

**EXTERNAL REVIEW OF ACTIVITIES OF
THE ASIA-PACIFIC CENTRE FOR ECOHYDROLOGY (APCE)
CATEGORY 2 CENTRE UNDER THE AUSPICES OF UNESCO**

Cibinong, Indonesia
December 2017

Prepared by:

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EXECUTIVE SUMMARY

The Asia-Pacific Centre for Ecohydrology (APCE) was established in 2011 in Cibinong, Indonesia, following the decision of the General Conference of UNESCO at its 35th session in 2009 (35 C/20). The Agreement for the center was signed on 28 March 2011 between UNESCO and the Government of the Republic of Indonesia and entered into force on 30 April 2012. It will come to an end in April 2018, and the request for evaluation and renewal of the agreement of the Center had reached UNESCO prior to that date. The General Conference of UNESCO has mandated that each existing agreement with category 2 institutes or centre be reviewed in consultation with the Member State(s) with a view to bringing it into conformity with the new strategy for category 2 entities and respective sectoral strategies. To that effect, it is necessary to carry out a formal review before a decision is taken to renew the existing agreement concerning the designation of APCE as a category 2 centre under the auspices of UNESCO.

UNESCO requires that Category 2 water-related Centres undergo periodic reviews. The main objectives of these reviews are to assess the Centres' performance with respect to their terms of reference and contributions to the UNESCO mandate. The outcome of the review is a recommendation as to whether the agreement between UNESCO and the host government should be renewed.

Dr. Tariq Rana was the appointed reviewer. The purposes of the present review and evaluation were:

- to assess the Centre's performance with respect to its objectives and functions, as specified in the Agreement between UNESCO and the host Government, and in regard to its contribution to UNESCO's strategic program objectives and respective sectoral and UNESCO-IHP strategies, priorities, and themes.
- to assess the extent to which the agreement concerning APCE is in conformity with the Integrated Comprehensive Strategy for Category 2 Institutes and Centres under the auspices of UNESCO (37 C/Resolution 93 and Document 37 C/18 Part I and its Annex), and if necessary, to provide guidance on how this can be achieved.

The review included a visit to APCE in Cibinong and Jakarta, Indonesia, by Dr. Tariq Rana, from 4 to 8 December 2017. In this period, Dr. Tariq Rana met with APCE staff, interviewed APCE experts, inspected outputs generated by APCE in collaboration with Mr Hans Thulstrup (FU/JAK) and Mr Giuseppe Arduino (SC/HYD).

Dr. Tariq Rana is satisfied that APCE meets the expectations of the IHP Intergovernmental Council and that it has made good progress in meeting the Objectives and Functions specified in Article 7 of the Agreement between the Government of the Republic of Indonesia and UNESCO.

The recommendation of Dr. Tariq Rana is that UNESCO's Agreement with APCE is renewed for a further duration of six years.

1. Introduction:

The Asia-Pacific Centre for Ecohydrology (APCE) was established in 2011 in Cibinong, Indonesia. It is a UNESCO Category 2 water-related center with a mandate to promote capacity building and knowledge sharing in water resources management, particularly in urban water management in arid and semi-arid regions mostly situated in Southwest Asia, CIS and Middle Eastern Countries.

In order to enhance the operation and effectiveness of individual UNESCO water related centers, as well as the effectiveness of their networks, UNESCO - in conformity with its principles and guidelines for Category 2 centers and institutes and related strategy - requires that Category 2 water-related centers undergo periodic reviews.

The main objectives of these reviews are to assess the centers' performance with respect to their terms of reference and contributions to UNESCO's mandate, to provide a recommendation as to whether the agreement between UNESCO and the host government should be renewed, and to ensure that the focus and coverage of the activities of the centers are in line with the strategic objectives of UNESCO. This review process is applied to all centers.

This document summarizes the review of APCE conducted in December 2017.

2. Mission and Objectives of APCE:

APCE's mission is to develop the understanding and practice of Ecohydrology through research, training and knowledge exchange, information systems and public awareness.

The Category 2 Centre's objectives are the following:

- a) promote research in order to better understand the relation and uses between biota and hydrology in the Asia and the Pacific region;
- b) identify a hierarchy of environmental problems in selected areas associated with ecohydrological processes;
- c) introduce, enrich, and disseminate ecohydrological principles at the national, regional, and international levels;
- d) elaborate better and long-lasting problem-solving approaches in urban areas;
- e) create a platform for the collaboration and exchange of scientific, technical and policy relevant information for ecohydrology;
- f) generate scientific and technical information, as well as a knowledge base related to broad water education;
- g) create a background to transition toward operational procedures aimed at sustainable water resources development, and generate a new way of thinking among water scientists, policy-makers and decision-makers in Asia and the Pacific; and
- h) increase the awareness of people at all levels of the importance of the sustainability of water resources through an ecohydrological approach.

