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REPORT ON THE INTERNATIONAL SEDIMENT INITIATIVE (ISI) AND THE INTERNATIONAL FLOOD INITIATIVE (IFI)

Item 13 of the provisional agenda

SUMMARY

This document contains two progress reports of two new initiatives of IHP: the International Sediment Initiative (ISI) and its Secretariat at the International Research and Training Center for Erosion and Sedimentation (IRTCES) in Beijing, China; and the International Flood Initiative (IFI) and its Secretariat the International Center for Water Hazard and Risk Management (ICHARM) in Tsukuba, Japan. It is desirable to receive recommendations from the council to formalize these two secretariats.

For the International Sediment Initiative (ISI), the Council is requested to seek UNESCO's assistance in persuading national governments to share existing sediment databases and sediment related information to be put in the Global Sediment Information System which will be housed in International Research and Training Center for Erosion and Sedimentation (IRTCES), the Secretariat of the International Sediment Initiative (ISI).

(SC-2006/CONF.203/CLD.17)

REPORT ON INTERNATIONAL SEDIMENT INITIATIVE (ISI)
(Jun 2005-May 2006)

1. The IHP's 16th session of the Intergovernmental Council approved the International Sediment Initiative (ISI). It endorsed the expansion of the task force group to form a steering committee to plan and execute the proposed programme. The Council also approved that the International Research and Training Center for Erosion and Sedimentation (IRTCES) of Beijing, China play a key role in implementing the ISI. The resolution emphasized the development of the decision support framework for sediment management, in order to provide guidance on legislative and institutional solutions, applicable to different socio-economic and geomorphic settings.

2. From June 2005 to May 2006 period, the activities of the International Sediment Initiative continued to be focused on its overall objectives, aimed at increased awareness about sediment dynamics and erosion issues in all spheres of water management, aimed at the promotion of sustainable management of soil and sediment resources at local, regional and global scale. Within the scope of ongoing activities, considerable progress has been achieved in the Global Evaluation of Sediment Transport (GEST-Project) and in setting up the Sediment Information System (an establishment of more than a Database) in the International Research and Training Center on Erosion and Sedimentation (IRTCES) in Beijing, China.

Follow-up of the Steering Committee's recommendations

3. Following three meetings held in Venice in December 2003, Geneva in March 2004, and Vienna in April 2005, the ISI Steering Committee made certain proposals for future activities of ISI that were noted by the Council at its 16th Session. These include:

- A project proposal on Global Evaluation of Sediment Transport (GEST);
- The development of representative case studies in order to verify socio-economic and environmental risks caused by erosion and sedimentation processes;
- A comprehensive review of global erosion and sediment-related research; education for sustainable sediment management; and
- International co-operation within the UN system, regional networks, NGOs and other international associations active in this field.

4. The fourth Steering Committee meeting was held in Sharm El Sheikh, Egypt in November 2005. The SC members reiterated the above recommendations and held a working group meeting on the establishment of the Sediment Database. This working group is a merger of two working groups, one is responsible for the content of the database and another is for the structure and architecture of the database, into one that takes care of the Sediment Database. Later, the working group meeting decided that it is much better to establish the Sediment Information System that includes a Database. Thereby the earlier decision of the last SC meeting to establish only a sediment database was superseded. The Sediment Information System will be established at the International Research and Training Center for Erosion and Sedimentation (IRTCES) in Beijing, China.

5. The ISI Information System (see the diagram as shown below) will accomplish three main purposes and those could each be achieved through three mechanisms: (a) Information access: through the creation of a global information resource portal, (b) Information repository: through the establishment of a sediment database and other information, and (c) Information development: through the implementation of strategic training activities. These three purposes and mechanisms are mutually supportive.

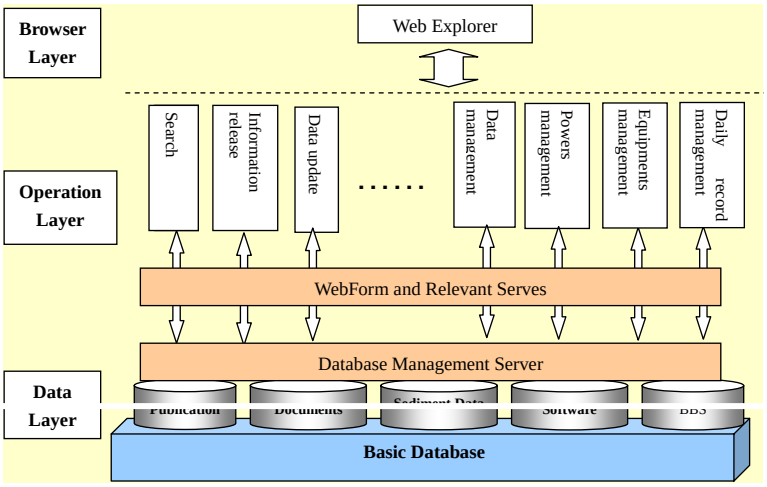
(a) Information Access – Global Sediment Portal: The concept is a data portal, that provides links to other data sources such as ICOLD, GEMS/Water, Nile Basin Initiative, European

