide inputs to the national consultations to be held in 2003 on the practical implementation issues.

It is necessary to follow a phased approach that will first look at the technical feasibility of the project. Dr. Grabs took positive note of the fact that all the countries of the region had met together in a spirit of cooperation. It was important to recognise the constraints, but within these to see the opportunities and seize them to move forward.

**Professor Suresh Chalise**, Senior Associate Scientist at ICIMOD, gave a brief review of the **project background**. The growing awareness of increasing environmental degradation and poverty in the HKH had led to the establishment of ICIMOD some 20 years previously. From the very beginning, ICIMOD's concerns and activities have centred on regional consultations, assessment studies, and publications and have aimed at understanding – and thus redressing – the processes that lead to environmental degradation and poverty in the HKH. ICIMOD has focused on both human processes (particularly land use and land cover changes) and natural processes. Professor Chalise highlighted the role of water not only as a valuable natural resource, but also as an agent of the natural processes that can have an impact on the mountain environment.

Over the past 20 years, ICIMOD has implemented several projects for the improved understanding of the role of water in watershed management and in the management of landslides and floods. Many of these led to the realisation that it was vital to improve our understanding of the hydrology of the HKH region, and that this could only happen with improved regional cooperation. The HKH-FRIEND initiative, funded by UNESCO's International Hydrological Programme, was a good example of a cross-

cutting project aimed at just this. HKH-FRIEND was developed as a regional collaborative network for hydrological research, its six research groups include a flood group. HKH-FRIEND has established a functional regional hydrological data centre that is housed at ICIMOD, and it was the discussions held during the second HKH-FRIEND steering committee meeting that suggested that WHYCOS would provide a good framework for a regional flood forecasting and information system. These discussions had led to the steps that had resulted in the Regional Flood Project.

**Ms. Mandira Shrestha**, Water Resources Specialist at ICIMOD, provided more detail about the **first meeting of the Consultative Panel**. Amongst others, the Consultative Panel had reviewed and revised the original concept paper for the project, and laid out the general objectives of the programme, laying the foundation for the development of the draft project document (see Chapter 1 and Annex 2 for more details). The Panel summarised the expected results of the project as follows: 1) establishment of effective transmission and dissemination systems for sharing hydrological and meteorological data and information; 2) availability of comprehensive, basin-wide flood information; 3) improved institutional capacity and training of personnel; and 4) approval from individual governments to disseminate more of the data and information that is relevant for flood control and flood forecasting in other countries. It was noted that capacity building should be an important component of the project in order to improve national and regional scientific, technical, and managerial capacities and capabilities. The Panel prepared short, medium and long-term action plans covering such topics as the status and needs assessments that would be needed to design an effective project; preparation of concept and strategy papers and a draft project document; development and upgrading of measurement and dissemination networks; resource planning; systems maintenance; and development of models.

The Honourable Minister for Water Resources of His Majesty's Government of Nepal, **Academician Dipak Gyawali**, presented the **Keynote Address**. (The full text is presented in Annex 5.) He underlined the importance of the meeting: floods were a major humanitarian issue and it is incumbent upon the governments of the region to help protect life and property, and upon scientists and technical people to find ways to do so equitably and efficiently. The increasing frequency of extreme events, including cloudbursts and floods, is worrying especially since the drainage capacity of existing streams, water channels, and courses is already insufficient during peak periods, and there is a need to find better ways and better scientific tools to deal with them. Regional cooperation is indispensable to facilitate flood forecasting across manmade boundaries and Nepal is keen to participate in any regional effort aimed at mitigating flood damage. Mr. Gyawali emphasised the importance of technical cooperation, capacity building of professionals, and the establishment of a common scientific laboratory or data lab for analyses, as well as of improved understanding of the underlying processes. Mr. Gyawali went on to discuss some of the more structural issues related to irrigation and flood control projects, and the need to consider smaller rivers as these too can devastate entire villages when they flood. He also suggested a novel approach to the problem of collecting data in an area where dense data networks were needed as a result of the geographic extremes by using high school students to read and maintain rain gauges and other measuring stations. Mr. Gyawali hoped that the meeting would bring to the fore appropriate ideas, methodologies, and overall a commitment to pursue developments that would give additional impetus to the policies of all of the governments in this region.