The functions of the Centre are to:

- a) coordinate the implementation of cooperative research projects and studies with central and local governments, as well as the private sector;
- b) build and run networking for information and knowledge exchange;
- c) organize training courses, seminars, workshops and meetings; and
- d) produce publications and disseminate information

3. Review of APCE Activities:

This review is based on the Terms of Reference (TOR) drafted in 2017 and attached below in the present document. The review and evaluation were undertaken:

- to assess the extent to which the agreement APCE conforms with the Integrated Comprehensive Strategy for Category 2 institutes and centers under the auspices of UNESCO (37 C/Resolution 93 and Document 37 C/18 Part I and its Annex), and, if needed, to provide guidance on how this can be achieved; and
- to assess the Centre's performance with respect to its objectives and functions, as specified in the Agreement between UNESCO and the host government, and its contribution to UNESCO's strategic programme objectives and respective sectoral and UNESCO-IHP strategies, priorities, and themes.

Detailed Schedule of the Evaluation Meetings

- **Day 1. Monday, 4 December 2017 (UNESCO Jakarta Office)**

Time	Agenda	PIC
08.30 – 09.00	Registration	
09.00 – 10.00	Opening Remark	Moderator : Dr. Hans Thulstrup
	Director of UNESCO Office Jakarta	Prof. Dr. Shahbaz Khan
	Executive Director of APCE	Dr. Ignasius D.A. Sutapa, MSc
	APCE Governing Board Member	Prof. Dr. Hidayat Pawitan
	Evaluators	Dr. Tariq Rana Dr. Giuseppe Arduino
10.00 – 10.30	Group Photo and Break	
10.30 – 12.00	Introduction of the Assessment Processes	Dr. Tariq Rana Dr. Giuseppe Arduino
	Assessment indicators and Processes	Dr. Tariq Rana Dr. Giuseppe Arduino
12.00 – 13.30	Lunch Break	
13.30 – 15.00	Preparation of Documents Assessment	Dr. Tariq Rana Dr. Giuseppe Arduino
15.00 – 15.30	Break	
15.30 – 17.00	Discussion and Wrap up of Day 1	Dr. Tariq Rana Dr. Giuseppe Arduino

- **Day 2. Tuesday, December 5, 2017 in Meeting room 2nd Floor, APCE Building CSC - LIPI Cibinong**

Time	Agenda	PIC
08.30 – 09.00	Registration	APCE Secretariat
09.00 – 10.00	Opening Ceremony	MC : Dr. Siti Sundari, MSc
	Executive Director of APCE	Dr. Ignasius D.A, Sutapa, MSc.
	Deputy Chairman for Earth Science LIPI	Dr. Ir. Zainal Arifin, MSc

	Chairman of I N C Unesco (KNIU)	Prof. Dr. Arief Rachman
	Director of UNESCO Jakarta Office	Prof. Dr. Shahbaz Khan/ Dr. Hans Thulstrup
	Evaluators	Dr. Tariq Rana/ Dr. Giuseppe Arduino
	General Secretary of LIPI	Dr. Siti Nur Amaliati Prijono
10.00 – 10.30	Group Photo & Coffee Break	APCE Secretariat
10.30 – 11.00	Visiting Facilities of APCE	APCE Secretariat
11.00 – 12.30	Evaluation Process	Evaluators
12.30 – 13.30	Lunch Break	APCE Secretariat
13.30 – 15.00	Evaluation Process	Evaluators
15.00 – 15.30	Coffee Break	APCE Secretariat
15.30 – 16.45	Evaluation Process	Evaluators
16.45 – 17.00	Closing	Evaluators and Executive Director of APCE

- **Day 3. Wednesday, 6 December 2017 – Office review**
- **Day 4. Thursday, December 7 2017 – Office review**
- **Day 5. Friday, December 8, 2017 – Meeting Room 5th Floor SWS LIPI Building, Agreement LIPI HQ, Jakarta**

Time	Agenda	PIC
08.30 – 09.00	Arriving of the Evaluators and APCE Staffs in LIPI HQ	
09.00 – 09.30	Opening Remarks	
	Executive Director of APCE	Dr. Ignasius D.A, Sutapa, MSc.
	Director of BKHH LIPI	Ms Nur Aries Suestiningtyas, MA
	Evaluators	Dr. Giuseppe Arduino Dr. Tariq Rana
09.30 – 10.30	Discussion on Agreement Draft related to APCE	BKHH/Legal Officers
10.30 – 11.00	Closing	BKHH
11.00 – 16.00	Evaluators back to UNESCO Office Jakarta	Note : Dr. Tariq Rana to airport

4. Results of the visit:

This section presents the results of the evaluation and is structured around the main objectives and functions of APCE. From 2011 to 2017, the Centre organized and took part in a range of activities (26 workshops, seminars, conferences and trainings) in Indonesia and abroad, focusing on building capacity within the framework of UNESCO's IHP-VII and IHP VIII phases. It also carried out 14 research projects at national level and published 47 between papers and proceedings in national and international journals.

