

ASSOCIATED PROGRAMME ON
FLOOD MANAGEMENT



WORLD
METEOROLOGICAL
ORGANIZATION



Global Water
Partnership

ANNUAL REPORT 2017-2018

World Meteorological Organization 7 bis Avenue de la Paix
1211 Geneva
Switzerland

Date issued October 2018

Report APFM Report No. 43



WORLD METEOROLOGICAL ORGANIZATION

The World Meteorological Organization (WMO) is a specialized agency of the United Nations. It coordinates the activities of the meteorological and hydrological services of 191 countries and territories and is the authoritative voice on weather, climate and water.



ASSOCIATED PROGRAMME ON FLOOD MANAGEMENT

The Associated Programme on Flood Management (APFM) is a joint initiative of the World Meteorological Organization (WMO) and the Global Water Partnership (GWP). Since 2001 it promotes the concept of Integrated Flood Management (IFM) as an approach to flood management.



GLOBAL WATER PARTNERSHIP

The Global Water Partnership (GWP) is an international network whose vision is for a water secure world. The GWP mission is to advance governance and management of water resources for sustainable and equitable development. Created in 1996 the GWP network is open to all organizations that recognize the principles of integrated water resources management endorsed by the network.

EXECUTIVE SUMMARY

Since its inception in 2001, the Associated Programme on Flood Management (APFM), a joint initiative of the World Meteorological Organization (WMO) and the Global Water Partnership (GWP), has been advocating for the concept of Integrated Flood Management (IFM).

IFM integrates land and water resources development in a river basin, within the context of Integrated Water Resources Management (IWRM). IFM objective is to maximize the efficient use of floodplains while minimizing loss of life, subordinating flood loss reduction to the overall goal of maximizing the efficient use of the floodplain. IFM considers flood management not as a monodisciplinary issue related to hydrology and structural engineering, but integrates as well aspects related to environmental management, socio-economic considerations, as well as institutional and legal aspects to ensure an efficient management of floodplains and flood events.

Over the last fifteen years the IFM concept has been mainstreamed through various channels, and is now reflected in many international and national operational policies. Even though there is no exhaustive list of policies, reports and studies that were influenced by APFM, it can be affirmed without doubts that APFM has played a role in the mainstreaming of the IFM concept through its publication series, the various IFM workshops carried out in previous years, and its network of Support Base Partners (SBPs).

EXAMPLES

Just to mention a few policy documents to which APFM contributed in the last year:

- WWF has recently launched a training curriculum on the Flood Green Guide (largely reflecting the IFM concept and based on APFM material);
- UNECE Water Convention contribution in drafting the Post-Sendai “Words into Action” document “Addressing Water-Related Disasters and Transboundary Cooperation” has largely benefitted from APFM input;
- the SDG 6 Synthesis Report;
- the World Water Development Reports of 2018 and 2019;
- the WMO Guidelines on integrated weather, climate, hydrology and environment urban services

Despite this and a decreasing trend in the number of lives lost due to floods, we still experience worldwide an increase in flood damages. How to explain this? A possible shortcoming is the fact that, despite all the efforts conducted by APFM and other main actors in disseminating the IFM concept among flood management practitioners, decision makers have not yet fully adopted the IFM concept. There is therefore the need to further invest energies and resources on this aspect, through demonstrating the applicability of IFM concepts through the implementation of projects.

APFM activities have been made possible during more than 15 years thanks to voluntary contributions (financial and/or in-kind) by external donors such as the Governments of Japan, Netherlands, Switzerland, USA, Germany, Italy and France. These core contributions allowed the development of guidance and training material, and the organization of outreach events, workshops and pilot projects. However, external core contributions came to an end in 2017, and following the outcomes of the external review of the APFM in 2016 and the consequent decisions taken at the Advisory and Management Committees (AC/MC) in 2016 and 2017, a new business model has been developed and adopted.

