

**WORLD METEOROLOGICAL ORGANIZATION**



**WHYCOS  
INTERNATIONAL ADVISORY GROUP**

**Sixth meeting**

**Geneva, Switzerland  
24 – 26 November 2003**

**FINAL REPORT**

## TABLE OF CONTENTS

1.	OPENING OF THE MEETING.....	1
2.	APPROVAL OF THE AGENDA AND ORGANIZATION OF THE WORK.....	1
3.	CONSIDERATION OF THE REPORT OF THE FIFTH MEETING (JANUARY 2003).. OF THE WIAG	1
4.	CONSIDERATION OF THE OUTCOME OF SESSION XIV OF ..... WMO'S CONGRESS	2
5.	REPORT ON THE STATUS OF DIFFERENT COMPONENTS OF ..... HYCOS PROJECTS AND PROPOSALS	3
5.1	SADC-HYCOS Phase II .....	3
5.2	IGAD-HYCOS .....	4
5.3	MED-HYCOS .....	5
5.4	Baltic-HYCOS .....	5
5.5	Carib-HYCOS.....	5
5.6	HKH-HYCOS.....	5
5.7	Mekong-HYCOS .....	6
5.8	Amazon-HYCOS .....	6
5.9	La Plata-HYCOS .....	6
5.10	AOC-HYCOS Pilot Phase .....	6
5.11	Pacific-HYCOS.....	7
6.	DEVELOPMENT OF THE TRANSBOUNDARY RIVER BASIN PROJECTS.....	7
6.1	Niger-HYCOS.....	7
6.2	Volta-HYCOS .....	7
6.3	Lake Chad-HYCOS.....	8
6.4	Senegal River Basin Development Organization (OMVS).....	8
7.	REVIEW OF THE FIRST DRAFT OF WHYCOS GUIDELINES .....	9
8.	GENERAL POLICY ISSUES OF THE WHYCOS PROGRAMME .....	10
9.	FUTURE MEETINGS OF WIAG .....	10
10.	ANY OTHER BUSINESS.....	10
11.	ADOPTION OF THE REPORT .....	10
12.	CLOSURE .....	10
ANNEX 1	LIST OF PARTICIPANTS	
ANNEX 2	AGENDA	

## **1. OPENING OF THE MEETING**

1.1 The WHYCOS International Advisory Group (WIAG) held its sixth meeting from 24 to 26 November 2003 at the WMO Secretariat in Geneva. The participants are listed in **Annex 1**.

1.2 The Secretary-General of WMO, Prof. G.O.P. Obasi opened the meeting and welcomed the participants. He informed the meeting that during the fourteenth session of WMO Congress, progress made in the development of the WHYCOS programme had been well noted and it was decided to keep in force Resolution 20 (Cg-XII) on WHYCOS. He recalled that Congress had also noted with satisfaction the coordination role played by WIAG.

1.3 He told the meeting that the Congress, in addressing the issue of data exchange at an international level, had recommended that the hydrological data and products generated by HYCOS projects should benefit not only the participating NHSs but also all economic and social stakeholders concerned with water related issues. The Congress had requested the Secretary-General to prepare a comprehensive report on the status of the WHYCOS. The Secretary-General invited the WIAG to provide guidance for such a report.

1.4 The Secretary-General thanked the donors for their support to the WHYCOS programme and informed the meeting of their renewed interest in supporting the development of new HYCOS components. He noted with satisfaction that the results and achievements of previous projects had been used in building new activities.

1.5 The President of CHy, who chaired the meeting, thanked the Secretary-General for opening the meeting and expressed WIAG's appreciation for his support to its activities. After welcoming the participants, he recalled the Terms of Reference of WIAG and the objectives of the meeting.

1.6 The Director of the Hydrology and Water Resources Department extended a welcome to the participants. He emphasized the Secretary-General's remarks regarding the preparation of a comprehensive report on the status of WHYCOS and asked the WIAG members to advise on the necessary procedure for preparing this report. He assured the meeting of the Secretariat's support and expressed his wishes for a successful meeting.

## **2. APPROVAL OF THE AGENDA AND ORGANIZATION OF THE WORK**

2.1 The meeting adopted its agenda after minor amendments, as given in **Annex 2** and agreed on the organization of the work.

## **3. CONSIDERATION OF THE REPORT OF THE FIFTH WIAG MEETING (JANUARY 2003)**

3.1 The Group considered the report of its fifth meeting held in January 2003, and in particular the recommendations made at the time. The meeting noted that most of the actions recommended were relevant to other agenda items and decided to report and discuss those actions under the appropriate agenda items.

