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ASSOCIATED PROGRAMME ON FLOOD MANAGEMENT



ANNUAL REPORT (2011-2012)

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The Associated Programme on Flood Management (APFM) is a joint initiative of the World Meteorological Organization (WMO) and the Global Water Partnership (GWP). It promotes the concept of Integrated Flood Management (IFM) as a new approach to flood management. The programme is financially supported by the Governments of Japan, Switzerland, Italy and Germany.



World
Meteorological
Organization
Weather • Climate • Water

The World Meteorological Organization (WMO) is a specialized agency of the United Nations. It coordinates the activities of the meteorological and hydrological services of 189 countries and territories and is the authoritative voice on weather, climate and water.



Global Water
Partnership

The Global Water Partnership (GWP) is an international network open to all organizations involved in water resources management. It was created in 1996 to foster Integrated Water Resources Management (IWRM).



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LIST OF SUB MATERIALS

- I. Flood Management Policy Series
 - (a) **IFM Concept Paper 3rd Edition** (English, French, Spanish, **Japanese**)
 - (b) Legal and Institutional Aspects of IFM (English, French, Spanish)
 - (c) Environmental Aspects of IFM (English, French, Spanish)
 - (d) Social Aspects and Stakeholder Involvement in IFM (English, French, Spanish)
 - (e) **Economic Aspects of IFM (2nd edition)** (**English**)

- II. IFM Tools
 - (a) Formulating a Basin flood management plan
 - (b) Applying Environmental assessment for flood management
 - (c) Conducting Flood loss assessments
 - (d) Organizing community participation for flood management
 - (e) **Reservoir operations and managed flows (2nd edition)**
 - (f) Urban flood risk management
 - (g) The role of land-use planning in flood management
 - (h) Risk sharing in flood management
 - (i) IFM as an adaptation tool for climate change
 - (j) IFM as an adaptation tool for climate change (case studies)
 - (k) Flood emergency planning
 - (l) Management of Sediment-related risks
 - (m) **Urban Flood Management in a changing climate**
 - (n) **Conservation and Restoration of Rivers and Floodplains**
 - (o) **Flood Proofing**
 - (p) **Flash Flood Management**
 - (q) Guidelines on Flood Mapping

- III. National and Regional support activities
 - (a) Concept Paper: Integrated Flood Management and Capacity Building for Pakistan

- IV. Training activities - Partnerships for the delivery of a comprehensive portfolio of capacity building measures
 - (a) APFM & Cap-Net collaborative capacity building programme
 - (b) Training Manual for Integrated Flood Management Policy Course
 - (c) Community flood management course
 - (d) **Urban Flood Management Training Manual**
 - (e) **Self-learning tutorial “IWRM as an adaptation to climate change”**
 - (f) **World Bank Urban Flood Management Manual - Executive Summary**
 - (g) **Guidance on Water Supply and Sanitation in Extreme Weather Events**

- V. Dissemination of information
 - (a) **Newsletters (No.26, No.27)**
 - (b) **Scientific paper “Addressing environmental aspects of Integrated Flood Management”**
 - (c) **Scientific paper “Risk sharing in practice towards integrated flood management”**
 - (d) **Article “Achievements of the Associated Programme on Flood Management in WMO”**
 - (e) **Chapter on “Flood Risk Management in Rivers and Torrents”**
 - (f) **APFM CD (new edition)**
 - (g) **Inventory of publications**

**Bold materials above indicate those newly added or updated in this report.*

1. INTRODUCTION

The Associated Programme on Flood Management (APFM), a joint initiative of the World Meteorological Organization (WMO) and the Global Water Partnership (GWP), was established in order to promote the concept of Integrated Flood Management (IFM) and to help demonstrate the practical steps for putting the concept into practice. An IFM approach aims at maximizing the net benefits from flood plains and reducing loss of life due to flooding, flood vulnerability and risks, and at the same time preserving ecosystems within the overall framework of Integrated Water Resources Management (IWRM). It conceptualizes integration of land and water resources development activities in a river basin.

During Phase I (August 2001- July 2006) of the APFM, the principles of Integrated Flood Management have been established through the IFM Concept Paper supported by the Flood Management Policy Series. The programme has conducted various regional and country demonstration projects, has collected and synthesized flood management case studies and established a website to offer a variety of information including various products and a set of databases on flood management. The outcomes of Phase I have been widely appreciated at various international conferences, workshops and meetings, which facilitated dialogue and involvement of institutions and individuals and start a global network to create the required knowledge base to support countries in their efforts to adopt IFM.

Phase II of the programme (August 2006 - March 2010) was intended to consolidate these gains. It sought to develop capacities in the countries by supporting local and regional actions that advocate, support or demonstrate the IFM principles. This was supported by a combination of training and awareness building at various levels addressing flood management issues within the integrated water resources management. The advocacy for IFM has been achieved through capacity development, and providing long-term support in the form of IFM HelpDesk and information services. The IFM HelpDesk is based on voluntary contribution from approximately 20 Support Base Partners.

Phase III of the APFM started in April 2010 for the period of four years. The overall goal of the APFM Phase III is to improve field-effectiveness of IFM practices, and outreach, while covering a wide range of demand-driven applications of the IFM principles. The AC/MC meetings in 2011 discussed and agreed on the activity plan of Phase III.

This Annual Report documents the activities undertaken during the reporting period from 1 June 2011 to 31 May 2012. Most of the output materials are attached as sub-materials in a separate CD-Rom. In terms of Technical Support Unit (TSU) staffs, two-year support for a Junior Professional Officer (JPO) from the Government of Italy ended last November. After one month contract break due to delays in the enrolment procedures in WMO administration, Mr Giacomo Teruggi keeps working half time for APFM since December 2011, and will continue to do so up to October 2012. In February 2012, TSU welcomed two new staffs, Messrs Niranjana Tamrakar, the newly appointed APFM Project Officer, and Jan Moritz Krüger, Junior Professional Officer. The JPO position of Mr Krüger is supported by the Government of Germany.

In addition to continuous financial contribution from Japan and Switzerland, USAID committed financial support for demonstration projects and capacity building under APFM activities from 2012-2013 period with an intent to reach beyond that period.



2. ACTIVITIES

2.1 FLOOD MANAGEMENT POLICY SERIES

Flood Management Policy Series

The ‘*Flood Management Policy Series*’ has been established within the framework of the APFM. The series comprises of publications on various aspects of flood management policy, including legal and institutional, environmental, social, as well as economic aspects to facilitate the implementation of IFM principles into the development planning practice of river basins (Sub-material I(b), I(c), I(d) and I(e)). The series of publications have been translated into various languages as shown below;

- IFM Concept Paper (English, French, Spanish, Russian, Japanese)
- Legal and Institutional Aspects of IFM (English, French, Spanish)
- Environmental Aspects of IFM (English, French, Spanish)
- Social Aspects and Stakeholder Involvement in IFM (English, French, Spanish)
- Economic Aspects of IFM (English)

2.1.1. Translation of IFM Concept Paper 3rd edition

The ‘*IFM Concept Paper*’ (Sub-material I(a)) was revised in 2009 in consideration of emerging issues, such as risk management, urbanization, climate variability and change, and adaptive management. In addition to the English, French and Spanish versions, Japanese translation of the 3rd edition was prepared by the Japan Institute of Construction Engineering (JICE). Moreover, TSU negotiated over Russian translation with the Moscow State University of Environmental Engineering, which had previously developed the Russian translation of the Concept Paper 2nd edition. However, because of prolonged negotiation process, cost estimation, bureaucratic complications in defining the licence agreement, and shortage of Russian speaking TSU staff to facilitate the communication with Moscow University, TSU decided to utilize the linguistic services in WMO. The translation has been initiated and will be finished by July 2012. Regarding the translation into Chinese, proposed by GWP during the AC/MC meetings of 2010 and 2011, TSU has not received any information or contacts from GWP since last year’s AC/MC meeting to carry on this activity.

2.1.2. Economic Aspects of IFM 2nd edition

The policy series publication “Economic Aspects of Integrated Flood Management” has been revised as recommended by AC/MC meeting 2011. The revision has been done to provide recent updates on evolution of economic tools for flood management and disaster risk reduction across the world and expanded some of the tools with practical examples as inputs to fulfill the identified gap in previous version. The advanced draft version of the second edition of the publication “Economic aspects of IFM” is prepared and attached as sub material I (e). This policy series document has been revised by TSU with external consulting support of Ms Oksana Ekzarkho, former intern in APFM.

2.2 IFM TOOL SERIES

During the process of compiling policy series papers, requirement of several tools to implement the concept of IFM in the field were identified. Along with the issued tools (Sub-material II(a) - II(l)), a new inventory of IFM Tools has been prepared (Sub-material II(m) - II(p)). IFM Tools are intended to provide substantive guidance to flood management practitioners and provide a perspective of how the different tools fit together for an integrated approach to flood management.

Four tools (*Flood Proofing, Conservation and Restoration of Rivers and Floodplains, Flash Flood Management, Urban Floods in a Changing Climate*) have been finalized and published on the website since last year’s AC/MC. Four other tools (*Guidelines on Flood Mapping, Regulations and Technical Standards for Flood Management, Effectiveness of Flood Management Measures, Flood Forecasting and*

Early Warning) are being developed by TSU staff or by outside experts including universities and institutes and are in various stages of development.

The update of an existing tool, *Reservoir Operations and Managed Flows*, was completed and other two tools (*Conducting Flood Loss Assessment* and *Risk Sharing in Flood Management*) are in progress. Several new tools were planned to be developed but not yet implemented due to priorities of publications and limited resources and staff time in APFM.

2.2.1. Urban Floods in a Changing Climate (completed)

The main thrust of this tool is to examine major aspects of urban flood management through in the context of climate change. This document deals with the “management” process and less about the technical, structural, and capital-intensive strategies usually pursued in coping with urban floods. It also explores the vital interaction and necessary overlap of urban flood management with land use management, urban planning, socio-economic development, and public awareness and participation. All of these issues lie at the core of planning for and carrying out strategies for climate change adaptation. The tool includes the concepts from both tools, "Flood management in a changing climate" and "Urban flood risk management," while at the same time describing specific issues and practices related to climate change in an urban environment and to increasing resilience of the population. The tool was developed by Dr John Labadie, Emergency Management Consultant currently teaching in the Continuing & Professional Education program at the University of Washington. The completed version of the Tool is attached as Sub-material II (m).

2.2.2. Conservation and Restoration of Rivers and Floodplains (completed)

The tool aims at assisting practitioners mainly through reviewing and describing options for conservation and restoration of rivers and floodplains that can potentially assist flood management practitioners in addressing various flood management objectives, and providing an overview of current practices that could help flood management practitioners in identifying and establishing the values of ecosystem services generated under different conservation, restoration and flood management scenarios.

The tool was developed by Dr Robert McInnes, task lead within the Ramsar Convention’s Scientific and Technical Review Panel. The tool was finalized by TSU and is ready to be circulated for further comments and inputs to WWF and IUCN, as suggested at last AC/MC meeting by GWP. For this purpose, contacts would be appreciated. The current version of the Tool is attached as Sub-material II (n).

2.2.3. Flood Proofing (completed)

This tool aims to provide various options of flood proofing measures, not exclusively limited to structural measures or building protections, with a target of practitioners responsible for flood management. The tool covers two aspects of flood management: flood resistance and flood resilience. The flood resistance keeps out flood water to prevent flood damages, while flood resilience minimizes the impacts of floods once flooding occurs. The tool has been developed and finalized by TSU. The completed version of the Tool is attached as Sub-material II (o).

2.2.4. Flash Flood Management (completed)

This tool provides an overview of approaches and practical actions to reduce disaster risks associated with flash floods. Flood forecasting and warning are expected to play an important role in flash flood management though there are scientific and technical limits to provide accurate and timely warnings. Spatial planning and flood proofing can also reduce risk of exposure. These require flood hazard mapping to assess the risk of flash floods and an appropriate legal framework to integrate (flash) flood management planning and spatial planning. Participatory approach can identify areas at risk, facilitate the finding of acceptable solutions, increase the knowledge and awareness about flash flood risk and encourage the acceptance of the proposed solutions by the local populations. The tool was finalized by TSU and reviewed by Mr. Robert Jubach of the



Hydrologic Research Centre, San Diego, USA. The current version of the Tool is attached as Sub-material II (p).

2.2.5. DHI Tool on Preliminary flood risk assessment (to be linked to APFM website)

The preliminary FRA Tool has been designed by DHI in order to identify where significant fluvial flood risk in river basin would take place. By using objective analysis the tool supports decision makers with reasonable and secure result on the basis of the threshold effect for proper future flood risk management activities in terms of objectives and measures. The tool is part of the DHI/APFM agreement to support the HelpDesk for IFM. The tool is already accessible from DHI website <http://www.fra.dhigroup.com/PreliminaryFloodRiskAssessment.aspx>, and should be linked to the APFM website once update of the same will be completed.

2.2.6. Guidelines on Flood Mapping (guidelines in final draft, tool in preparation)

Flood Maps are tools to visually organize the flood information for decision makers and general public. They form the basis for developing flood risk scenarios based on various climate conditions, development alternatives, and social and economic conditions. In addition to the general objective of a flood map, special uses require specific information including maps that depict exposure to floods of various recurrence periods, flood risks, vulnerability and response information such as evacuation routes, safe high grounds, shelter areas etc that are of utmost importance in flood plains but also in coastal areas at risk of storm surges and tsunamis. Different methodologies are presented in the production of flood maps for various purposes to support decision-making at all levels.

After two Expert Group Meetings, the Editorial Board reviewed comments to the Guideline contents. Then an external technical editor, Dr Markus Zimmermann finalized the draft. With the intent to publish this Guideline as a WMO Manual under the WMO Quality Management Framework, it will undergo a process of peer-review. Meanwhile, a concise version of the Guidelines is being edited by TSU as an APFM Tool series. A contribution offer from UNOSAT on Flood mapping satellite imagery tools has been noted from last year's AC/MC meeting, however it has not been formalized yet. The current version of the Guidelines is attached as Sub-material II (q).