During the last year APFM has therefore been active in developing opportunities to apply the IFM concept, amplifying its range of expertise and integrating in the HelpDesk offer technical elements such as the activities of the WMO Commission for Hydrology (CHy) on the End-to-End Early Warning Systems for Flood Forecasting. At the same time, through the implementation of the new Business model, it was possible to complement existing funding for the maintenance of the programme (currently carried on by in-kind contributions by WMO and GWP). In addition, the project formulation grant of the Adaptation Fund for the formulation phase allowed the APFM to prepare the project proposal on the Volta basin.

The new business model, as highlighted during last AC/MC in September 2017, proposed a new governance structure for the programme, to make it more responsive to financial partners' needs, and at the same time allowing a better involvement of the Support Base Partners (SBP) network in the planning of activities and in the development of IFM-related project proposals. The new governance structure has been approved by consensus among the former AC and MC members in July 2018, and this document represent the first Annual Report under the new governance structure.

Within this new structure, the Management Committee has been replaced by ad-hoc discussions between the Financial Partners (currently WMO and GWP), and this Annual Report does not include, unlike previous years, any financial report or a proposed budget. Rather, this report highlights the major achievements of the last year and delineates a strategic direction for the incoming year, to be further discussed with SBPs at the SBP Forum that will take place in Stockholm on 24 August 2018.

IMPLEMENTATION OF THE BUSINESS MODEL

The various activities developed under the APFM have been based on the new Business model proposed and approved in the last AC/MC meeting. This translates into providing technical assistance and developing project proposals, building on existing tools, guidance material and expertise available through the APFM and its network of SBP. To respond to countries' needs for developing capacities of the NMHSs and other key stakeholders for managing floods and drought events, it is crucial that the Business model also ensure linkages with other WMO and GWP initiatives, thereby ensuring greater visibility and impact for APFM (see fig.1).

To fund this Business model, three different sources of funding have been identified and acted upon:

1. Implementation of projects through external donors, e.g. the Adaptation Fund for which the Volta Basin project proposal has been developed (see fig. 2)
2. Core funding from donor countries, such as Japan, Switzerland or the Netherlands in the past, to implement APFM core activities in the development of new guidance material and staff the Technical Support Unit (TSU)
3. In-kind contribution (mostly through provision of fixed-term staff to the TSU) from WMO and GWP. Over the last year, this has been the major source of contributions to the TSU.

The adoption of the new Business model also coincides with a more recent development in WMO of a strategy to provide Expert Services to WMO Members and also to other International Organizations. In line with this strategy, and with the inclusion of topics related to End-to-End Early Warning Systems for Flood Forecasting (E2E EWS for FF) approved by the last AC/MC, APFM has expanded its field of activities, merging its efforts with those of the WMO Commission for Hydrology in assessing national capabilities in E2E EWS for FF, and providing technical backstopping in the formulation of project proposals driven by other WMO or GWP programmes. It also comes at a crucial time for GWP as the organization is at the end of its current 2014-2019 strategy and is in the process of developing a new post-2019 strategy.

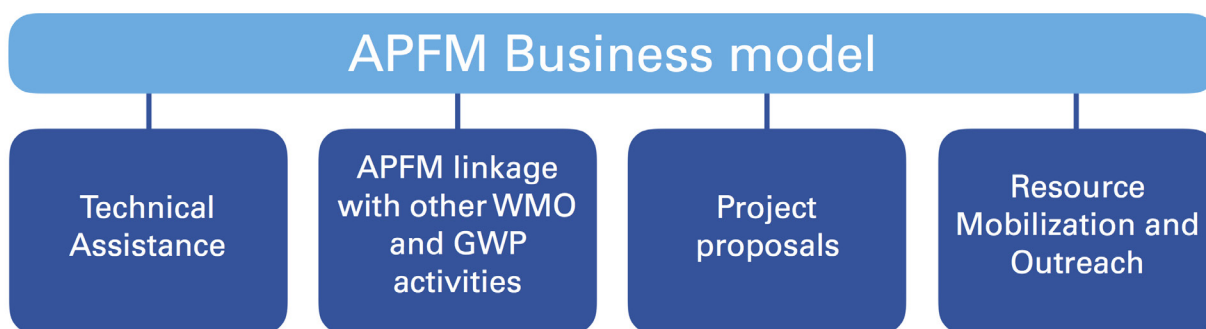


FIGURE 1 - MAIN AREAS OF THE APFM BUSINESS MODEL

PROJECT PROPOSAL PREPARATION

The development of bankable project proposals has been one of the top priorities of the APFM during this reporting period, following the suggestions by the last AC/MC meeting and the APFM review.