#### **4. CONSIDERATION OF THE OUTCOME OF SESSION XIV OF WMO'S CONGRESS (MAY 2003)**

4.1 The Secretariat informed the meeting about the principal outcomes of the last WMO Congress held in May 2003. Congress was pleased to note that the WMO Secretariat continued its efforts in promoting the development and implementation of the WHYCOS programme in all the regions and therefore retained Resolution 20 (Cg-XII) on WHYCOS and recommended that be enforced. It also noted that most HYCOS components had been implemented in developing countries, contributing substantially to the support of data collection and exchange and capacity-building activities of the participating NHSs.

4.2 Congress opined that additional efforts should be made to secure extrabudgetary sources of funding of HYCOS projects and stressed the need to ensure the sustainability of the programme even when external assistance ceased. It noted with satisfaction the role of the coordination mechanism for WHYCOS within the WMO Secretariat and of the WHYCOS International Advisory Group (WIAG) in guiding the development of the overall programme and in ensuring close coordination among the individual HYCOS components.

4.3 Congress reaffirmed the crucial role of data exchange at the regional level, and more specifically, within the limits of large transboundary river basins or aquifers. It therefore strongly recommended that the exchange of hydrological data and products in the framework of existing and future HYCOS projects be undertaken in accordance with WMO Resolution 40 (Cg-XII) and Resolution 25 (Cg-XIII). In particular it recommended that the hydrological data and products generated by HYCOS projects should not only be available to the participating NHSs, but should benefit all economic and social stakeholders concerned with water-related issues, including the general public.

4.4 The meeting discussed at length the issues raised by Cg-XIV, in particular, the ownership of the WHYCOS programme and its regional components and the role of WMO in their implementation, as well as the international exchange of data and information generated by WHYCOS. Regarding WMO's role and project ownership, the meeting noted that these issues were related to item 7, draft guidelines on WHYCOS, and decided to discuss them alongside this agenda item.

4.5 Members expressed the need to spell out the role of WMO in the implementation of HYCOS components. The Director of the HWR department pointed out that WMO plays a leading role in the initial stage of developing a HYCOS component by taking initiative in form of technical and financial support, in identifying the need of HYCOS components, bringing together the interested parties, developing the concept and supporting regional partners in securing funds. In the subsequent stages and the implementation phase, WMO brings added value at two levels, firstly at the regional and national level and secondly at the global level. At the regional level, with the intimate knowledge of working with the NHSs and NMSs, WMO is able to view regional issues related to water resources in an objective and scientific manner. Due to its interaction with the countries through WGHs it can help identify the areas requiring capacity building. It supports the project through technical inputs in finalization of specifications, evaluation of tenders and the selection of resource persons.

4.6 Enhanced regional cooperation through data exchange and information amongst the countries by promoting Resolution 25 (Cg-XIII), brings in quality consciousness in Hydrological Observations. WMO's participation in the projects helps bridge the gap between the NMSs and NHSs which is increasingly being recognised as one of the weak areas in WRD especially in disaster management. At the global level, by working towards WHYCOS, WMO ensures exchange of experiences among various HYCOS components. By its interactive involvement through HWR and other programmes like WWW, GCOS etc, WMO support the World Climate Research programmes in identifying future climate change scenarios and their likely impact on water resources around the world.

4.7 The meeting recognized that the exchange of data has to be addressed from different perspectives: exchange of data among the countries participating in a regional project, exchange of data between regional and international centres dealing with hydrology, and free dissemination of data to other third parties including the general public. It was noted that whereas exchange of data among the countries participating in a regional project is less problematic free dissemination of data to regional and international centres, is of greater concern among the parties.

4.8 To address this issue the meeting recommended that the Secretariat continue promoting the implementation of Resolution 25 (Cg-XIII) in full within the WHYCOS programme. The meeting further requested WMO to continue promoting Resolutions 40 (Cg-XII) and Resolution 25 (Cg-XIII). It also recommended that each HYCOS component identify the basic data to be exchanged. Furthermore, the benefits of data exchange at the regional and international level should also be demonstrated through development of products of national and regional interest.

4.9 In response to the request by Congress for a comprehensive report on WHYCOS, the meeting recommended that the Secretariat prepares the first draft of a comprehensive report on the status of the WHYCOS and, after incorporation of comments of the members of WIAG place it before CHy in its next session in October 2004 for inputs and views of the member countries. Later the revised draft should be submitted to the Executive Council in 2005. The final version shall be presented at the next Congress. The report should cover the current status of the implementation of the programme, its achievements, constraints, and challenges to meet global objectives of the programme and the way forward to meet the desired objectives.