2.2.7. Regulations and Technical Standards for Flood Management (first draft)

This tool aims at introducing the outline of regulations and standards for flood management in selected countries to help flood managers make sound decisions on developing and evaluating flood management approaches. Even if the regulatory framework and standards differ from country to country, the basic concept of flood management and examples of technical standards are useful resources for other countries, especially for those planning to develop such regulatory frameworks and technical standards.

In order to collect information on flood management regulations, several interviews were conducted with central and local government officials in France, the Netherlands, USA and Switzerland. The excerpts of key reference materials in French and Dutch languages were translated into English. The case study of Switzerland was prepared by an independent consultant, Prof. Manfred Spreafico, former Director of the Swiss Hydrological Service. Based on the collected information, the first draft was prepared by TSU. The current version of the Tool is attached as Sub-material II (r).

2.2.8. Effectiveness of Integrated Flood Management Measures (in progress)

Economic analysis conducted after major flood disasters, such as Hurricane Katrina, showed that flood management measures, if implemented timely, could have avoided huge amount of disaster damages at much smaller cost. Because of rapidly growing urbanization and projected climate change, damage potential in floodplains is increasing, as well as lives at risk. In order to cope with this issue, Integrated Flood Management plays an important role in reducing vulnerability to flood disasters and subsequent flood



damages. Likewise, Integrated Flood Management has the potential to increase benefits derived from floods such as, for example, through groundwater recharge from flood waters. This tool introduces good practices as well as unsuccessful examples of flood management measures and derived benefits from floods collected from various countries in different socio-economic, environmental and development stages. Some key indexes will be derived from readily available socioeconomic data to prove the effectiveness of flood management measures. The outline of this tool was developed by TSU, and is attached as Sub-material II (s).

2.2.9. Flood Forecasting and Early Warning (in progress)

Flood forecasting and early warning is carried out to reduce risks in flood prone areas. This tool is tailored for use when decision-makers need to establish an effective overview of the flood situation provide timely and accurate early warnings and flood forecasting services to a variety of users. Many countries have already integrated flood forecasting and early warning measures into their local and national emergency planning systems. This tool helps develop and operate flood forecasting and early warning systems in flood prone areas. The tool is being developed by TSU based on the existing WMO Manual on Flood Forecasting and Warning No.1072 and other publications both from WMO and other external Institutions/Agencies. The current version of the Tool is attached as Sub-material II (t).

2.2.10. Update of existing publications

As the IFM Tool series is considered as “living documents,” the following existing tool and other publications released several years ago are updated, making use of available resources and expertise.

Reservoir Operations and Managed Flows (completed)

This tool, one of the first to be developed, aims to provide guidance for reservoir operations and managed flows, towards optimization of the benefits derived from ecosystems in the flood plains as well as social and economic activities. The tool has been revised by the original author, Mr Makoto Hyodo, former TSU staff member seconded by Japan, under coordination and guidance of the TSU, with particular attention to ecological needs in reservoir operation. Compared to the previous edition, examples and references have been updated. The second version of this tool is attached as Sub-material II (e).

Conducting Flood Loss Assessments (in progress)

The Conducting Flood Loss Assessments tool, which was published in 2007, is currently under revision and updating to incorporate recent development in flood loss assessment tools and techniques across the world. The examples of the recently practiced flood loss assessment case studies have been compiled and presented in this tool. The updating is being carried out by Ms Oksana Ekzarkho. The current version of the Tool is attached as Sub-material II (c).

Risk Sharing in Flood Management (in progress)

The Risk Sharing in Flood Management tool, first developed in 2009, has been revised and updated to incorporate recent development and practices in risk sharing mechanisms across the world. The examples of the recently practiced risk sharing instruments such as crop insurance, catastrophe risk insurance facility, and index based insurance have been added in the tool to provide more options in sharing risks of flooding and insurance tools. The updating has been carried out by Ms Oksana Ekzarkho with support from the TSU. The current version of the Tool is attached as Sub-material II (h).

2.2.11. Planned development and revision of tools

During the AC/MC meeting in 2011, the development of new and update of existing tools were proposed. Due to limited APFM resources, the tools listed below are not yet in the development process. For the purpose of resource management, perceived priorities are indicated:



Transboundary aspects of flood management – High priority.

SIWI offered to contribute in the drafting of this tool, however the offer hasn't yet been formalized. Contacts have to be re-established on this issue to assess SIWI availability to contribute.

Coastal and Delta flood management (in cooperation with Deltares) – High Priority

Deltares showed interest in contributing to this tool however discussion has not been carried on. Contacts have to be re-established on this issue to assess Deltares availability to contribute. Similarly, Deltares also proposed assistance in drafting another tool on **Decision support systems and serious gaming**, but no progress has been made so far for the realization of this tool.

- Applying Environmental Assessment for Flood Management (update) - Medium priority
- Organizing Community Participation for Flood Management (update) - Medium priority
- Health and Sanitation Aspects of Flood Management – Medium priority
- Role of the media in Flood Management - Low priority

2.3 NATIONAL AND REGIONAL SUPPORT ACTIVITIES

Supporting national and regional efforts in implementation of the IFM concept on the ground is one of the priorities of APFM. Such activities are categorized as;

1. Technical support activities to help initiating and promoting IFM in a country or region;
2. New field demonstration projects to show IFM on the ground; and
3. Continuous support for the pilot projects undertaken in APFM to enhance the outreach process of national and regional activities.

National workshops on the Development of National Strategies for Integrated Flood Management have been organized in Thailand and Lao PDR in March and April 2012, respectively.

Follow up for the implementation of the action plan for Pakistan developed in January 2011 has been ensured, in cooperation with various SBPs. Other field activities, for which further description is provided below, were carried on, or explored in terms of feasibility, in Thailand, Lao People's Democratic Republic, and Iowa State. Proposals for including IFM concepts in strategies for flood management in the Mediterranean countries were also formulated during an international workshop held in Marseille, France. Moreover, APFM provided technical support in other WMO ongoing projects, such as the ones going on in the Zambezi Basin, in South-East Europe, in Mauritania and in Mali.

2.3.1. Pakistan

After the workshop in January 2011, no further request has been received from Pakistan, where national strategies and project concepts were developed with Pakistani authorities on integrated flood and drought management. Possible donors to implement the activities listed in the action plan have been identified, in close cooperation between APFM TSU and the SBP CIMA, however Pakistan authorities didn't act officially to request assistance to the identified potential donors. Moreover, APFM TSU, in cooperation with Metameta, an NGO from the Netherlands (see page 10 for further information) submitted a proposal for implementing the plan developed for Pakistan to the Programme Office of the International Climate Initiative of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. Response from the German Ministry is still pending decision from the board of selection.

2.3.2. Thailand

At the request of the Thai Meteorological Department (TMD), WMO through APFM in association with TMD co-organized a workshop on "Development of National Strategy for Integrated Flood Management (IFM) for Thailand" from 19 to 23 March 2012 in Nakhon Pathom and Bangkok, Thailand. Twenty-two participants, among which Thailand's Permanent Representative and Hydrological Advisor, representing 15

different Thai government organizations, and working as policy makers, top- and mid-level managers and professionals belong to sectors such as water resources management, disaster management, meteorological and hydrological forecasting and land use management. The objectives of the workshop were:

- I) Introduce IFM concepts and tools in the framework of Integrated Water Resources Management (IWRM)
- II) Analyze the current flood management situation in Thailand (institutions involved, existing management plans, stakeholders, lessons learned from the 2011 flood disaster)
- III) Develop an IFM concept in support of the Master Plan for Water Resources Management

The Workshop was organized in two parts: a) four days of extensive consultative and participatory interaction workshop, and b) presentation of summary of workshop outputs to a wider audience on the World Met Day 23 March 2012. The main message of the workshop was to support the establishment and operation of a Single Command Centre for flood management operations within existing governmental structures.

The summary of the workshop outputs was presented on the World Met Day in the presence of the Minister of Information and Communication Technology (ICT), H.E. Group Captain Mr Anudith Nakornthap. As a follow-up, on 1st May 2012, the Minister of ICT invited TMD, National Disaster Warning Centre and WMO for consultations to implement the recommendations from the workshop. This event was followed by a media conference to give the consultation meeting a wide public coverage.

2.3.3. Laos

Following a consultation from the Laotian Department of Meteorology and Hydrology (DMH), a workshop on the “Development of a National Strategy for Integrated Flood Management (IFM) for Lao PDR” was co-organized by WMO through APFM. It was held from 23 to 27 April 2012 in Vang Vieng, Lao PDR. The five-day workshop was targeted to national policy makers, top- and mid-level managers and professionals in water resources management, disaster management, and land use management. Under the chair of Mr. Sithanh Southichack, Acting Director General from DMH, and Lao’s Permanent Representative for WMO, a number of 28 participants, among which the Hydrological Advisor, attended the workshop representing 19 different government and non-government organizations involved in flood management in Lao PDR. In this regard, the workshop aimed at the following objectives:

- I) To introduce Integrated Flood Management (IFM) concepts and approaches in the framework of Integrated Water Resources Management (IWRM);
- II) To analyze the current flood management situation in Lao PDR (institutions involved, existing management plans, stakeholders, lessons learned from previous flood disasters);
- III) To develop an IFM concept in support of existing strategies and plans with a view for early implementation at all levels.

Participants agreed on the establishment of an Early Warning System and Flood Forecasting Center, based at DMH. As the result of group sessions and plenary discussions, recommendations as well as an action plan have been prepared to be submitted to the Minister of MONRE (Ministry of Natural Resources and Environment).

2.3.4. Mediterranean Region (Marseille, France)

The Société des Eaux de Marseille, in light of the impacts of water-related disasters in the Mediterranean region and in view of their prominent role in the organization of the World Water Forum 6, organized an International Workshop on flash floods in the Mediterranean Area, on 19 and 20 January 2012 in Marseille, France. APFM was invited to take part in the Scientific Committee, participating in the selection of the proposals and bringing the agenda towards the inclusion of IFM practices. A set of recommendations was



developed during the workshop, which saw the participation of more than 80 experts from private and public sectors from all around the Mediterranean, and further presented by APFM at the WWF6 in March. Besides including the concept of IFM, the recommendations included references to APFM activities, particularly regarding risk awareness and educational activities. The workshop also provided an excellent opportunity to establish new links and contacts between APFM and other experts working either in the public or in the private sector, and to increase visibility of the HelpDesk especially towards Mediterranean countries in North Africa.

2.3.5. Iowa State

The Iowa State is currently adopting a holistic and comprehensive watershed approach to managing the water resources using principles that are similar to those of Integrated Water Resources Management (IWRM). From a request by the Cedar River Watershed Coalition received through the HelpDesk, it is evident that there is a need to upgrade and extend the IWRM principles to flood mitigation and preparedness strategies. A project proposal has been developed with the counterpart: this proposal aims at the development and implementation of an IFM strategic framework plan for Iowa, while at the same time it will constitute a pilot project for the implementation of IFM in a developed country. This initiative, initiated last year, is still being discussed towards its finalization. APFM is closely cooperating with the Cedar River Watershed Coalition counterparts in Iowa to set up a high level meeting with local authorities for the formulation and implementation of a proposal for IFM in Iowa.

2.3.6. UNECE pilot projects (Dniestr)

The programme of pilot projects on adaptation to climate change in transboundary basins under the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) started in 2010 with the aim to support countries (and specifically countries with economies in transition in Eastern Europe, Caucasus and Central Asia as well as in South-Eastern Europe) in their efforts to develop adaptation strategies and measures in transboundary basins, and to provide a forum for exchange of experience, good practices and lessons learnt regarding adaptation projects in different parts of the region. The pilot projects mainly focus on developing adaptation strategies which lay the ground for further action and only to a very limited extent, on the funding and implementation of the relevant measures. These pilot projects were planned to reflect the principles and implement the Guidance on Water and Adaptation to Climate Change, to the development of which APFM contributed in the past years. APFM keeps providing technical backstopping to the implementation of these pilot projects, with particular attention to the one of the Dniestr, where, in cooperation with Zoï Environment Network, the project is focussing on flood awareness issues. Synergies are being sought to provide experts and advisors for the project, and training activities, as well as demonstration projects, are planned to be held between the second half of 2012 and the first half of 2013.

2.3.7. Mali

ANADIA Mali project - flood component. Based on the outcome of the test phase conducted on ten villages in the Ségou region in 2010-2011, a methodology for the development of Village Plans for the Reduction of Flood Risk (PVRRI) has been developed, including the relevant manual. The development of a drought risk reduction methodology started in late 2012, with the aim of providing rural communities with an integrated tool for addressing the two major natural hazards potentially impacting their livelihood. The analysis of the meteo-climatological condition leading to flood events, and the updating of the data bank containing flood and damages information and the extension of its coverage to the whole country has been continued. Training at village level on PVRRI implementation has been conducted in late 2011.

The organization of nation-wide training events for states services staff to promote the development of PVRRI in other areas, and a national workshop (originally scheduled in February or March 2012) to present the project outcomes to decision makers and donors, have been postponed to late 2012 in view of the prevailing security situation on Mali

2.3.8. South-East Europe

With funding from European Commission (DG Enlargement) WMO and ISDR are implementing the project “Building Resilience to Disasters in Western Balkans and Turkey” involving Croatia, Turkey FYR Macedonia, Albania, Bosnia and Herzegovina, Montenegro and Serbia, second phase of the Regional Cooperation in South Eastern Europe for meteorological, hydrological and climate data management and exchange to support Disaster Risk Reduction (DRR).

The project overall objective is to reduce vulnerability of beneficiary countries to disasters caused by the impact of natural hazards in line with the Hyogo Framework for Action (HFA) and increase their resilience to climate change with focus on: (a) building/enhancing regional networking and coordination in the area of disaster risk reduction, and (b) strengthening the cross-border cooperation in the area of disaster risk management.