In close partnership with Global Water Partnership-West Africa (GWP-AO) and Volta Basin Authority (VBA), APFM submitted the project proposal 'Integrating Flood and Drought Management and Early Warning for Climate Change Adaptation in the Volta Basin (Benin, Burkina Faso, Cote d'Ivoire, Ghana, Mali, and Togo)' to the Adaptation Fund. The following scheme (fig. 2) describes the procedure and progress of the project proposal preparation:

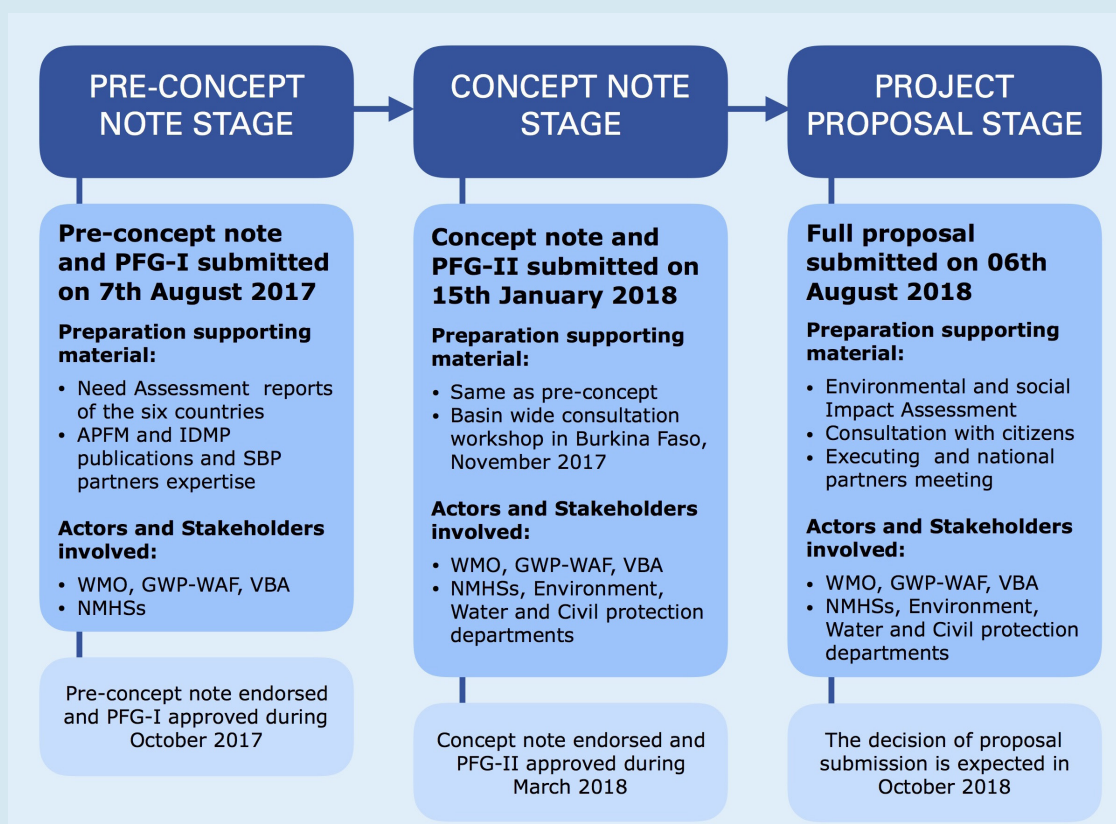


FIGURE 2 - PREPARATION AND SUBMISSION OF A PROJECT PROPOSAL TO THE ADAPTATION FUND

The project proposal development was made possible through a Project Formulation Grant provided by the Adaptation Fund.