## **5. REPORT ON THE STATUS OF DIFFERENT COMPONENTS OF HYCOS PROJECTS AND PROPOSALS**

### **5.1 SADC-HYCOS Phase II**

5.1.1 The SADC-HYCOS phase II was presented jointly by the representative of SADC and the coordinator of the PRC and representative of the DWAF. The SADC representative gave a brief presentation of the management issues that are being put in place as a way of starting the project and the DWAF representative presented the technical aspects.

5.1.2 The meeting was informed on the following:

- SADC-HYCOS is one of the SADC priority projects within the Regional Strategic Action Plan.
- SADC-HYCOS II aims at consolidating and expanding the first phase of the project that established a network of hydro-met stations in 10 countries of the SADC region.
- Funding has been secured through the Netherlands Government (main project components) and the EU (project management unit support).
- The DWAF, RSA continues to be the Implementing Agency.
- In accordance with the Project Framework Document, the Project Management Unit will be established within the Project Regional Centre. Three key positions have been identified (Project Manager, Field Hydrologist and Electronic Data Processing Expert).
- Recruitment for the three positions is about to start; adverts are being finalized and it is envisaged that they will be out within a week or two. SADC and EU procedures will be observed. It is anticipated that the Project will kick off during the first quarter of 2004.

- MoUs are being finalized:
  - between SADC and Netherlands Government
  - between SADC and DWAF
  - between DWAF and Netherlands Government (implementation Agreement)
- The MoU will address technical, administrative and legal issues.
- The Project duration is 48 months; the Network Planning and design of the project will help widen the scope and allow more strategic decisions be taken in terms of further phases and linkages with other projects and initiatives.
- The Project Steering Committee (SC) has been established comprising of very senior officers within the NHSs. Some of the key considerations to be addressed by SC are decision making and sustainability of the Project. Other members are SADC, Co-operating Partners, WMO and the Project Regional Centre.

5.1.3 The meeting was pleased to note that the EC will financially support the Project Management Unit (PMU) which will be hosted by DWAF, while The Netherlands Government will support the field activities.

5.1.4 In his technical presentation, the DWAF representative highlighted the achievements, constraints and lessons learnt from phase I and the challenges facing the second phase. The meeting noted that vandalism, technical malfunction of field equipment and non-validation of data by originating countries were the main causes of disruption of data flow. The non-development of hydrological products was also identified as a set back. The meeting recommended that lessons learnt in addressing these problems should be brought to bear on phase II and other HYCOS projects.

5.1.5 The WMO Secretariat was concerned about its role in the SADC HYCOS phase II. It expressed the view that WMO's role needed to be clarified and proposed that it be mentioned in the SADC/Netherlands MoU.

5.1.6 The meeting emphasized the need to recognize WMO's role in any MoU between SADC and donors as described in the project document. A MoU between SADC and WMO should be established to define in detail WMO's responsibilities in the implementation process.

## **5.2 IGAD-HYCOS**

5.2.1 The representative of IGAD briefed the meeting on the status of the IGAD-HYCOS project document and the IGAD procedure of project preparation which involved preparation of national components by NHS experts. These reports were synthesized into one regional document that was discussed at a regional workshop held in Nairobi at the IGAD DMC. The workshop produced a Logical Framework and agreed on the location of PRC at the IGAD-DMC. A first draft document has been produced with all the necessary information to formulate a project document. Among the most important information contained in the first draft document were recommendations based on experience from SADC-HYCOS and the actual hydrological conditions in the IGAD Region. IGAD was confident that weaknesses and problems observed in SADC-HYCOS would be avoided to make the IGAD-HYCOS successful. Such a project would assist the region in flood forecasting and early warning, monitoring groundwater levels and could be important for the Conflict Early Warning Systems in dealing with resource based conflicts the Region.

5.2.2 The consultant developing the IGAD-HYCOS project document made a detailed presentation on the project document where he briefed the meeting about the outcome of his visits to the countries and the overall view on the hydrological conditions in the region. It was noted that there were different needs of each participating country. It was recommended to take into consideration the peculiar needs and requirements of each country in finalizing the project document.