WMO in particular will be leading activities related to:

- Enhancing the risk assessment capacities through improved hazard analysis and mapping
- Enhancing the forecasting of hazardous meteorological and hydrological phenomena and delivery of timely warnings to support DRR
- Developing the capacity for climate risk management and climate change adaptation
- Designing a regional Multi-Hazard Early Warning System based on harmonized national systems within a regional cooperation framework

APFM is providing technical support and expertise particularly on the first activity.

2.3.9. Assessment of phase I activities (Kenya, India, Nepal and Bangladesh)

Due to shortage of staff, it was not possible to perform an ex-post analysis of the impacts of the project during the reporting period. Contacts with local NGOs have however been established at the 6th World Water Forum in Marseille.

2.4 CAPACITY BUILDING

2.4.1. Training materials

Extended vocational training (in-service) together with Cap-Net

As in the past years, Cap-Net has been identified as one of natural partners for capacity building, for jointly developing and implementing training courses. The knowledge and experience gained in implementing the APFM combined with considerable experience and financial support capacity of Cap-Net in support of capacity building for Integrated Water Resources Management with its network of capacity building institutions have proven to be strong assets in pursuit of the joint work programme of both institutions since 2007. A joint work programme has been developed also for the year 2011/2012. The document is attached as Sub-material IV (a). Development of Training Material in the framework of collaboration with Cap-Net has been undertaken on four topics for different target groups, namely

1) Training manual on IFM

Water/flood managers or policy makers at national level (IFM Policy Course)

Based on the background reading material of the Flood Management Policy Series, this training manual has been developed from the experiences gained in the past years while holding the modular course of three to five days, including the Lesson Plans, PowerPoint presentation, group exercises, and video material. A first version of this training manual has been compiled by a team of experts in South East Asia in 2009, with the aim of having it published jointly with Cap-Net and others.

However, from the latest discussions with CapNet it was felt that this version, although needing just



minor efforts for its finalization, would appear already outdated. It is therefore planned, instead of submitting it to linguistic editing, layout and design, to revise the contents integrating also the experience and feedback gained from training activities held after 2009. The current draft of the Training Manual is attached as Sub-material IV (b).

2) Training manual on community based flood management

Target groups are national NGOs active in community outreach projects in water or disaster management, and subsequently district/municipal level authorities as well as community leadership in flood prone areas, particularly rural areas. (*Community flood management course*). Based on the experience gained through the implementation of pilot projects in India and Bangladesh, it was envisioned to develop a training course and materials suitable for adaptation to varied community realities related to the kind of water hazards occurring, as well as the local economic and social structure, towards the establishment of local flood management cells or committees (CFMCs), responsible among others for community needs and capability assessment, flood awareness raising, flood management operations on the local level (flood preparedness, emergency response and rehabilitation), planning and interfacing with respective government institutions, etc. As reported in the past years, efforts were undertaken to engage the Bangladesh Centre for Advanced Studies (BCAS) to serve as a partner in reshaping the materials already available from the APFM Regional Pilot Projects on the “Community Approach to Flood Management”, shaping them into a baseline training material that could be adapted to local circumstances with a consistent part of visual supports. BCAS has prepared a complete set of training materials, such as Manual for community based flood management, Operational guide for trainers, and Training illustrations. However, as per the IFM Training Manual, the current version needs a strong revision both in terms of contents and of visual supporting materials. Preliminary proposals have been developed with a private consultant, JoAnn Scordino, to revise the existing draft and to create new materials and products focused towards children and adults in developing countries. The basic information should be simplified for a wide audience of non-technical people and be developed to use in APFM publications, website, video and game formats. Finalization plans will need to be therefore discussed. The current version of the Manual is attached as Sub-material IV (c).

3) Training manual on urban flood management

Target groups are municipalities of urban agglomerations, in particular units responsible for urban drainage, spatial planning, as well as warning and emergency services (*Urban Flood Management course*): After translating the course materials on “Urban Flood Management” by Carlos Tucci from Spanish into English, a CD with the full contents was published jointly with Cap-Net. Moreover, a Training Manual similar to the one developed for the IFM Policy Course has been developed out of these course materials. The Manual, revised by the APFM TSU and edited by Cap-Net, has been published in 2011, and it has already been tested in joint APFM/Cap-Net training workshops in Brasil and Thailand. The training manual is attached as Sub-material IV (d).

4) Training manual on IWRM as an adaptation to climate change

Target of this manual are water/flood managers and decision-makers, not necessarily with a strong background on climate sciences: following the development of the training manual “IWRM as a tool for Adaptation to Climate Change” APFM has coordinated with Cap-Net on the development of a self learning web-based tutorial derived from this publication; the tutorial’s contents have been finalized, and the web-design was developed by the NGO Metameta, also in charge of the management of the web-based multimedia platform called “the Waterchannel”. The tutorial is currently on line as a trial on the waterchannel website (<http://www.thewaterchannel.tv/tutorial/>), and it will soon be hosted also on the Cap-Net and APFM websites. The tutorial is also currently undergoing the web-design to make it available in multiple languages.

The tutorial is attached on a CD as Sub-material IV (e)

Urban Flood Management Guide developed by World Bank



APFM supported the World Bank in developing a guide “Cities and Flooding: A Guide to Integrated Urban Flood Risk Management for the 21st Century.” The Guide provides forward-looking operational guidance on how to manage the risk of floods in a quickly transforming urban environment and changing climate. After TSU participated in the Advisory Board and the preparatory side event, the Guide was released in February 2012. One of launching events in a series was organized in WMO on 23 April 2012. The Executive Summary of the Guide is provided as sub-material IV (f).

Revision of presentation materials

Following the different presentations held during trainings and workshops, and sharing experiences with former members of the TSU still active in advocating for IFM in their current positions, it was noted that the power point presentations of the modular course listed above are often too long, assembling under the same title many different sub-topics. This leads to an inevitable loss of attention from the audience after the first 20 minutes, with the risk of seriously compromising the effectiveness of the trainings.

It was therefore convened to start a revision and update of the available power point presentations, aiming at reducing their size by dividing them by sub-topic while, at the same time, respecting the original framework presented in the modular lesson plans developed with Cap-Net. The available power point presentations were therefore shared with Mr Makoto Hyodo, former TSU of the APFM, for a first assessment and exchange of views on how to maximize the impact of the presentation materials. Although this revision was not carried on in a formalized and continuous manner, the presentation materials were redrafted, shortened and modified in various occasions, coinciding with the preparation of training workshops or national support activities. Particularly, presentations related to all the topics covered in the 5 days modular course are now also available in Spanish.

WHO/UNECE Guidance on Water Supply and Sanitation in Extreme Weather Events

As reported last year, APFM contributed with a chapter on Basic Disaster Preparedness and Early Warning in the WHO/UNECE publication “Guidance on Water Supply and Sanitation in Extreme Weather Events”. After its endorsement by the Meeting of the Parties to the Protocol on Water and Health held in Bucharest in November 2010, the Guidance was published and distributed among the WHO network, and is made available through the UNECE website and the new APFM publications’ CD. The Guidance is attached as Sub-material IV (g)

2.4.2. Training activities

Workshop on Integrated Flood Management in Asuncion, Paraguay, 11-14 October 2011

At the request of Paraguay, funded by the Iberoamerican Cooperation Programme in Meteorology and Hydrology, a workshop on Integrated Flood Management (IFM) was held in Asuncion, Paraguay, from 11 to 14 October 2011. The workshop, held in Spanish, was co-organized by the Dirección de Meteorología e Hidrología de la DINAC (Paraguay’s National Hydrological and Meteorological Service, NHMS), Universidad Católica “Nuestra Señora de la Asunción” and WMO, with direct involvement of Paraguay’s Permanent Representative to WMO and his Hydrological Advisor. The workshop was addressed to the Municipal Technical Officers of Asunción and Encarnación and other authorities having a stake in the management of floods at the national level (universities, NHMS, Ministry of Public Works, and institutions related to hydroelectric, navigation, emergency management, environmental protection, and water resources). The workshop was attended by over 40 professionals, who proposed a series of actions to be undertaken to achieve a rational flood management policy in Paraguay. In view of the success of this first workshop, DINAC proposed to assemble and coordinate the actions identified and proposed during the workshop’s discussions, which will be followed up for further support by APFM.

Training of Trainers’ Course - Integrated Urban Flood Management in Porto Alegre, Brazil, 7-11 November 2011

The five-day training course in Porto Alegre, Brazil was organized from 7 to 11 November 2011 by the Capacity Building for Integrated Water Resources Management (Cap-Net/UNDP) in cooperation with APFM and the Institute of Hydraulics Research, Federal University of Rio Grande do Sul. Twenty two



trainees from nine countries in both Latin America and Africa participated in the training course in order to develop an integrated and interdisciplinary vision on urban flood management and to introduce the knowledge of long-term sustainable flood management to managers and decision makers. As a reference document for the course, the newly published training manual “Integrated Urban Flood Management” developed by Cap-Net and APFM was provided to the participants. The training was successfully completed with informative lectures and lively discussions among participants. At the end of the course, participants prepared new draft proposals on national or regional spin-off training courses. The trainees showed very much interest in the role-play session in conflicting flood management and expressed overall satisfaction with the course programme.

Training of Trainers’ Course - Integrated Urban Flood Management in Bangkok, Thailand, 5-10 March 2012

Because the above training in Porto Alegre received requests for participation from several Asian countries, the same training of trainers on integrated urban flood management was organized by Cap-Net in Bangkok, Thailand from 5 to 10 March 2012. APFM provided Cap-Net with financial support for inviting three resource persons from Brazil, South Africa and Indonesia.

Unrealized training activities

During last year’s AC/MC meeting, Dr Kang from Korea Water Resources Association offered assistance in the development of a Manual on Knowledge Sharing. However, no further discussion followed about this project.

Regarding other unrealized training activities, the planned training in Uganda was not pursued further due to a perceived lack of interest from the organizations that originally approached APFM with requests for support. Besides some technical backstopping to a UN-HABITAT initiative in the region, no efforts are foreseen at present to pursue activities in the country.

Similarly, the Democratic People’s Republic of Korea’ request, reported last year, was not formalized and contacts have been lost with the departure of former D/CLW.

On the other hand, requests from GWP Caribbean and UNESCO-Egypt, which could not be fulfilled due to temporary work overload, may be re-considered by re-establishing contacts with the relevant requesting institutions.

2.4.3. E-learning, multimedia, education

E-learning with Technical University of Hamburg-Harburg

The joint long-term plan for producing e-learning tutorials on the IFM tools, discussed in 2010 with late Prof. Pasche, has not yet been re-discussed with TUHH. Consultations will hopefully re-open soon on future cooperation between APFM and TUHH.

Multimedia capacity building materials on IFM

Contacts have been established with Metameta, a NGO from the Netherlands currently managing the waterchannel.org website. Preliminary agreement on expanding the flood component of the website, linking it to the APFM website, has been reached. The proposal should be further discussed and concretized, in view of a dedicated section in the new APFM website.

Educational programme for kids and wider public

APFM developed in 2007 with “Project-WET: Water Education for Teachers”, a US based non-profit Foundation, two publications “*Discover Floods KIDS (Kids In Discovery Series) Activity Booklet*” for children/youth ages 8-12, and “*Discover Floods Educators Guide*” targeted at teachers for use as teaching material. These materials were targeted towards the younger generation to aid specialized services and institutions in their outreach to the public.

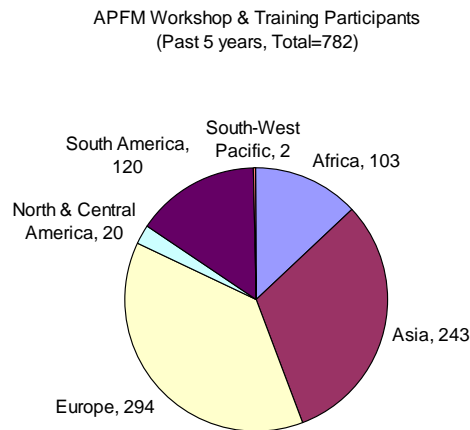
Distribution rights for these two publications were however a grey area for quite some time: a link from the APFM website was directing interested visitors to the ProjectWET website, where the publications could be purchased but not freely downloaded. During an informal meeting at the 6th World Water Forum with the Senior Vice President of ProjectWET, it was agreed that the two publications could be made freely available

from the APFM website. Downloadable pdf of the two publications have been provided to the TSU by ProjectWET, to be uploaded on the new APFM website.

Discussion also covered the possibility to jointly develop a module on flood management in the framework of the already developed e-learning platform for kids www.discoverwater.org.

2.4.4. Alumni of APFM Workshop and Training

For the past five years, APFM organized or participated in 34 workshops and trainings on IFM-related topics. In these occasions, about 780 alumni were exposed to the IFM concepts. Regional composition of these alumni is detailed in the figure below. The email addresses of those alumni were added to the list of APFM Newsletter subscribers. A survey to assess the activities implemented by past alumni in the field of IFM after having received the training is under planning. Also, in the framework of the communication strategy, APFM profiles were developed on major social networks such as Facebook or LinkedIn, in order to establish a platform where the alumni network could exchange information about their activities. However, although the profiles have been established, the activities connected to them (e.g., survey, discussion for a, etc.) could not be developed due to unexpected shortage of staff.



2.5 FLOOD MANAGEMENT REFERENCE CENTRE

The reference centre plays a vital role in establishing linkages among various disciplines, institutions, and actors involved in flood management. The Flood Management Reference Centre consists of three databases on Flood Management Institutions, Literature, and Policy and Law. In conjunction with migration of APFM website, the database system is currently under a complete review. TSU focused its effort on updating the literature database especially in the light of reference publications used to develop IFM Tool Series. The number of new and total entries in each database, at the reporting time, is as follows.

