

MINUTES OF THE FIRST MEETING OF THE HKH-FRIEND STEERING

COMMITTEE

ICIMOD, Kathmandu, May 11-12, 1998

The First meeting of the Steering Committee of the Hindu Kush Himalayan Flow Regimes from International Experimental and Network Data (HKH-FRIEND) Group was jointly organised by the United Nations Education Scientific Cultural Organisation / International Hydrological Programme (UNESCO/IHP) and the International Centre for Integrated Mountain Development (ICIMOD) in cooperation with the German National Committee for the International Hydrological Programme (IHP) of UNESCO and the / Operational Hydrological Programme (OHP) of WMO and was held at ICIMOD Conference Hall, Kathmandu, Nepal, from May 11-12, 1998. It was attended by official nominees and observers from the countries of the HKH region and as well as representatives from UNESCO/IHP, WMO, the German National IHP/OHP Committee, Federal Institute of Hydrology, Global Runoff Data Centre (GRDC), Germany, the Institute of Hydrology, UK and ICIMOD. The list of participants, the agenda and the programme of the Steering Committee Meeting and the draft project proposal of the HKH-FRIEND project, which was the main subject for discussion, are given in Annex - I, II and III respectively.

Opening Session

Dr. Mahesh Banskota, Acting Director General of ICIMOD welcomed the participants. He recalled how ICIMOD had joined hands with other outstanding organisations of the region and outside, about eight years back, to work on the Hydrology of the HKH Region; the main cooperating partners being the Department of Meteorology, HMG Nepal, UNESCO/IHP, WMO, the German National Committee for IHP/OHP, Federal Institute of Hydrology, Koblenz, Germany, and the Institute of Hydrology, UK. He further added that the HKH-FRIEND represents a milestone in two major aspects: firstly, in terms of a regional initiative for cooperation in sharing information for sustainable management of water resources; and secondly, for being able to establish a strong relationship with many outstanding organisations in Europe. He also stressed that ICIMOD is strongly committed in tapping the knowledge and skills not available in the HKH region from outside the region, especially for capacity building in the regional countries.

Dr. Banskota also threw some light on the present and future programme activities of ICIMOD

related to water resources. He informed that 1998 was the final year of the first Four Year Regional Collaborative Programme (RCP-I) of ICIMOD during which collaboration with various partners enabled ICIMOD to launch a new programme on Local Water Harvesting Systems. He also added that during the next four years of RCP-II (1999-2002) water issues will be addressed directly or indirectly by various programme activities of the ICIMOD.

Dr. Banskota also expressed his happiness that a Regional Training Programme on Database Management was being organised subsequent to the Steering Committee Meeting from May 13-22, 1998. Finally, he assured that ICIMOD was willing to collaborate in translating the ideas of HKH-FRIEND into action and would provide whatever support it can afford within its limitation and resources. He also emphasised that while scientific and technical issues were important it was also necessary to give due attention to the social and human dimensions in the programme activities of the HKH-FRIEND.

Mr. L. A. Mandalia, Programme Specialist in Water Sciences, UNESCO Regional Office, New Delhi, welcomed the participants on behalf of UNESCO. He also reiterated the commitment and support of UNESCO/IHP for the HKH-FRIEND project. He also pointed out that the Regional Database Management Training which was being held from May 13 to 22, 1998 was the beginning of technical activities of the HKH-FRIEND. He suggested that since the HKH Region possessed tremendous potential for water resources development, the Steering Committee should seek general consensus on the development of regional waters from the decision makers of this region. He also advised that it was necessary to generate awareness among the policy makers and general public about the project. He further added that donor agencies and NGOs were welcome to join the project. He also pointed out that UNESCO and ICIMOD have been working closely for nearly one decade to evolve the HKH-FRIEND project, and now onus lied with the regional countries to take it over. He wished best of luck to the HKH-FRIEND project during implementation.

Prof. Suresh R. Chalise, Water Resources Specialist, ICIMOD provided the background to the meeting and briefly traced the history of evolution of the HKH-FRIEND project since the Regional Workshop on Hydrology of Mountainous Areas in December 1989. The evolution chart is given in Annex - IV. He pointed out that through the continuous cooperation and collaboration between UNESCO, Regional countries, ICIMOD and the supporting institutions, the HKH-FRIEND was not only a reality now, but also entering from its conceptual phase into its second phase of action.

He further added that although the collaborating institutions could look back with certain sense of satisfaction, the real challenges lay ahead to make the HKH-FRIEND a vibrant and active research group dedicated to the Hydrology of the unique mountainous region of the world - the Hindu Kush - Himalayan region.

Prof. Chalise also pointed out that the meeting was organised in accordance with the recommendations of the 1996 Workshop to constitute the steering committee of the HKH-FRIEND. He said that three main tasks lay ahead for the Steering Committee. Firstly, to open up HKH-FRIEND to all the institutions and experts who are interested to be actively involved in the scientific research in the relevant areas. Secondly, to discuss on the draft project proposal for HKH-FRIEND prepared by Prof. Dr. M.F. Bari with support from UNESCO/IHP, and hoped that it will help to establish the project groups. And thirdly, to provide guidelines on the operational aspects of the HKH-FRIEND and for exploring funds for future activities. He was also optimistic that support from participating countries and the collaborating institutions will continue and an excellent beginning in this regard had already been made through the Regional Training on Database Management which was being organised from May 13-22, 1998 after the Steering Committee Meeting by UNESCO/IHP and ICIMOD, with the support of GRDC and the German IHP/OHP Committee, Federal Institute of Hydrology, Koblenz, Germany.