5.2.3 The IGAD representative informed the WIAG that the finalized project document, together with a financial proposal would be presented to Inter-regional Coordinating Committee (IRCC) for consideration at funding under 9th EDF. He expressed his appreciation to WMO for continually promoting and advocating support of IGAD-HYCOS at every possible international forum, the EC and NEPAD and the Indian Ocean Commission. He requested WMO to assist IGAD in securing funds from other sources in addition to EC. The WMO Secretariat assured the IGAD representative of its support to the project when presented to donors during the next Pan African Implementation and Partnership Conference on Water (Addis Ababa, December 2003).

### **5.3 MED-HYCOS**

5.3.1 The representative of IRD (who coordinated MED-HYCOS) presented the status of the new projects that have been developed in the region based on the achievements of the MED-HYCOS project, which came to an end in 2001. These new projects are: WOISYDES, aiming at building a water observation and information system for the Balkan, and BALWOIS, for the organization of a conference on the same topic in Ohrid, FYR Macedonia, in May 2004. He also reported on the initiative of developing the Drini/Drim basin project for developing an information system and modelling in support of IWRM. The meeting agreed to consider the possibility of developing Drim-HYCOS if the countries expressed interest and requested WMO's support for the project

5.3.2 The WMO Secretariat also informed the meeting about the recent initiative for developing a cooperation project in the Sava basin on improved data and information exchange for flood forecasting and disaster prevention and improved water resources management in the basin.

5.3.3 The meeting noted that all the above initiatives are related to the WHYCOS follow-up projects based on subregional or basin-wise components.

### **5.4 Baltic-HYCOS**

5.4.1 The meeting was informed that the project had been submitted for funding to EC under the 6<sup>th</sup> Framework Programme for Research but unfortunately was not retained. It was also reported that the project will be resubmitted for other funding mechanisms of the EC. The meeting requested WMO to continue its efforts in securing funds for the project.

### **5.5 Carib-HYCOS**

5.5.1 The WMO Secretariat briefed the meeting on the development on the Carib-HYCOS. It was noted that a joint mission of WMO and the Institut de Recherche pour le Développement (IRD) had been carried out in March 2002 in Barbados, Martinique, Guadeloupe, French Guyana, Haiti, Trinidad and Tobago to promote the project. Following further consultations with IRD it had been agreed that WMO would prepare and finalize a detailed project document for discussion during a workshop among representatives of all concerned countries. It is planned to hold the workshop in Martinique before July 2004. IRD will also contribute in mobilizing funds required for such a workshop.

### **5.6 HKH-HYCOS**

5.6.1 The Secretariat reported on progress that had been made in developing this project in close collaboration with participating countries since the last WIAG meeting. The meeting noted that during the Second High Level Meeting held in Katmandu in March 2003, government representatives from participating countries endorsed the project proposal with some amendments. Based on the recommendations of this meeting, country consultations

are being undertaken to obtain detailed information on all technical and administrative aspects necessary for the implementation of the project. A testing phase of data transmission and information dissemination will also be developed in cooperation with the donors.

5.6.2 The WIAG members were also informed about a high-level meeting planned to endorse the final project document in June/July 2004. Funding of project activities including the testing phase of the information management system is secured until March 2005. Institutional and bilateral donors have expressed their interest in this project. A donors' conference is planned in connection with the high-level meeting mentioned above. The meeting requested WMO to continue its efforts in developing this project

## **5.7 *Mekong-HYCOS***

5.7.1 The Secretariat informed the meeting that on the basis of a Memorandum of Understanding signed between WMO and the Mekong River Commission (MRC), a Concept Document has been jointly prepared and agreed upon by WMO and the MRC in July 2003. The objective of the planned MEKONG-HYCOS is to establish and operate a real-time flood information system in the Mekong basin with Cambodia, Laos, Thailand and Vietnam as participating countries. The proposed project will be integrated in the Flood Management and Mitigation Strategy of the MRC.

5.7.2 The Concept paper has been sent to all NMHSs and the National Mekong River Committees for comments. Based on the results of the first consultation meeting held in Phnom Penh on 30 October 2003, amendments have been made to the Concept paper mainly to ensure full integration of similar on-going projects and subsequent endorsement by the constituent bodies of the MRC. There is considerable interest from institutions and bilateral donors in this project. It is envisaged that MRC will be the implementing agency and WMO will be the executing agency. The meeting requested WMO to continue efforts towards the development of this project.

## **5.8 *Amazon-HYCOS***

5.8.1 The Secretariat informed the meeting that there was no major development to be reported about this project. This is mainly due to the absence of a regional body and lack of interest in the project in most of the upstream countries. It was reported that Brazil and Bolivia have expressed interest in the project. The meeting requested WMO to continue its efforts in the involvement of all countries in the basin for further development of the project.

