World Meteorological Organization

Global Water Partnership

ASSOCIATED PROGRAMME ON FLOOD MANAGEMENT

ANNUAL REPORT
(2002-2003)

APFM Report No. 7

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1. INTRODUCTION

The Associated Programme on Flood Management (APFM), a joint initiative of the World Meteorological Organization (WMO) and the Global Water Partnership (GWP), promotes the concept of Integrated Flood Management (IFM), which is flood management within the context of integrated water resources management.

The Inception Phase of the project commenced in August 2001 and ended on 31 March 2002. The Inception Report, presented at the First APFM Steering Committee held in March 2002, covered the activities undertaken during the 8-month Inception Phase.

The Implementation Phase of the project commenced on 1 April 2002. This report, the first Annual Report of the project, documents the activities undertaken during the first year of implementation – i.e. from 1 April 2002 to 31 March 2003. The structure of the report reflects the key activities undertaken during the reporting period. The final section of the report lists the activities planned for the second year of implementation from April 2003 to March 2004.

2. ACTIVITIES

2.1 Concept paper on 'Integrated Flood Management (IFM)' and Economic Study

The Technical Support Unit (TSU) of the APFM commissioned Dr. Colin Green of the Flood Hazard Research Centre (FHRC), University of Middlesex, U.K., to compile a draft concept paper on Integrated Flood Management (IFM). The draft he provided was modified to reflect recommendations made at the Second Consultative Meeting held in November 2002 and the discussion/comments made during the Session on IFM held during the 3rd World Water Forum (WWF3) in Kyoto in March 2003. A summary of the Concept Paper is included under Annex 1.

Dr. Green was also commissioned to undertake a study on the economic aspects of IFM. The study titled 'Making Better Choices: the Role of Economics in Integrated Flood Management' was modified based on comments made at the Second Consultative Meeting. A summary of the study is included under Annex 2.

2.2 Development of a Reference Centre

During the past year, activities aimed at developing a reference centre on flood management consisted of the development and extension of the APFM web page, the production of electronic newsletters, and the production of publicity material such as the APFM brochure and poster.

2.2.1 APFM web site (http://www.wmo.ch/apfm)

The APFM web site is the main medium for exchanging information on project activities. As the project developed, a number of links have been included to provide viewers with updates on on-going activities, and to direct viewers to the web sites of project partners, to data holders and other organizations active in the field of flood management.

Figure 1 depicts the home page of the APFM web site.

Figure 1: APFM Home Page

Viewers can also access the APFM's contact database of 'Organizations involved in flood management throughout the world' by clicking on the link 'Institutions dealing with flood management'. The database was created based on the feedback received to a questionnaire sent out to all WMO Members, the GWP Secretariat, UNESCO and UNISDR during the inception phase of the APFM. The questionnaire has been posted on the web page inviting users to provide their contact information if they are involved in flood management activities and would like to be included in the contact database (see Figure 2). The database can be viewed either by country or as a whole.

2.2.2 APFM Newsletters

The newsletters serve to briefly introduce the activities carried out by the project during the preceding six-month period and to highlight future planned activities. The newsletter is sent electronically to all contacts on the APFM contact database with access to e-mail facilities. Two newsletters were produced during the last year: the first in June 2002; and the second in December 2002. The newsletters can be viewed under the 'News' link of the APFM web page.

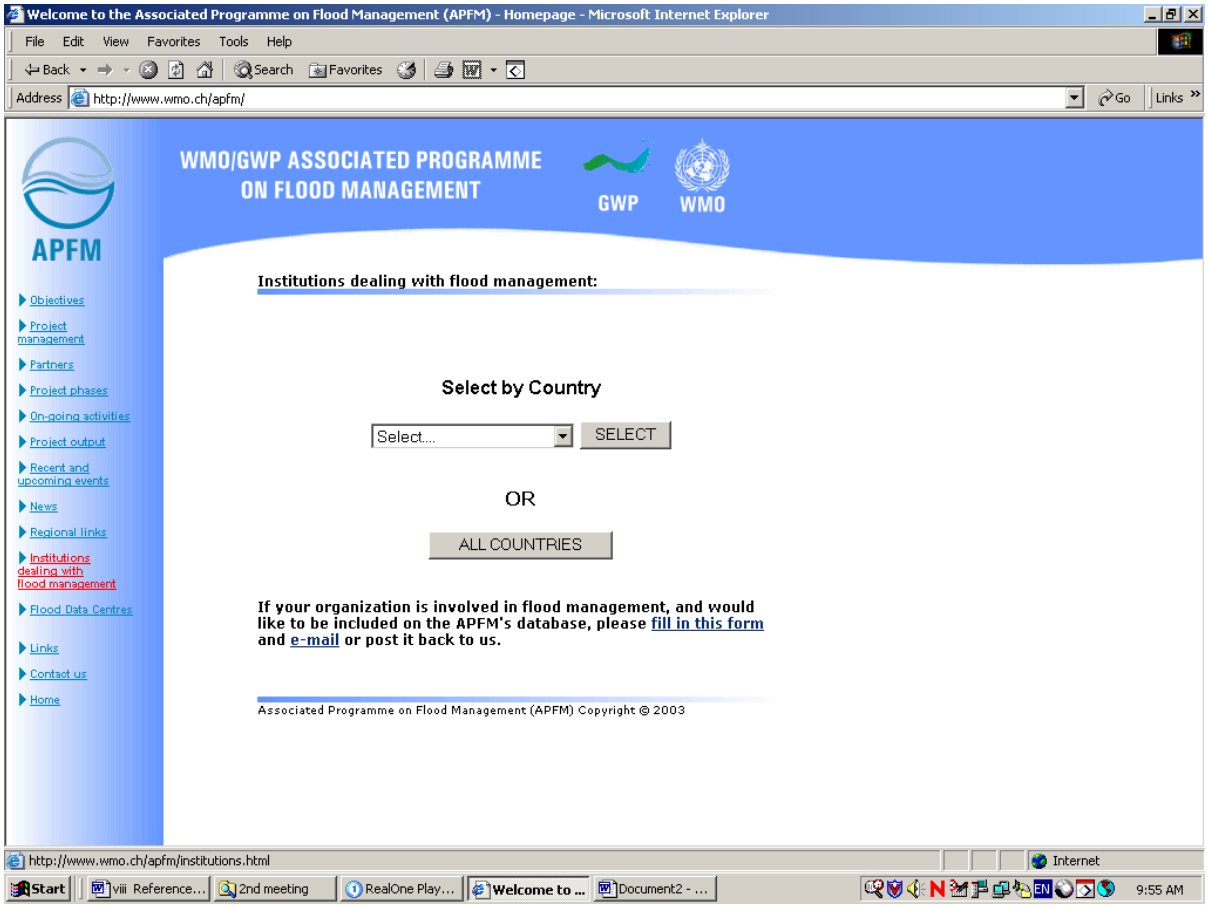

Figure 2: Query Form for the Flood Management Database

2.2.3 APFM Brochure

The APFM brochure briefly introduces the concept of Integrated Flood Management, the goal and objectives of the APFM, its activities, its method of functioning and its expected deliverables. The brochure was first produced in English, French and Spanish in October 2002. A Japanese translation of the brochure was later produced in March 2003 for distribution at the 3rd World Water Forum in Kyoto, Japan. The English, French and Spanish versions of the brochure can be viewed on the homepage of the APFM web site.