	Number of new entries	Number of total entries
Institutions and Agencies involved in Flood Management	0	388
Literature on Flood Management	256	557
Flood Management Policy and Legislation	0	240



2.6 DISSEMINATION OF INFORMATION

2.6.1. Newsletter

APFM Newsletters have been published since June 2002 to inform an interested audience about APFM activities. The newsletter is sent via email to subscribers of APFM newsletters, with a number of subscribers which is approximately 1480 at the reporting time. Detailed outcomes of events and conferences which APFM participates in or organizes can be obtained on the APFM and other related websites. During the reporting period, two newsletters (No.26 and 27) were published (Sub-material V (a)). Although three issues were planned initially, November issue was omitted due to the shortage of TSU staff at that time.

2.6.2. Conferences

WMO Congress in Geneva, Switzerland, 16 May - 3 June 2011

APFM organized an exhibition booth during the 16th WMO Congress at the International Conference Centre of Geneva (CICG) from 16 May to 3 June 2011. APFM distributed around 100 copies of Policy Series to delegates of member countries.

Seminar on Integrated Urban Flood Management - Challenges and Approaches in the Developing World, in Sweden, Stockholm, 21 August 2011

The Seminar on Integrated Urban Flood Management was organized by the World Meteorological Organization (WMO) through the Associated Programme on Flood Management (APFM) on 21 August 2011, the first day of the World Water Week in Stockholm, Sweden. The seminar aimed to cover different aspects of integrated urban flood management, including current trends, challenges, good practices, as well as outreach strategies to the affected population. Presentations followed by a panel discussion were intended to develop a concept for sustainable urban flood management by using a cross-sectoral approach, which could be further developed into concrete guidance materials and proposals for relevant flood management projects. The presentations on best practices around the world were made by representatives from the Asian Disaster Preparedness Centre (Thailand), the United Nations International Strategy for Disaster Reduction, the Polytechnic School of the University of São Paulo, the Capacity Building for Integrated Water Resources Management (South Africa), the Ministry of Public Works (Indonesia), and WMO. In conclusion, the Seminar participants emphasized the necessity for further development of less cost-intensive measures, source control with green technology, capacity building for flood managers and the locals, as well as active media involvement.

Special Session - APFM 10th Year Anniversary “Celebrating a Decade of Integrated Flood Management” in Tokyo, Japan, 28 September 2011

Established jointly by WMO and the Global Water Partnership (GWP) in 2001, APFM is the world’s premier comprehensive knowledge base for the worldwide development and implementation of best practices in Integrated Flood Management (IFM). Commemorating the 10th year anniversary of APFM, a special session was organized by APFM on 28 September 2011 on the occasion of the 5th International Conference on Flood Management in Tokyo, Japan. The session was supported by the International Association of Hydrological Sciences, German Weather Service, the Ministry of Land, Infrastructure, Transport and Tourism (Japan), the Water Resources Management Authority (Kenya), the Japan International Cooperation Agency, DHI Group, as well as WMO and GWP. Those organizations reviewed the achievements of APFM for the past 10 years, and the programme’s future orientation through the IFM HelpDesk was discussed together with the audience.

During the Conference, APFM could exchange relevant information with other participating institutions and agencies, establishing new contacts and identifying new expertises potentially useful to the Programme, among which ECO-TV, a South Korean cable broadcasting company that specializes in environmental news and documentary TV programs; an agreement was set to jointly create a new APFM promotion video. The Video has since been made available to APFM.



6th World Water Forum in Marseille, 12-17 March 2012

Thematic session 1.4 – Prevent and respond to water related risks and crises

APFM was given the opportunity to present as panellist on “Disaster Risk Reduction Policies Focusing on Reducing Social Vulnerability Related with Water-related Hazards” based on APFM past experiences in Community Based Flood Management in India, receiving positive feedback and expressions of interest from different stakeholders acting in the area of study.

APFM was also invited to present at the panel discussion of the Asia-Pacific Target Session Programme “The Changing Perspectives on the Flood Risk Management Strategy in the Hindu Kush Himalayan Region”, organized by ICIMOD. The audience was briefed about the ongoing activities which WMO is carrying on together with ICIMOD, in particular the HKH-HYCOS project and the APFM training of trainers held in November 2010 in Kathmandu in cooperation with ICIMOD. APFM was asked to present as well the major outcomes and conclusions of the MedFlood Solutions international workshop, having taking part in the activities of the Scientific Committee, organized in January 2012 in Marseille by the Groupe Eaux de Marseille.

WMO set up an exhibition booth as a part of UN Water organizations. APFM delivered 200 CDs, 50 Concept Paper (25 English and 25 French), 5 sets of Policy Series, 50 Discover Floods, and a large number of APFM and HelpDesk flyers. A total of 44 visitors signed up for subscription of APFM Newsletter. The booth also provided a good occasion to meet people and discuss ongoing activities: as an example, a meeting with CapNet and Metameta was held at the booth to discuss finalization of the self-learning tutorial on “IWRM as an adaptation to climate change”.

UNECE Water Convention - Fifth meeting of the Task Force on Water and Climate, Geneva, Switzerland, 27 April 2012

The Fifth meeting of the Task Force on Water and Climate reviewed the progress of the different activities on water and climate change adaptation under the Convention (pilot projects on adaptation to climate change in transboundary basins), and considered cooperation with other similar initiatives, such as those promoting water and adaptation to climate change. The vision for a global platform for exchanging experience on this issue was also considered, and finally, the participants discussed future activities on water and climate under the Water Convention beyond 2012.

A presentation on WMO’s activities related the water and climate change was given to the participants of the meeting, including some of the activities undertaken by UN-Water’s Thematic Priority Area on Water and Climate Change, currently coordinated by WMO, and other APFM activities.

2.6.3. Articles and outreach materials

Scientific paper “Addressing environmental aspects of Integrated Flood Management” submitted to 15th Annual Meeting of the Ecology and Civil Engineering Society of Japan (ECESJ), Kanazawa, Japan 14-17 September 2011

A former TSU member, Mr Makoto Hyodo, currently working in IDEA Consultants Inc., Japan, submitted a 4-page scientific paper to the 15th Annual Meeting of the Ecology and Civil Engineering Society of Japan. The paper is based on outcomes and on-going activities of collaborative work (being) conducted, particularly addressing the topics of environmental aspects of IFM, flow and sediment regimes and its relation to the riverine ecosystem, reservoir operation and managed flow. The paper also explores, based on WMO’s efforts in promoting the IFM concept, applicable areas of mutual integration between the efforts of Japan and of WMO. The paper is attached as Sub-material V(b).

Scientific paper “Risk sharing in practice towards integrated flood management” submitted to ICFM5 in Tokyo, Japan, 27-29 September 2011

A former TSU member, Mr Masahiko Murase, currently head of Takeo Office of River, MLIT, Japan, contributed with a 10-page scientific paper to the 5th International Conference on Flood Management, followed by a presentation on the same topic. This study analyzed the actual flood management in a local



basin along the Rokkakugawa River from the perspective of risk sharing. The paper is attached as Sub-material V (c).

Article “Achievements of the Associated Programme on Flood Management in WMO” published on Japanese journal “River” January 2012 issue

APFM contributed to an article in Japanese language to the January issue of Japanese monthly journal “River.” The journal, launched in 1942, is widely read by Japanese river and water resources managers, consultants and academics. The article introduced the achievements of APFM and HelpDesk activities, including publications, pilot projects, training and international conferences. The paper is attached as Sub-material V (d).

Chapter on “Flood Risk Management in Rivers and Torrents” published in e-publication “Risk Management for the Future - Theory and Cases”

Dr Luca Franzi, from Piemonte Regional Authority, Italy, wrote a chapter in the electronic publication “Risk Management for the Future – Theory and Cases”, edited by Jan Emblemssvag for InTech publishing and available on-line at the website <http://www.intechopen.com/books/risk-management-for-the-future-theory-and-cases/>. Having participated in 2009 in the IFM introductory seminar held in Turin, Italy, Dr Franzi has made a wide use in this publication of the IFM concepts, particularly focussing on the multi-stakeholder approach to flood management and on the mix of best strategies involving both structural and non-structural measures, and derived from APFM publications. The chapter is attached as Sub-material V (e)

WMO flyer and new APFM CD

In preparation for the 6th World Water Forum, APFM printed a 4-page foldout flyer in March 2012. The flyer succinctly describes overall APFM activities: objectives, publications, pilot projects, capacity building, IFM HelpDesk as well as the way forward of the programme in a visually attractive manner. The flyer received good responses from the public and a few hundreds copies were distributed. Also, a new version of the APFM CD, normally distributed during trainings, workshops or other events, has been developed. This new official APFM CD has been revised and reorganized in order to a) provide a more user-friendly interface, and b) update the content and add recent publications both from APFM and related guidelines/manuals from WMO. These changes are based upon various feedbacks coming from workshop participants, requesting institutions and supporting partners. As the former edition was a copy of the APFM website, the new CD simplifies navigation, usage and access. The CD layout has been changed to reflect the APFM communication strategy. Accordingly, a consistent “corporate” layout for the upcoming website, the APFM CD, and for the social network sites, such as Facebook and LinkedIn, has been established. The new CD is attached as Sub-material V (f).

2.6.4. Website

During the Phase I of APFM, the APFM website was established as the central access point for information on flood management. All publications and materials produced, as well as the flood management reference centre, were made available on the website. Since its launch in December 2004, the number of website visits has shown the upward trend in general. However, the trend during the reporting period was opposite. The monthly average number of visits reached the peak (327 visits/day) in May 2011, kept decreased to the lowest (215 visits/day) in January 2012, and recovered to some extent in March 2012. ICFM5 in September 2011 and WWF6 in March 2012 might have contributed to the slight recovery of visit numbers but the effects are not significant.

On the other hand, because of limitations and discontinuity in human resources, coupled with an outdated technology of the website, information about latest events is lacking and needs updating. Several peaks of hits have been observed after major events such as international conferences, workshops and APFM newsletters. Moreover, the migration to a new server has been started. It will be coupled by a general restructuring, reorganization and redesign of the website, including the part related to SBPs’ presentation, as discussed during last AC/MC meeting. The launch of the new website is expected for end of autumn 2012.

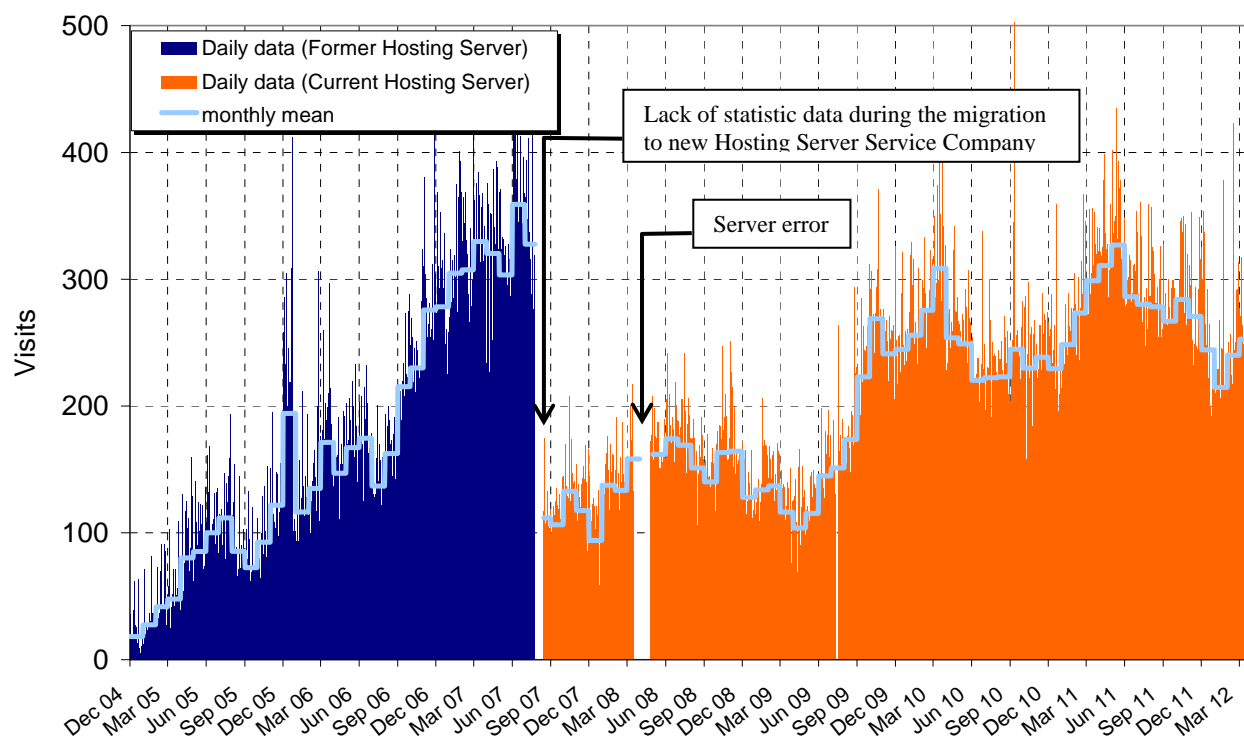


Figure 1: APFM Web Visits (from 1 December 2004 to 31 March 2012)

Migration of website

The migration procedure of the APFM website has been initiated. The website will be migrated from the former web hosting provider DFi, and the website maintenance support company GoldenNet, to Infomaniak. The main reasons of the migration are the following:

- Security issues – former web hosting provider (DFi) is not recommended by WMO security standards;
- the new administration dashboard is user friendly – this is to ensure efficient development and update of the contents both in short and long term;
- backup issues, not guaranteed by GoldenNet nor DFi;
- better assistance provided and offered by the new web hosting provider (Infomaniak) in terms of “self-assist” options and hotline help, and reduced fees compared to the previous GoldenNet services.

The table below shows both the current status of the website migration process and the schedule to proceed with and after the migration.