Mr. Kiran Shankar Yogacharya, Director General, Department of Hydrology and Meteorology, Nepal, opened up his address by pointing out the major problems that the HKH countries were facing, such as population explosion, unemployment, poverty, uneven distribution of natural resources, lack of capital and technical resources, etc. He also pointed out that these countries faced serious problems on drought, floods, deforestation, landslides, soil erosion and sedimentation and these problems could be alleviated through integrated efforts in establishing large-scale water utilisation projects. He also emphasised the urgent need for regional cooperation in integrated management of the regional waters to meet the multipurpose requirement for the common benefits of the countries. He further added that Nepal should develop water resources policy which would lead to the sustainable development of water resources and there should be harmony between such developmental activities and environment which should be integrated with economic planning. Finally, he wished for the success of the meeting on launching the project and hoped some fruitful

achievement will emerge from the two day meeting.

Professor Dr. K. Hofius speaking on behalf of the German IHP/OHP Committee and WMO opened his address by clarifying the conceptual difference between IHP of UNESCO and OHP of WMO. He pointed out that Germany was the first nation to combine IHP and OHP into a single national committee viz. the German National Committee for IHP/OHP in 1975. Since then several other countries have followed this example. He also hoped that UNESCO will play a positive role in minimising the political tension in the sharing of hydrological data in the HKH region as it did in Europe during 1975/76 between East Europe and Western Europe. As the President of the Commission on Hydrology of WMO, he was also representing WMO in the Steering Committee and conveyed the best wishes from Dr. Dieter Kraemer, Director of the Department of Hydrology and Water Resources of WMO, for the meeting.

Dr. Alan Gustard, Chairman, FRIEND Inter-Group Coordination Committee (FIGCC) of UNESCO/IHP and Head, Risks and Resources Division of the Institute of Hydrology, U.K., highlighted the need for cooperation between the FRIEND groups as similar problems did exist in other FRIEND Groups in different regions of the world. He also expressed his view that the realisation of the HKH-FRIEND project was also due to the long and persistent efforts of Prof. Chalise and proposed a vote of thanks for Prof. Chalise, which was unanimously accepted.

Dr. W. E. Grabs, Head, Global Runoff Data Centre (GRDC) suggested that the project should focus towards the need of the people of the HKH-region and GRDC, as in the past, was ready and willing to cooperate with the HKH-FRIEND. He urged for close communication between the collaborating institutions and the scientists of the HKH region as it was the life line for scientific progress. He further added that the concept of HKH-FRIEND project offered an ideal platform for such scientific communication and collaboration.

On behalf of ICIMOD, **Mr. Saleem A. Sial**, Water Harvesting Specialist, Mountain Natural Resources Division (MNR), ICIMOD thanked all the participants of the meeting and the collaborating agencies who had been cooperating in the HKH-FRIEND activities.

2. Working Session I

This session was chaired by Mr. Kiran Shankar Yogacharya

Agenda Item No. 1: Adoption of the Agenda and Programme

The agenda and the programme of the meeting prepared by the Secretariat (ICIMOD) was adopted as proposed.

Agenda Item No. 2: Progress Report

Progress reports since the formal launching of HKH-FRIEND during March 1996 Regional Workshop at Kathmandu were presented by L.A. Mandalia (UNESCO/IHP) and S.R. Chalise (ICIMOD).

Mr. Mandalia presented the progress report on activities carried out by UNESCO since the last Regional Workshop held in March 1996 at Kathmandu emphasising the following points.

- UNESCO funded consultancy of Prof. M. F. Bari to visit participating countries (Bangladesh, Nepal and Pakistan) and to prepare the HKH-FRIEND Project Proposal.
- An informal consultation was held on March 11, 1998 with some of the HKH-FRIEND Group Members and ICIMOD, who were in New Delhi to participate in a seminar arranged by Alternate Hydro Energy Centre of Roorkee University during which the draft Project Proposal for HKH-FRIEND was discussed. Some comments were received to revise the proposal. Dr. Alan Gustard suggested that Mr. Mandalia could circulate the minutes of the Delhi Meeting for the benefit of all the participants of the present meeting. [**Action: L.A. Mandalia**]
- There were many activities in the region to provide inputs to HKH-FRIEND e.g. ICSI Working group meeting organised in cooperation with ICIMOD

A brief discussion followed Mr. Mandalia's presentation

Prof. Hofius informed the Steering Committee about cooperation with other FRIEND projects through the global Steering Committee and enquired if Mr. Mandalia could elaborate.

Mr. Mandalia requested Dr. Alan Gustard for details

Dr. Alan Gustard informed about the FRIEND Inter Group Coordination Committee (FIGCC) which was constituted during the 3rd FRIEND Conference in Slovenia (1-4 October 1997) in which representatives of all the FRIEND Groups had participated. He also informed that the main tasks of FIGCC was:

- to improve the co-operation between different FRIEND Groups but to minimise the bureaucracy and to have minimum number of meetings;
- to report about the works of all the FRIEND Groups; and
- to organise a FRIEND conference every 4 years.

He emphasised that the FRIEND Groups should support each other through exchange of relevant scientific data and added that the works of the Low flow group in North Europe and Data Base workshop funded by the German IHP/OHP to be held at ICIMOD from 13 to 22 May 1998 could be considered as examples of such support.

Dr. Gustard stressed on the need to focus on action and also on the usefulness of interacting with other groups and activities outside FRIEND as well, and cited examples of the WINROCK supported International Symposium on Hydrology of ungauged streams in Hilly Regions for Small Hydropower Development organised by Alternate Hydro Energy Centre of Roorkee University in New Delhi during March 9-10, 1998. He proposed that WINROCK should send 10-20 copies of its proceedings of the meeting to HKH-FRIEND Secretariat. He requested Mr. Mandalia to contact them for it. Mr. Mandalia agreed to contact WINROCK and was sure that they will cooperate. [**Action : Mr. Mandalia**]

After this Prof. Chalise presented a report on the activities undertaken by ICIMOD as secretariat of HKH-FRIEND since the March 1996 workshop. He informed that all activities were undertaken by

the secretariat jointly and in close consultation with Mr. L.A. Mandalia.