## **5.9 *La Plata-HYCOS***

5.9.1 The meeting was informed that a mechanism for data exchange is already in place under the auspices of the Intergovernmental La Plata Basin Committee since the 1970s. The meeting was told that the countries are willing to provide their data to WMO upon request. The meeting requested WMO to facilitate the acquisition of available data to international centres operating under its aegis. The meeting further requested the Secretariat to explore the possibilities and scope for the development of a La Plata HYCOS project through the Intergovernmental La Plata Basin Committee

## **5.10 *AOC-HYCOS Pilot Phase***

5.10.1 The representative of the PRC of AOC-HYCOS informed the meeting that generally the objectives of the project have been achieved. The project is on course for successful completion by December 2003. He also informed the meeting that data exchange among the participating countries and with international community, which was one of the main

objectives of the project, has been satisfactory. He also reported that technical failure of DCPs, vandalism and slow Internet connections were the major constraints faced by the project. The meeting was pleased to note the achievements of the project and welcomed new projects to be implemented through basin-wide components in line with the strategic document prepared by the NBA and WMO.

### **5.11 Pacific-HYCOS**

5.11.1 The meeting was informed that the Pacific HYCOS project proposal had received support from the National Hydrological Services of the Pacific Island countries, WMO Tropical Cyclone Committee (TCC), South Pacific Applied Geoscience Commission (SOPAC), South Pacific Regional Environment Programme (SPREP) and is included as a component of Pacific Island Global Climate Observing System (PI-GCOS), March 2002.

5.11.2 At the 3<sup>rd</sup> World Water Forum (Kyoto, 2003) the ministers, delegations and stakeholders from various small island countries from the Pacific, Caribbean, Asian India, and Mediterranean regions in a joint statement recommended the inclusion of the Pacific and Caribbean Hydrological Cycle Observing Systems as a priority.

5.11.3 The meeting agreed that the Pacific HYCOS proposal needs to be developed and requested the WMO Secretariat to explore funding.

## **6. DEVELOPMENT OF THE TRANSBOUNDARY RIVER BASIN PROJECTS**

### **6.1 Niger-HYCOS**

6.1.1 The Secretariat informed the meeting that negotiations with the French Development Agency concerning the funding of Niger-HYCOS were approaching the final stage. It was also mentioned that during the recent visit by the NBA Executive Secretary to the WMO Secretariat from 14 to 20 November 2003, a meeting had been held between the WMO Secretariat, the NBA delegation and a representative of the French Development Agency to discuss general principles for the implementation of Niger-HYCOS within the framework of the French support programme. The overall budget of this support programme is estimated to be 10 million €.

6.1.2 The NBA representative informed the meeting that the total budget for the project amounts to 5.6 Millions €. The AFD will provide 3 millions € to NBA towards the implementation of the Niger-HYCOS while NBA will provide 850.000 € in kind. The difference of 1.750.000 € is being sought from other donors.

6.1.3 The WIAG was pleased to learn about developments in this project and requested WMO and NBA to continue their cooperation to ensure a successful implementation of the project.

### **6.2 Volta-HYCOS**

6.2.1 The meeting was briefed by Secretariat and a representative of Volta Basin on the latest developments of the project. The Secretariat informed the meeting that the amended draft proposal with inputs from Burkina Faso and Ghana had been circulated to all countries in the basin. The representative of the basin informed the meeting of the need to translate the project document into English. He also expressed the need to bring onboard other countries in the basin and to finalize issues related to the location of the PRC, the technical assistance for the project and the role of WMO.

6.2.2 The Secretariat further informed the meeting that the FFEM (French Fund for Global Environment) has approved funding for the implementation of the Volta HYCOS project. An agreement between FFEM and WMO is under preparation. The meeting was pleased to learn about this positive development and asked WMO to follow up closely to ensure successful implementation of the project.

### **6.3 Lake Chad-HYCOS**

6.3.1 The representative of the Lake Chad Basin informed the meeting on the following:

#### *Cooperation with BADEA*

The meeting was informed that the Lake Chad Basin Commission (LCBC) has formalized its cooperation with BADEA by signing a grant agreement amounting to US\$ 250.000 in January 2003. Within the framework of the grant agreement LCBC has organized a four-week training session for 20 junior hydrologists on data collection and processing, establishment and management of databases and computer application in hydrology. A second one-week training session on the operation and maintenance of DCPs is planned. Other activities planned under the BADEA agreement are the procurement and installation of 8 DCPs in the catchment and on the Lake.