2.2.4 APFM poster

The APFM poster was produced in August 2002 based on an initial poster prepared by the GWP in 2001. The poster was printed in two sizes: in poster size; and in A3 size. The poster was displayed at the Water Dome of the World Summit on Sustainable Development in Johannesburg in September 2002 and at the APFM booth during the 3rd World Water Forum in Kyoto in March 2003.

2.3 Compilation of good practices/lessons learned in Integrated Flood Management (IFM)

2.3.1 Collection of case studies

The Technical Support Unit (TSU) of the APFM identified some institutions and individuals active in flood management in various countries and requested them to compile case studies on integrated flood management. The objectives of the exercise were to identify whether or not flood management has

been and is carried out within the context of integrated water resources management; and to extract lessons learned and good practices in applying IFM.

The prospective authors were sent guidelines (see Annex 3) for the preparation of the case studies. To date, eleven case studies have been received and approximately six more are being prepared. As only a limited number of case studies had been collected, a "call for case studies" was included on the APFM web page inviting people to share their experiences in the application of IFM in a bid to expand the range of good practices/lessons learned.

2.3.2 Synthesis of the case studies

Presently, eight case studies have been reviewed and synthesized by the TSU. See Annex 4 for an example of a synthesized case study. A matrix, in the form of a checklist, was created to identify how each case study dealt with IFM. See Annex 5 for the matrix. The matrix provides at a glance the extent to which IFM aspects are being addressed.

A direct outcome of the review process was the identification of the following "aspects" of IFM:

- Managing the whole water cycle
- Land and water management
- Cross-sectoral integration
- Stakeholder involvement in decision-making

When applying integrated flood management the following conditions need to be fulfilled:

- Effective use of floodwater or "positive" aspects of floods
- Multi-functional solutions
- Community-based approach
- Tools to support decision-making (e.g. analysis of the economics of flood management)
- Effective linkage between existing institutions
- Free and open exchange of data
- Best-mix of structural and non-structural measures

The list is not exhaustive as, based on the outcome of pilot projects and new case studies, new "aspects" of integrated flood management could be identified. It is interesting to note, however, that none of the case studies received so far described instances in which all the above aspects had been incorporated in flood management policy and implementation. Based on the case studies, it can be concluded that IFM is apparently not practised in the countries/regions covered by the studies. Yet, the case studies provide ideal situation analyses that showcase current flood management thinking, practices and the existing institutional setup for the implementation of flood management policy. Careful review of the studies could reveal the crucial “What could be done to better the current situation” factor and also serve to indicate the need to advocate the case for IFM to be taken up by flood managers and policy makers.

2.3.3 Synopses of cases studies

Synopses of the case studies (Annex 6) were produced to extract the essence of each case study. Among the points considered when preparing the synopses are: a brief description of flood management practice in the location in question; the relevance of the case study to the various “aspects” of IFM; and the potential for the practices mentioned in the case studies to be replicated in other locations.

In view of the lukewarm response for the preparation of case studies, a decision was taken to increase the financial support provided to case study authors as it was felt that the existing support was probably insufficient to even meet the costs of secretarial assistance and the time and effort the authors required for the preparation of a case study that would conform to the guidelines sent to them. If upon completion of an internal review, it is felt that additional information is needed to improve the existing case studies, the respective authors will be requested to send such information.

2.4 Development of regional programmes

After the First Steering Committee meeting in March 2002, the TSU tried to establish links with GWP regional counterparts in order to elaborate on the project idea and the plan of activities for the current fiscal year together with required budget estimation, etc. However, there was much to be desired in the level of communication that could be achieved with the regions except in the case of SASTAC and SAMTAC. The reasons for the lack of communication were not clear but it needs to be stated that the TSU did, on many occasions, attempt to revive contact with the regions albeit with no satisfactory result.

During the year 2002/2003, the South Asian Technical Advisory Committee (SASTAC) carried out a preliminary study named "Community approach to flood management" which aims to boost local communities' self-help capacities to cope with floods. The South American Technical Advisory Committee (SAMTAC) held a series of flood-related workshops in several countries to share the knowledge of flood management targeting city areas. The results of both activities were presented at the WWF3.

2.4.1 South Asia (SASTAC)

Background

The first project proposal on "Joint activities to reduce flood vulnerability in South Asia" had been submitted to the APFM by SASTAC operating through the Bangladesh Water Partnership in December 2000. Based on the comments made at the First Coordination Meeting in November 2001, a revised project proposal was sent to the TSU in December 2001. It appeared difficult to get full support for individual funding for all the five SASTAC countries to implement this project proposal because of the amount of funds needed etc. Therefore, at the First Steering Committee meeting in March 2002 SASTAC was encouraged to draw up plans for phased implementation, with the expectation of receiving some support from the APFM for a pilot project.

As a formal start with the SASTAC pilot project, a kick-off meeting was organized by Bangladesh Unnayan Parishad (BUP), the SASTAC project driver, from 6-7 November 2002 in Dhaka, Bangladesh with representatives of the South Asian Country Water Partnerships of Bangladesh, India and Nepal. TSU was also represented. On the suggestion of TSU, and taking into consideration the resources available for a pilot project, participants decided to launch a pilot project on 'Community Approaches to Flood Management'. The project would emphasize the importance of reducing vulnerability and incorporating people's knowledge/experience in facing the challenges posed by incessant flooding.