- Inputs and support to Prof. Dr. M. F. Bari in the preparation of the HKH-FRIEND Project Proposal (Draft) as per his request.
- Mobilisation of Support for HKH-FRIEND and maintenance of close communication and contacts with collaborating and supporting institutions. Tangible outcomes of such efforts were
 - i) Regional Training on Database Management which was to be the first technical activity of HKH-FRIEND and was being organised immediately after the Steering Committee Meeting at ICIMOD from 13-22 May, 1998 with technical and financial support from GRDC, the German IHP/OHP Committee, Federal Institute of Hydrology, UNESCO/IHP and ICIMOD.
 - ii) Financial Support of DM 2000 from the German IHP/OHP Committee, Federal Institute of Hydrology, Koblenz, Germany for ICIMOD's Secretariat work for HKH-FRIEND for 1997. Unfortunately this amount was not received as yet, although it was sent in September 1997. Prof. K. Hofius has agreed to look into this matter [**Action: K. Hofius**]
- Publication of the Report of the Regional Workshop on Hydrology of the Hindu Kush-Himalayan Region, 23-24 March 1996, Kathmandu. This publication was already circulated to all the participants of the workshop. It was also circulated during the Inter Governmental Council of IHP in Paris, during September 1996 and also to all the IHP Committee of UNESCO's Member Countries through UNESCO/IHP, Paris. A brief report on HKH-FRIEND was also presented during the IHP Council Meeting.
- Publication of the Proceedings of the International Conference on Ecohydrology of High Mountain Areas, 23-28 March 1996, Kathmandu.

The editing and publication of this Proceedings (of nearly 700 pages) was a major activity. The German IHP/OHP Committee provided some financial support to meet its publication cost for which they should be thanked. Thanks were also due to Prof. Dr. A. Herrmann of Technical University, Braunschweig, Germany and Prof. Dr. K. Hofius for their initiative and support in

this regard.

- Support provided to the First and Second Meetings of the ICSI Working Group on Himalayan Glaciology during March 29-30, 1996 and May 7-8, 1997 respectively which was organised at ICIMOD, Kathmandu.

Prof. Chalise also informed that he was invited to participate in the 3rd FRIEND Conference in Postojna, Slovenia, 1-4 October, 1997 by the organisers. The first meeting of the FRIEND Inter-Group Coordination committee (FIGCC) was also held during the Conference period in which he represented HKH-FRIEND. Dr. Alan Gustard was elected Chairman of this global coordination committee of HKH-FRIEND. He thanked the Northern European FRIEND Group and the Institute of Hydrology, U.K. for their support for his participation in those important events which was useful to introduce HKH-FRIEND and establish contacts for future cooperation and support for it from other FRIEND Groups as well as from UNESCO/IHP, Paris. He further added that problems of other FRIEND projects were similar to HKH as noticed during the Slovenia meeting, especially with regard to shortage of funds. He suggested that activities should start with whatever means that was available. He also informed that he had participated in the informal consultation at UNESCO, New Delhi on March 12, 1998, and pointed out that Low flows was identified as a starting point to work for the HKH-FRIEND during that meeting.

He sought advice regarding distribution of reports to regional countries for proper utilisation e.g. Global FRIEND report and the Ecohydrology proceedings. He also sought cooperation from all and requested them to send relevant materials to the secretariat for circulation to other FRIEND Groups. **[Action : All Steering Committee Members]**

Prof. Chalise also hoped that as the HKH-FRIEND was now starting its scientific and technical activities, the Secretariat (ICIMOD) had now a greater responsibility for which he was confident that active and continued support and cooperation will be received from all Members of the Steering Committee, collaborating institutions and UNESCO/IHP with whom close liaison, consultation and communication will be maintained in all future activities to be undertaken by the Secretariat (ICIMOD).

Agenda Item No. 3 Steering Committee

Prof. Chalise proposed that as recommended by the Regional Workshop (March 1996) and as

mentioned in the Draft Project Proposal prepared by Prof. M. F. Bari, the Membership of the Steering Committee of HKH-FRIEND should comprise of the following and be formalised.

Membership of the Steering Committee of HKH-FRIEND

Members

- Official Representatives of Regional Countries (Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan)
- UNESCO/IHP, ICIMOD, WMO
- German National IHP/OHP Committee, Federal Institute of Hydrology, Koblenz, Germany
- GRDC
- UK IHP National Committee (Institute of Hydrology)
- International Funding Agencies

Observers

- Representatives of participating institutions from Regional countries
- Related International Projects / Agencies
- Other FRIEND Groups

A brief discussion followed.

On the query of Dr. Chandio regarding the criteria of membership for the regional countries in the Steering Committee and sharing of data, Prof. Chalise recommended that membership should not be restricted even though some countries have not officially participated at this stage. Mr. Mandalia also said that every HKH country is a member although some had maintained continuity and others not.

Dr. Alan Gustard gave example of South African FRIEND where only six out of ten countries participated in FRIEND in the beginning, but kept the membership open to others. Those who joined the project were sharing each others' data and other countries were not allowed to share the data. Later on those countries which had not joined earlier also joined the group as they saw that FRIEND was indeed committed to water resources development within the community for a better world.

Prof. Chalise proposed that GRDC be given the status of the Member of the Steering Committee as a collaborating institution as it has been actively contributing in the growth of the HKH-FRIEND. All the members agreed to it unanimously.

Prof. Chalise also suggested that project co-ordinators should be invited to participate in the Steering Committee Meetings otherwise it might become a non-scientific forum.

It was unanimously agreed that all HKH countries will be members of the FRIEND Steering Committee and also the proposed list of other members and observers was approved unanimously.

Prof. Bari presented the proposed Terms of Reference (TOR) of the Steering Committee of HKH-FRIEND as contained in the Draft Project Proposal (please see Annex - III) and the TOR was accepted with minor alteration.