#### *GEF/LCBC Project*

The LCBC representative reported that all relevant documents relating to the project have been signed by all the parties namely World Bank, UNDP, LCBC and member countries. The project manager has already taken up his post prior to the effective commencement of the project on 22 December 2003.

#### *Virtual laboratories*

LCBC is collaborating with UNESCO in establishing a network of virtual laboratories with universities of Ngaoundire in Cameroon, Maiduguri in Nigeria, Amman in Jordan and Kazakstan to undertake water balance studies on lake Chad, the Dead Sea, and the Sral Sea.

The meeting was pleased to note the positive developments in the Lake Chad basin particularly activities to operate the LCBC HYCOS project. It requested WMO to continue its support to LCBC for the full implementation of the LCBC HYCOS project.

### **6.4 Senegal River Basin Development Organization (OMVS)**

6.4.1 The representative of Senegal River Development Organization (OMVS) recalled and reiterated a request to WMO to assist OMVS in developing a Senegal-HYCOS project. The WMO Secretariat assured the representative that the request will be considered in future plans for the development of the AOC-HYCOS strategic plan. The meeting requested the Secretariat to accord high priority to this activity and requested the OMVS representative to send an official request to WMO. He also provided information on the availability in OMVS states of a fibre optic network for communication, which could be made available for use by other African countries. He stressed the need for WMO to provide technical assistance to OMVS to develop a Senegal-HYCOS project and also informed the meeting that there is great opportunity to secure funds for the project.

## 7. REVIEW OF THE FIRST DRAFT OF WHYCOS GUIDELINES

7.1 The Secretariat briefed the meeting about the preparation process for the draft and thanked Mr S. van Biljon and the President of CHy for their valuable contribution in the preparation of the first draft of guidelines for the development and implementation of WHYCOS programme.

7.2 The draft was presented at the meeting by Mr S. van Biljon. This was followed by discussions by WIAG on the following issues in the Guidelines:

- Primary and secondary objectives
- Free and unrestricted data exchange
- Data transmission
- Capacity building
- Minimum data set required
- WMO ownership and support
- Cooperating centres

7.2.1 **Primary and secondary objectives:** the meeting stressed the need for distinguishing between objectives of the global concept of WHYCOS and those of the regional HYCOS components.

7.2.2 **Free and unrestricted data exchange:** The meeting agreed that the participating countries should accept the principle of free and unrestricted exchange of data according to Resolution 25 (Cg-XIII) as a condition for participation in a HYCOS project.

7.2.3 **Data transmission:** The meeting agreed that the technology used for data transmission should be the most appropriate for each region, considering infrastructural and economic conditions.

7.2.4 **Capacity building:** The meeting agreed that capacity building should be a major element in the implementation of a HYCOS project.

7.2.5 **Minimum data set required:** The meeting recognized that in view of the global objectives of WHYCOS it will be appropriate that in each HYCOS component a common minimum data set of variables is collected, namely water level, air temperature, precipitation, and humidity.

7.2.6 **WMO ownership and support:** the meeting emphasized that the ownership of WHYCOS resides with WMO. However WMO secretariat could play different roles in the implementation of various HYCOS projects, according to institutional arrangements agreed upon with participating countries and donors.

7.2.7 **Cooperating centres:** The meeting agreed on identifying institutions to be associated with WMO as cooperating centres for developing the WHYCOS programme and its components.

7.3 The meeting commended the expert for his work and asked him to incorporate all the comments and remarks raised during discussions on the second draft. The meeting requested CHy President and AWG member responsible for WHYCOS to collaborate with the expert in the preparation of the second draft. The Secretariat requested the WIAG members to forward any additional comments to the Secretariat with copy to the expert to enable him to finalize the second draft for circulation among WIAG members before submission to the next AWG meeting.

## **8. GENERAL POLICY ISSUES OF THE WHYCOS PROGRAMME**

8.1 WIAG members were pleased to note that despite financial constraints facing the development of new projects, WMO supported the development of some new components. To further strengthen these efforts, the meeting recommended that staff cost recovered from the ongoing projects be reinvested in supporting the development of other potential components.

8.2 The meeting emphasized the need to prioritize the HYCOS projects in the different regions to concentrate efforts on supporting those with stronger country and donor commitment in their support. The meeting requested the Secretariat to review its reporting procedure to the WMO constituent bodies to reflect the priority scale agreed upon.