After the flood: temporary shelters for flood victims, silt and boulders left behind by the floodwaters

## The Progress to Date

Ms. Mandira Shrestha summarised the main points in the short-term action plan developed by the Consultative Panel and the progress made since then. The main points in the short-term action plan were as follow.

1. Assess existing hydrological networks and areas for improvement
2. Identify existing data and institutional set-ups and needs for capacity building
3. Identify requirements for capacity building and training
4. Assess flood forecasting models used in the region
5. Report on the data and information formats used within each country
6. Identify institutions that can help devise data and information standards/protocols within the different countries
7. Collate flood histories at hydrological stations used for flood forecasting
8. Distribute the report of the meeting to governments officially through WMO
9. Prepare a concrete strategy paper for the ministerial meeting
10. Prepare a final concept paper with project elements to be taken to governments for approval
11. Prepare a project document

ICIMOD and WMO had presented a questionnaire to representatives of the six governments of the original participating countries, most of whom had responded, and collated the results. The questionnaire was designed to obtain a better understanding of what the collaborating institutions perceived to be the impacts of flood-related disasters, what they expected from an efficient flood information system, and what technical requirements and capacity building they would need to implement the project. It also aimed to identify the potential benefits of regional cooperation on flood forecasting as perceived by the collaborating institutions and to assess their preparedness to share data and information with the region to add maximum value to existing and future flood information systems. With the exception of point 5, it had more-or-less covered points 1 to 7 of the short-term action plan. The report of the meeting had also been distributed to governments (point 8). Preparation of the concrete strategy paper (point 9) was actually part of the medium-term plan. The final concept paper had been prepared and had been published as part of the Report of the Consultative Panel meeting (point 10). The draft project document had been prepared and was the subject of this meeting (point 11).

A further recommendation had been to find funds for national consultations to elicit the needs and priorities of individual countries and identify mechanisms whereby the new regional information system could fit into the existing national contexts. Proposals had been submitted to USDS/REOSA and USAID/ODFA and funds secured for 2003-2005.

Project activities were not limited to seminars and meetings, but were moving towards achieving tangible benefits such as the testing of a flood information system on the ground. Continued inputs and experiences from the participants were important, as this would help in identifying the most appropriate system for the region. Many encouraging responses had been received since the launch of the website [www.southasianfloods.org](http://www.southasianfloods.org). The participants and countries were encouraged to visit the site, make suggestions, and provide information. Substantial progress had already been made towards including new information from Bhutan, Bangladesh, China, India, and Pakistan. The usefulness and efficiency of the website would depend on the contributions from all member countries. The website is well maintained, news and events are updated on a regular basis; and the photo gallery and maps have been updated.

After the presentation the floor was open to discussion. Mr. Krishan K. Gupta from the Ministry of Water Resources, India, read out the official stand of the Government of India with regard to the further development of the project (Annex 6). He emphasised the need to build and strengthen the existing bilateral agreements and arrangements within the framework of this project.

### **Chair's Remarks**

**Md. Sayef Uddin**, Secretary of the Ministry of Water Resources, Bangladesh, expressed his satisfaction with the outcome of the Technical Conference. He added that the areas that need intervention can be identified and the time has come to address these issues and to take appropriate measures. The need for real-time data to enable mitigation of the impacts of floods cannot be overemphasised. Information needs to travel faster than floods, and the participants here today had come to discuss and approve a project document that would provide the framework to ensure that this could happen. The technology is available and the path for action is fairly clear. Md Uddin stressed the need to make an effort to translate our good intentions into actions for the common benefit of the region with the hope of reducing the loss of life and property; and concluded by saying that while it may not be within our power to control nature, it is indeed within our power to mitigate its negative impacts, with a great joint effort this goal is reachable.

## **Session 2: Discussion of the Draft Project Document – Conceptual and Technical Aspects**

*Chair: Mr. R. S. Prasad, Ex Chair of Central Water Commission, India*

### **Introduction to the Draft Project Document**

*Wolfgang Grabs (Chief, Water Resources Division, WMO)*

Dr. Grabs reiterated that the purpose of the present meeting was to discuss improvements to the draft project document by soliciting concise comments. (Comments received prior to the meeting are summarised in Annex 7). He gave an overview of the structure and content of the draft project document and described the different sections. Part A contains a basic description of the background of project development, water resource management, water resource issues, and the national and international policies developed as a result of the first and second meetings; Part B is a justification of the project developed with inputs from the Consultative Panel Meeting of May 2002; Part C provides the project description, including the goals and objectives taken from the concept paper; Part D discusses organisation and management; Part E outlines project implementation; Part F gives the key assumptions; Part G the risks; and Part H discusses sustainability issues. The separate sections were discussed in turn. The main recommendations are summarised as bullet points below.