A preliminary Logical Framework had been developed and agreed upon by the country representatives with the understanding that the full project proposal would be revised to reflect these pragmatic changes in the approach and scope of the project. The intention being that tangible results useful for the communities engaged in the project needed to be achieved as the outcome of the project. Based on discussions during this kick-off meeting, the project proposal was revised to fit into the framework of IFM and within the scope of available resources. Consequently, the pilot project on Community Approaches to Flood Management in South Asia is expected to be implemented as a part of the APFM for South Asia involving countries representing the Eastern Himalayan region: Bangladesh, India and

Nepal. The objective of the project is to reduce flood vulnerability in South Asia with a particular emphasis on enhancing people-centred activities and measures towards flood management within the general framework of IWRM on the level of communities and including their interaction with district-level government authorities.

The pilot project proposal submitted for consideration of the Steering Committee was developed on the basis of the fully revised project proposal as of December 2001. The pilot project is formulated as a stand-alone component of the full project proposal, which is hoped to implement once funding can be secured.

The Country Water Partnerships (CWPs) of Bangladesh, India and Nepal have selected altogether seven communities representing different flood management problems and ethnic groups. As a first phase aimed at obtaining intermediate results up to March 2003, and with a view to generating the knowledge base for the project, Country Study Teams (CST) commenced activities with a view to complete preliminary research on community approaches to flood management supported by APFM funds and secondary sources. These studies were supplemented with Participatory Rapid Appraisals (PRAs), Focus Group Discussions (FGDs) and interviews of Key Informants.

In March 2003, a Regional Synthesis Report, including the preliminary findings of the CSTs, was prepared and submitted to TSU. The findings of the CSTs were also presented at the IFM Session during the WWF3. The key issues related to community approaches to flood management in the Ganges-Brahmaputra-Meghna area as identified by the study include:

- The existing level of flood forecasting and warning and information dissemination is inadequate.
- Communities depend to a large extent on traditional knowledge and experience for flood preparedness
- Assistance provided by agencies outside the local community is often inadequate and inequitable.
- Communities are conscious of the need to adopt measures to reduce vulnerability to floods that destroy crops, cattle and lives
- Community participation and mobilization in activities such as evacuation, flood proofing, food storage and livestock protection is essential.

2.4.2 South America (SAMTAC)

The first pilot project on Integrated Flood Management (IFM) started in South America in September 2002. This project is being developed in the basin of the River Cuareim/Quarai, which is a sub-basin of La Plata River Basin and is shared between Brazil and Uruguay. The National Directorate of Hydrography (DNH), which is the water authority of Uruguay, and the Institute of Hydraulic Research (IPH) of the Federal University of Rio Grande do Sul, the Brazilian state in which the basin is located, have been involved from the beginning of the project. The objective of the project is to promote the concept of IFM. It is expected that the project will be an example to be followed by the countries of La Plata River Basin (Argentina, Bolivia, Brazil, Paraguay and Uruguay) and also by other countries.

In October 2002, DNH and IPH organized the first coordination meeting of the pilot project. A small group of experts from both institutions had the opportunity to interchange information on the basin - prepared within the framework of the pilot project. The group agreed on future phases of the project. At a workshop held from 2-3 December 2002 in Porto Alegre, Brazil, to draw up the terms of reference for the project, it was decided that the local authorities and the Joint Technical Commission of the River Cuareim/ Quarai would also be involved in implementing the project. In order to define and agree on the terms of reference for the second phase of the pilot project, the relevant institutions from both countries were invited to participate in the workshop.

In early 2003, the TSU discussed the terms of reference and the proposed budget. In a bid to ensure the sustainability of the project, it was decided to request DNH and IPH to make the necessary

arrangements for the Uruguayan Water Authority and at least one Water Authority of Brazil (at regional or federal level) to send letters to the TSU stating that they undertook to implement the results of the pilot project. The letters were awaited as of 31 March 2003.

2.4.3 Central America (CATAC)

TSU approved a mission of the representative of the Central American TAC (CATAC) to Nicaragua and to Honduras. The objective of the mission was to discuss with experts and authorities of these two countries the development of a pilot project on IFM for the River Negro Basin. The mission was postponed beyond the reporting period.

2.4.4 Southern Africa (SATAC)

During the period under review, the TSU requested GWP Southern Africa (SATAC) to present proposals for a regional pilot project. However, despite many reminders, no proposal was forthcoming. In accordance with the decision made at the First APFM Steering Committee Meeting, that endorsed the initiation of regional activities through regular WMO channels if the GWP regional contacts were not active, TSU requested Dr Datius Rutashobya (President of the Commission for Hydrology and a representative of the Ministry of Water, Energy and Minerals of Tanzania) to explore the possibility of commencing a pilot project in the region.

Dr Rutashobya presented a project idea to the TSU to initiate a pilot project in a flood-prone location in the Shinyanga region of Tanzania. The project idea looked at the possibility of introducing integrated flood management practices to an area in which paddy cultivation is carried out. Floodwater is used in the region for recession rice cultivation. However, during certain flood seasons, flooding becomes too severe and the depth of floodwater destroys the crop. On the other hand, during the dry season, water scarcity prevails. The proposal is to store the excess floodwater during the flood season so that paddy cultivation can be carried out during the dry season. TSU requested Dr Rutashobya to visit the region to obtain detailed baseline data prior to formalizing the project proposal. The baseline data will include hydrological studies of the basin under consideration, demographic data and socio-economic data.

2.4.5 Central and Eastern Europe (CEETAC)

TSU participated in a study conducted by the Japanese Ministry of Land, Infrastructure and Transport and the Japanese Society of Civil Engineers of the severe floods that hit Central and Eastern Europe in August 2002. As a direct output of the study, TSU was able to initiate APFM activities in the region in collaboration with the Central European Technical Advisory Committee (CEETAC). First a "Call for Cooperation" was sent to representatives of the National Hydrological Services in the respective countries of the region.

In the meantime, a draft proposal on "General Public Flood Awareness Upholding" has been prepared by CEETAC. The material was sent to the contact persons or to the National Hydrological Service representatives. In responce to this, Czech republic and Romania sent short reports on recent floods.

The basic concept in the proposal is to prepare posters for advocating IFM as a first step, which would be extended to cover local communities for building awareness. A series of workshops could also be organized in the different countries involved at local level with various stakeholders to discuss the content of the posters and adapt it, if needed, to local specific conditions.