## **9. FUTURE MEETINGS OF WIAG**

9.1 The meeting was informed about financial allocation for the WIAG meeting during the next financial period (2004-2007). It was agreed that the next meeting take place as a side meeting during next CHy session in October 2004. Subsequent meetings to be held in 2005, 2006 and 2007.

## **10. ANY OTHER BUSINESS**

10.1 The secretariat briefed the meeting on the forthcoming Pan African Conference on Water to be held in Addis Ababa (8 – 13 December 2003) where WMO will coordinate a session on “Managing Risks – Water and Climate”. The CHy AWG member responsible for WHYCOS expressed his intention to participate in the conference and to be included in WMO’s delegation at no cost to WMO.

## **11. ADOPTION OF THE REPORT**

11.1 The meeting adopted the report of the session and requested the WMO Secretariat to finalize the text, making the necessary editorial amendments, and distribute copies of the report to all WIAG members.

## **12. CLOSURE**

12.1 At the close of the meeting Mr Rutashobya, the chairman, thanked the participants for their active part and valuable contributions to the discussions as well as D/HWR and the Secretariat staff for the support provided to the meeting.

12.2 He was pleased to note that the meeting had had fruitful discussions and taken important decisions. He expressed hope that the actions agreed upon would be promptly implemented.

12.3 On behalf of all participants, Prof. K. Hofius thanked the chairman for the effective way in which he had conducted the meeting.

12.3 The meeting closed at 18.10 on Wednesday 26 November 2003.

## LIST OF PARTICIPANTS

<b>PRESIDENT OF CHy</b>	
Mr Datus RUTASHOBYA President of CHy Principal Hydrologist Ministry of Water Department of Water Resources P.O. Box 35066 DAR-ES-SALAAM	Tel: (255 22) 245 14 63 (255) 741 60 25 98 (Mobile) Fax: (255 22) 245 14 63 E-mail: rutashobya.d@raha.com
<b>GERMANY</b>	
Mr Karl HOFIUS Kastanienstr. 23 56154 BOPPARD	Tel: (49 6742) 40 54 Fax: (49 6742) 80 19 95 E-mail: karl.hofius@bafg.de (Office) hofius@t-online.de (Home)
<b>GHANA</b>	
Mr J. WELLENS-MENSAH Acting Director Hydrological Services Department P.O. Box MB 501 ACCRA	Tel: (233 21) 67 73 83/66 29 89 Mobile: (233) 244 32 16 14 Fax: (233 21) 67 73 84 E-mail: hsd@ghana.com
<b>FIJI</b>	
Mr Rishi RAJ Chief Hydrologist Public Works P.O. Box 3740 Samabula SUVA	Tel: (679) 3321099 Fax: (679) 3320313 E-mail: rishi@connect.com.fj
<b>NIGERIA</b>	
Mr Mohammed Hamisu IBRAHIM Director Department of Hydrology and Hydrogeology Federal Ministry of Water Resources Area 1 Garki ABUJA	Tel: (234 9) 234 25 20 Fax: (234 9) 234 37 14 E-mail: dhhfedwaterng@hotmail.com
<b>RUSSIAN FEDERATION</b>	
Mr Zurab KOPALIANI State Hydrological Institute 23, Second Line, V.D. ST. PETERSBURG 199053	Tel: (7 812) 323 35 18 Fax: (7 812) 323 10 28 E-mail: ishiklom@zb3627.spb.edu
<b>SOUTH AFRICA</b>	
Mr Stéfan VAN BILJON Director of Hydrological Services Department of Water Affairs and Forestry Private Bag X313 PRETORIA 0001	Tel: (27 12) 336 87 84 Fax: (27 12) 326 14 88 E-mail: vanbiljon@dwaf.gov.za
<b>AUTORITE DU BASSIN DU NIGER (ABN)</b>	
Mr Robert Yaovi DESSOUASSI Hydrology Engineer B.P. 729 NIAMEY Niger	Tel: (227) 73 32 39/72 31 02 Mobile: (227) 93 45 57 Fax: (227) 72 42 08/73 43 89 E-mail: dessouassi@gw.abn.ne cip@gw.abn.ne