### **Part A**

- For the purpose of clarification, the existing water treaties between member countries should be incorporated into the project document. This will help to elucidate what cooperation on flood forecasting and data exchange already exists in the region. Regional member countries were requested to please provide details of their respective treaties.

- The title of the project document should be changed from “Establishment of a Flood Forecasting Information System in the Hindu Kush-Himalaya” to “Establishment of a Flood Information System in the Hindu Kush-Himalayas”. “Flood information system” should be used consistently throughout the document.
- The map of “River Systems in the HKH Region” should be amended to include information on the Meghna river basin and other major Chinese rivers that originate in the HKH. The map should be enlarged to A 4 size.
- If feasible, socioeconomic information should be updated.
- Where possible additional information on other river basins should be added to augment that on the Indus Basin.

## Part B

- The data in most of the tables needs to be updated and data on areas and population in flood prone areas should be added. Member countries were requested to provide relevant (corrected) data.
- Each member country will nominate a designated person to liaise with ICIMOD and WMO in order to submit the correct data.

Dr. Grabs explained that there were discrepancies in the data since they were not all extracted from the same source. The new data and information to be provided by the member countries will be incorporated and accepted as definitive.

- Afghanistan and Myanmar had been invited to the present meeting as per the recommendations of the first meeting of the Consultative Panel and their representatives were now participating here as observers. Both countries had expressed a desire to participate in the project and may join the project officially at a later stage.
- To clarify which geographical areas are encompassed by the project, it was recommended that the maps indicate not only the Hindu Kush-Himalayas but also those adjoining areas that can be affected by floods.
- Six national consultative meetings will be held during the first 18 months of the implementation phase of the project. Since some phases of the project will run parallel to others, it was felt that the time proposed was appropriate. However, members were urged to make efforts to implement their parts of the project in a timely manner and before the set time where possible.
- It was recommended that the weather forecasting models of the National Centre for Medium Range Weather Forecasts in India should be tested during the first phase of the project and their suitability for use in the second phase assessed.

### Component 2: Regional Flood Observation Network

- The data collection platform (DCP) must be carefully assessed and selected.
- Those member countries that have well-established networks of NGOs and government departments with very good documentation capabilities should be identified during the national consultative meetings.
- Equipment selection should be based on the experience, needs, and requirements of the regional countries, as well as the equipment cost.



Mandira Shrestha/ICIMOD



Mandira Shrestha/ICIMOD

Flooded village : water creeping up to animal sheds and into woodlands

### Component 3: Regional Flood Information System

- The final phase of implementation will depend on the results and information gathered during the pilot and testing phase.

### Component 4: Training and Public Awareness Programme

- The public awareness programme is a very important aspect of the project, but it is beyond the scope of the project to bring public awareness to the field level. This is the responsibility of national institutions and the project will provide them with information, tools, and strategies for this task.
- The issue of public awareness should be discussed in detail during the national consultative meetings.
- A glossary should be provided in the project document in order to clarify the meanings of possibly confusing terms.

### **Chair's Remarks**

The Chair, Mr. Prasad, thanked the participants for taking part and contributing so actively to the discussion. He asked that they provide their inputs and comments on the project document in writing to facilitate its accurate revision.

## **Session 3: Discussion of the Draft Project Document – Network Design, and Organisational, Managerial, and Funding Aspects of the Project**

*Chair: Mr. Tahir Malik, Chair, Federal Flood Commission, Pakistan*

### **Part C: Selection of basins and hydrometeorological networks**

There was a lively discussion on the selection of basins and hydrometeorological networks for the pilot studies. Some participants suggested river basins in their countries while others wanted to consult their governments before they voted on the final selection of the pilot basins. Others suggested that the existing networks be upgraded and used for the pilot studies so that they could eventually also be used in any future implementation of the project. The criteria for selecting basins were also discussed. It was recommended that in selecting basins, it would be best to select rivers that cross national boundaries, since this would also help to study the regional flood outlook and test upstream-downstream linkages. The severity of floods is another important criterion.