The Centre also regularly attends and contributes to the annual meetings of the IHP Regional Steering Committee for Southeast Asia and the Pacific (IHP RSC-SEAP) which in 2017 expanded its geographical coverage to the entire region. Annexes 1 to 3 show the events, research projects and publications of APCE from 2011 to 2017.

One of the most important activities of APCE from the end of 2016 is the establishment of an Ecohydrology Demonstration Site at the Saguling Reservoir (on the Cibitung Catchment, tributary of the Citarum River, Bandung, Indonesia) which provides a highly effective and useful site for water quality treatment from waste water of different origins (industrial, domestic and paddy fields) using ecohydrology solutions through phytotechnology. The site is also equipped with an automatic data acquisition system (meteorological and water quality parameters), with real time data restitution on APCE website (<http://apce.lipi.go.id/>).

APCE has been recognized by UNESCO's regional IHP community, through the election of Indonesia – through - Dr. Ignasius D.A. Sutapa, MSc, Executive Director of APCE – as Chair of the IHP RSC-SEAP for the period of 2017-2019. This strategic position is crucial, as it will help APCE to be more visible and increase the potential networking, collaboration and contribution to the implementation and dissemination of ecohydrology concepts and approaches for solving water related problems within the framework of IHP.

APCE has also invested in social, cultural and public awareness by disseminating basic ecohydrological concepts and applying activities in primary schools, as well as embedding Ecohydrology courses in curricula of different universities (Bogor Agricultural University IPB and University of Timor - UNIMOR).

APCE activities and outputs:

APCE has been successful in establishing a strong network nationally and partly internationally. its activities are divided into four categories:

1. Research and Development

2. Training, Capacity Building & Collaboration
3. Social, Culture and Public Awareness
4. Information System and Database

Good practices and remarks:

- Successfully conducted a large number of training courses
- Established a good network and partnership with national, regional and international organizations
- Published annual reports summarizing APCE activities during 2011-2017.
- Several MoUs (9 international and 8 national) signed with relevant organizations and ministries at the national, regional and international levels (Annex 4). They reflect the strength of partnerships for the implementation of cooperative research projects and studies, networking for information and knowledge exchange, and the organization of training courses, seminars, workshops and meetings.
- Despite APCE's need for more personnel to effectively deliver its functions and achieve related objectives, the results of the projects have been very good. From the point of view of capacity building and technology transfers, the workshops have made good use of the Center's international network and yielded positive results.
- APCE has gained a good reputation in the region as a training institute in Ecohydrology, and has earned the trust of its partners at the national and regional level.
- APCE has been successful in producing publications and disseminating information, particularly at the national level.
- The Indonesian government has shown strong commitment to support the function of APCE during its first cycle of operation (2011-2017). Key achievements include the completion of a new APCE facility, supply of modern ICT equipment, real time telemetric system to monitor the demo-site, and a well-equipped laboratory.
- APCE has the diverse skills needed to deliver its objectives and functions with reasonable gender balance.

Recommendations:

- To ensure that APCE is truly a regional center, partners must be more actively involved in setting its agenda and contributing to its activities (this includes financial contributions).
- The Government of Indonesia should make a solid commitment to provide adequate financial and human resources to APCE to make it centre of excellence in ecohydrology

that can then further stimulate partnerships and raise funds with national, regional and international agencies to achieve the goals and objectives.

- The reviewer recommends that APCE must secure at least USD 650,000 per year to effectively deliver on the objectives and goals set out in the agreement between the Indonesian government and UNESCO. At least 50% of this funding should be assured from the Government of Indonesia.
- The parent Indonesian government department of APCE is LIPI (Indonesia institute of Science). LIPI has recently formally assigned a good number of personnel to work at APCE. The review recommends to continue this support in the future to help the Centre carry out its full functions. According to the agreement between UNESCO and the Government of Indonesia represented by LIPI, the period of assignment of APCE personnel – stipulated in a Decree by the Chair of LIPI - should have a duration of 6 years.
- APCE should develop workshop strategies as part of short-term, medium-term and long-term plans, and create introductory and advanced types of workshops to help address emerging ecohydrology issues due to a rapid economic development in the country and the Asia Pacific region.
- APCE should scale up the network they have been building by utilizing each partner's strength to successfully address ecohydrology issues at national and regional level.
- APCE should further engage other experts outside the LIPI institutions to broaden the knowledge and information to help tackle the ecohydrology issues.
- APCE should increase number of students in the master's and Phd programmes, and promote efficient use of its intellectual knowledge base, staff time and structural facilities.