2.5 Establishing linkages

The Second Consultative Meeting of the APFM was held from 4-6 November 2002 at which the following institutions, active in various aspects of flood management, participated:

(a) Association of State Flood Plain Managers (ASFPM)
(b) Flood Hazard Research Centre (FHRC)
(c) Gender and Water Alliance (GWA)
(d) International Human Dimensions Programme for Global Environmental Change
(e) Parrett Catchment Project (PCP)

The primary objective of the meeting was to identify opportunities for the APFM to collaborate with these institutions. See Appendix 1 for the report of the meeting.

2.5.1 Association of State Flood Plain Managers (ASFPM)

The Association of State Flood Plain Managers, based in the U.S.A., was established in 1977 and comprises of more than 6000 professionals involved in floodplain management, flood hazard mitigation, flood preparedness, flood warning and recovery. The Association is charged with the mission of mitigating the losses, costs and human suffering caused by flooding and promoting the wise use and the beneficial functions of floodplains. The following actions were taken as a follow-up to the Second Consultative Meeting:

1. The ASFPM submitted a case study on flood management in the U.S.A. focusing on the 'No Adverse Impact' policy advocated by them.
2. On the invitation of TSU, the ASFPM made a presentation on its flood management activities in the U.S.A. at the IFM Session during the 3rd World Water Forum.
3. Newsletters and pamphlets on the ASFPM were displayed at the APFM display booth at the Event Tent of the 3rd World Water Forum in Kyoto.
4. The TSU was represented at the ASFPM's Annual Conference held from 11 to 16 May 2003. The Conference provided a good opportunity to introduce APFM's activities to flood managers in the U.S.A. The ASFPM promised to provide further case studies that may fit into the context of IFM.

2.5.2 Flood Hazard Research Centre (FHRC)

The Flood Hazard Research Centre is a centre of expertise on the socio-economic assessment of flood management options. Given this expertise, the services of the Centre were extensively utilized for the development of the IFM Concept Paper and the Economic Study on 'Making choices: the role of economics in integrated flood management'. On the invitation of TSU, the FHRC made a presentation based on the economic aspects of flood management at the Session on IFM at the 3rd World Water Forum in Kyoto (WWF3). Posters and a publication on the work of the FHRC were displayed at the APFM display booth at the Event Tent of the WWF3.

2.5.3 Gender and Water Alliance (GWA)

Recognizing the role the Gender and Water Alliance - an Associated Programme of the Global Water Partnership - has been playing in mainstreaming gender in integrated water resources management and planning, the TSU decided to collaborate with the GWA. The following actions were taken as a follow-up to the Second Consultative Meeting:

1. GWA input was obtained to mainstream the concept of gender in the Concept Paper on Integrated Flood Management.

2. At the request of the TSU, the GWA nominated two gender specialists to attend the River Cuareim/Quarai Basin Pilot Project workshop held from 2-3 December 2002 in Porto Alegre, Brazil. The GWA has also offered to extend financial support to this pilot project.
3. The GWA reviewed the APFM case study guidelines and incorporated gender elements wherever appropriate.

2.5.4 International Human Dimensions Programme for Global Environmental Change (IHDP)

The International Human Dimensions Programme for Global Environmental Change (IHDP) is an international, non-governmental and interdisciplinary research programme founded by the International Council for Science (ICSU) and the International Social Science Council (ISSC) in 1996. The IHDP does not have many activities in which IFM is the major focus. However, there are some cross cutting themes and research projects of relevance to the IFM concept. IHDP researchers could provide input on the additional uncertainties, related to flood frequency and intensity, stemming from climate change and land use changes. IHDP could become involved in pilot projects – to incorporate the concept of global change – if such projects are initiated in Southern Africa and Central America. APFM will sensitize its partners and contacts on the work of IHDP.

2.5.5 Parrett Catchment Project (PCP)

The Parrett Catchment Project (PCP) is a broad based partnership whose long-term goal is to develop a sustainable approach to land and water management that benefits the economic, social and cultural life of the inhabitants of the Parrett Catchment in Somerset, U.K., and conserves and enhances the environment of the area.

As the objectives and activities of the PCP were very relevant to the concept of IFM, the TSU sought for avenues of collaboration with the PCP. The following actions were taken as a follow-up to the 2nd Consultative Meeting:

1. On the invitation of TSU, the PCP made a presentation based on its flood management activities in the Somerset Levels and Moors during the IFM Session at the 3rd World Water Forum.
2. The PCP agreed to prepare a case study focusing on stakeholder participation in integrated flood management, and to provide regular updates to the case study as the project develops.
3. Panels, booklets and newsletters depicting the work of the PCP were displayed at the APFM display booth at the Event Tent of the 3rd World Water Forum in Kyoto.

2.6 Contact data holders

The APFM does not have the mandate to create or manage databases on past floods. However, land use planners, policy makers, etc., need such information. Therefore, one of the activities planned for the Implementation Phase of the APFM was the establishment of contact with institutions maintaining comprehensive data sets on past flood events. The TSU established contact with two such institutions: the Centre for Research on the Epidemiology of Disasters (CRED) and the Dartmouth Flood Observatory (DFO).

2.6.1 Centre for Research on the Epidemiology of Disasters (CRED)

Since 1988 the WHO Collaborating Centre for Research on the Epidemiology of Disasters (CRED) has been maintaining an Emergency Events Database (EM-DAT). The main objective of the database is to facilitate disaster preparedness and improve disaster management by making available specialized and validated datasets on disasters. The EM-DAT contains essential core data on the occurrence and effects of over 12800 disasters around the world from 1900 to the present. Sources for the database include UN agencies, non-governmental organizations, insurance companies, research institutes and

press agencies. The database can be accessed, and data downloaded freely, via the Internet at http://www.cred.be/emdat. Users just need to quote the source if they intend to use the data in a publication.

Members of the TSU met the Director of CRED, Dr. D. Guha-Sapir, during a workshop on "Linking Climate and Disaster Databases" held at the WMO Secretariat in September 2002. Informal discussions were held with Dr. Guha-Sapir on the content and scope of the CRED database, and on the possibilities for mutual collaboration. Following the discussion, it was agreed that CRED would carry out a bibliographical search for documents related to integrated flood management in its archive of unprinted material on emergency management; and that APFM would convey the request of CRED for verified information/data on various hydrological parameters, of the recorded natural hazards that caused disasters in the past, to the Hydrology and Water Resources Department of WMO.

CRED sent the TSU the results of the bibliographical search. Unfortunately, the documents available at CRED did not cover the subject of integrated flood management. The request of CRED for data on hydrological parameters was conveyed to the HWR Department. A link to the CRED web page was included in the APFM web page under the link 'Flood Data Centers'.