### **Part D: Organisational and managerial aspects**

- The necessary additions and corrections should be made to the list of implementing partners. Some individual participants also asked to be included in part of the project.
- The confusion between the terms 'executing' and 'implementing' agencies was clarified and the proposed organisational structure for the project was modified. Both ICIMOD and WMO will be designated 'facilitating' agencies and member countries would participate through their designated implementing agencies such as their respective national hydrological and meteorological services.

## **Part E: Project Implementation**

- The budget proposed in the document has not been finalised. Changes can still be made to the budget as per the requirements of the project - there is still considerable flexibility and the proposal can still be modified.

## **Part F: Key assumptions:**

- Donor support should be added under Key Assumptions.

## **Part G: Risks:**

- Risk 2: NHSs and NMSs staff may be overburdened and have limited time to participate in project implementation due to other commitments. One common problem is that in general the staff selected for various field level tasks also have other responsibilities and may not be completely dedicated to this project. The project should consider this issue very carefully and find some suitable compromise.
- Risk 3: Field equipment installed by the project may be damaged or destroyed due to vandalism or natural disasters such as floods and thus impact on the project activities. This risk can be minimised by the careful selection of stations.

## **Part H: Sustainability**

- The longer duration of the project will help ensure its sustainability. Sustainability is directly related to long-term but low-key inputs, which is what will be done in this project.
- The participating countries themselves are the owners of this project. Accordingly, each country needs to implement the project to the best of its ability using its own resources to augment the resources that would be made available through the donors.
- The project budget should include a post-project phase to provide continued (but scaled-down) technical assistance over the subsequent two years. This would enable countries to fully match financial responsibilities at the end of the regular project phase.
- Sustainability also hinges on the technical and institutional capabilities of the institutional partners. The project should review the existing institutions of participating countries and suggest appropriate capacity building where needed.
- Core funding of the budget does not incorporate matching budgets. Participating countries need to make clear what amount of funds they will match to provide a full, bankable project budget.

## **Funding Opportunities**

The representatives of the donor agencies present at the meeting were requested to express their views on the project and to comment on the probability of funding by their respective agencies.

### USAID/OFDA

Dr. Michael Ernst, Hydrological Hazards Advisor, said that USAID/OFDA has been very happy to support this project; it is especially interested in reducing the loss of lives and property. It is very difficult to secure funding in the current economic environment

and donors are looking for a strong commitment from the participating institutions. He was pleased and encouraged by the progress of the meeting and added that more cost-effective alternatives are becoming available for use in this region to substitute some of the more expensive technologies. He said that he would like to see the project being built taking full advantage of the existing infrastructure. He remarked that the project has world-class experts and great potential, but there are no guarantees in the donor community. He recommended that the project should be presented to the donors highlighting its sustainability. He reiterated that USAID/OFDA does not support large water-related projects but that DANIDA, The Netherlands, Japan, and other US donors might be interested. Donors are interested in receiving creative ideas and in knowing what can be done with existing infrastructure, and especially when the projects can demonstrate a potential to really save lives. It is probably most effective to approach those donors that have a mandate to support regional collaboration. Donors in general would be most receptive to a project that had already demonstrated some short-term success.

#### DANIDA

Dr. Guna Paudyal, Team Leader, DHI-Water & Environment, said that while he was not representing DANIDA here officially, he could still say that this project was being favourably discussed. While DANIDA will not fund regional cooperation at this stage, it might be interested in funding the different national agencies. He suggested that ICIMOD and WMO keep in touch with DANIDA as well as with JICA (which is currently considering a large telemetry network in Bangladesh).

## Session 4: National Consultations, Project Endorsement and Action Plan

### The Mekong River project

The last day of the meeting began with a presentation by **Mr. Richard Paulson**, water resources and flood management consultant of NOAA on the Mekong River Project which had been initiated by USAID/OFDA, NOAA, and USGS with the aim of strengthening information dissemination. This project is very relevant as it is an example of the type of project and cooperation that is taking place in the region and internationally.