4.2 Alignment of APCE's activities with UNESCO strategy:

APCE activities are carried out to “Strengthen responses to local, regional and global water security challenges” with particular emphasis on IHP VII Theme 3: “Ecohydrology for sustainability” and IHP VIII Theme 5: “Ecohydrology, Engineering Harmony for a Sustainable World”. This is in line with UNESCO's strategy, and APCE has developed workshops, training courses research projects and published several scientific papers on that basis.

Good practices and remarks:

- APCE is a member of the Ecohydrology Scientific Advisory Committee (SAC) and as such has the task of disseminating and coordinating activities in the Asia Pacific Region. In this context, APCE has produced several publications in national and

international journals in line with the UNESCO strategy.

- APCE has conducted a number of national and international training courses, symposia, workshops and seminars with good level of participation. With reference to the organization of international workshops and training courses, APCE has assured the participation of high-level international trainers from different countries (Poland, Portugal, Republic of Korea, Argentina, Australia).
- As noted, above, APCE has been recognized by UNESCO's regional IHP community, through the election of Indonesia – through - Dr. Ignasius D.A. Sutapa, MSc, Executive Director of APCE – as Chair of the IHP RSC-SEAP for the period of 2017-2019. This strategic position is crucial, as it will help APCE to be more visible and increase the potential networking, collaboration and contribution to the implementation and dissemination of ecohydrology concepts and approaches for solving water related problems within the framework of IHP.

Recommendations:

- APCE might consider to combine its Governing Board recommendations with the Ecohydrology Scientific Advisory Committee's suggestions in order to increase the operability of the Ecohydrology programme and deliver it in the Asia Pacific region.
- APCE should promote its contributions to IHP VIII (2014-2021), SDGs (particularly goals N. 6, 13 and 15), and other international activities related to climate change (e.g., COPs) and water resources management.

4.3 Efficiency and achievements of APCE's activities:

Good practices and remarks:

- APCE has successfully delivered the activities defined for the evaluation period (2011-2017) with limited financial and human resources. The results of the projects have been quite good.
- Several MoUs have been signed with relevant organizations and ministries at the national, regional and international level, reflecting the strength of these partnerships.
- APCE has been successful in building a strong network among not only partner organizations in the country but also regionally and internationally.
- From the point of view of capacity building and technology transfers, the workshops have made good use of the Centre's international network and yielded positive results. The research activities have contributed to the provision of scientific and technical information to the Asia Pacific region.

Recommendations:

- APCE should place more effort towards the socioeconomic and cultural aspects of

ecohydrology. Further participation in APCE activities from various stakeholders is highly recommended – including local councils, universities, research and development organizations, and private companies working in the development sector.

- APCE should be encouraged to be more explicit about the commitments required of members of the governing board and other local, national and international partners.
- MoUs have been signed with various partners at national, regional and international level, APCE should assure that these MoUs will be successfully operationalized during the next cycle (2018-2023).

4.4 The high quality of coordination and interaction with UNESCO headquarters and Category 1 and 2 centers has been maintained:

The majority of APCE activities are jointly carried out with UNESCO Office Jakarta Regional Bureau for Science in the Asia and the Pacific, as well as with UNESCO's Division of Water Sciences, with Category 2 centers, and water chairs. APCE has signed, in the considered period, Memoranda of Understanding with the following International Institutions (Category 2 Centres under the auspices of UNESCO):

- The International Centre for Water Hazard and Risk Management (ICHARM) Japan, 2013
- The Regional Centre on Urban Water Management, (RCUWM), Iran, 2013
- The Humid Tropic Centre (HTC-KL), Malaysia, 2013
- Regional Centre for Integrated River Basin Management (RC-IRBM), Nigeria, 2017.

The MoUs have been established in order to:

- Promote regional cooperation on urban water management as well as scientific and technological innovations in water quality improvement, supply and food mitigation.
- Promote networking, knowledge sharing and engage joint research programmes towards the practical implementation of integrated urban water management for sustainable cities;
- Promote and facilitate the exchange of relevant information, expertise, technology and know-how among the networks of the respective centres;
- Provide relevant training, education and awareness-raising campaigns for the dissemination of green roofs as green technology for urban storm water quantity and quality control.