2.6.2 Dartmouth Flood Observatory (DFO)

The Dartmouth Flood Observatory was set up with NASA grant support, at the Department of Geography, Dartmouth College, New Hampshire, U.S.A. soon after the Mississippi Floods of 1993. One of the first tasks of the observatory was to study and map the 1993 floods using available satellite imagery. Using NASA satellite technology – mostly MODIS and Quikscat imagery – the DFO currently maps floods as they occur worldwide. It also measures and identifies changes in surface wetness wherever possible. The observatory's work over the years has resulted in a global archive of flood events and global map of flood hazards. Annex 8 provides a list of the products produced by DFO. The global archive of flood events and flood hazard maps can be freely accessed at the DFO's web page at http://www.dartmouth.edu/artsci/geog/floods/.

The TSU organized a visit to the DFO in November 2002 to obtain detailed information on the extent and scope of its flood archive and to identify possibilities for cooperation with the APFM. Discussions were held with the Principal Investigator of the Observatory, Dr. Bob Brakenridge, and two postgraduate research assistants working for the Observatory. During the visit, it was agree that APFM would include a link to the DFO in its web page, explore the possibility of publishing a "Flood Atlas"- both in electronic and printed form - in collaboration with the DFO, and advise DFO on where it can obtain precipitation data sets. At the same time DFO would cite APFM as one of its end-uses in its project documentation and provide assistance to the APFM pilot projects:

A representative from DFO visited the WMO to present their plans for a "World Atlas of Large Flood Events" to the Hydrology and Water Resources (HWR) Department. The HWR Department requested further clarifications on issues such as the target group of the proposed atlas and the geographical coverage and scale of the data to be used for the atlas. The DFO has also been requested to provide the preliminary results the user survey initiated through its web page. Upon receipt of the clarifications and the survey results, a decision will be taken on whether or not APFM will support the production of the flood atlas. A link to DFO was included under the link 'Flood Data Centres' on the APFM web page

2.6.3 Involvement in the activities of the Inter-Agency Task Force (IATF) on Disaster Reduction

The UN General Assembly, through resolutions 54/219 and 56/195 adopted in 1999, established the Inter-Agency Task Force for Disaster Reduction to serve as the main forum within the United Nations system for devising strategies and policies for the reduction of natural hazards; to identify gaps in disaster reduction policies and programmes and recommend remedial action; to provide policy

guidance to the Secretariat of the International Strategy for Disaster Reduction; and to convene ad hoc meetings of experts on issues related to disaster reduction.

The Task Force has four working groups (WGs): WG1 on climate and disasters; WG2 on early warning; WG3 on risk, vulnerability and impact assessment; and WG4 on wild land fires. The work of WG1, chaired by WMO, focuses on the availability of climate information relating to disasters and the use of such information by decision-makers for disaster risk management purposes. The work of WG3, chaired by UNDP, has taken initiatives to improve the consistency, coverage and quality of existing databases on disaster occurrence and impact.

In view of the complementary objectives of the two working groups, a collaborative effort to improve risk communication through the correlation of climate and disaster databases was initiated so that the two types of database can be easily cross-referenced for the benefit of the users. The objective of the initiative is relevant to APFM's activities. Therefore, it was decided that the TSU would follow the activities of the initiative. As a first step, the TSU participated in the workshop on "Linking Disaster and Climate Databases" held from 19-20 September 2002 at the WMO Secretariat.

2.7 Study of the European floods of August 2002

In August 2002, catastrophic floods hit central and eastern Europe including Germany and the Czech Republic. Following these flood disasters, the Japanese Ministry of Land, Infrastructure and Transport (MLIT) and the Japan Society of Civil Engineers (JSCE) organized a joint study team to visit the relevant organizations of the flood-stricken countries under the overall leadership of the Japan Institute of Construction Engineering (JICE). Ms Chie Yoshimura represented the TSU on the study team.

It seems that elements of Integrated Flood Management were missing in overall floods management plans. Based on the lessons learned the countries, which suffered the catastrophic flood damage, are moving towards adopting integrated approach to flood management, especially through cross-sectoral integration, integration of land and water management, free and open exchange of data and the adoption of multi-functional solutions. Tools to support decision-making are also being developed. The report of the study is given in Annex 7.

The results of the study were reported at a session under Flood Group at the 3rd World Water Forum. The German government has been requested to prepare a case study that will take this disaster into consideration for the benefit of APFM.

2.8 Participation at the 3rd World Water Forum in Kyoto (16-23 March 2003)

2.8.1 Beginning of coordination activities by TSU

At the first APFM Steering Committee Meeting, held in Washington D.C. in March 2002, Mr Inoue, Deputy Director of River Planning Div., Ministry of Land, Infrastructure and Transport (MLIT), Japan, and Mr Kikuchi, Director General, Water in Rivers Secretariat (WinRs) introduced the following two issues related to WWF3.

(i) Coordination of flood sessions towards WWF3
In a bid to prevent duplication of effort, it was felt that there was a strong need to coordinate all flood-related sessions to be convened at the WWF3. The Water in Rivers Secretariat (WinRS) was ready to take on the overall responsibility for coordinating the sessions and WMO/APFM was requested to cooperate with WinRS in this matter.

~~It was expressed that it would not be desirable that the flood-related sessions planned to hold at WWF3 are convened independently without any coordination, since there may be lots of unfavourable consequences (e.g. duplication of discussions on the same topics, many conflicting ideas to flood management). Therefore, some form of coordination over flood-related sessions appears necessary. The WinR Secretariat took the responsibilities in this respect, while WMO/APFM was requested to cooperate with WinRs and to take this leading role in flood-related activities.~~

(ii) International Network on Floods

It was felt that the following flood-related issues needed to be addressed:

(a) Absence of a platform for the free and open exchange of flood related information

(b) Floods have not been seriously taken into consideration in the international water agenda

(c) Some form of follow-up function may be required to monitor/develop the flood-related outputs produced at WWF3 through to WWF4.

It was recognized that some form of international flood-related network was needed to address the above issues. Japan expressed willingness to be responsible for the activities leading to the establishment of such a network and expressed the hope that WMO would provide assistance in this process.

The above views were well received by the Steering Committee. The Committee also agreed that a meeting to discuss the above subjects should be held very soon – preferably in The Hague in May 2002 back-to-back with the Donor Meeting being planned by WWF3 Secretariat. Dr A. Askew, former director of Hydrology and Water Resource Department, WMO, was requested to chair this meeting.