Migration preparation	
Contract with a new web provider (Infomaniak),	Completed.
Resign contract with GoldenNet and DFi	Completed.
Renew domain name (apfm.info)	Completed.
Migration of APFM’s databases on the new server	Completed.
Conceptualization of the new website: architecture, structure, organization and design	Completed.



Implementation of the new CMS in the development server & templates for homepage and main pages	Completed.
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Migration

Admin/User training	June – August 2012
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Migration of the content in the CMS, Update of the content	June – August 2012
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Test phase I before launch (on development server)	August/September 2012
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Launch and post-launch procedure

Switch DNS	August/September 2012 (duration 24 - 48h)
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Announcement and promotion of the new website (based on APFM communication strategy)	August – October 2012 (focus) Continuous process
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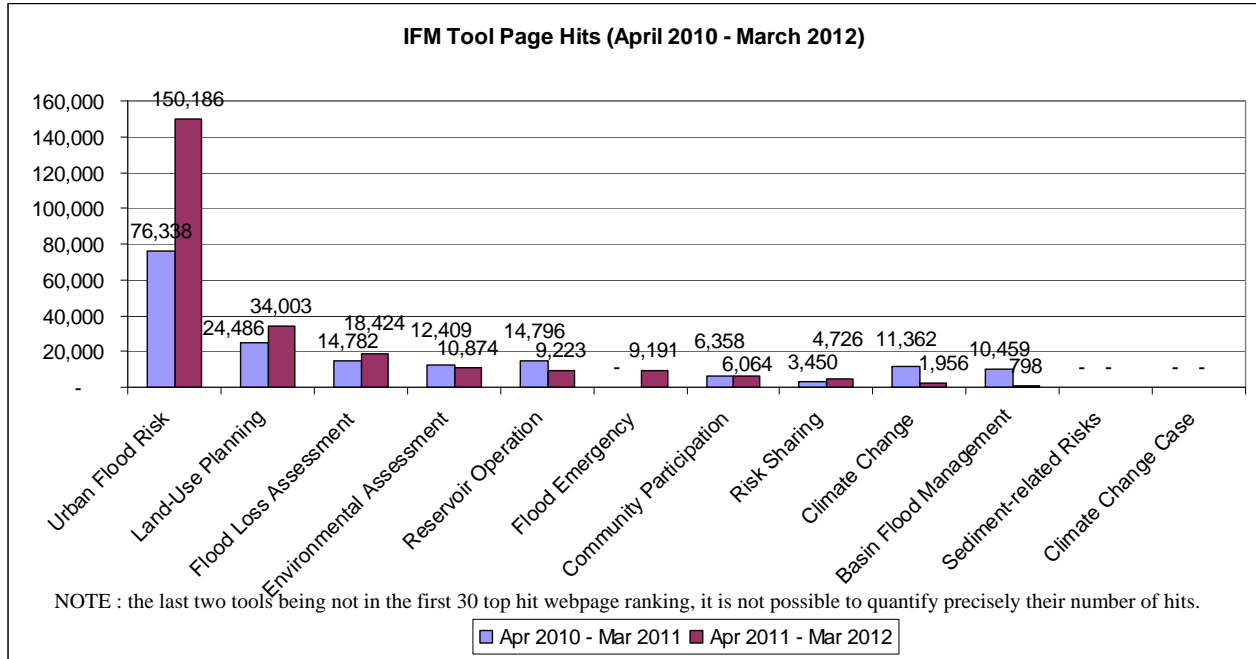
Test phase II after launch (on production server)	September – October 2012
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CMS: Content management system, DNS: domain name system

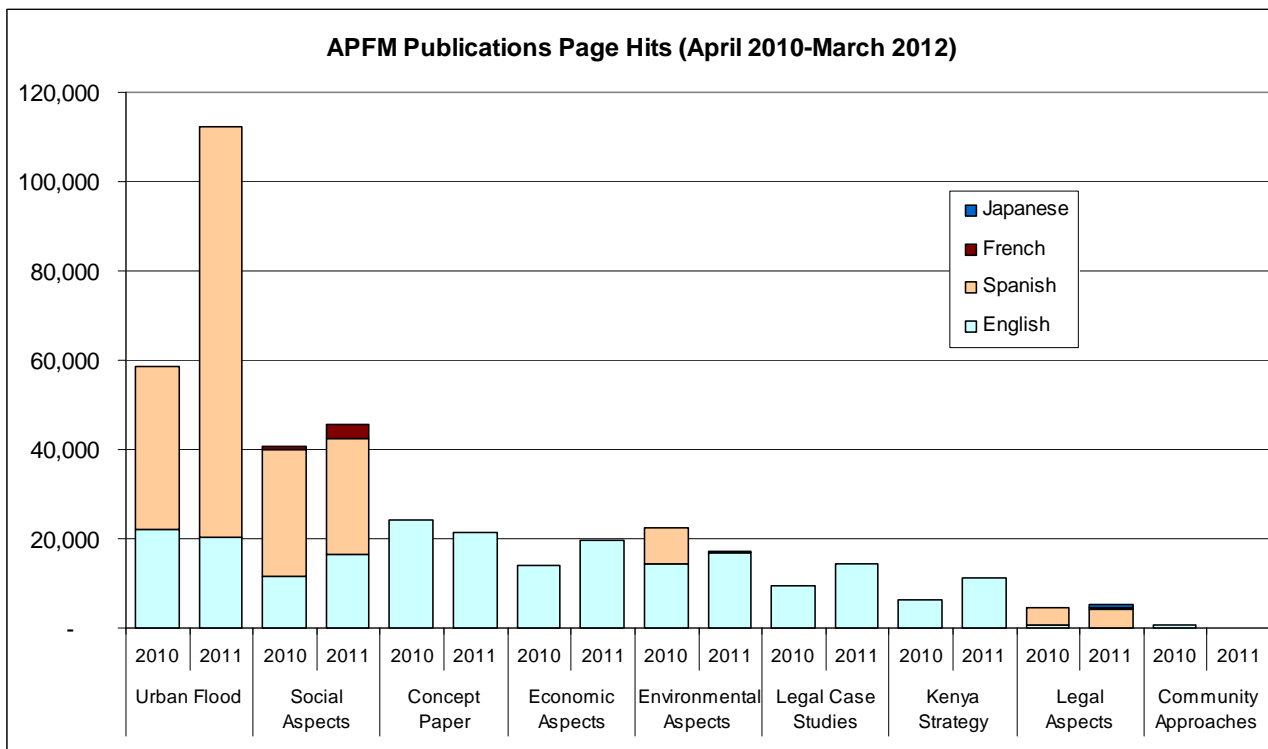
Usage of APFM Publications on Website

The number of web page hits for the past two years is summarized below regarding nine IFM Tools published before April 2010 and three new tools (*Flood Emergency*, *Sediment-related Risks*, and *Climate Change Case Studies*) additionally posted on the APFM website in February 2011. According to the data, “*Urban Flood Risk*” Tool (2008) is by far the most read material followed by “*Land-Use Planning*” Tool (2007). This tendency remained the same for two years. The former tool showed remarkable increase in usage numbers compared to the previous year. Two of the new tools (*Sediment-related Risks*, *Climate Change Case Studies*) need to be more widely promoted because of very limited usages. It has to be noted that lacking the data for the two tools in the graph does not necessarily mean that their page hits are zero.

The recommendation from previous year’s AC/MC meeting to develop a pop-up window to identify the visitors who download information for statistical purposes has not yet been implemented, due to the difficulties encountered in managing the current version of the website. The solution will be however implemented during the upcoming migration and restructuring of the website. It has however to be discussed if this would not discourage download by users: alternatively, a solution similar to the one adopted for the WMO’s Guide to Hydrological Practices (inviting the downloader to subscribe for receiving updates on APFM publications) could be envisaged.



Regarding other APFM publications except IFM Tools, “Urban Flood” management manual and “Social Aspects” policy series are the most widely read materials. In addition to the original English edition, Spanish translations are also referenced by many readers; however other-language editions are hardly used.



2.6.5. Dissemination of publications

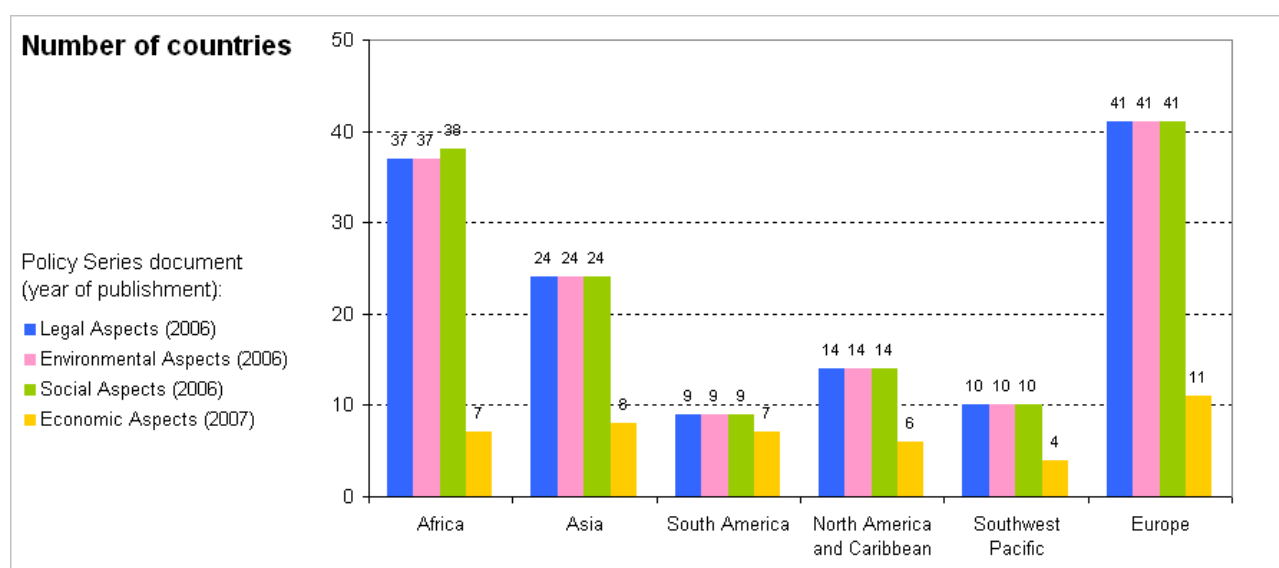
During the reporting period, publications were delivered and distributed upon request of NGOs and government organizations. A total of 1,062 APFM CDs, mainly “old” versions including all APFM website contents, were distributed from April 2011 to March 2012 on the occasion of various training, conferences, exhibitions, etc. At the international conferences and workshops, sample copies are displayed, and requests from interested parties are collected and fulfilled upon return of TSU to the WMO headquarters. This reduces waste of resources both in terms of printed publications and in transport charges. The following table shows the number of countries reached, and copies dispatched for the reporting period and since their launch.

	Number of countries reached		Number of copies dispatched	
	Apr2011-Mar2012	Total since launch	Apr2011-Mar2012	Total since launch
Legal and Institutional Aspects of IFM (2006)	12	135	134	1,486
Social Aspects and Stakeholder Involvement in IFM (2006)	12	136	132	1,511
Environmental Aspects of IFM (2006)	12	135	135	1,570
Economic Aspects of IFM (2007)	11	43	141	694

A detailed inventory of the publications in stock has been done during the reporting period. The inventory list is available as sub-material V (g).

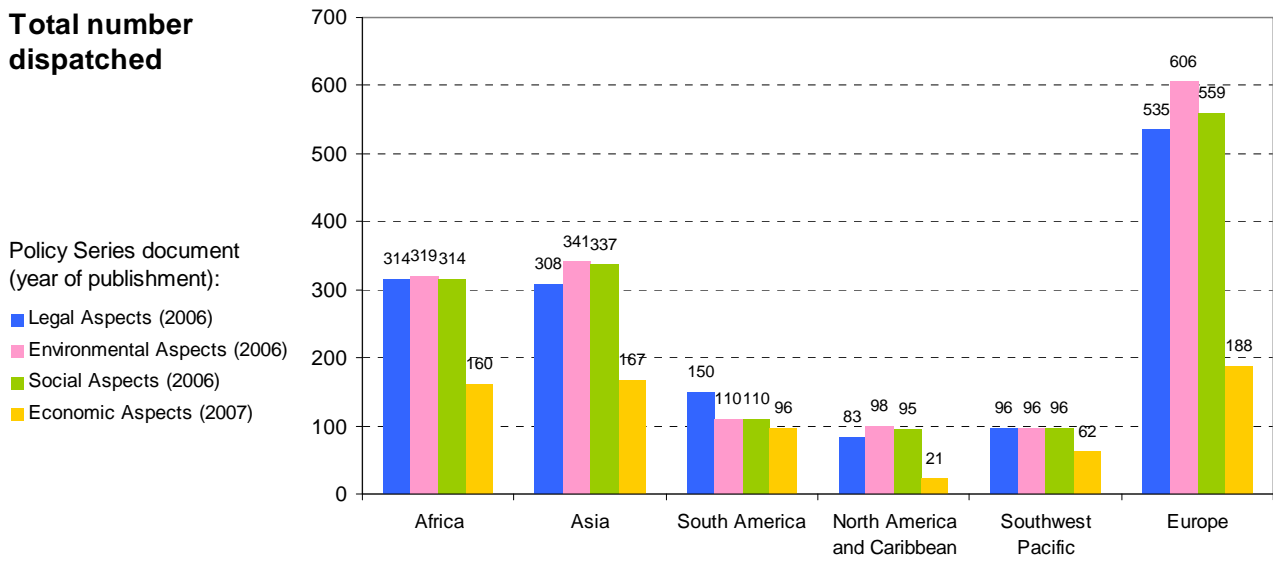
DISSEMINATION OF FLOOD MANAGEMENT POLICY SERIES (since their publication, status: March 2012)