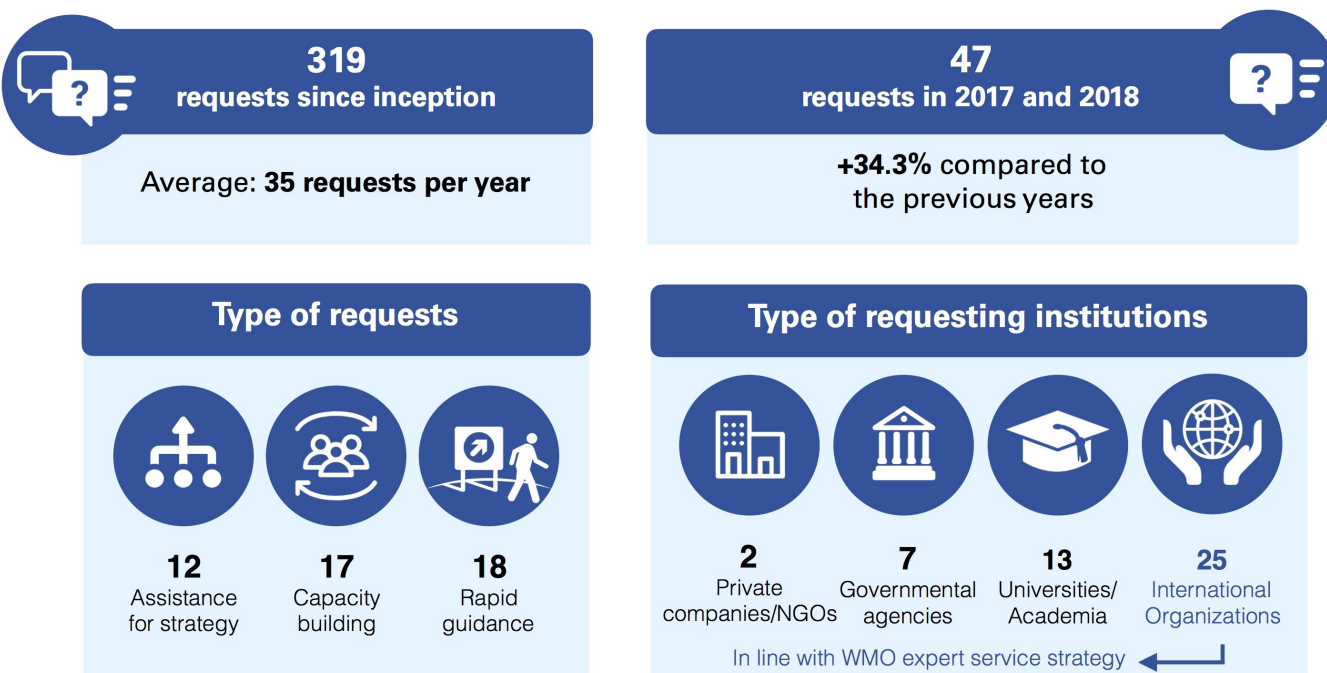
A Training Manual for Mainstreaming Gender in End-to-End Early Warning System for Floods Forecasting (E2E-EWS-FF) and Integrated Flood Management (IFM) is currently under development through in-kind contributions from WMO. Once the draft manual is finalized, it will be tested at various locations of the Volta Basin (under the Adaptation Fund Volta project) and then potentially in other regions of the world to refine the Training Manual. Funding opportunities are being explored for its application in other regions (e.g. through the CREWS initiative).

Building on the success of the Community-based approaches for Flood Management (CBFM) carried out between the years 2013-2016 in Thailand and Lao PDR (see the APFM publication "Voices from the Field"), and to ensure long term sustainability of the project as identified by the post-implementation assessment carried out in 2017, the CBFM phase-II proposal has been drafted. APFM continues to seek potential donors to fund the second phase project proposal.



TECHNICAL ASSISTANCE

The IFM Helpdesk continues to receive requests for support from users working on flood management during the reporting period. 47 requests were received through the APFM HelpDesk website, directly by TSU members, or through other programmes of GWP or WMO. Of these 47 requests, 36 were completed, 6 are ongoing, 2 are pending and 3 were discarded or rejected due to being spam or not related to IFM. A detailed analysis and description of the requests is provided below:



A detailed analysis and description of the requests is provided in Annex 1 to this report.