<b>INTEGRATED AUTHORITY ON DEVELOPMENT (IGAD)</b>	
Mr Maina KARABA Chief, Natural Resources P.O. Box 2653 DJIBOUTI Djibouti	Tel: (253) 35 40 50 Fax: (253) 35 69 94 E-mail: maina.karaba@igad.dj
<b>INSTITUT DE RECHERCHE ET DE DÉVELOPPEMENT (FRANCE)</b>	
Mr Marc MORELL WOISYDES Coordinator 911, Avenue Agropolis BP 64501 34394 MONTPELLIER CEDEX 5 France	Tel: (33 4) 67 63 64 20 Fax: (33 4) 67 41 21 33 E-mail: morell@ird.fr
<b>LAKE CHAD BASIN COMMISSION (LCBC)</b>	
Mr Lambert TAM Assistant Executive Secretary B.P. 727 N'DJAMENA Chad	Tel: (235) 52 41 45/52 02 71 Fax: (235) 52 41 37 E-mail: lcbc@intnet.td tam@intnet.td
<b>SENEGAL RIVER DEVELOPMENT ORGANIZATION (OMVS)</b>	
Mr Babacar DIAGNE 46, Rue Carnot DAKAR Senegal	Tel: (221) 823 45 30 Fax: (221) 822 01 63 E-mail: bjagne@refer.sn
<b>SADC</b>	
Mr Obonetse Alfred MASEDI Expert, Integrated Water Resources Management SADC House Private Bag 0095 GABORONE Botswana	Tel: (267) 315 30 00/04 Fax: (267) 315 30 02/392 89 65 E-mail: sadcrsap@botsnet.bw
<b>WORLD METEOROLOGICAL ORGANIZATION (WMO)</b>	
Mr Avinash TYAGI Director Hydrology and Water Resources Department 7bis avenue de la Paix Case postale 2300 1211 GENEVA 2 Switzerland	Tel: (41 22) 730 83 55 Fax: (41 22) 730 80 43 E-mail: atyagi@wmo.int
Mr Mohamed TAWIK Chief, Hydrology Division Hydrology and Water Resources Department 7bis avenue de la Paix Case postale 2300 1211 GENEVA 2 Switzerland	Tel: (41 22) 730 83 30 Fax: (41 22) 730 80 43 E-mail: mtawfik@wmo.int
Mr Wolfgang GRABS Chief, Water Resources Division Hydrology and Water Resources Department 7bis avenue de la Paix Case postale 2300 1211 GENEVA 2 Switzerland	Tel: (41 22) 730 83 58 Fax: (41 22) 730 80 43 E-mail: wgrabs@wmo.int

Mr Claudio CAPONI Officer-in-charge, HOMS Hydrology and Water Resources Department 7bis avenue de la Paix Case postale 2300 1211 GENEVA 2 Switzerland	Tel: (41 22) 730 84 07 Fax: (41 22) 730 80 43 E-mail: ccaconi@wmo.int
Mr Tommaso ABRATE Hydrology Division Hydrology and Water Resources Department 7bis avenue de la Paix Case postale 2300 1211 GENEVA 2 Switzerland	Tel: (41 22) 730 83 38 Fax: (41 22) 730 80 43 E-mail: tabrate@wmo.int
Mr Gabriel ARDUINO Water Resources Division Hydrology and Water Resources Department 7bis avenue de la Paix Case postale 2300 1211 GENEVA 2 Switzerland	Tel: (41 22) 730 83 31 Fax: (41 22) 730 80 43 E-mail: garduino@wmo.int

**PROVISIONAL AGENDA**

1. OPENING OF THE MEETING
2. APPROVAL OF THE AGENDA AND ORGANIZATION OF THE WORK
3. CONSIDERATION OF THE REPORT OF THE FIFTH MEETING (JANUARY 2003) OF THE WIAG
4. CONSIDERATION OF THE OUTCOME OF THE SESSION XIV OF WMO CONGRESS
5. REPORT ON THE STATUS OF THE DIFFERENT COMPONENTS OF HYCOS PROJECTS AND PROPOSALS
  - SADC-HYCOS Phase II
  - IGAD-HYCOS
  - MED-HYCOS
  - Baltic-HYCOS
  - Carib-HYCOS
  - HKH-HYCOS
  - Mekong-HYCOS
  - Amazon-HYCOS
  - La Plata-HYCOS
  - AOC-HYCOS
6. DEVELOPMENT OF THE TRANSBOUNDARY RIVERS BASINS PROJECTS
  - Niger-HYCOS
  - Volta-HYCOS
  - Lake Chad-HYCOS
  - Senegal River Basin Development Organization (OMVS)
7. REVIEW OF THE FIRST DRAFT OF WHYCO GUIDELINES
8. GENERAL POLICY ISSUES OF THE WHYCOS PROGRAMME
9. FUTURE MEETINGS OF WIAG
10. ANY OTHER BUSINESS
11. ADOPTION OF THE REPORT OF THE MEETING
12. CLOSURE