Good practices and remarks:

- Organization of international conferences, trainings and workshops conducted with

UNESCO Office Jakarta and UNESCO Division of Water Sciences

- Many international coordination meetings were held jointly with Category 2 Centres and water chairs.
- APCE has also attended several international events outside the Asia Pacific region.

4.5 Quality of partnerships with government agencies, public/private partners, and donors:

APCE has been successfully communicating and establishing partnerships with government agencies and public/private partners and their donors. Its activities include many workshops and training sessions held in response to requests received,. APCE undertakes many projects mainly with government agencies, however very little with the private sector.

Good practices and remarks:

- Contribution to internationalization of Indonesian specialists by inviting foreign expertise through international UNESCO networks.
- Many public awareness and training workshops were jointly and successfully carried out with government and other institutions.
- The texts summarizing the findings acquired through international workshops and technology transfer programmes have contributed greatly to fostering of regional specialists.
- Cooperation with government agencies, private sector and donors has been enhanced magnificently through open communication and collaboration.

Recommendations:

- Communication with Government Agencies, Public/Private Partners and Donors should be further enhanced to ensure effective delivery of the functions and objectives by securing in-cash and in-kind support from other entities working for sustainable development.
- Reinforcement of APCE staff in future should be planned to proceed systematically with cooperation with the most important government agencies as well as other public/private partners and donors.
- APCE activities should be planned to better align with the priority programs of the Government. This will help attract government and private funding to deliver the 2018-2023 strategic plan.

- Workshops and training sessions should be planned to enhance cooperation with government agencies, public/private partners and donors. They should be planned and implemented taking into account the existing limitations (human resources, funding, and schedules).
- There is a need to strengthen APCE's network by including more scientists, researchers and practitioners from universities, international and regional organizations and the private sector.
- It is highly recommended that APCE be more involved in the international activities through the Indonesian government – for example by inviting APCE to relevant bilateral and multilateral meetings with foreign counterparts in national, international and regional organizations such as UNDP and UN Environment.
- APCE should be invited by the Indonesian Government/LIPI to participate in all relevant missions to promote international cooperation with countries in the ASEAN region such as Thailand, Vietnam, Indonesia, Malaysia, Philippines, Singapore, Myanmar (Burma), Cambodia, Laos and Brunei.
- APCE needs to work closely with the European Regional Centre on Ecohydrology in Poland and other centres of excellence for further development of advances in ecohydrological science and its implementation for restoring freshwater resources in the Asia and the Pacific. Priorities should be given to delivering tools for implementing the IHP VIII and the Sustainable Development Goals (SDGs) in the region.
- APCE should establish a greater number of reciprocal web links with other members of the UNESCO Water Family to deliver joint activities.
- A clear strategy should be developed to plan activities in order to promote the work of SDGs, IHP VIII and priority programs of the NAWA CITA.

4.6 Nature and quality of organizational arrangements, including management, governance, reporting and accountability mechanisms:

The APCE Secretariat, which has a staff of 22, is organized with an administrative and financial division, a research and development division, capacity building and collaboration division, database and information division, and cultural and public awareness division. The Secretariat is well organized. The results of the work of each division was reported and published in the annual reports (2011-2017).

Good practices and remarks:

- Annual reports have been published on the APCE web site, including staffing information, projects and financial summaries.
- APCE has a limited number of personnel. However, they work in close cooperation with the Indonesian Institute of Science (LIPI) and other relevant universities and organizations to obtain good results.
- The director and the deputy directors are based at the APCE secretariat office and remain in close communication with their staff while not in the office. This helps maintain good governance.

Recommendations:

- Reports from each workshop and seminar should be prepared with more systematic measures, such as sharing reports prepared by APCE staff via the Internet.
- Most APCE staff have a strong relationship of mutual trust with the centre's Executive Director. However, cooperation among staff members needs further strengthening. It is recommended that cooperation be strengthened by using the experience gained from wider UNESCO projects to create teams with a strong sense of unity.
- Continuity in the managerial structure of APCE is recommended in order to keep track of its activities and provide the capacity to enhance long-term implementation of programmes and strategies.
- The organizational system has grown to a scale of 22 staff members. It is recommended that clear roles and responsibilities be prepared for all staff to foster the development of human resources along with a career development program.
- APCE's host Indonesian government department, LIPI, has recently formally assigned a good number of personnel to work at APCE for a period of six (6) years in accordance with the agreement duration between UNESCO and the Government of Indonesia. This report recommends that this support be continued in future to help APCE carry out its full function.