The IFM HelpDesk can be seen as one medium for receiving requests to provide technical and implementation support in the overall framework of the Expert Service approach of WMO. Several requests for assistance received during the last year have been fulfilled through a cost recovery approach, i.e. the requesting party considered providing cost recovery support to receive technical assistance from APFM on IFM related activities, in line with the WMO strategy on Expert Services. This approach is clearly adopted on an ad-hoc basis, depending on potential synergies between requesting parties and the mandate of WMO and GWP. SBPs requests for joint activities have been positively considered, with APFM providing support whenever mutual interests are identified and conditions for joint application are fulfilled.

SOME OF THE EXPERT SERVICES PROVIDED THROUGH THE IFM HELPDESK INCLUDE:

World Bank project in Vietnam: the World Bank has recently contacted APFM to seek advice on a community-based flood management project in Vietnam. Discussions are currently ongoing to define the scope of activities.



HKH-HYCOS Phase II: ICIMOD contacted the APFM to get support on the topic of early warning dissemination and decision support to authorities and local communities in the framework of the phase II HKH-HYCOS (funded by Australia). Exchanges are being held with ICIMOD to define APFM participation in these activities.

ANYWHERE project: APFM is part of the advisory board of the ANYWHERE project, attending the second meeting of the project in November 2017 and planning to attend the third, to be held in November 2018.

Early Warning System in the Chari-Logone Basin of the Lake Chad: GWP Central Africa has requested APFM support in the development of this proposal led by the Lake Chad Basin Commission and GWP Central Africa. Several rounds of review were provided by the APFM and funding opportunities in the CREWS initiative identified. The APFM was placed as a partner in the proposal.

Mekong basin: The APFM has been approached by GWP China and the transboundary water management theme in GWP to discuss IFM project ideas in the Mekong basin with the Lancang Mekong Cooperation Centre.

Green Climate Fund (GCF) climate resilient water project preparation: The APFM is involved in GWP's collaborating with the GCF, the African Water Facility AfDB, African Climate Change Fund, Climate Resilient Infrastructure Development Facility, the Development Bank of Southern Africa and WMO to strengthen the capacity of National Designated Authorities (NDAs), Direct Access Entities (DAEs) and water ministries to prepare climate resilient water projects. A first workshop for African countries is planned for 19-21 September 2018 in South Africa and a similar workshop with partners in Asia is planned for later in 2018.

APFM SBPs proposal development: Among the SBPs who reached out to APFM to jointly apply to calls for interest or project calls can be mentioned:

- TU Dresden, proposing a joint proposal for the call for interest in the EU funded PRIMA (WMO was however not eligible for this call);
- CIMA Foundation, requesting a letter of support to the proposal OSIER (Open Schooling for climate and dIsastEr Resilience) to be presented in the framework of the H2020 call; APFM is also looking for potential synergies with CIMA in the implementation of CREWS and Volta project activities specifically in the development of flood and drought risks maps, considering project elements originally developed by CIMA in the framework of other project proposals (not retained by the donor) and more widely the application of the DEWETRA platform (made available since 2013 to all WMO Members by the Italian Department of Civil Protection);
- CERFE who also provided in-kind contribution to the revision of the Social Impact Assessment study presented in the framework of the Adaptation Fund Project Proposal for the Volta Basin invited APFM to attend the CARISMAND project (www.carismand.eu) final project symposium on September 18th and 19th 2018 in Florence, Italy, to share APFM experiences on community-based flood and drought management; and
- UNECE and UNEP-DHI sought APFM assistance in organizing two training workshops on the Flood and Drought Management Tool developed together with IWA. Both workshops took place in WMO, Geneva, with 30 participants from National Planning Authorities worldwide.