Network for Sediment Management, USGS, GEOSS, EOLSS, ICID; publications, etc., and that does not duplicate existing databases.

(b) Information Repository - Database: The database should contain predominantly quantitative data, including those generated by the case studies. The Case studies and their findings and conclusions should be used to advise on how the database should be set up per respective basins. Regional priorities, such as pollution in Europe and sedimentation in Africa and Asia can be highlighted.

The content for the database : The GEST results could be a major source of data. It could serve to demonstrate sedimentation behaviour (Chinese data primarily) depending on problems and various users/stakeholders. It should also include the importance of what will be the future of reservoirs in view of increasing sediment (siltation and related socioeconomic impact) on water availability. Moreover, turbidity data, GEST - River load data – sediment transport to oceans – erosion problems in the agricultural land and downstream of reservoirs, etc. should be included.

Plan of ISI Sediment Information System



(c) Information Development: Training Activities link to capacity building, adapt Chinese sedimentation data collection into training, good practices and lessons learnt from the ISI case studies around the world to demonstrate what kinds of data is needed for the most urgently required research topics that are directly beneficial to real life socio-economical situation of poor people around the world. These may include measurements, examples from different parts of the world, library type structure with reference documents, protocols, reports, collective know-how, proven methodologies, international collaboration and basis for sharing and many more. This is a novel contribution of ISI to the world owing to the collective efforts of ISI Steering Committee and IHP Secretariat members.

6. The Global Sediment Information System is currently under construction. It will be ready by early November 2006 just before the first ISI International Conference, 12-15 Nov 2006, in Khartoum, Sudan. It will be linked to UNESCO water Portal, and if possible, output of ISI will be contributed to the third edition of the World Water Development Report. ISI could ensure that outcomes of the Information System be useful for stakeholders, by identifying their data needs and providing advice serving system for which data should be collected.

ISI Logo, pamphlet, newsletters and web site

7. The ISI logo (see figure below) and ISI pamphlet were produced and published. ISI pamphlet was distributed at the Fourth World Water Forum in Mexico, March 2006 and at the workshop on Sediment Management in South and South-East Asia in Bangkok, April 2006. It will also be available for the IHP Intergovernmental Council meeting. Two issues of ISI newsletters are in process and will be issued by the IHP-IC meeting and uploaded to the ISI web site and UNESCO Water portal. The ISI web site has been developed by its technical secretariat IRTCES. The ISI URL is http://www.irtces.org/isi/

ISI logo

ISI Technical Secretariat and global sediment information system

8. The renewal of the agreement on IRTCES between UNESCO and Ministry of Water Resources, China was made in November 2005. IRTCES is in fact the first Category two center of UNESCO since 1984.

9. The contract for IRTCES has been drafted, circulated to the ISI SC members for comments and being approved. After the 39th session of the IHP Bureau meeting, the contract to establish the ISI web site at IRTCES was signed. According to this contract, a complete ISI web site will be established in IRTCES by early July 2006 and a mini website will be established at the UNESCO Water Portal web site few weeks later. These will be linked to each other. There is another contract in process to establish the Sediment Information System to be functional by early November 2006.

10. IHP Secretariat has circulated a call for nomination to all UNESCO member states in order to establish a Technical Advisory Committee for IRTCES, Secretariat of ISI. Few responded and others did not respond to that call. To ensure the fair geographical distribution at the TAC, the reminders and new circulations to international sediment experts have been made. The collection of nominations has been completed and based on serious considerations to ensure fair geographical distribution and multidisciplinary character of the TAC, few candidates per region were short listed. The short lists have been circulated to the IHP Bureau members for consultation and endorsement.