Mr. Yogacharya was proposed by Dr. W. Grabs as Chairman of the HKH-FRIEND Steering Committee and was unanimously elected for the next two years. It was also decided that the Chairmanship should rotate alphabetically (countrywise) every two years.

There was a Lunch Break after this.

i) Working Session II

This session was chaired by Prof. Ji Xuewu.

Agenda Item No. 4: Discussion on the Draft of the HKH-FRIEND Project Proposal (Annex - III)

Prof. M. F. Bari, who had prepared the Draft Project Proposal presented its salient features. His presentation was followed by detail discussions which is summarised below.

Mr. Yogacharya found the proposal ambitious and suggested to divide the activities into short term and long term plans. He also added that small projects should be given priority and implemented.

Dr. Parida suggested that latest analytical methods and techniques be given priority and not the techniques introduced decades before.

Prof. Bari replied that start should be made with the analysis of existing/available data and find the gaps and then go for appropriate instrumentation to fill these gaps.

Prof. Hofius commented that work of WMO was missing in the project background. WMO has carried out works on data collection and data quality and has prepared recommendations for numbering stations for data collection. He also suggested not to use the term IHP V in the document as the project might need support from other international programmes too. He recommended that there should be one paragraph on FRIEND and WMO like the one on FRIEND and UNESCO. He also pointed out the imbalances between the information given for the three countries in section 3 and suggested that it should be revised appropriately. He also suggested for more specific outputs for the HKH Region in section 6.4 of the draft proposal.

Dr. Grabs recommended for more specific and more scientific activities. He suggested a draft for Data exchange policy by members of the steering committee. He proposed a short training course related to each project/activity e.g. Water Quality and Snow & Glaciers. He recommended to identify specific benefits for HKH region to attract donors. **[Action : All Steering Committee Members/S.R. Chalise]**

Mr. Pokhrel suggested that organisational structure of the HKH Project should be more simple as neither all countries of the region were present in the meeting nor were participating completely in the FRIEND project.

Mr. Mandalia said that the project proposed by Dr. Bari was an ideal picture provided we had enough funds. If there was a shortage of funds it could be cut down. He added equipment supply was not the objective of the project.

Dr. Bashir Ahmad Chandio said that by establishing project secretariat and database at

ICIMOD, other countries were being ignored. The countries having large hydrological network data should host the regional database centre.

Prof. Chalise replied that ICIMOD had no objection if the Steering Committee decided to have the secretariat and database centre to be located somewhere else.

Dr. Parida suggested that it was easy for all countries to work at ICIMOD and it also had better GIS and other technical facilities.

It was finally decided by the Steering Committee unanimously that, as agreed upon previously, during the Regional Workshop in 1976, and as ICIMOD already had basic infrastructure, the secretariat and the Regional Database will be located at ICIMOD.

Dr. Grabs suggested to flatten the hierarchy of the project coordination and management, that what was suggested in the project proposal. He also suggested to decide the activities on short term and long term basis. He added that most of the project resources would be used within the participating countries, only minor share would go to the Secretariat. After resources become available, the Secretariat could be shifted to some other country.

Dr. Alan Gustard recommended to decide first about the activities and people who would implement them and then decide on the size of administration. He said if there was no activities there was no point in wasting time on administrative issues. He stressed that all of us would fail until we found work and people to do the project.

Prof. Thapa told that they have been working with data and using it for M.Sc. thesis research. He wanted to concentrate on new technologies/methods of data analysis.

Prof. Chalise recommended to divide the project activities into two parts:

- the activities which could be started immediately with out external grants; and
- the activities which needed support from donors.

Identification of Project Groups

As a result of the above discussions the following six groups for project activities were identified and all participating Members and Observers identified the Project Groups in which they wanted to belong to and contribute actively.

- Data base;
- Floods;
- Low flow studies;
- Rainfall-Runoff;
- River Water quality; and
- Snow and Glaciers

List of members of each Project Group is given in Annex - V

The members from IHP/OHP, Germany, GRDC, Germany and Institute of Hydrology, U.K. also identified activities from the above in which they could provide technical and financial support.

Prof. Chalise suggested the study of climate change on hydrology of the HKH.

Mr. Yogacharya informed that UNEP will help Nepal on climate change project for two years.

Dr. Grabs said climate change was a cross cutting issue for FRIEND.

Agenda Item No. 5: Responses from Participating Countries and Collaborating Institutions

Mr. Mustofa said that Bangladesh will participate in research projects without financial commitment. Similarly members from China, Pakistan and Nepal also expressed their willingness to participate in the activities of the project groups of their interest and extend their support within available means and resources.

The following collaborating institutions showed interest to provide support for the following groups.

- German IHP/OHP Committee Federal Institute of Hydrology, Koblenz, Germany: Floods and Water Quality Groups [**Action: Prof. K. Hofius**]
- GRDC : Database and Snow and Glacier Hydrology Groups [**Action: Dr. W. Grabs**]
- Institute of Hydrology, Wallingford, U.K.: Low Flow Group [**Action: Dr. A. Gustard**]

Dr. Alan Gustard also pointed out that graduate students may actively take part in HKH-FRIEND project and simultaneously they can complete their Thesis and Dissertation requirements. He told that European Union might provide funds for project supported/ recommended students.

Day-2 May 12, 1998

Working Session III

Prof. Hofius chaired this session.

Agenda Item No. 6: Presentation on FRIEND: Achievements and Lessons by Dr. Alan Gustard.

Dr. Alan Gustard made a presentation on FRIEND highlighting its achievements as well as lessons which could be useful for HKH-FRIEND. He suggested that while working in the field of hydrology political boundaries should be ignored. He also stressed on the importance of Strategic Research Development approach and careful selection of the project teams for the success of the project.

Dr. Gustard's presentation was followed by an animated discussion.

Dr Grabs suggested to set deadlines for activities to monitor progress.

Prof. Chalise suggested that the activities and issues be discussed in separate groups and then come back for general discussion.