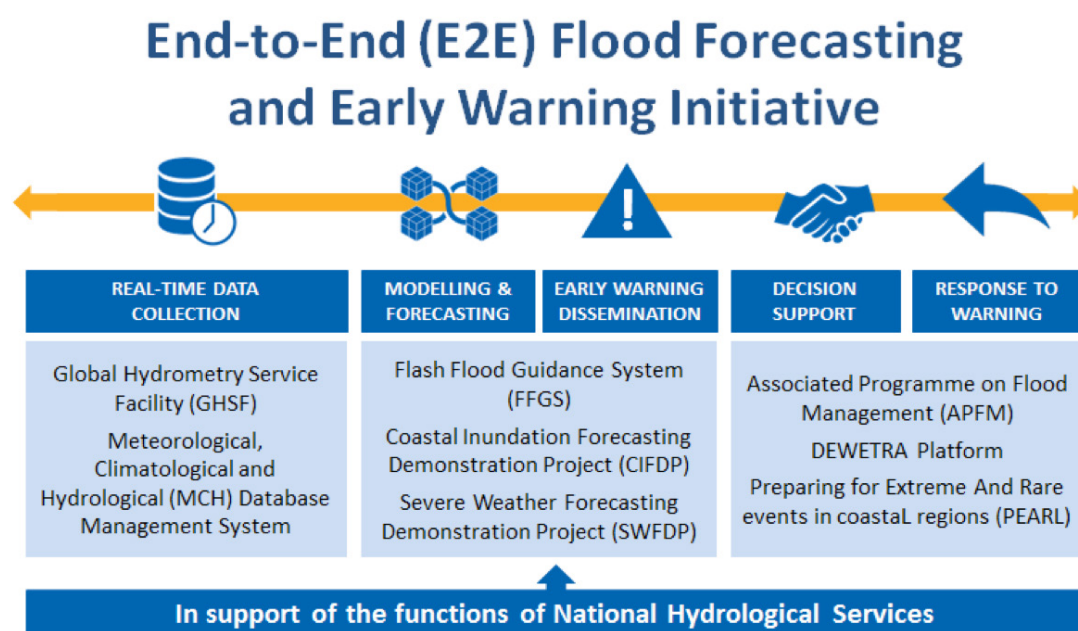
The APFM and Integrated Drought Management Programme (IDMP) have jointly contributed to the development of the Adaptation Fund project proposal on flood and drought management for the Volta Basin, efforts to integrate the flood and drought management HelpDesks have been delayed in terms of website presence. Since the beginning of 2018, the two HelpDesks (APFM and IDMP) are jointly presented in social medias such as Facebook and Twitter, helping to provide technical assistance for floods and drought issues with an integrated approach.



APFM LINKAGES WITH OTHER WMO AND GWP INITIATIVES

WMO FLOOD FORECASTING INITIATIVE (FFI)

APFM supports WMO activities, especially in the End-to-End (E2E) Flood Forecasting and Early Warning Initiative, to be integrated with the IFM activities, assisting Members Countries in the areas of flood and drought management (with IDMP) policies, strategies and capacity building.



Under the FFI Advisory Group Work plan 2016-2019, a 'Community of Practice' approach for the Flood Forecasting Initiative is being implemented. This CoP will support the countries to exchange experiences towards the development and adoption of the best available, sustainable and tailored E2E EWS for FF, in line with the philosophy of IFM and open source technologies. The IFM HelpDesk sustainability will be ensured as it would become an essential platform to showcase products and results of the Commission for Hydrology (CHy) in support of the WMO Flood Forecasting Initiative. Possibly the HelpDesk could also support this core activity of the FFI, hosting the forum that provides the backbone of the Community of Practice for the E2E-EWS-FF. The development and augmentation of infrastructure to undertake this would require financial support. A new mechanism to facilitate cooperation among partners would be achieved through the creation of Support Base Partner (SBP) forum. This Forum would constitute a virtual space where partners can easily share information about available materials and technologies, exchange questions, and present and discuss their needs and proposals seeking synergies with other SBPs. This envisaged SBP Forum could be linked (if not fully integrated) with the 'Community of Practice' of the Flood Forecasting Initiative.

WMO EXPERT SERVICE INITIATIVE

The new strategy of WMO is to support International Banks (such as the World Bank, or the Inter-American Development Bank) and funding institutions (such as the Green Climate Fund) with technical expertise on aspects of meteorological, climatological and hydrological services. There is a need for scaling up provision of expert services to develop and implement better, more effective, and more sustainable hydro-met projects within WMO, subsequently providing Members with last mile connectivity, decision-support systems and other services in relation, inter alia, to flood and drought management. APFM is currently following the guidelines of WMO on expert services by providing technical support on cost-recovery basis for project preparation and implementation of activities.