GEST project proposal and case studies

11. ISI has produced a project proposal on GEST and has begun few case studies. These include the Rhine, Mekong, Bermejo, Nile, Yellow, Zambezi, Volga, Danube, and Mississippi rivers. These case studies would be the contribution to the 3rd edition of the WWDR to be published in 2009. Mekong, Bermejo, and Zambezi are new case studies in consultation with potential partners and Yellow, Volga, Rhine, Mississippi and Danube are on going case studies. A case study on Niger will also be included to the above case studies.

International, regional and river basin-wide cooperation

12. As for the international cooperation within UN system, regional networks, NGOs and other international associations active in the filed, ISI was instrumental in convening two workshops so far. The first is a joint workshop with SEDAN, Aquaterra and SedNet, and in

cooperation with the ICPDR and national institutions of the Danube countries. The Workshop took place in Budapest, Hungary on 24-25 March 2006. The second is the Workshop on Sediment Management in South and South-East Asia, 24-25 April 2006, in AIT Conference Center, Bangkok, Thailand. The former is based on integrated river basin management approach and the later is regional collaborative approach that will lead to integrated sediment management as an important contribution to improve the negative socio-economic impact of land degradation, in selected river basins in South and South-East Asian regions. Several regional and national workshops, training courses and meetings on integrated sediment management to be held in 2006-07 biennium by the regional hydrologists on IHP around the world. The compilation of all ISI related activities will be made by the end of 2007 and foreseen to be published in early 2008.

13. The scope of Danube case study is Integrated Management of the Danube Sediment-Soil-Water System. It aims to contribute to the better understanding of ongoing approaches of sediment monitoring in the Danube river systems, including erosion in the basin and sediment transport in the rivers. It would be in full agreement with other initiatives, such as the SedNet, the proposed SEDAN project, initiatives of Aquaterra, and the multiple activities organized within the scope of the ICPDR. Accordingly, the most efficient support of ISI to all the other activities dealing with sediment management in the Danube Basin would be in facilitating the flow of information between the member states in the region on the issues that depend upon water and sediment management. This case study would set up a sediment database accessible to all Danube countries, with a perspective of subsequent harmonization of the methods applied. Ultimately, the collected data could be transferred into the Global Sediment Information System at the ISI Technical Secretariat, IRTCES in Beijing.

14. The outcomes of the workshop on Sediment Management in South and South-East Asia, 24-25 April 2006, held at AIT Conference Center in Bangkok, Thailand, include issues and problems of sediment management and erosion in the regions, prioritized area of research and collaboration, and proposed project ideas to be formulated into GEF project proposal for the South and South-East Asian regions. The participants also discussed about the mechanism and cooperative network to effectively fund raise for ISI. Thus ISI South and South East Asian network has been established and regular communication maintained. The selected papers of the workshop have been edited and ready for the UNESCO-IHP publication process which will begin just after the IHP-IC meeting.

Upcoming International Conference and 5th Steering Committee meeting

15. ISI as a major activity of the current Sixth Phase (2002–2007) of the International Hydrological Programme (IHP), the first International Sediment Initiative Conference (ISIC) will be held on 12-15 Nov 2006 in Khartoum, Sudan. This conference is expected to add a new dimension to ongoing efforts aiming at sustainable sediment management, in the context of sustainable water resources development at global scale. ISIC organizing committee invites worldwide relevant institutes, agencies and individuals to help international communities achieve practical outputs through partnership, pooling resources, focusing science, coordinating efforts, sharing information and experiences, and generating a broad basis of support. It will also help build the capacity of the individual researchers and institutions those are involved. So far more than 60 scientific papers were received and currently reviewing them. The output from regional workshops and river basin based case studies will also be input to the ISIC.

16. The 5th Steering Committee meeting, which was proposed to be held at IRTCES, Beijing on May 2006, went ahead as planned but with core group members only. Therefore, the 5th Steering Committee meeting will be held back to back with the ISIC in Sudan, preferably on 11 November 2006.

17. ISI has begun the co-operation with currently existing international research groups working on sediment budgets.

18. A review of State-of-the-art research on erosion and sediment dynamics from catchment to coast (a Northern perspective) has been produced.

19. In response to the recommendation of the IHP's 16th Session of the Intergovernmental Council, the ISI steering committee should be open to existing international sediment research groups and Member States by inviting National Committees to join the initiative. This recommendation can be found in the document IHP/IC-XVI/3, pages 16-17.