Mr. Mandalia wanted to know about the structure of the database to which Dr. Alan Gustard responded by suggesting that it may be left to the project people. He also proposed that archives may be the starting point. Hydrological data available with the universities may also be used. He emphasised that acquiring data was more important.

Dr. Grabs warned that just acquiring indiscriminate data will be like building another graveyard of data. He recommended that only required data may be obtained. He also suggested that maps may also be included in data. He proposed that Global FRIEND report has two chapters on data base which might be referred as guidelines.

Agenda Item No. 7: Operational Aspects of HKH-FRIEND Project and its Activities

(a) PROJECT WORKING GROUPS

The Steering Committee Members and all the other participants were divided into the following six groups to chalkout short term plans, identify project convenors, country representatives and institutions for the already identified field project groups (Annex - V). The following participants made presentations after the deliberations on behalf of their groups.

i) Data base Group: Coordinator – Mr. Basanta Shrestha

Speaking on behalf of the Group, Mr. Basanta Shrestha said that the main objective of the group was to create the Regional Database Centre with provision for user services and data management as well as to provide advice to other HKH-FRIEND project groups on data related matters. To fulfil the objectives, the group felt that there should be policy level guidelines for which a Data Management and Information Committee should be formed in an ad-hoc basis immediately, for collaboration towards the establishment of the Regional Data Centre (RDC). The group felt that for database at country level, software such as Hydata, dBASE, Access, etc. should be used where as for Regional level it should opt for Oracle, Ingres, GIS/RS, etc.

Elaborating further for database requirements, Mr. Shrestha stressed that the Data acquisition will be based upon the core project requirements, and the overlapping needs and the specialised needs will

be defined and exchange mechanism will be via internet (where possible). The group also felt that for database administration, there will be need for additional funding, manpower, hardware/software, etc. **[Action: Mr. Basanta Shrestha]**

ii) Low Flow Group : Coordinator - Dr. B.P. Parida

Dr. Parida presented the Low Flow Group workplan. The time frame for the study would be two years and the objective will be to study a) Low Flow Index b) Low Flow Frequency over small to medium catchment area and the data requirements will be 5 to 10 years. **[Action: Dr. B.P. Parida]**

iii) Flood Group: Coordinator - Prof K.B. Thapa

The proposed workplan for the Floods Group was presented by Dr. Chandio. The study will be based upon what is available with basin size not more than 10,000 sq. km. The study basin must lie within the political boundary of the country and follow guidelines from WMO publication 1994. Each participating country should have a team leader within the country who chooses the basin within four months and collect different hydrometeorological data and based upon this the second stage project should be planned. **[Action: Prof. K.B. Thapa]**

iv) Snow and Glaciers Group: Coordinator - Mr. Adarsha P. Pokhrel

Mr. Pokhrel presented the Snow and Glacier group workplan whose objective would be the development of methodology to Estimate Snow and Glacier Melt Runoff for HKH Region. The method of analysis will be the use of GIS/RS techniques as an input to SMR as well as use of different models. The data requirements for the study will be 5 to 10 years. The span of time for the project was 3 years for which first year will be used to establish the communications within the group and review the literatures and second and third year will be used for real applications. **[Action Mr. A.P. Pokhrel]**

v) Rainfall-Runoff Group: Coordinator: Prof. Ji Xuewu

Dr. N.N. Shakya presented the workplan of the Rainfall – Runoff Group. The main objective of the Group will be to study flood forecasting which will be used for the design of water resources system. The group will start working with the existing watershed data and try to involve research students from Universities. The group will first review the literature and identify the catchments. **[Action: Prof. Ji Xuewu]**

vi) River Water Quality Group: Coordinator - Dr. Bashir A. Chandio

The workplan of the River Water Quality Group was presented by Prof. M.F. Bari. The group will first review the literature then select the site for study and identify the type of pollutants. In the next phase i.e. after four months, the group will come up with project proposal and the execution phase will be the second and third year. **[Action : Dr. Chandio]**

There was a Lunch break after these presentations.

The remaining part of the agenda was taken up after lunch and the session was continued with Dr. Hofius in the chair.

b) REGIONAL DATA CENTRE

It was decided that the Regional Data Centre will be located at ICIMOD for the time being. A draft for data base policy guidelines should be ready by the end of year 1998 for the considerations of Steering Committee.

Prof. Hofius advised that budget for the current year activities should also be prepared. **[Action: Basanta Shrestha/S.R. Chalise]**

Mr. L.A. Mandalia showed his interest to be a member of Database group.

c) PROJECT COORDINATION

Prof. Bari presented the organisational chart as proposed in the Draft Project Document.

Mr. Pokhrel suggested a modified Organisational Chart in which the hierarchy was flattened and an

Executive Secretary was proposed to take Care of the HKH-FRIEND Coordination and its Secretariat (Annex - VI). This was unanimously accepted.

Prof. Chalise was proposed as Executive Secretary of the HKH FRIEND Project by Mr. A. P. Pokhrel and was unanimously elected for a term of 3 years. Prof. Chalise suggested that the term should be reviewed after 2 years.

d) FUNDING

Prof. Bari presented the budget estimates for the HKH FRIEND Project base on the selection of two catchment per participating country. He also added that the catchments proposed in the proposal were subject to revision on the recommendation of participating countries.

Discussion

Dr. Gustard recommended that individual projects should prepare their own budget estimates.

Dr. Grabs said that HKH regional countries should contribute to start the project activities at the country level. This will also ensure additional external support.

Dr. Chandio suggested that there should be some mechanism for contribution by the countries and International Agencies.

Mr. Mandalia responded that UNESCO has already funded part of this meeting and may fund similar meeting in 1999. He could also take the HKH-FRIEND proposal to GEF for funding.

Dr. Hofius proposed to explore European Union for funding as it has funded similar project in Eastern Europe. He further added that required budget is about US\$ 1.000 million which is not a very large amount. He said his institute, IHP/OHP may contribute in kind.