2.8.2 The 1st Preparatory Meeting

The 1st preparatory meeting was held in The Hague on 20 and 21 May 2002. A representative range of donors and potential session conveners, including Mr Hiroki of WWF3S, attended the meeting. Dr A. Askew chaired the meeting. APFM and WinRS jointly prepared the report of the meeting.

Coordination of the flood related sessions

The meeting reviewed 55 session proposals that appeared to be related to cover the subject of floods. Eleven out of the 55 were selected as clearly addressing the flood issue and were categorized the the "Flood group sessions". It was also felt that 4 other proposals might have some link with the flood group sessions.

In order to avoid overlapping discussions, and to make full use of available resources, it was recommended sessions covering the same basic concept be sub-categorized and synthesized. Thus, all the selected sessions were sub-categorized under categories such as "poverty and floods" and "floods in megacities".

It was decided that the flood group session would consist of: an opening plenary; parallel sessions; and a closing plenary.

~~The 1st preparatory meeting was held in The Hague on 20 and 21 May 2002. The meeting was attended by a representative range of members both from donors and expected session conveners, including Mr Hiroki of WWF3 Secretariat. WMO and WinRS jointly prepared the report of the meeting. A number of opinions were exchanged in the meeting and various ideas expressed. WinRs later passed some of these to the WWF3s. This approach, taken by the flood group, became a model to other groups.~~

~~***Coordination of the flood related sessions***~~

~~Information on 55 session proposals that seemed to be related to floods was passed by the WWF3S, which were reviewed in the meeting. As a result, 11 sessions out of 55 were recognized as~~

~~having close relationship with floods so that they will fall under the flood group. Also it was recognized that 4 other proposals might need to have some linkages between flood group sessions.~~

~~It was recommended that similar sessions carrying the same basic concept be sub-categorized and synthesized so as to avoid overlapping discussions and to make full use of available resources. Contents of many proposed sessions were similar and were sub-categorized such as "poverty and floods" and "floods in mega cities".~~

~~For the logistic convenience of the forum participant's, it was desired that flood session rooms are block-booked and was made possible.~~

~~Structure of flood group session was agreed upon to include Opening plenary -> parallel sessions -> Closing plenary and was adopted by various other themes of WWF3.~~

Activities for establishment of an International Flood Network (IFNet)

The proposal for establishing an International Flood Network (IFNet) was introduced publicly for the first time at the 1st Preparatory Meeting. The need, the purpose, etc., for the network was explained and discussed. Participants welcomed the proposal.

Key issues raised:

- There needs to be long-term support to maintain the network once it is established
- Positive participation by members in terms of providing useful flood-related information is essential
- The function of following-up the results of WWF3 until WWF4 is of critical importance.

Similarities and differences between the APFM and IFNet include:

(i) The principal goal of APFM is to promote flood management within the context of Integrated Water Resource Management, while the goal of IFNet will be to provide the platform for the exchange of flood-related information

(ii) APFM does not and will not play a lead role in bringing flood issues high on the international agenda

(iii) While the project period of APFM is planned to extend probably at least until March 2006, IFNet is planned as a longer-term activity.

~~This was the first occasion where the idea of establishing international flood network was introduced publicly. The need, the purpose, etc., for the network was explained and discussed by the participants which was welcomed by the meeting.~~

~~Principal comments were;~~

~~-There is need for a long-term continuous support to maintain IFNet function once it is established,~~

~~-Active participation by members in terms of providing useful flood-related information is essential,~~

~~-Follow-up action on the results of WWF3 through to WWF4 is of critical importance.~~

~~Also similarities and differences between the network and APFM were discussed;~~

~~(a)While APFM sees flood within the context of Integrated Water Resource Management, IFNet provides a platform where all sorts of flood-related information can be exchanged,~~

~~(b)IFNet could play a lead role to try to push flood issues high in the international agenda- something which is beyond the scope of APFM,~~

~~(c)IFNet should be planned as a long-term activity.~~

2.8.3 APFM contribution to the WWF3 from June to November, 2002

After the first preparatory meeting, the session plans for the flood group sessions as registered with the WWF3 were finalized. Detailed information regarding the objectives, composition, and output of each session was collected. A questionnaire was sent to all organizers of flood-related session. As a result of this exercise, sub-groups were established. Based on the list provided by the WWF3S concerning the session plans and the expected output, the room layout and preliminary allocation of rooms to each session was prepared. TSU coordinated with session conveners, in close cooperation with the WinRs. Ms Chie Yoshimura from Nikken Consultants, Inc, Japan joined TSU from 16 July 2002 so as to supplement close communication and coordination with WinRs.

2.8.4 The 2nd Preparatory Meeting

The 2nd preparatory meeting was held at the Kyoto International Conference Hall on 20 and 21 November, back-to-back with the session coordinators and conveners' meeting organized by WWF3S. The meeting was co-chaired by Mr Miyake of TSU and Mr Kikuchi and Mr Claudio Caponi represented WMO.

Coordination of flood-related sessions

Each convener presented the details of the session plans such as structure of the session, names of presenters, expected recommendations and the draft session report and finally agreed upon in a~~the~~ spirit of cooperation. The~~is~~ meeting was valuable since flood- session~~related~~ conveners could meet face-to-face and ~~could~~ cultivate ~~the~~ a mutual understanding. The o~~O~~pportunity was utilized to discuss the expected draft recommendations from the Flood Group to serve as input into the Ministerial Conference.

Activities for the establishment of IFNet

The draft charter of IFNet was introduced and comments invited from the participants. The idea was well received and most participants showed interest in participating in the IFNet if it was established. However, participants expressed the need for further clarification regarding the structure of an IFNet Secretariat, membership, etc.

~~The draft charter of IFNet was introduced and comments were invited from the participants. The idea to establish IFNet was well received and most of the participants showed their interest to participate in IFNet if it is established. However comments on further clarification of the secretariat structure, membership, etc. were noted.~~

2.8.5 Contribution to WWF3 from December, 2002 until the Forum

Dr Askew retired from WMO at the end of November, 2002. However, he continued to help in preparatory activities for the flood group sessions and the establishment of IFNet. TSU facilitated communication between Japan and Dr. Askew. TSU also prepared to convene combined session between APFM and Dr QK Ahmad of GWP SASTAC, and to organize a display booth at the Forum venue. ~~Mr Askew retired from WMO at the end of November 2002, but he has been expected by Japan to continuously involve in the coordination of the flood group sessions and the establishment of IFNet, which he accepted. TSU continued to support his coordination functions. APFM also prepared to organize a session which was planned to be a combined with session proposal by Dr QK Ahmad, under the umbrella of APFM. A great effort was devoted to organize the IFM session and two exhibition booths both from substantial and administrative matters.~~

2.8.6 Contribution at the World Water Forum

At the WWF3, the flood-group convened opening and closing plenary sessions and 13 sessions on 18 and 19 March. Prof. G.O.P. Obasi, Secretary General of WMO participated and delivered keynote speech in the Opening Plenary of the Flood Days.