REPORT ON INTERNATIONAL FLOOD INITIATIVE (IFI)
(An interagency initiative with professional associations)
(June 2005 – May 2006)

Background

20. The preparatory meeting of the International Flood Initiative (IFI) was held on 12-14 July 2004 in Tsukuba, Japan with the purpose of drafting a concept paper (the Tsukuba paper). A parallel concept paper was drafted (known as the Geneva paper) by a WMO task team on 28-30 July 2004 in Geneva, Switzerland. WMO and UNESCO then combined the products of both these meetings and the revised concept paper (the Joint UNESCO/WMO Flood Initiative, also called the JUWFI paper (documents IHP/IC-XVI/Inf.14 and Inf.14. Add.) was adopted at the 16th session of the IHP Intergovernmental Council (September 2004) and the 12th session of WMO CHy (October 2004) respectively. To incorporate comments and suggested amendments made at the IHP Council and WMO CHy, as well as from the UNU, ISDR and IAHS, another preparatory meeting was held on 10-11 December 2004 in London, Ontario, Canada.

21. After consultation with other agencies, IFI was formally launched by the Director-General of UNESCO in the presence of the Executive Heads of WMO and UNU during the UN World Conference on Disaster Reduction (WCDR) held on 18-22 January 2005 in Kobe, Hyogo, Japan. The launch of the IFI was supported by several delegates, including mention in the closing remarks of WCDR by Mr. Jan Egeland, UN Under-Secretary General for Humanitarian Affairs.

22. The concept paper was further revised at the inaugural UNESCO/ WMO joint IFI meeting held in co-operation with the UNU, ISDR and IAHS, Geneva, Switzerland, 21-22 March 2005.

23. The objective and scope of the ICHARM were reported at the "12th Session of WMO CHy, Geneva, Switzerland (October 2004)", "12th Meeting of the UNESCO IHP Regional Steering Committee and its Associated Conference at Adelaide, Australia (November 2004)", and "UN World Conference on Disaster Reduction at Kobe, Japan (January 2005)". From the above meetings there was a general consensus that ICHARM would substantially strengthen the International Flood Initiative (IFI). At the Kobe Conference, the Prime Minister of Japan, Mr. Koizumi, specifically mentioned ICHARM within the opening statement. Accordingly, in April 2005, the ICHARM Secretariat was strengthened, including the creation of a senior post with responsibility for a tsunami prevention-training course. Extensive preparatory activities for the establishment of the Center have been undertaken and its planned formal launching fits in well with the first year of the United Nations Decade on Water for Life (2005-2014) as well as the United Nations Decade on Education for Sustainable Development (2005-2014). The 171st Session of UNESCO's Executive Board (April 2005), having examined the ICHARM proposal in detail (document 171 EX/11), welcomed the proposal and recommended that the 33rd session of the General Conference of UNESCO, to be held in October 2005, approve the establishment of this Center.

Progress made from June 2005 – May 2006

24. The General Conference, at its 33rd session (October 2005), approved the establishment of ICHARM under the auspices of UNESCO (category II) and authorized the Director-General to sign the agreements between UNESCO and the Government of Japan and between UNESCO and the Public Works Research Institute (PWRI) establishing the centre. The agreements were signed by the Director-General of UNESCO, the Ambassador of Japan to UNESCO and the Director of PWRI on 3 March 2006. The centre was formally launched in Tsukuba, Japan on 6 March 2006.

25. IFI Session at the 4th World Water Forum : The "Collaborative Approach among International Agencies for Effective Flood Risk Management: International Flood Initiative (IFI)"session was held on 20 March 2006, from 16:45h to 18:45h, in Room Montejo 3, at the Fourth World Water Forum in Mexico City. It was a truly collaborative effort among the partners of the IFI, which was launched in 2005 in Kobe, Japan. The Public Works Research Institute (PWRI), United Nations Educational, Scientific and Cultural Organization (UNESCO), and World Meteorological Organization (WMO) convened the session. This Session renewed the commitments made at the official launch of (IFI) during the World Conference on Disaster Reduction WCDR (January 2005) in Kobe, Japan, to help meet the Millennium Development Goals, and the objectives of the UN International Decade for Action "Water for Life 2005-2015" and the UN Decade on Education for Sustainable Development (UNDESD).