1) Number of countries reached



2) Number of publications dispatched

Total number dispatched





2.7 IFM HELP DESK

2.7.1. Institutional arrangements and mechanism for the IFM HelpDesk

The TSU places emphasis on the establishment and consolidation of the support base of the IFM HelpDesk, namely, the partner institutions expected to actively support the operation of the IFM HelpDesk. The formal process of becoming an IFM HelpDesk Support Base Partner is signing a “Letter of Engagement (LoE).” The first LoE was signed in August 2008 and will therefore expire soon; the majority of the LoE having been signed in 2009, their validity will expire next year. At the time of LoE renewal, the past activities with the SBP should be reviewed and the effect of partnership should be considered from both SBP and WMO sides. The current list of IFM HelpDesk Support Base Partners is shown below:

SBP NAME	WMO REGION	DATE OF SIGNATURE	DURATION OF AGREEMENT
Asian Disaster Preparedness Center (ADPC)	II (Asia)	17/06/2009	4 years
CAP-NET/UNDP	I (Africa)	19/03/2009	4 years
Czech Hydrological Institute	VI (Europe)	19/06/2009	4 years
CIMA Foundation	VI (Europe)	05/02/2011	4 years
DELTARES	VI (Europe)	19/03/2009	4 years
DHI Group	VI (Europe)	18/08/2009	4 years
UNESCO Center for Water Law, Policy and Science – Dundee University	VI (Europe)	18/08/2009	4 years
EuroAqua Consortium – Sophia Antipolis University	VI (Europe)	25/03/2009	4 years
Global Water Partnership	VI (Europe)	27/03/2009	Undetermined ¹
The International Association of Hydrological Science (IAHS)	VI (Europe)	19/03/2009	4 years
International Center for Water Hazard and Risk Management (ICCHARM)	II (Asia)	21/03/2009	4 years
Japan Institute of Construction Engineering (JICE)	II (Asia)	07/12/2009	4 years
Japan Water Agency	II (Asia)	30/04/2010	4 years
Korea Water Forum	II (Asia)	19/06/2009	4 years
Korea Water Resources Association	II (Asia)	17/06/2009	4 years
The Stockholm International Water Institute (SIWI)	VI (Europe)	18/08/2008	4 years
Institute of River & Coastal Engineering at the Hamburg University of Technology (TUHH)	VI (Europe)	30/06/2009	4 years
United Nations Economic commission for Europe (UNECE)	VI (Europe)	13/09/2010	Undetermined ²
UNESCO-IHE Institute for Water Education	VI (Europe)	19/03/2009	4 years
UNITAR operational satellite applications programme “UNOSAT”	VI (Europe)	18/03/2009	4 years

Notes:

1. The GWP Letter of Engagement is not in APFM TSU archives. A similar letter in which GWP commits to support the HelpDesk signed 6 May 2009 is available; however, no duration of the support is indicated in the letter.
2. Because of bureaucratic complication, not allowing them to sign the official Letter of Engagement, UNECE committed to support the HelpDesk through a letter from the director of the Water Convention. This letter does not specify the duration of the agreement.

Other potential partners, who expressed interest in the first phase after the launch of the HelpDesk, and which contributed on a non regular basis to the HelpDesk activities, include:

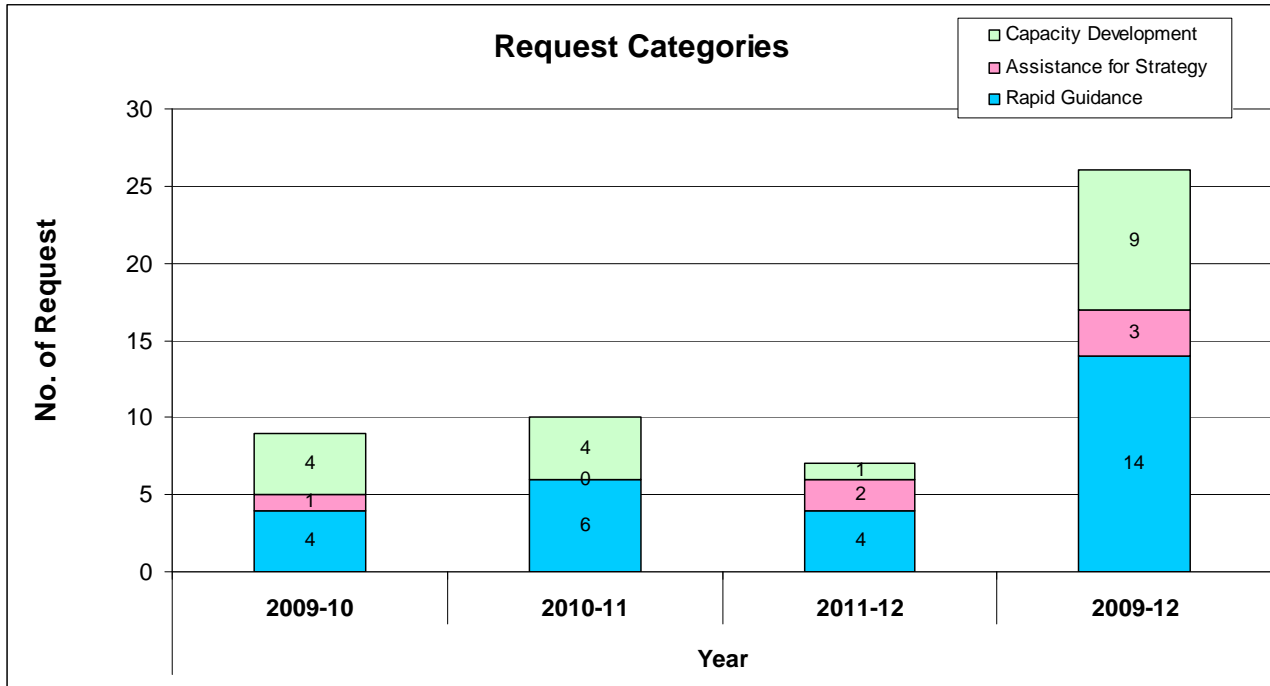
- Australian Bureau of Meteorology (BoM)
- Centro de Estudios y Experimentacion de Obras Publicas (CEDEX)
- International Association of Hydraulic Research (IAHR)
- Nile Basin Capacity Building Network (NBCBN)
- Ramsar Convention
- UNISDR
- ITU

In the reporting period, ITU (International Communication Union) contacted APFM in order to organize events and initiatives related to data collection and transmission. APFM managed to mediate finding the most appropriate contacts for one of the events (on the use of submarine cable for oceanographic observations), but due to lack of time and human resources could not properly follow up a second request for assistance in organizing an event on smart water solutions. Contacts may be re-established to assess the validity of interest from ITU in going on with this cooperation.

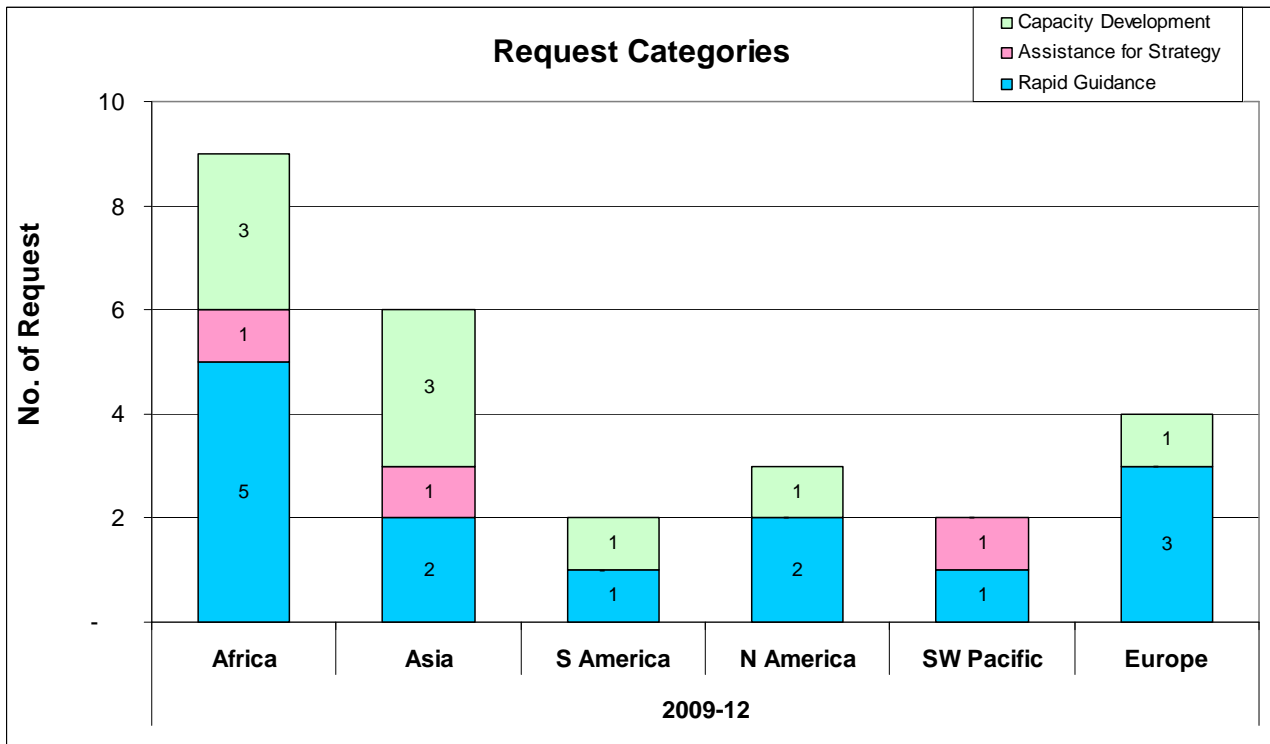
On the other hand, it was not possible, as requested at the AC/MC meeting last year, to coordinate and share information with the network of the Country Water Partnerships, as no contacts were provided by GWP. Efforts would need to be made to broaden the linkages of the IFM HelpDesk to bi- and multilateral development agencies. The sharing of CWP focal points' contacts is a crucial element for this purpose.

2.7.2. Operational Status of the IFM HelpDesk

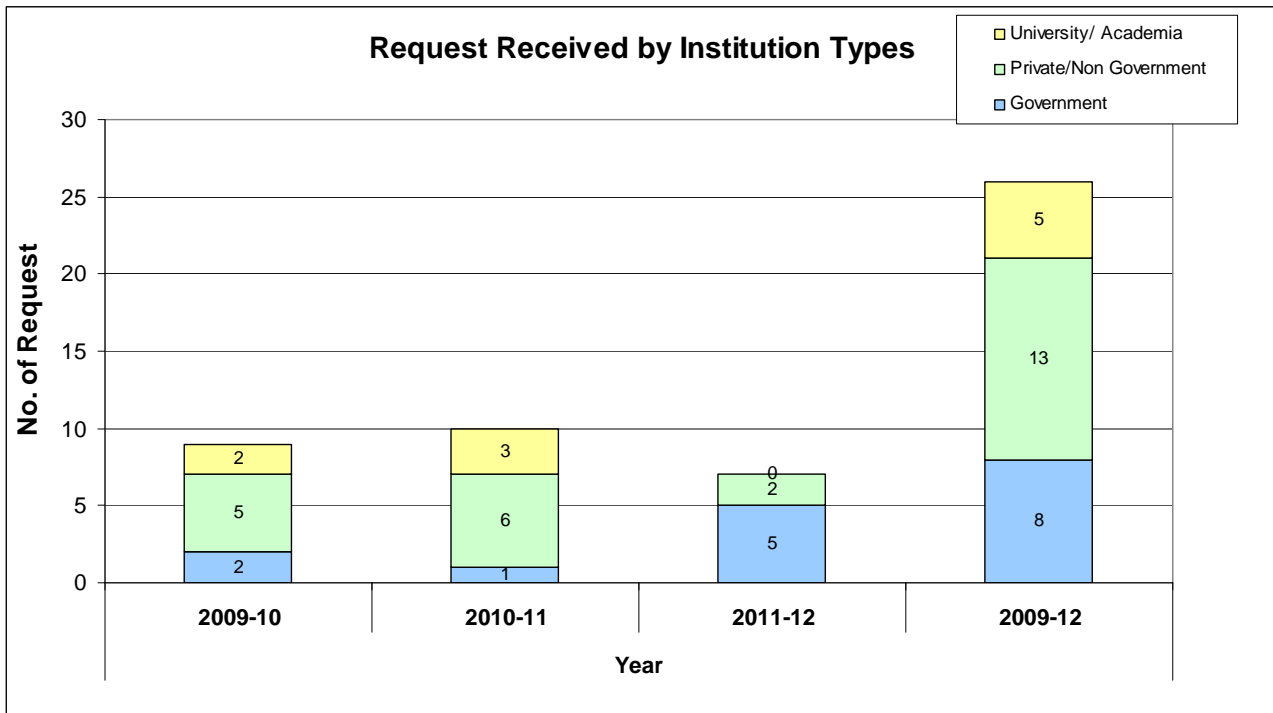
Since the official launch of the IFM HelpDesk at the UN-ISDR Global Platform on Disaster Risk Reduction on 17 June 2009, the requests for “Get Help” part and the state of response is shown in the table below. (Shaded requests were already reported at the last AC/MC). Within three years of operation, and as of March 2012, the IFM HelpDesk has received 26 requests from 22 countries. Numbers of requests received in the year 2009-10 (April 2009 to March 2010), 2010-11 and 2011-12 were nine, ten and seven respectively. For details of the first 19 requests, which were already reported in previous years, please refer to past annual reports. In the figures below, the requests are sorted into the three main request categories: rapid guidance, assistance for strategy and capacity building. Overall, rapid guidance requests (56%) make up the majority of all requests received.