Assessment of National Capabilities in Burkina Faso and Dominican Republic

Under the framework of Climate Risk and Early Warning System (CREWS) projects, APFM participated in the wider framework of the Hydrology and Water Resources Programme of WMO to the assessment of national capabilities on E2E EWS for FF (including the “last mile” on warning dissemination and decision support) in Burkina Faso (November 2017) and in Dominican Republic (May 2018). Besides the development of detailed workplan for both CREWS projects, the findings of Burkina Faso assessment helped also in the development of the Volta project concept note which was submitted to the Adaptation Fund.

APFM contribution to the Hydrological Assessment proposal

A joint proposal with other programmes in the WMO Climate and Water (CLW) Department (APFM, HydroHub, IDMP, and FFGS) was developed upon request from the Inter-American Development Bank (IDB) to perform similar hydrological assessments in Ecuador and Guatemala. Where applicable the GWP national and regional network has been linked for additional support.

RESOURCE MOBILIZATION AND OUTREACH

WMO HYDROCONFERENCE



The HydroConference, held from 7 to 9 May 2018 at WMO Headquarters, brought together 215 providers and users of hydrological services from 85 countries to strengthen knowledge-sharing and coordination on the full hydrological value chain, from data collection to the production of efficient hydrological services that allow informed decision and policy-making. APFM actively participated in organizing and conducting the HydroConference and also reached out to delegates of several countries working in flood and drought management. Some of the positive benefits which resulted from the HydroConference include:

- Showcasing the APFM activities (pilot projects, IFM HelpDesk, publications), expertise (network of SBPs, Catalogue of Services) and capabilities in the concept and implementation of IFM, IDM and E2E-EWS-FF.
- Continuous follow-up after the HydroConference with participants through technical assistance or identifying synergies and potential partners for the E2E-EWS-FF value chain implementation.
- Strengthening linkages with the CHy community and CREWS Secretariat, renewing the continuous exchange with both communities to identify future collaboration or partnership for projects

Other international processes where the APFM was active and presented include the United Nations Framework Convention on Climate Change Conference of the Parties (UNFCCC COP23) in Bonn, the 8th World Water Forum in Brasilia, the Asian Ministerial Conference on Disaster Risk Reduction in Ulaanbaatar, the meeting of the High-Level Experts and Leaders Panel on Water and Disasters in Geneva, and the Water Day during the 70th Session of WMO's Executive Council in Geneva.

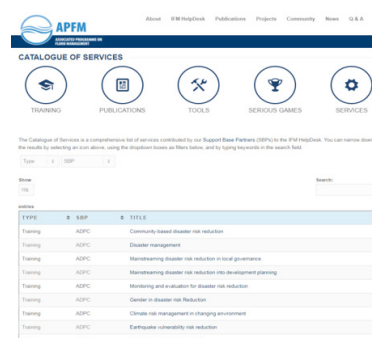
Outreach plays a pivotal role in the new business model: from one side, it is the necessary pre-requisite to let users know about the available resources; from the other, it is essential that the portfolio of know-how be wider and as much specialized as possible in order to be able to provide the required expert services. This translates essentially in two actions:

1. Advertise the services available through the HelpDesk, capitalizing on the wider WMO and GWP experts and networks; and
2. Compile an exhaustive inventory of available resources to be able to offer appropriate solutions

On the first point APFM is continuing to identify appropriate venues and events to widen its network (some examples are provided in this report), while the second is being achieved through the Catalogue of Services (CoS) along with promoting the extensive guidance material the APFM.

So far, 16 SBPs¹ have submitted information to compile the Catalogue of Services of the IFM HelpDesk. This has allowed APFM to upload and publish online the Catalogue of Services web-page under the APFM website for the users. The CoS will also help in identifying SBPs possible role in the chain of End-to-End (E2E) Flood Forecasting and Early Warning Initiative. The CoS will be a useful tool in attracting potential donors or financial institutions to fund the core or project activities of APFM and its SBPs.