4.7 Human and financial resources:

APCE executive staff indicated that they have enough human resources but not the desired financial resources. The Government of Indonesia initially contributed USD 200,000 to APCE's activities, but there is no solid commitment from the government to continue this

funding. Careful management and planning of human and financial resources are required to ensure continuous and effective operation of the Centre. LIPI is fully committed to continue its human resource contribution. However, an additional commitment from government towards APCE's running costs and project expenditures is also needed.

Good practices and remarks:

- The assistance of UNESCO, cooperation with donor organizations and networks have realized many workshops and training programs and projects. They are operated using the advantages of APCE.
- It is recommended that APCE develop new projects while utilizing the advantages of UNESCO networks. This approach can be promoted by strengthening the assistance of UNESCO and engaging in close cooperation with various donor organizations.
- Most project personnel are employed in accordance with LIPI decisions and those of partner organizations. APCE needs its own staff development plan, taking account of both recruitment and education.

Recommendations:

- Employ a dedicated knowledge broker staff for stakeholder outreach and business development
- Expand staff base by creating academic and remuneration incentives for hiring and maintaining high caliber national and if possible international staff
- Focus on greater operational linkages with natural management organizations and development sectors to secure financial support for projects and capacity building
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- The Government of Indonesia should consider enhanced financial support for APCE activities given the increasing demand for its expertise in delivering ecohydrological solutions to other least developed countries and poor communities in the region. APCE must secure at least USD 650,000 per year to effectively deliver on the objectives and goals set out in the agreement between the Government of Indonesia and UNESCO.
- The Government of Indonesia should ensure institutional flexibility for APCE to effectively operate as an international centre of excellence in ecohydrology under the auspices of UNESCO.

5. Conclusions:

1. Dr. Tariq Rana is satisfied that APCE has met the expectations of the IHP Intergovernmental Council and that it has made substantial progress in meeting its objectives and the functioning as specified in Article 7 of the Agreement between the Government of Indonesia and UNESCO.
2. Dr. Tariq Rana recommends that UNESCO's Agreement for APCE is renewed for a period of six years.
3. APCE should be encouraged to take note of the remarks, and respond to the recommendations made in this report.
4. The direction and growing trend of the Centre's activities and achievements is more in line with the above suggestions and recommendations than they were during the first six-year period (2011-2017) of the Centre's activities. Maintaining this trend (particularly as shown during the past two years (2016-2017) since the new director's tenure began) is strongly recommended.
5. APCE has been recognized by UNESCO's regional IHP community, through the election of Indonesia – through - Dr. Ignasius D.A. Sutapa, MSc, Executive Director of APCE – as Chair of the IHP RSC-SEAP for the period of 2017-2019. This strategic position is crucial, as it will help APCE to be more visible and increase the potential networking, collaboration and contribution to the implementation and dissemination of ecohydrology concepts and approaches for solving water related problems within the framework of IHP.
6. Ongoing support of APCE human resources is recommended in order to maintain at least 20-25 staff, including researchers and administrative personnel.
7. APCE must secure at least USD 650,000 per year to effectively deliver on the objectives and goals set out in the agreement between the Government of Indonesia and UNESCO. At least 50% of this funding should be assured from the government.
8. Further hereto, APCE should secure additional financial resources to deliver a broadened agenda through targeted fundraising in association with the UNESCO Water Family.

Annex 1: List of events co-organized and attended by APCE

A) List of Workshops / Seminars

Date and Place	Topic	No. of Participants	Gender Ratio F/M
21 – 23 March 2011, Jakarta	International Workshop on New Ecohydrology Demonstration Site Projects “Ecohydrology For Managing Sustainable Water Futures” Organized by APCE, UNESCO Jakarta Office, IHP Indonesian National Committee.	N/A	N/A
2014, Cibinong, Indonesia	One day workshop on Ecohydrology and Ecosystem :”Integrated Lake Basin Management”	21	10/11
20-21 May 2014, Paris, France	Ecohydrology workshop and Steering Committee UNESCO Headquarters	31	5/26
25-26 May 2015, Kuala Lumpur, Malaysia	Regional Workshop of UNESCO “Science Related Centres & Chairs in Asia and the Pacific”	35	7/28
3-5 August 2015, Cibinong, Indonesia	Regional Drought Workshop in Cibinong, Indonesian Institute of Sciences (LIPI)	25	N/A
11 - 13 November 2015, Yogyakarta, Indonesia	Ecohydrology Approach for Sustainability of Water Resources Management in Special Region of Yogyakarta Province	80	N/A
26-27 August 2015, Banjar Baru, Kalimantan	National Focus Group Discussion “Implementation of Ecohydrological Approach to Support Sustainable Management of Peatlands in Ex-Mega Rice Project Location: Cases on Food Crops and Oil Palm Plantations”	18	NA
1-3 June 2016, Banjar Baru, Kalimantan	Ecohydrological Approach for Sustainable Peatland Management in Ex-Mega Rice Project Location - Central Kalimantan	27	5/22