26. The purpose of this session was to jointly agree upon the revised version of the IFI Concept paper and to organize for coordinating the planned activities of the participating organizations such as UNESCO, WMO, UN-ISDR, UNU, IAHS, IAHR and ICHARM. The discussions at first include an introduction of non-structural means into flood damage mitigation. The need for Integrated Flood Management has been discussed and widely agreed. It was expected that by the concerted effort of all participating organisations of IFI, the vision. Mission, Objectives and Specific Objectives of IFI would gradually spread among citizens, decision-making bodies including governments and interest groups around the world. At the second part of discussions, the methodologies, advanced technologies (application of neural network as one of the hydroinformatics tools) and how to influence the global political agenda such as proposing a new MDG (i.e., to half the population by 2015 that is negatively affected from the floods). The discussions were generally guided by the concept of natural disturbances and continuity and sustainability of river basins. It was generally agreed that case study examples of good balance, mix and match between human needs and nature conservation should be studied, collected and disseminated as good practices of integrated flood management.

27. IHP Secretariat has circulated a call for nomination to all UNESCO member states in order to establish a Technical Advisory Committee for ICHARM, Secretariat of IFI. Relatively few had responded at this writing to that call. To ensure the fair geographical distribution at the TAC, the reminders and another round of circulations to relevant professional communities in UNESCO member states had been sent and many informal consultative meetings were held. The collection of nominations has been completed and based on serious considerations to ensure fair geographical distribution and multidisciplinary character of the TAC, few candidates per region were short listed. The short lists have been circulated to the IHP Bureau members for consultation and endorsement.

28. IFI Pamphlet was published and distributed at the 4th World Water Forum in Mexico, Mar 2006. It is also made available for the IHP-IC meeting participants.

29. An informal consultation meetings among IFI partners were held during the IHP Bureau meeting in Deft, 3-5 May 2006. It was agreed that the 17 specific objectives should be expressed in more compact description.

30. UNESCO-IHP carries on with the work which is in line with the discussions at the UNESCO/WMO Liaison Committee (May 2003) that has led to the sharing of the IFI (was JUWFI) work between UNESCO and WMO according to each organization's areas of competency. UNESCO's work is in the areas of Social dimensions; education and policy; and flood science and WMO's work is in the areas of Flood forecasting, disaster reduction; and flood management.

31. In the area of social dimensions, gender issues and health issues related to floods are currently looked into.

32. In the area of education, the education wing of UNESCO-IHP, i.e., UNESCO-IHE Institute for Water Education has developed a website to host *Flood Management Educational Platform* (FMEP). FMEP is a repository of flood educational resources. This will be a public portal and be a part of the website of UNESCO-IHE. The elements of FMEP are: (a) Flood initiatives element, which will provide brief information about international initiatives on flood management, (b) Flood modeling element, which positions flood modelling as a key issue in flood management and will contain a summary of each section of UNESCO-IHE's online course Flood Modelling for Management, (c) Tutorial which consists of audio lectures plus electronic lecture notes on flood management, (d) Case-studies, i.e., to show how flood modelling can be useful in flood management, and useful Links which provides students with links to flood resources on the web. The existing online course Flood Modelling for Management of UNESCO-IHE will be upgraded with the lectures and reading materials on the following two topics and will be accessible to participants registered via www.lms.ihe.nl:

- Flood forecasting and warning systems
- Urban flood management

Frontiers in Flood Research : Kovacs Colloquium

33. Traditional Kovacs scientific colloquium entitled Frontiers in Flood Research will be held just before the IHP Intergovernmental Council meeting, on 30 June – 1 July 2006in Paris. A public lecture on Katrina entitled '*Katrina: what went wrong and how to fix it?*' will follow after the scientific colloquium.

Upcoming meetings

34. A side meeting of IFI partners will be held at 13:00h – 15:00h on 6 July 2006, during the IHP Intergovernmental Council meeting in Paris, UNESCO HQ.

35. ICHARM official inauguration ceremony will be held on 15 Sept 2006 in Tsukuba, Japan and a formal meeting among IFI partners has been foreseen.

Current partners of IFI

36. Current partners of IFI are as follows:

- UNESCO IHP http://www.unesco.org/water/ihp/index.shtml
- ICHARM http://www.icharm.pwri.go.jp/centre/index_e.htm
- WMO http://www.wmo.ch/index-en.html
- IAHS http://www.cig.ensmp.fr/~iahs/
- UNU http://www.unu.edu/
- UNISDR http://www.unisdr.org/
- IIASA http://www.iiasa.ac.at/
- IAHR http://www.iahr.net/site/index.html
- PWRI http://www.pwri.go.jp/eindex.htm