Dr. Alan Gustard proposed revisions in the proposal document to make it more suitable from the

donors' perspectives. He suggested that details should be provided on participating countries, contributions by regional countries and commitments already made by different parties and supplemented by relevant maps.

Dr. Grabs suggested to link the proposed activities with the ongoing activities of the countries and show these as local contributions.

Dr. Chandio requested to accept the project document prepared by Prof. Bari in principle and wait for the details of budget from the Convenors of the proposed six project Groups.

Dr. Gustard emphasised that deliverables and benefits from the project must be clear. He also proposed that a two page summary of HKH-FRIEND documents should be prepared for the presentation to the potential donors for funding. [Action: **Dr. M.F. Bari/S.R. Chalise**]

Dr. Chandio proposed that the next meeting of the HKH-FRIEND Steering Committee should be held in Pakistan for which he assured that the Pakistan Council for Research in Water Resources would provide organisational and local support.

This was accepted unanimously. [Action: **Dr. Chandio/S.R. Chalise**]

Speaking from the chair Prof. Hofius expressed his satisfaction that the deliberations during the session were very fruitful and thanked all participants for their active contribution.

Concluding Session:

Dr. Chandio chaired this last session of the meeting.

It was decided that Prof. Bari will revise the project proposal in the light of above discussion and budget estimates to be provided by the co-ordinators of the six project groups.

The next Steering Committee was decided to be held in June, 1999 in Swat Valley, NWFP, Pakistan at the invitation of Dr. Chandio.

Dr. Chandio invited Prof. Bari to present his views on the revision of the project proposal.

Prof. Bari thanked all the people who assisted and co-operated with him during the project formulation process. He asked for further co-operation from Prof. Chalise, Mr. Mandalia, Dr. Grabs, and Dr. Gustard in revising the proposal. All of them agreed to help him. **[Action: M. F. Bari]**

Prof. Ji and Dr. Thapa thanked the organisers of the meeting on behalf of the participants and assured of their co-operation in future activities of HKH-FRIEND. Prof. Ji also mentioned that IHP/China was interested in HKH-FRIEND and will contribute some data.

Dr. Hofius assured the assistance of the German National Committee for IHP/OHP, Federal Institute of Hydrology to HKH-FRIEND for the next 4-5 years and expressed their willingness to share their experience from European-FRIEND. He also added that they will provide advice along with some financial help similar to UNESCO for workshops on Flood and Water Quality. He also thanked the Department of Hydrology and Meteorology (DHM) and ICIMOD for their hospitality.

Dr. Grabs was pleased that HKH-FRIEND was in operation. He thanked Prof. Bari for preparing proposal and Prof. Chalise for his continued support and inception of idea of HKH-FRIEND. He also thanked DHM, Nepal. He offered support in Database Management from GRDC.

Prof. Chalise thanked all the participants for their co-operation and hoped for continued support from the members and observers of the Steering Committee, the German IHP/OHP Committee, GRDC and IH, U.K. for HKH-FRIEND to enable him to fulfil the responsibility of the Executive Secretary.

Mr. Yogacharya, the Chairman of HKH-FRIEND said that Hydrology of the HKH has been discussed for more than a decade and he was pleased that HKH-FRIEND has now finally started. He called for continuity to make it sustainable.

Mr. Mandalia was pleased with the achievements of the meeting. He thanked ICIMOD for long

time support and also acknowledged technical and financial support from other international organisations. He thanked all the participants and looked forward to their support in future.

Dr. Chandio then invited Mr. Egbert Pelinck, Director General ICIMOD for his concluding remarks.

Mr. Egbert Pelinck apologised for his absence from the meeting as he was out in China. He cited a problem of low flows in one of the watershed of PARDYP in China where flow rate was ranging from as low as 0.09 cfs to as high as 3.00 cfs i.e. a variation of more than 30 times. He said that ICIMOD was committed to the issue of water for drinking, hydropower and irrigation, and that water was a priority issue for ICIMOD's next Regional Collaborative Programme (RCP-II) particularly in the context of poverty alleviation. He also added that water was like an engine for development. He further emphasised the importance of water for ICIMOD and pointed out that ICIMOD had mandates for the HKH region on:

- Research;
- Training;
- Information Exchange, and
- Advisory Services

He found that these were in line with the HKH-FRIEND mandate. He pointed out that ICIMOD was a relatively small centre compared to other international agencies and it worked in the region through national and international partner institutions. He was pleased to know that ICIMOD can rely on intellectual resources not only within the Region but also from outside of it such as the Federal Institute of Hydrology, GRDC and the Institute of Hydrology, U.K.

Mr. Pelinck also added that ICIMOD looked for intellectual as well as financial friends and through HKH-FRIEND it had also got emotional friends. He was also pleased to know that Prof. Chalise from ICIMOD was selected as Executive Secretary of FRIEND and he hoped to have still closer collaboration with, and continued support from, UNESCO. He expressed his happiness that Mr. Yogacharya is the Chairman from the neighbourhood. He looked forward to the next meeting of the HKH-FRIEND in Pakistan, where excellent hospitality was provided during the last meeting of

ICIMOD's Board of Governors and Support Group.

Mr. Yogacharya concluded the meeting with good wishes to all the participants.