12-14 2016, Yogyakarta, Indonesia	"Best Practice of Sustainable Water Resources Management Based on Ecohydrology Approach"	35	11/24
18-19 October 2016, Kafamenanu, East Nusa Tenggara, Indonesia	Integrated Water and Environmental Management for Water Conservation in East Nusa Tenggara	39	14/25

B) List of Conferences / International Events

Date and Place	Topic	No. of Participant	Gender ratio F/M
5 - 6 November 2012, Langkawi, Malaysia	The 2nd International Conference on Water Resources: "Sharing knowledge of Issues in Water Resources Management to face the future".	150	NA
8 – 9 November 2012, Langkawi Malaysia	The 20th IHP Regional Steering Committee Meeting fo Southeast Asia and the Pacific (IHP RSC - SEAP)	40	NA
13-14 November 2014, Yogyakarta, Indonesia	International Conference on Ecohydrology "Ecohydrology Approaches Facing The Global Water Environment Challenges"	200	NA
1-5 September 2014, Perugia, Italy	15 th World Lake Conference	791	NA
15-17 December 2014, Koblenz, Germany	Meeting of water related UNESCO Category II Centres	N/A	NA
24 March 2015, Jakarta	World Water Day event	44	21/23
12-17 April 2015 Daegu Korea	7 th World Water Forum,	46,000	NA

November 2016	16 th World Lake Conference, APCE has prepared the event with the ILEC (International Lake Environment Committee Foundation) and other institutions	1070	NA
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C) List of Training Courses

Date	Topic	No. of Participant	Gender ration F/M
January 2013, Jakarta, Indonesia	Training on Integrated Flood Assessment system (IFAS) As a continuation of comprehensive study on Flood Forecasting and Warning System (FFWS) conducted in ten countries	26	4/22
8-9 November 2014, Yogyakarta, Indonesia	The IHP Ecohydrology Training Course: "Ecohydrology: A Tool for IWRM Implementation at the River Basin Level"	29	17/12

D) List of Seminars / Information meetings

Date	Topic	No. of Participant	Gender ratio
24 March 2011, Jakarta	A national seminar on ecohydrology was held with the theme: Integrating Ecohydrological Principles for Good Water Governance"	N/A	NA
8 May 2013	APCE presented its objectives to Udayana University in a group discussion conducted in Bali, to map out water - related traditions in Indonesia including the "subak" irrigation tradition in Bali.	N/A	NA
13 November 2012, Bandung, Indonesia	SWITCH - in - Asia, Citarum Learning Alliance: Relevant actors of the	20	NA

	water sector were invited, to form a multi - stakeholder partnerships including researchers, government and non - government organizations		
April 2014, East Nusa Tenggara, Indonesia	Meeting with the Government of East Nusa Tenggara on water resources management in small islands in East Nusa Tenggara	7	NA
April 2014, East Nusa Tenggara, Indonesia	Meetings with the NGO World Vision Indonesia (WVI)	4	1/3
April 2014, East Nusa Tenggara, Indonesia	Meeting with the NGO PLAN Indonesia: During the visit to NTT, APCE meet with PLAN, approaching community development through children w/ 5 work programs	5	1/4

Annex 2: List of Research Projects by APCE

Topic	Date
Research on Sediment Deposition System on Saguling Reservoir, West Java, Indonesia	2011
Development of Alternative Technology to Provide Clean Water in Peatland areas, Kalimantan, Indonesia	2011
Water Quality Monitoring in Pondok Pesantren Ar-Risalah, Ciamis, West Java, Indonesia	2011
Alternative Technology to Provide Clean Water In Peatland Area	2012
Demosite for Community Base Development on Water Management: Islamic Boarding Traditional Public School (Pesantren) Ar-Risalah	2013
Ecohydrology in Peatland Areas	2014
Project Development of the Saguling Ecohydrology Demosite	2015
Study of Plant Comodity Suitability in Peatland Ex-Mega Rice Project Location, Central Kalimantan	2015
Study on Implementing Ecohydrological Approaches Towards Sustainable Management in Peatlands	2015
Existing Water Management in Peatlands	2015
Inauguration of the Saguling Demosite	2016
The Implementation of Ecohydrology Approach and avoided deforestationin Peatland rewetting and conservation in the Ex-Mega Rice Project	2016
Advanced development of the Ecohydrology Demosite in Saguling Reservoir	2017
Foreseen development of demosites in arid zones and small islands	2017