Mr A.C. Tyagi, Director of Hydrology and Water Resources Department, WMO, and Head of the TSU, and three other members represented APFM for convening the session and maintaining exhibition booths. On 18 March, TSU held a session under the title of Integrated Flood Management where the session promoted the concept of IFM. The session extended for 6 hours with discussions. At the close of the session, a set of recommendations was adopted. ~~Active questions and answers from the floor were made and the recommendation was adapted, and successfully closed~~Annex 9 gives the r~~—~~eport of the joint Session on Integrated Flood Management and People, Flood, and Vulnerability Reduction: the Case of South Asia~~minutes and report at the Closing Plenary from the IFM session~~.

Mr Tyagi ~~made a contribution of~~ introduced~~ing~~ global flood related activities at ~~in~~ the IFNet session and represented WMO at the Ministerial Conference and joined in the sub-group 4 discussions titled "~~d~~Disaster mitigation and risk management".

The Flood Group Sessions were successfully convened and IFNet was established at its closing plenary. ~~whole flood day agenda was successfully implemented, adopting the establishment of IFNet at the closing plenary.~~ (See Annex 10 - the outcome of the flood group fed into the Ministerial Conference)

3. Programme Performance

3.1 Progress of activities

3.1.1 Compilation of the Concept paper and the Economic Study

~~This~~ Both these activities were ~~was~~ proposed to be completed during the reporting period. At the end of the reporting period, a final draft was prepared incorporating the results of the WWF3. It is expected that the Concept Paper will finally be compiled as advisory material and disseminated through various channels at ~~—~~an early stage of the ~~next~~2nd ~~-~~year of Implementation. Assessment of p~~P~~rogress: 80%.

3.1.2 Development of a Reference Centre on Flood Management

As planned, the APFM web page was developed and expanded, two newsletters were produced and issued as planned. The AFPM brochure was produced in four languages. With reference to the APFM web page, further enrichment or revision of the content and structure may be needed and as such assessment of progress on this item is 90%.

3.1.3 Compilation of good practices/lessons learned

It was targeted to collect and analyze at least 6 case studies on flood management to compile advisory material. So far 12 case studies have been received, out of which 8 cases have been evaluated internally. However, the final appraisal and compilation process, remains to be undertaken. A workshop is proposed to extract good practices ~~-~~in IFM from these studies. Corrective measures to generate more interest in the preparation of case studies have been undertaken as described in paragraph 2.3.3. Assessment of p~~-P~~rogress~~-~~: 70%.

3.1.4 Development of regional programmes

Out of the five GWP Regional Technical Advisory Committees contacted, only SASTAC and SAMTAC have been actively involved in implementing regional programmes.

In the case of SASTAC, there was a delay in specifying exactly which activities out of the original overall plan could match within the framework of IFM and be supported by APFM funds. It was finally decided in November 2002 that the project would focus on community approaches to flood management. Since then activities have been undertaken in 3 countries and the preliminary results of these activities were reported during the IFM Session at the WWF3.

With relation to SAMTAC, 10 workshops on urban drainage were conducted in 5 countries with the support of funds from FRICS, Japan. The findings of the workshops were compiled in the form of a book - currently available only in Spanish. This should be translated into English soon. On the other hand, negotiations between Brazil and Uruguay on developing an IFM plan for the Cuareim River Basin shared by the two countries were successful. As an initial step for the development of such a plan, a pilot project to promote the concept of IFM along the Cuareim River Basin will be implemented. The terms of reference for the project were drawn up during the inception phase. The Water Authorities of Brazil and Uruguay were contacted to obtain, in writing, their agreement that they would support the implementation of the results/recommendations of the project.

As for other regions the progress has not been as notable as in SASTAC and SAMTAC. With relation to the Southern African region, the reason was partly due to the reorganization and transformation of a regional TAC into a water partnership ~~,~~ and partly due to the regional counterparts not playing an active role in formulating their regional plans. With relation to the Central American region, regional counterparts did not actively communicate project plans or progress to the TSU. However, in the near future pilot project plans for the CATAC region and for Africa should be forthcoming.

Participation in the study of the European Floods of August 2002, conducted by the Japanese Ministry of Land, Infrastructure and Transport and the Japan Institute of Construction Engineers, was not included in the original plans. However, based on the results of the ~~is~~ study ~~led to the~~ APFM activities in the region were initiated. ~~ordination~~

In general it must be said that the progress of formulation and implementation of regional pilot projects was far from expected and the assessment of p~~P~~rogress ~~evaluation~~ is only 30%.

3.1.5 Establishing linkages with others

APFM successfully developed relationships with some initiatives ~~which~~that ~~-~~ have relevance to the concept of IFM. However, it is desired to deepen the level of cooperation with these initiatives~~, e.g.~~, for example, through mutual participation in regional workshops, dispatch of experts for regional consultations, etc. Assessment of p~~P~~rogress on this item is assessed as ~~-~~ 80%.

3.1.6 Contact data holders

~~The regular~~ C~~c~~ontacts with data holders were successfully developed as described in paragraph 2.6 above. However future cooperation ~~of APFM~~ with these institutions is still unclear and would be chalked out at an early stage of the 2nd year of the ~~i~~Implementation ~~p~~Phase. The assessment of progress is 70%.

3.1.7 Participation at the 3rd World Water Forum in Kyoto (16-23 March 2003)

Through careful preparation, TSU was able to successfully accomplish all the activities planned for the WWF3 and achieve 100% progress.

3.2 Financial Performance

The total budgetary allocation for APFM activities during 2002-2003 was CHF 1,423,514.00. Against this, an expenditure of only CHF 744,415.00 has been made – which is 52.3% of the budget allocated. The main reasons for the shortfall in expenditure have been:

a) Slow off take of some of the activities – particularly the regional activities
b) Economical organization of WWF3 activities
c) Increase in the purchasing power of the Swiss Franc
d) Administrative changes within TSU

The financial statement of the APFM Trust Fund, as of 1st April 2003, is given in Table 3.1.