SBPs are invited to check the correctness of information provided through the CoS.



¹ ADPC, Alterra, CEH, CERFE, CIMA, DHI, FICH, ICHARM, IHE Delft, IHP-HWRP and BFG, PROHIMET, Rwb, UNECE, UNU-FLORES, WWF, Zoi Environment

EUROPEAN COMMISSION WORKING GROUP ON FLOODS (WG-F)

APFM has been following the activities of the European Commission Working Group on Floods since its beginning. On the occasion of the 23rd meeting of the WG-F in Paris, APFM participated as an observer, establishing linkages with many WG-F members and with other partners (e.g. CIMA, ANYWHERE, etc.). During the meeting, APFM established contact with 'CEPRI' a French NGO whose mission is to provide technical and scientific support to local governments in France and in Europe concerning flood prevention and management. One initiative is of translating the guidelines of European Directives into a step-by-step procedure for adaptation or adoption by the local Mayors or decision-makers, helping them to implement policies and plans in an efficient and shorter time frame. CEPRI is an excellent example of how to of know-how actor to reach local decision-makers in relation to the design and implementation of IFM and E2E-EWS-FF services.

YOUNG PROFESSIONALS - MULTI-HAZARD EARLY WARNING COMMUNITY (INTERNATIONAL NETWORK) WITH WATER YOUTH NETWORK (WYN)

Besides mainstreaming the IFM concept among flood management practitioners and decision makers, it is important to target the future decision makers and hydrologist. For this purpose, APFM has been actively sharing information and collaborating with youth networks such as the Young Hydrological Society (YHS) and the Water Youth Network (WYN). Collaboration with a consortium of organization is currently being explored through the [youth for water and climate platform](#). Collaboration with WYN led in 2017 to a Global Competition for Youth-Led Projects on Flood and Droughts. The winner of the competition was the "Preparing our Home" program, a community-based disaster resilience program in the Lil'wat First Nation in British Columbia, Canada, which has been successfully implemented between September 2017 and May 2018. The methodologies and tools developed for school-based flood and drought management under this project will be shared with the stakeholders so as to replicate a similar approach in other regions with similar issues or needs.

THE WAY FORWARD

For the next period, APFM will continue to work on the planning and implementation of the Volta project activities. The submitted project proposal approval will be discussed by the Adaptation Fund Board in October 2018. Once the project is initiated, a project team will be formed. It will include a dedicated project manager at WMO Headquarters in Geneva and a project leader in Burkina Faso. One important point is that proposals must follow the expectations of the funding agencies; in the case of the Volta project, the Adaptation Fund is requesting that climate issues are integrated into the programme activities. Furthermore, the impact on the ecosystem has also been underlined as one of the potential benefits, and also as a risk, by the reviewers of the AF. This will force APFM to enlarge and widen its partnership in order to cover these new fields, either internally for the climate-related activities, or externally for the ecosystem impact

In parallel, the APFM through GWP will co-operate with the Regional and Country Water Partnerships (RWPs and CWPs) for submitting proposals on various regions (national, transboundary) to the financial institutions or continue identifying new opportunities for projects focussing on E2E-EWS-FF as well as, Flood and Drought management in general. Further, APFM will liaise with Office of Development Partnership in WMO (incharge of Expert Service approach) to provide information on the type of services and expertise (network of SBPs) available with the APFM and seek opportunities and collaboration in the broader initiative on provision of expert services of WMO to International Banks, Financial Institutions and Green Climate Fund (GCF).

APFM will continue to identify potential donors or financial institutions to support the core activities to support the IFM HelpDesk management, Communication and Outreach, Coordination with the SBPs. Further, APFM will collaborate with the IDMP and with the APFM SBPs through the SBP forum, which might be held virtually through, for example, videoconference meetings. This would allow periodical engagement of the SBP network to brainstorm and discuss possible synergies in project proposal development and outreach. Frequency of these virtual meetings will be determined at the meeting in Stockholm.

The IFM Helpdesk will be restructured to integrate IFM and IDM, including E2E EWS for FF. This will be dependent on availability of funding.