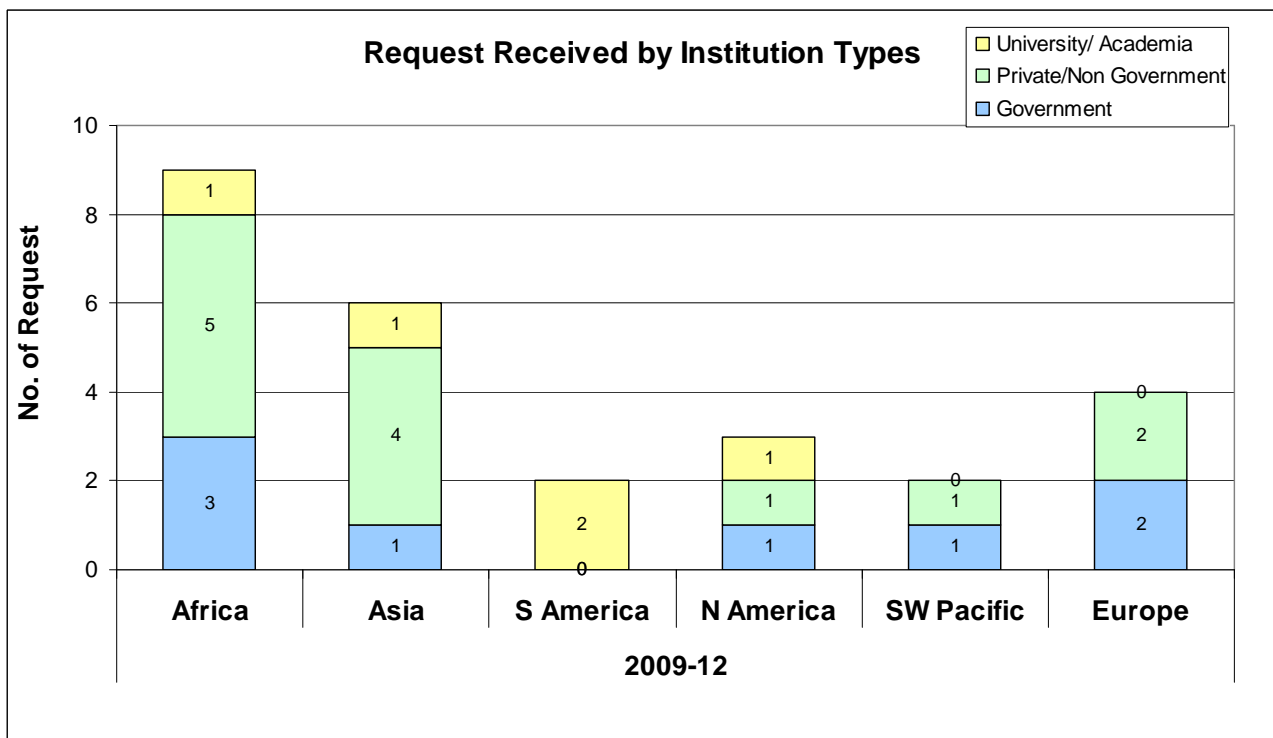
The following figure illustrates the total requests received via the IFM HelpDesk since its launch in 2009 separated by category and geographical origin. Considering geographic distribution of the WMO Regional areas, APFM received the highest number of requests from RA I - Africa.



Similarly, in the following figure the total request received were divided by type of institution, where it can be noted that around 52% of the requests came from private/non-governmental organizations. The requests received from government and University/academia were 28% and 20% respectively. Nonetheless, all requests were originated from different institutions with none of the requests being repeated.



Finally, last figure below shows which kind of institutions submitted requests to the HelpDesk in every region. This reflects a first impression on the typology of the HelpDesk users, and provides hints on where it would be possible to further develop HelpDesk's visibility to increase the APFM field of activity.





In the following, a brief summary of the various requests received through the HelpDesk is provided.

Requests No. 1 to 19		Received from 06/2009 to 03/2011 (see previous annual reports)		Status: 15 Completed, 3 discarded, 1 in progress (Iowa)	
No.	Date received	Institution Country	Request Category	State of response	Status
20	06/2011	Office of Environment and Heritage; Australia	Assistance for Strategy	Request for IFM policy, law and Strategy	Completed
21	07/2011	Amhara Mass Media Agency Bahir Dar, Ethiopia	Rapid Guidance	A request for Media research and practice on IFM	Completed
22	10/2011	CIO16 Association of Thailand	Rapid Guidance	Request for professional expertise on flood recovery	Completed
23	01/2012	California Water Plan Update 2013 & Water Resources Group MWH Americas	Rapid Guidance	A request for permission to use IFM graphics in "State of California, California Water Plan"	Completed
24	02/2012	Royal Institute of Technology Stockholm, Sweden	Rapid Guidance	Request on materials and tools on Urban flood risk management	Completed
25	03/2012	Kabanga Water Project, Kenya	Rapid Guidance	Request on materials and tools on Integrated flood management	Completed
26	03/2012	Nigerian Meteorological Agency	Capacity Development	Request for sponsorship in participating to the 2nd European Conference on Flood Risk Management	Rejected

Besides the requests received through the HelpDesk, a series of other requests related to the services of the HelpDesk have been received by the TSU either through direct contacts from the requesting party, or through other WMO channels, as summarized in the following table:

Requests received by TSU members through direct contact					
Requests No. 1 to 13		Received from 01/2010 to 04/2011 (see previous annual reports)		Status: 6 Completed, 5 discarded, 2 in progress (UNECE)	
No.	Date received	Institution Country	Request Category	State of response	Status
14	06/2011	UN-HABITAT – Uganda	Assistance for strategy	Request for support in development of a UFM strategy in informal settlements	Completed
15	08/2011	ITU	Rapid Guidance Request	Seeking contacts and experts to promote synergies between ITU and the hydro-meteorological community. See 2.7.1	Completed
16	10/2011	RSG Brokdele – the Netherlands	Rapid Guidance Request	Student interview on IFM-related issues	Completed
17	10/2011	CapNet – South Africa	Capacity Development	Request for support in the organization of a training workshop in Brasil. See 2.4.2	Completed

18	11/2011	Thai Meteorological Department - Thailand	Assistance for strategy	See 2.3.2	Completed
19	12/2011	Department of Meteorology and Hydrology - Lao PDR	Assistance for strategy	See 2.3.3	Completed
20	12/2011	Metameta – the Netherlands	Assistance for strategy	See 2.3.1	Completed
21	02/2012	CapNet – South Africa	Capacity Development	Request for support in the organization of a training workshop in Thailand. See 2.4.2	Completed
22	02/2012	SciDev.net – United Kingdom	Rapid Guidance Request	Request for comments/interview on the WB publication on Urban Flood Management	Discarded (deadline)
23	04/2012	JICE – Japan	Rapid Guidance Request	Request for information on Urban Flood Management in a Changing Climate	Completed
24	05/2012	CIMA – Italy	Rapid Guidance Request	Request for assistance in revising proposals for EC Directorate of Humanitarian aid and civil protection - ECHO	In progress
25	05/2012	Joanneum Research – Austria	Assistance for strategy	Request for assistance in drafting a call for proposals for European Space Agency	In progress

Requests received by HelpDesk through other WMO divisions/departments					
Requests No. 1 to 8		Received from 07/2009 to 08/2010 (see previous annual reports)		Status: 4 Completed, 2 discarded, 2 in progress (Zambezi, Mali)	
No.	Date received	Institution Country	Request Category	State of response	Status
9	08/2011	DINAC - Paraguay	Capacity Development	See 2.4.2	Completed
10	10/2011	European Commission	Assistance for strategy	See 2.3.8	In progress
11	12/2011	Société des Eaux de Marseille - France	Assistance for strategy	See 2.3.4	Completed
12	02/2012	ESCAP - Asia	Rapid Guidance Request	Call for expression of interest on community based flood management	Completed
13	03/2012	Routledge publishing – United Kingdom	Rapid Guidance Request	Request for inclusion of publication material in <i>Environmental Hazards, 6th edition</i> by Keith Smith, to be published in 2012.	Completed
14	05/2012	Vrije Universiteit – the Netherlands	Rapid Guidance Request	Request for information on flood losses databases	Completed
15	05/2012	Regione Piemonte – Italy	Rapid Guidance Request	Request for information on flood vulnerability assessment	Completed
16	05/2012	Ministerio de Aguas, Servicios Públicos y Medio Ambiente de la Provincia de Santa Fe – Argentina	Capacity Development	Request for training workshop on IFM See 3.4.2	In progress



2.7.3. Survey on Support Base Partners

A survey to assess the different functionalities and expertises available among the SBPs has been launched. For that purpose, a first assessment sheet was developed, discussed internally and finalized. TSU has recently circulated the survey questionnaire to all SBPs to get their operational functionalities and area of expertise for possible venture in integrated flood management activities. In the mean time, TSU has also prepared preliminary analysis report based on the signed Letters of Engagement between APFM and SBPs. Currently APFM has a roster of 17 SBPs.

2.8 FINANCIAL SUPPORT AND PERFORMANCE

The financial statement of the APFM Trust Fund with income and expenditure from April 2011 to March 2012 is summarized below.

2.8.1 Financial support

During the reporting period, CHF 211,024 was contributed by Japan and CHF 110,000 by Switzerland to APFM as a direct financial support. In addition, Switzerland, Italy, and Germany contributed to APFM activities through in-kind support. As of recent, USAID has committed financial contributions in support of specific activities in APFM, including the implementation of field demonstration projects.

Contribution from Japan (reporting period 2011-12)

1 st instalment:	CHF	144,256	(JPY 14,000,000)	13 Sep 2011
2 nd instalment:	CHF	44,512	(JPY 4,000,000)	15 Mar 2012
3 rd instalment:	CHF	22,256	(JPY 2,000,000)	15 Mar 2012
	CHF	211,024		

Contribution from Switzerland

2 nd instalment for 2010-11:	CHF	40,000	22 Aug 2011
1 st instalment for 2011-12:	CHF	70,000	13 Dec 2011
	CHF	110,000	* ¹

Interest	CHF	2,880
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Total Income	CHF	323,904	*
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After receiving the last instalment from Switzerland (CHF 30,000), the total contribution during this reporting period amounts to CHF 313,904 (CHF 211,024 from Japan + CHF100,000 from Switzerland + CHF 2,880 interest).

2.8.2 Financial performance

Expenditure and income for the reporting period 2011-12 are presented in the table below. In total, an expenditure of CHF 381,917 has been incurred over the income of CHF 313,904 (all contributions plus interest). The difference (CHF 68,013) between income and expenditure was supplemented by the balance of APFM fund carried over from the last period. The table also indicates the comparison of the two accounting methods by APFM and by the Finance Division of WMO. The financial statement below prepared by the Finance Division shows the total income recorded as CHF 308,900 and the expenditure as CHF 368,715. The differences between the two accounting methods are also shown in the table and explained below.

¹ Number does not include the last instalment from Switzerland after 31/03/2012.



	APFM Calculation	Financial Statement	Difference
Balance as at 1st April 2011		CHF 583,322	
Total income	CHF 313,904	CHF 308,900	CHF 5,004
Expenditure	CHF 381,917	CHF 368,715	CHF 15,205
Balance as at 31st March 2012		CHF 523,507	

The new WMO accounting system (IPSAS) introduced in 2010 registers a contribution at the time of pledge and also regards obligation of spending as expenditure. The income difference (CHF 5,004) between APFM calculation and the financial statement is accounted for by exchange rate adjustment in the contributions from Japan. When APFM receives the contribution, the pledged contribution amount is kept as it is in the IPSAS system. Instead, the same amount of exchange difference is deducted from the expenditure. The expenditure difference (CHF 13,202) derives mainly from the different timing of recording expenditure, that is, at the time of obligation in IPSAS system or at the time of payment in APFM calculation. Because some of expenditure items were already regarded as expenditure at the state of obligation in the previous reporting period, the financial statement shows the smaller amount of total expenditure than APFM calculation.



**TRUST FUND FOR
ASSOCIATED PROGRAMME FOR FLOOD MANAGEMENT
STATEMENT OF INCOME AND EXPENDITURE
FOR THE PERIOD 1 APRIL 2011 TO 31 MARCH 2012
(amounts expressed in Swiss Francs)**

1. Balance as at 1 April 2011			583,322
2. Income (contributions + interest):	(a)		
2.1 Contributions	(b)	306,020	
2.2 Interest		2,880	
2.3 Total Income		<u>308,900</u>	
3. Total funds available			<u>892,222</u>
4. Expenditure	(a)		<u>368,715</u>
5. Balance as at 31 March 2012			<u><u>523,507</u></u>

(a) Data during the period 1 January to 31 March 2012 is provisional, as the three months had not been closed financially at the time this report was compiled.

(b) Effective 1 January 2010, the World Meteorological Organization implemented International Public Sector Accounting Standards (IPSAS), which requires, inter alia, that pledged income be recognized as income. To the extent there were pledges of contributions to this Fund during the twelve-month period on which the report is based, the total contributions of CHF 306,020 include such pledges.

Certified correct:

Luckson Ngwira
Chief, Finance Division
16 May 2012

2.8.3 Contributions from WMO, donors, and partners

Along with the APFM Trust Fund, the APFM activities were supported from WMO regular budget and the other trust funds. The personnel costs of three TSU staffs were financed not by APFM but by WMO and by the Governments of Italy and Germany, as shown in the table below. Two international conferences (ICFM5 and WWF6) were supported directly from WMO regular budget (over CHF 80,835). Staffs in the Hydrology and Water Resources Branch, Climate and Water Department, WMO also support APFM-related activities, such as training and pilot projects.

Contribution from WMO, Italy and Germany to APFM (2011 June - 2012 May)

Period	Personnel/Activity	Source	Contribution
Jun-May	Head of Technical Support Unit (TSU)	Climate and Water Department (CLW)	6 Man-Month (MM)
Jun-May	TSU Staff	CLW	4 MM
Jun-Oct		Italy	2.5 MM
Feb-May	TSU Staff	Germany	4 MM
Sep	5th International Conference on Flood Management (ICFM5) in Tokyo	CLW	Side event, Staff participation 78,253 CHF
Mar	6th World Water Forum (WWF6) exhibition in Marseille	CLW	Booth, Shipping 2,582+ CHF

When workshops and conferences are organized, APFM often asks for the participation of partners (donors, SBPs, etc.) as speakers or resource persons. Such contributions from partners for the past year are listed in the following table.