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May 11-12, 1998

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May 11-12, 1998

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Programmes and Agenda for the First Meeting of the Hindu Kush-Himalayan FRIEND

Introduction

This report has been prepared for the First Meeting of the Hindu Kush-Himalayan Flow Regimes from International Experimental and Network Data (HKH-FRIEND) Group's Steering Committee to be held at ICIMOD Conference Room on May 11 and 12, 1998. Official nominees from IHP national committees of the HKH countries, viz. Afghanistan, Bangladesh, China, India, Myanmar, Nepal and Pakistan have been invited to participate in the Meeting. Other invitees to the Meeting are individual experts and representatives of various Regional institutions who were associated with the HKH – FRIEND initiatives in the past, viz. Department of Hydrology and Meteorology/HMG Nepal, Central Department of Hydrology and Meteorology and Department of Meteorology, Tribhuvan University, Kathmandu, Jawahar Lal Nehru University and Indian Institute of Technology, New Delhi. Representatives of collaborating institutions viz (i) WMO, (ii) the German National Committee for IHP/OHP, Federal Institute of Hydrology, Germany, (iii) Global Runoff Data Centre (GRDC), Germany (iv) Institute of Hydrology, U.K. (v) UNESCO/IHP, New Delhi, (vi) ICIMOD will also be participating in the meeting. The Steering Committee is expected to discuss on the Draft Project Proposal and decide on the proposed working groups for hydrological research and study as well as on the establishment of a Regional Database Centre for HKH-FRIEND.

**United Nations Educational, Scientific and Cultural Organisation
International Hydrological Programme**

International Centre for Integrated Mountain Development

German National Committee IHP/OHP
Federal Institute of Hydrology, Koblenz

**FIRST MEETING OF THE HINDU KUSH-HIMALAYAN
FLOW REGIMES FROM INTERNATIONAL EXPERIMENTAL NETWORKS I
(HKH-FRIEND)
STEERING COMMITTEE**

**ICIMOD Conference Room
Kathmandu, NEPAL**

Agenda and Programme for the Steering Committee Meeting

Day 1 : Monday, May 11, 1998

Opening Session

09:00 - 09:30 Registration

9:35	Welcome Address	:	Dr. Mahesh Banskota Acting Director General, ICIMOD
9:55	Background to the Meeting	:	Prof. S. R. Chalise, ICIMOD
9:45	Address by	:	Mr. L. A. Mandalia, UNESCO/IHP
10:05	Address by	:	Mr. Kiran Shankar Yogacharya Director General, HMG Nepal

10:15	Address by	:	Prof. K. Hofius, Secretary German IHP/OHP Committee
10:30	Address by	:	Dr. Alan Gustard, Institute of Hydrology Chairman, FRIEND Inter Group Coordinating Committee
10:40	Address by	:	Dr. W. E. Grabs, Head Global Runoff Data Centre, Koblenz
10:50	Vote of Thanks	:	Mr. Saleem A. Sial, ICIMOD
11:00	<i>Group Photo & Tea Break</i>		

Working Session I : 11:30 – 13:00 hrs

Chairperson : Kiran Shankar Yogacharya
 Rapporteurs : Rupak Rajbhandari/Saleem A. Sial

1. Adoption of the Agenda and Programme
2. Review of the progress since the 1996 Regional Workshop
 - Progress Report – L. A. Mandalia
 - Progress Report – S. R. Chalise
3. Steering Committee and its TOR
4. Discussions
5. Formalisation of the Steering Committee

13:00 – 14:00 Lunch Break

Working Session II : 14:30 – 17:00

Chairperson :
 Rapporteurs : Rupak Rajbhandari/Saleem A. Sial

Salient Features of the HKH-FRIEND project proposal – M. F. Bari

Responses from participatory countries

(Afghanistan, Bangladesh, China, India, Myanmar, Nepal and Pakistan)

15:45 – 16:00 Tea Break

Responses from Collaborating Institutions

(WMO, German IHP/OHP Committee, GRDC, Institute of Hydrology, U.K., UNESCO/IHI & ICIMOD)

Day 2 : Tuesday, May 12, 1998

Working Session III

Chairperson : K. Hofius

Rapporteurs : Rupak Rajbhandari/Saleem A. Sial

9:00 – 9:20 Presentation on FRIEND : Achievements and Lessons - Alan Gustard

9:20 – 9:30 Discussions

9:30 – 10:30 Operational Aspects of HKH-FRIEND Project and its Activities

- ◆ Project Working Groups and their subject areas
- ◆ Regional Database
- ◆ Regional co-ordination centre
- ◆ Funding

Discussions

10:30 – 11:00 Tea Break

11:00 – 13:00 Discussions (contd..)

13:00 – 14:00 Lunch Break

Working Session IV : 14:00 – 15:45

Discussions and Finalisation on the Implementation of Project Activities

Chairperson : Bashir A. Chandio

Rapporteurs : Rupak Rajbhandari/Saleem A. Sial

- ◆ Constitution of Project Working Groups and Elections of Group Conveners
- ◆ Guidelines for Regional Database Centre and Exchange of Data
- ◆ Funding and technical support : Response from participating countries, WMO, German IHP/OHP Committee, GRDC, Institute of Hydrology, UNESCO and ICIMOD.

Concluding Session : 16:00 – 17:00

Chairperson : Egbert Pelinck

Rapporteurs : Rupak Rajbhandari/Saleem A. Sial

Future Activities and Commitments : Bashir A. Chandio

Remarks by participants

- ◆ Date and Venue for the next Steering Committee Meeting
- ◆ Concluding Remark by the Chairperson

**18:30 Reception/Dinner hosted by Mr. Egbert Pelinck, Director General, ICIMOI
Hotel Himalaya.**

United Nations Educational, Scientific and Cultural Organisation

International Hydrological Programme V

HYDROLOGY AND WATER RESOURCES FOR SUSTAINABLE DEVELOPMENT IN A CHANGING ENVIRONMENT

Project 1.1: Application of methods of hydrological analysis using regional data sets

FRIEND Flow Regimes from International Experimental and Network Data Hindu Kush Himalayan Region

Proposal for a Regional Research Programme

Note : This proposal was discussed during the HKH-FRIEND Steering Committee Meeting on May 11-1998 and will be revised by Prof. M. F. Bari on the basis of the comments and suggestions received from the participants of the Steering Committee Meeting.