US flood mitigation and preparedness activities in Asia are funded by USAID/OFDA. Two USAID/OFDA projects have evolved over the past two years involving USAID/OFDA, NOAA, and USGS. The first is the Asia Flood Network (AFN), which estimates precipitation over an area in Asia making use of images from the Japanese meteorological satellite and ground-based precipitation gauges. Short-term rainfall forecasts are based on an atmospheric model. Other AFN activities in the region could develop given a clear rationale for the kind of help that could be provided. At present there are two AFN tasks focused on South Asia. The first is to strengthen the southasianfloods.website and the second is to familiarise OFDA, USGS, and NOAA with what technology is available in the member countries in order to assess if US technologies can be of any assistance. There is also some possibility that the OFDA may redirect some funds to enable USGS and NOAA to work with ICIMOD and provide expertise for national consultations. There is a second cooperative project between USAID/OFDA and the Mekong River Commission (MRC) which aims to strengthen and improve flood warning information transfer down to the community level and to see how effective this process is. This co-operative MRC project will last five years.

## **Objectives and organisation of national consultations for the implementation of the project** Professor Suresh Chalise

Professor Suresh Raj Chalise, Senior Associate Scientist at ICIMOD, presented the outline of the note on national consultations that had been circulated for discussion during the meeting. He stressed the importance of national consultations to elucidate expected outcomes, expected participation, duration, and financial provisions. National consultations are necessary to assess the needs and requirements of each country and will help to determine the types of capacity building needed. Other expected outcomes would include the final nomination of basins and realistic assessment of institutional needs and requirements. National partner institutions and other key institutions are expected to participate in the consultations. A revised version of the National Consultation Document is presented in Annex 8.

A number of questions were raised during the discussions on the national consultations. The participants suggested that the national consultations should include the Ministries of External Affairs, Home Affairs, and Disaster Management Services, in addition to those previously identified. The duration of the meetings was also discussed and it was decided that the principal partner institution in each country would decide for themselves what was appropriate. The participants felt that there was a need to conduct preparatory work prior to the consultations that would include identification and nomination of pilot basins/sub-basins for the testing of real time data acquisition and transmission/communication. Preparations for the national consultations would be mainly undertaken by the countries themselves with assistance from ICIMOD and WMO (as needed) and prior to the formal in-country discussions with ICIMOD and WMO. The funding aspect of holding the national consultations was also discussed. Some participants felt that the budget allocated would be inadequate and recommended that, if needed, each country should seek a co-sponsor.

### **Endorsement procedure for the project and project implementation**

National commitment was essential for the project to go forward. National hydrological and meteorological services and other institutions would need to show their willingness to share data, information, technology, and know-how on a regional level in order to implement the project. The participants agreed that there was indeed a need for improved hydrological and meteorological forecasting in the HKH regional countries in order to provide timely and accurate flood forecasting for saving lives and property.

The participants drafted a resolution and discussed each clause. The participants noted the progress that had been made towards the establishment of a regional flood information system since the first high level meeting in May 2001. The member countries supported the further development of the project and agreed that ICIMOD and WMO should undertake further activities, including resource mobilisation for the implementation of the project. They awaited the revised project document that would incorporate the comments/observations made by member countries during the meeting.

### **Action plan**

Ms. Mandira Shrestha, Water Resources Specialist, ICIMOD, summarised the action plan that had been developed based on the discussions held during the meeting (Annex 9). The action plan included revising the draft project document, compiling the meeting proceedings, holding the national level consultations, holding a secretary level meeting,

testing the feasibility of the project, developing the website, and holding a donor conference. The participants agreed upon the action plan.

### **Closing remarks by the participants**

The participants thanked ICIMOD and WMO for organising such a successful and fruitful meeting. Afghanistan and Myanmar reiterated their interest in participating in the project. Participants who had taken part in the two previous meetings remarked that the Project had made significant progress. The participants agreed that the meeting had been a great opportunity to discuss important and pressing issues and the result was very positive. This meeting is a step in the right direction towards regional cooperation on the establishment of a flood information system that would help minimise the loss of lives and property.

### **Chair's concluding remarks**

In his concluding remarks, the Chair, Mr. Adarsha Pokhrel, thanked the participants for contributing to the success of the meeting, in particular for contributing in a positive and co-operative manner and for agreeing on and endorsing the resolutions of the meeting. He concluded by saying that the outcomes of the meeting were a milestone towards promoting regional cooperation in flood disaster mitigation in the Hindu Kush-Himalayan Region.



Where is the road now?

Mandira Shrestha/ICIMOD