Table 3.1: APFM TRUST FUND FINANCIAL STATEMENT
(as of APRIL 2003)

1. Income and Expenditure from July 2001 to December 2001

			CHF	
1-1.	**Income**			
	Contributions		180,000.00	
	Interest		1,654.00	
		Total Income	**181,654.00**	**(a)**
1-2.	**Expenditure**			
	Direct Expenditure (Liquidated)		115,547.00	
	Support costs (5%)		5,777.00	
		Total Expenditure	**121,324.00**	**(b)**
1-3.	**Carry forward from this period**	**(a) - (b)**	**60,330.00**	**(c)**

2. Income and Expenditure from January 2002 to March 2003

2-1.	**Income**			
	Previous Balance		60,330.00	
	Contributions		1,357,989.00	
	Interest		5,195.00	
		Total Income	**1,423,514.00**	**(d)**
2-2.	**Expenditure**			
	Direct Expenditure			
	- Liquidated		708,925.00	
	- Unliquidated		106,970.00	
	- Commitments		106,307.00	
	Bank charges		44.00	
	Support costs (5%)		46,109.00	
		Total Expenditure	**968,355.00**	**(e)**
2-3.	**Carry forward from this period**	**(d) - (e)**	**455,159.00**	**(f)**

Certified correct

-Sd-
Ah-Kim Lee Choon
Chief, Finance and Budget Division
WMO

4. ACTIVITY PLAN (2003-2004)

4.1 Activities

The activities to be undertaken during 2003/2004 are classified as follows:

- Compilation of advisory material
- Implementation of regional pilot projects
- Establishment of linkages with APFM partners and contacts
- Cooperation with other Associated Programmes
- Contact/cooperation with flood data holders
- Dissemination of information

4.1.1 Compilation of advisory material

This activity will form the core of the APFM's global activities in the next reporting period and includes the compilation of new case studies and publication of the Concept Paper on IFM.

4.1.1 (a) Compilation of Case studies

Efforts will be made to collect more case studies through various channels including IFNet, taking into consideration regional and socio-economic distribution.

Subsequent to obtaining additional information to clarify the relevance of each case study received on IFM, TSU will organize a workshop that will be attended by outside experts, authors and TSU. The workshop will serve to extract good practices and lessons learned. The results will be compiled as advisory material and disseminated in various ways including the GWP ToolBox and IFNet. Members strongly felt that the case studies should feed into the GWP ToolBox under the 'Flood' button.

A draft proposal for contributions from the APFM into the ToolBox was appreciated. TSU was encouraged to study the guidelines used for the preparation of the case studies for the GWP Toolbox and to discuss with GWP on how to include IFM tools within the whole structure of the Toolbox. TSU and the ToolBox team will meet to discuss how APFM should feed information into the Toolbox

4.1.1 (b) Concept paper

TSU will revise the text of the Concept Paper, based on the recommendations received, and send it to SC members for final comments. The paper will then be finalized. Upon completion, it will be sent to GWP HQ and RTACs, to all National Meteorological and Hydrological Services (NMHSs), to UNDP offices, and be circulated inside WMO.

4.1.2 Implementation of Regional Pilot Projects

A series of pilot projects, plans for which are discussed above, will be undertaken by GWP/WMO regional networks with assistance from TSU to test and refine the means by which IFM can be applied in practice.

The ultimate goal of these pilot projects is to obtain the experience and information needed to draw up detailed plans for major projects in the regions. Intermediate review meetings to monitor the implementation of pilot projects (in regions) will be convened. It was decided that a report on the progress of regional work will be issued once every 4 months by TSU.

4.1.3 Establishment of linkages with APFM partners and contacts

Links and cooperative action will continue to be maintained with current Partners while efforts will be made to identify and establish ties with new Partners. This may involve the occasional visit to the headquarters of these Partners. The list of "contacts" will be maintained and efforts will be made to

expand it in close collaboration with the IFNet secretariat. Information on progress with the APFM will be sent on a regular basis to all Partners through APFM newsletters.

4.1.4 Cooperation with other Associated Programmes (APs)

During the reporting period, cooperation with the Gender and Water Alliance was established in the process of SAMTAC activities. This cooperation will be further developed and strengthened.

It was suggested that TSU should pursue collaboration with other Associated Programmes (APs) and it was decided that TSU would attend at the World Water Week in Stockholm, August 2003, and participate at the Meeting of APs.

Cooperation with other APs during the next year would probably include occasional visits or participation at seminars with possibilities for joint work on one or two specific topics.

4.1.5 Contact/cooperation with flood data holders

Cooperation will be pursued with the Dartmouth Flood Observatory (DFO) over their planned World Atlas on Large Flood Events. Contribution/monitoring of the progress on the inter-linkage of disaster and climate data will be maintained. All this will be done to encourage the free and open exchange of data in a user-friendly manner. This activity would entail:

- Visits to meet with those who hold data and data managers
- Analysis of data holdings: Meetings/discussions with data analysts

4.1.6 Dissemination of information

A Reference Centre on Flood Management will be set up by the TSU with the purpose of providing strategic advice to flood prone countries and communities. The knowledge base required for such a Reference Centre will be the direct output of the extraction of good practices/lessons learned in flood management through case studies and regional pilot projects. The TSU, being housed within the WMO Secretariat, has the ideal opportunity to incorporate IFM principles in strategic advice related to flood management communicated to flood managers in WMO's Member countries. All efforts will be made to optimize the utilization of this opportunity and to maintain a proactive technical enquiry service. The activities to be undertaken in disseminating project output include the following:

1. The APFM web page will be further developed and its contents kept updated. TSU will encourage, and make the necessary arrangements for, each APFM regional focal point to prepare and maintain regional pages for the APFM web page. Progress of the pilot projects will also be put on the web page.
2. Reports and project outputs of universal relevance originating from regional activities will be translated into English, French and Spanish and put on the web page.
3. The APFM newsletter will continue to be published twice a year. Outlines of relevant/related publications will be included in the newsletters.
4. Reports of all meetings held will be included on the web page.
5. Advisory material will be published - starting from the IFM concept paper.
6. The concept of IFM will be introduced at all possible meetings of the Hydrological Advisors of WMO and workshops, seminars or meetings convened on the subject of 'floods'.