Contribution from Partners to APFM (2011 June - 2012 May)

Month	Activity	Partners	Contribution from Partners
June	ACMC meetings in Geneva	GWP	2 persons
		MLIT	1 person
		FOEN	2 persons
		CHy	2 persons
		Deltares	2 persons
		DHI	2 persons
		IAHS	1 person
		KWRA	1 person
		UNOSAT	1 person
August	World Water Week side event in Stockholm	ADPC	Keynote speaker
		Cap-Net	Presenter
		UNISDR	Presenter
		SIWI	Facilitator of APFM side event
September	APFM 10-year event in Tokyo	MLIT	Welcome address
		GWP	Welcome address
		DHI	Presenter
		IAHS	Chair
August-November	Tool on preliminary flood risk assessment	DHI	Full tool developed
October	IFM Tool on Flood Regulations	Deltares	APFM requested information and interview but no contribution
		Univ. of Dundee	APFM requested information but no reply
April		FOEN	Consultative meeting
November	Urban flood training in Brazil	Cap-Net	Organization of training
January	Mediterranean Flood Solution WS in Marseille	CIMA	Presentation (prepared, but could not attend due to last minute inconvenient)
March	Urban flood training in Thailand	Cap-Net	Organization of training
On-going	Tutorial on Climate Change and IWRM	Cap-Net	Translation costs



3. ACTIVITY PLAN FOR THE PERIOD 2012/2013

3.1 POLICY SERIES AND IFM TOOLS

TSU will continue to develop the following needs-based new Tools:
(refer to section 2.1 above)

Finalization

- Guideline on Flood Mapping
- Effectiveness of flood management measures
- Flood Forecasting and Early Warning
- Regulations and technical standards of flood
- Economic Aspects (update)
- Conducting Flood Loss Assessment (update)
- Risk Sharing in Flood Management (update)

New development

- Transboundary Aspects of Flood Management
- Coastal Flood Management
- Health and Sanitation Aspects of Flood Management
- Role of the media in Flood Management

It is understood that except for the first 2-3 tools, the other proposed new tools will be started but not finalized in the period 2012/2013.

The Russian translation of the Concept Paper 3rd edition is also planned to be finalized in the next period. Chinese translation will depend on availability of contacts from GWP.

3.1.1. Transboundary Aspects

As floods do not recognize borders, transboundary flood risk management is imperative in shared river basins, involving both Governments – as borders are involved – and their people – as risk is involved. However, transboundary flood management is not easy to implement, as joint monitoring, forecasting and early warning, coordinated risk assessment and joint planning of measures, and appropriate legal and institutional frameworks are all necessary. The tool on transboundary aspects of flood management will focus on common problems, objectives and approaches of flood management in transboundary basins, as well as a knowledge sharing in managing transboundary flood risks. A large amount of materials has been collected for this tool in the reporting period, however compilation of the materials and drafting of the tools have not yet been undertaken. Preliminary discussions have taken place with SIWI to finalize this tool.

3.1.2. Coastal Flood Management

The Coastal Flood Inundation Demonstration Project (CFIDP) described above contains the element of Coastal Flood Management. Major issues in this tool to be developed will focus on land use and infrastructure planning in coastal zones; coastal flood risk management including risk maps, prevention and response measures using IFM approaches. It is important to note that there are significant differences, as coastal floods are mainly characterized as a result of storm surges and tidal floods in deltas and estuaries.



3.1.3. Health and Sanitation Aspects of Flood Management

There is a lack of knowledge on how to assess the environmental and health effects associated with exposure to the often complex chemical and biological contamination of water and soil that can follow floods.

Water supply and sanitation are crucial determinants of health, especially during emergencies, but failing or compromised water and sanitation services may in themselves pose a risk, and a source of contamination, the impact of which reaches beyond local and national borders. This tool will provide an overview on why and how flood management practices should consider the vulnerability of water supply and sanitation facilities and new risk elements for health and environment arising from water services management during floods.

3.1.4. Role of the media in Flood Management

The role of mass media could be of enormous benefit to Integrated Flood Management. The media is one of the most important sources of disaster information and it significantly influences or shapes how the population and the government view, perceive, and respond to hazards and disasters, playing an important role in increasing risk awareness in the public, guiding their risk perception, and fulfilling public's needs toward information, "translating" technical jargon and providing the public with understandable information about the risk. In a wider sense, media can take the role of educator regarding risk management for those layers of the public which have no other mean to be informed. This tool is intended to develop a constructive approach to address media coverage on floods, in order to synergize media as part of the team in development of public perception into a positive way.

3.2 NATIONAL AND REGIONAL SUPPORT ACTIVITIES

3.2.1. Iowa State

In the framework of the project proposal developed with the Cedar River Basin Coalition, aiming at the development and implementation of an IFM strategic framework plan for Iowa, an exploratory mission towards formulation of an IFM strategy is scheduled to take place in autumn 2012. The mission will consist in a high level meeting, organized under the coordination of the local UNESCO-Help centre' counterpart, to further decide on the implementation of the IFM strategic framework plan for Iowa,.

3.2.2. Thailand

Follow-up and continue assistance in the implementation of a National Flood Management Strategy that will be accomplished with an Action Plan. Communication with the Thai Meteorological Department and the Ministry of Information and Communication Technology is active.

3.2.3. Laos

Follow-up and continue assistance in the implementation of a National Flood Management Strategy that will be accomplished with an Action Plan. Communication with the Lao Meteorological Department and relevant government agencies are active.

3.2.4. Cambodia, Vietnam

Based on the resounding success of the workshops held in Thailand and Laos PDR it is envisaged to organize workshops on the development of national flood management strategies in these countries and others, based on opportunities and available resources



3.2.5. Pakistan

APFM will continue seeking opportunities for implementation of the action plan developed for Pakistan.

3.2.6. Mali

APFM will provide support for the national workshop tentatively scheduled to take place in late 2012, to present the project outcomes on Village Plans for the Reduction of Flood Risk (PVRRI) to decision makers and donors.

3.2.7. South-East Europe

APFM will continue its support to the EC-funded project. Trainings covering topics on flood loss assessment are being discussed to take place in the second half of 2012.

3.2.8. Community Based Flood Management in India, Nepal and Bangladesh

Taking occasion of the new TSU staff, it is planned to re-establish contacts with the local NGOs which assisted in the implementation of the pilot projects, to perform an ex-post analysis of the impacts of the project and possibly re-engage.

3.2.9. West Africa

It is envisaged to hold a regional workshop on IFM for the English-Speaking countries of West Africa in early 2013 that may include transboundary issues in flood management. This activity is in a very early stage of planning.

3.3 NEW FIELD DEMONSTRATION PROJECTS TO BE PLANNED AND IMPLEMENTED

To meet the objective of APFM activities in Phase III, Field Demonstration Projects are mentioned amongst the expected outputs. It is foreseen that APFM provides technical support for on-going or planned field projects implemented by other organizations. In this context, the following three field demonstration projects are foreseen to be complemented by an APFM Tool, or – in the case of community-based approaches to flood management – with an updated tool:

Integrated Coastal Flood Management

This project will be taken up in the framework of the existing Coastal Integrated Flood Demonstration project (CIFDP), a joint undertaking of the Joint Commission for Ocean Meteorology (JCOMM) and the WMO Commission for Hydrology (CHy) currently coordinated by the WMO Marine Meteorology Division. From an APFM viewpoint, coastal flood management is seen in the context of flooding caused by storm surges and involves early warning as well as land management and flood preparedness. Current countries under consideration are: Bangladesh, Dominican Republic and possibly Mozambique. Based on opportunities and funding sources, other countries could be likewise considered.

Community-based approaches to Flood Management

Building on the successful implementation of this project in earlier years in Bangladesh, Nepal and India, it is envisaged to extend the project to other countries. Based on consultations with Asian Disaster Preparedness Centre (ADPC) in Bangkok and Lao PDR, the project could be carried out in cooperation with ADPC in Thailand and Lao PDR. Other countries could be added including Ghana and possibly Kenya.

Transboundary Flood Management

Within the context of integrated river basin management in transboundary basins, integrated flood management has become a prime issue as both flood risks and opportunities are shared by riparian countries and should be addressed in an appropriate manner. Transboundary flood management aims at harmonizing



activities in river basins that relate directly to floods so as to balance both risks and benefits from flooding in the basin. In cooperation with the United Nations Economic Commission for Europe (UNECE), the project could be implemented on the Dniestr in Moldova and Ukraine, and in cooperation with the Sava River basin Commission in the countries of the Sava River.

3.4 CAPACITY DEVELOPMENT

3.4.1. Development of training material

Vocational training materials together with Cap-Net

The “Collaborative Work Programme” of Cap-Net and WMO on Integrated Flood Management would be updated for the activity after 2012 on the allocation of activities and budget expected after the AC/MC Meetings.

Development of IFM Training Material in the framework of collaboration with Cap-Net will be carried on and finalized undertaken on two of the four original topics for different target groups:

- Water/flood managers or policy makers at national level (*IFM Policy Course*)
Based on the development by the end of last reporting period, an in-deep revision of the training material will be considered in collaboration with Cap-Net. This will also be coupled with an update of the existing training presentations and modules.
- National NGOs active in community outreach projects in water or disaster management, and subsequently district/municipal level authorities as well as community leadership in flood prone areas, particularly rural areas. (*Community flood management course*). The available materials will be revised in consultation with external experts.

E-learning in collaboration with Technical University of Hamburg-Harburg

Consultations will hopefully re-open soon on future cooperation between APFM and TUHH, to further develop e-learning materials to be linked or uploaded on the new APFM website

Multimedia capacity building materials on IFM

The proposal to develop with Metameta a flood related multimedia platform should be further discussed and concretized, in view of a dedicated section in the new APFM website.

Educational programme for kids and wider public

The joint development of a module on flood management in the framework of the already developed e-learning platform for kids www.discoverwater.org could be further discussed and implemented.

3.4.2. Training courses

Argentina

Following the training workshop held in Paraguay in October 2011, one of the facilitator, Prof. Carlos Paoli from Argentina, managed to promote the activity among the Ministry of Water, Public Services and Environment in the Provincial Government of Santa Fe, Argentina. The training would tentatively be held in autumn 2012, and may lead to the formulation of a strategy at the provincial level.

Colombia

A first contact with UNOCHA in Bogotá has been established by TSU. UNOCHA is often facing problems related to humanitarian crisis rising from flood events in Colombia, and a first overlook on the major APFM publications (concept paper and policy series) has confirmed a mutual interest in cooperating in the country. Training could therefore be envisaged under the coordination at the local level of UNOCHA during the next year.



3.5 REFERENCE CENTRE DATABASE

The update of information contained in the Reference Centre Database is accelerated to include latest references and in particular including all references made in the Tools series. For this purpose, an assessment of the current bibliographical references contained in the IFM tools has been initiated, and some 300 references have been identified to be included in the database. Moreover, a selection of useful publications, policies and institutions dealing with flood management will be done through newsletters and notifications received through the APFM mailbox.

3.6 DISSEMINATION OF INFORMATION

High priority will be given to information dissemination on the basis of the Communication Strategy.

3.5.1. Conferences and Seminars

UN General Assembly side event in New York on 11 July 2012

On the occasion of the General Assembly - Special Thematic Debate on Water and Disasters in New York on 12 July 2012, a side event is planned by WMO one day before the conference on 11 July 2012.

Commission for Hydrology

The Fourteenth Session of the Commission for Hydrology is scheduled in Geneva from 6 to 14 November 2012.

3.5.2. Articles

In line with the Communication Strategy, scientific and technical journals will be used as means of diffusion of the IFM concept, through the publishing of articles on IFM-related issues. SBPs assistance and support in this activity will be essential, both in establishing links with editorial boards and in producing high quality level of inputs for the articles. Examples of journals to be considered for this task are International Network of Basin Organizations (INBO) newsletter, ICHARM newsletter, Korean Journal of Hydrologic Environment, International Commission on Irrigation & Drainage (ICID) news, Regional Centre on Urban Water Management (RCUWM) newsletter, Network of Asian River Basin Organizations (NARBO) newsletter.

3.5.3. Website

The website is a central part of the APFM, being not only a way to present the IFM concept and APFM activities, but also the main way of access for the wide public to the materials developed and support activities provided by APFM. The migration from the old server will be completed in the reporting period (see chapter 2.6.4), being built on a Content Management System platform. It also constitutes the opportunity to

- renew the layout and design in order to ensure user-friendly access and consistent layout
- revise the entire architecture and organization of the website
- update contents and events,
- reorganize the reference centre databases with regard to user friendliness, and
- include further sections such as a press room or a multimedia channel presenting videos of flood events and flood management practices.

Currently, the update of the website is not efficiently done. The implementation of a new user friendly content management system simplifies and accelerates any usage and updates in the future.



3.7 IFM HELP DESK

The HelpDesk has made the APFM a demand driven programme. Efforts are still needed to make the availability of the IFM HelpDesk known to the foreseen beneficiaries. Focus will be the strengthening of the “GetHelp” function of the HelpDesk. The Communication Strategy will also serve for this purpose. Close collaboration with all support base partners in the fine tuning of the functionality of the IFM HelpDesk will be pursued. Taking advantage of the migration and restructuring of the APFM website, the HelpDesk webpage will also undergo restyling, in line with the recommendations of previous AC/MC meetings. This restyling will focus specifically on increasing the user friendliness of the web interface, while at the same time synchronizing the contents available for users with the ones on the APFM (e.g latest tools, past issues of newsletter, linkage to e-learning platforms and other presentation materials) and improving the understanding of the resources available through the HelpDesk.