November 1997

Revised - March 1998

Table : Evolution of HKH-FRIEND*

Year	Event/Venue	Key Participants/Outcome
Dec 11-14, 1989	Regional Workshop: Hydrology of Mountainous Areas ♦ Kathmandu	<ul style="list-style-type: none"> • Regional Countries: BIN • Japan, Malaysia, Germany, Slovakia, U.I □ Constitution of <u>Regional Working Group</u> □ UNESCO/IHP-IV Project : Hydrology of Mountainous Areas
Oct 24-26, 1990	First Consultative Meeting of the RWG ♦ Kathmandu	<ul style="list-style-type: none"> • Regional Countries: BCINP • Japan, Germany • UNDP, FAO □ RENEWS (Proposed: Similar to FREN
Mar 16-18, 1992	Second Consultative Meeting of the RWG ♦ Kathmandu	<ul style="list-style-type: none"> • Regional Countries: BCINP • WMO, UNDP/Nepal • German IHP/OHP Committee • Japan □ Project Formulation (RENEWS)
Nov 23-25, 1993	Third RWG Meeting ♦ New Delhi	<ul style="list-style-type: none"> • Regional Countries: I • Canada, France, Norway (NORAD), • IDRC, GRDC, German IHP/OHP Commit WWF/India □ Regional Project WSM (Proposed)
Jul 18-20, 1995	Preparatory Meeting for FRIEND/HKH (Fourth RWG Meeting) ♦ New Delhi	<ul style="list-style-type: none"> • Regional Countries: ABCMN • German IHP/OHP □ FRIEND Type Project Outline □ Interim Working Comm./Interim Coordi
Mar 23-24, 1996	Regional Workshop HKH Hydrology (Fifth RWG Meeting) ♦ Kathmandu	<ul style="list-style-type: none"> • Regional Countries: AB (C) (I) MNP • Japan, Slovakia, U.K. • WMO, German IHP/OHP Committee, GR □ Launching of HKH – FRIEND

* UNESCO/IHP through UNESCO Regional Office, New Delhi and ICIMOD were co-organisers of all the events.

A: Afghanistan **B:** Bangladesh **C:** China **I:** India **M:** Myanmar **N:** Nepal **P:** Pakistan

() Unofficial Representatives from the Regional Countries

List of Members of the six Project Groups

- **Database**

Prof. M. F. Bari, BUET, Dhaka
 Prof. Ji Xuewu, YRC, Wuhan
 Dr. W. E. Grabs, GRDC, Koblenz
 Dr. Bashir A. Chandio, PCRWR, Islamabad
 Mr. K. G. Moustofa, JRC, Dhaka
 Mr. Chen Guiya, YRC, Wuhan
 Mr. Rupak Rajbhandari, TU, Kathmandu
 Mr. L. A. Mandalia, UNESCO, New Delhi
 Mr. Basanta Shrestha, ICIMOD
 Prof. S. R. Chalise, ICIMOD
 (Mr. Gwyn Rees, IH, UK)

* [Support from GRDC, Dr. Grabs]

- **Floods**

Prof. M. F. Bari, BUET, Dhaka
 Prof. Ji Xuewu, YRC, Wuhan
 Prof. K. B. Thapa, TU, Kathmandu
 Dr. B. P. Parida, IIT, Delhi
 Dr. N. M. Shaky, TU, Kathmandu
 Dr. Bashir A. Chandio, PCRWR, Islamabad
 Mr. K. G. Mustofa, JRC, Dhaka
 Mr. Chen Guiya, YRC, Wuhan
 Mr. Narendra Raj Khanal, TU, Kathmandu

* [Support from German IHP/OHP]

- **Low Flows**

Prof. M. F. Bari, Dhaka
 Dr. B. P. Parida, IIT, Delhi
 Dr. Alan Gustard, IH, Oxford
 Mr. Adarsha Pokhrel, DHM, Kathmandu
 Prof. S. R. Chalise, ICIMOD

- **Rainfall - Runoff**

Prof. Ji Xuewu, YRC, Wuhan
 Prof. K. B. Thapa, TU, Kathmandu
 Dr. N. M. Shakya, TU, Kathmandu
 Mr. Chen Guiya, YRC, Wuhan
 (Mr. D. Pradhanang, TU, Kathmandu)

- **River Water Quality**

Prof. M. F. Bari, BUET, Dhaka
 Dr. Bashir A. Chandio, PCRWR, Islamabad

* [Support from GermanIHP/OHP]

- **Snow and Glaciers**

Prof. K. B. Thapa, TU, Kathmandu
 Dr. N. M. Shakya, TU, Kathmandu
 Dr. Bashir A. Chandio, PCRWR, Islamabad
 Mr. A. P. Pokhrel, DHM, Kathmandu
 Mr. Rupak Rajbhandari, TU, Kathmandu
 Prof. S. R. Chalise, ICIMOD
 (Dr. Munir A. Bhatta)
 (Dr. S. I. Hasnain)

* [Support from GRDC, Dr. Grabs]

* [Support from Bavarian Academy of Sciences: Dr. L. Braun]

N.B. Names within the parenthesis were not present at the discussions but later expressed their willingness to join the group.

ACRONYMS

DHM	Department of Hydrology and Meteorology
FIGCC	FRIEND Inter-Group Coordinating Committee
FRIEND	Flow Regimes from International Experimental Network Data
GEF	Global Environmental Fund
GIS	Geographical Information Systems
GRDC	Global Runoff Data Centre
HKH	Hindu Kush-Himalaya(n)
ICIMOD	International Centre for Integrated Mountain Development
ICSI	International Commission on Snow and Ice
IHP	International Hydrological Programme
MNR	Mountain Natural Resources
NGO	Non Governmental Organisation
NWFP	North- West Frontier Province
PARDYP	People and Resource Dynamics Project
RCP	Regional Collaborative Programme
RDC	Regional Data Centre
SMR	Snowmwt runoff
TOR	Terms of Reference

UNESCO United Nations Educational Scientific and Cultural Organisation

UNEP United Nations Environmental Programme

WMO World Meteorological Organisation