Annex 3: List of Publications – National/International Journals, Proceedings

Title	Date
Sing S.C, Hananto N, Mukti M, Permana H, Djajadiahrdja H, Harjono H. 2011. Seismic images of the megathrust rupture during the 25th October 2010 Pagai earthquake, SW Sumatra: Frontal rupture and large tsunami. AGU Journals, Vol. 38.	2011
Sutapa, I.D.A. 2011. Alternative Technology To Provide Clean Water In Peatland Area of Gsk – Bb Biosphere Reserve - Riau Province. Proceeding of The 2nd International Workshop on South-South Cooperation for “Sustainable Development in the Three Major Tropical Humid Regions in the World”, Pekanbaru, Indonesia, 4-8 October 2011	2011
Sutapa, I.D.A. 2011. Bio-Village Development Concept In Giam Siak Kecil Bukit Batu Biosphere Reserve, Riau Province: Development Of Peat Water Treatment Technology To Provide Clean Water Basic Needs. Proceeding of Korea International Symposium on “Addressing Water Quality Challenges in Asia”, jointly organized by UNESCO’s International Hydrological Programme and K-Water Institute. Daejeon, Republic of Korea, 07-09 December 2011.	2011
Chrismada, T., Haryani, G.S., Fakhrudin,M., Lukman, Ridwansyah,I., Hehanusa, P. 2011. Ecohydrology Approach for Rehabilitation of Lake Limboto in Gorontalo, Journal of Ecohydrology.	2011
Subehi, L., Hendro, W., Harsono, E., Ridwansyah, I. 2012. Spatial optimization to ensure and improve the waters in quantity and quality for supporting fishery productivity at lake limboto. National Seminar of Limnology VI.	2012
Haryani, G.S. 2012. Kondisi aktual dan upaya mitigasi bencana ekosistem perairan darat: dari konservasi ke pengurangan resiko bencana. RTB 15 Danau Prioritas Nasional.	2012
Setiawan, F., Subehi, L., Wibowo, H., Matshushita, B., Fukushima, T. 2012. Preliminary study on remote sensing techniques to estimate water quality parameters at lake maninjau and singkarak. National Seminar of Limnology VI.	2012
Fakhrudin, M., et al. Pengembangan sistem monitoring online dan peringatan dini lingkungan di Indonesia (Kasus Danau Maninjau). National Seminar of	2012

Limnology VI.	
Aisyah, S., Subehi, L. 2012. Pengukuran dan evaluasi kualitas air dalam rangka mendukung pengelolaan perikanan di danau Limboto. National Seminar of Limnology VI.	2012
Reliana, L.T., Sutapa, I.D.A. 2012. Water quality and water use in peat lands area of the transitional zone of Giam siak kecil –Bukit Batu Bioshpere Reserve, Sumatera Island. The 10th international symposium on Southeast Asean Water Environment.	2012
Haryani, G.S., Sopaheluwakan, J. 2012. Ecohydrology and its emerging opportunities in Indonesia. International Seminar on Ecohydrology and Global Water Issues.	2012
Sutapa, I.D.A, Managing water: from local wisdom to modern science, free flow reaching water security through cooperation. UNESCO Publishing.	2013
Sutapa, I.D.A. IPAG 60: Alternative technology to provide clean water in peatland area. Journal of Hydrological Environment.	2013
Lee G, Yu W, Jung K, Apip. 2013. Catchment scale soil erosion and sediment yield simulation using spatially distributed erosion model. Environmental earth sciences Journal, Vol. 70.	2013
Luo P, Takara K, APip, He B, Nover D. 2013. Reconstruction assessment of historical landuse: a case study in the Kamo River Basin, Kyoto Japan. Computer & Geosciences Journal, Vol. 58.	2013
Luo P, Takara K, Apip, He B, Nover D. 2013. Palaeoflood simulation of the Kamo River basin using a grid cell distributed rainfall-runoff model.	2013
Sutapa, I.D.A. Pengaruh penambahan koagulan terhadap efisiensi penurunan jumlah bakteri indikator pencemaran dalam sistem pengolahan air bersih. Journal of Limnotek. Perairan darat tropis di Indonesia, Vo. 20.	2013
Fakhrudin, M., Chrisdmadja, T., Setiawan, F. 2014. Potensi Sungai Loko Labariri untuk irigasi sawah da pembangkit tenaga listrik di Katikutana Sumba Tengah. Jurnal Limnotek Vol. 21 No. 1 Tahun 2014.	2014
Sutapa I.D.A., Widiyanto, T. 2014. Kualitas mikrobiologis air sungai dan pipa distribusi di Kabupaten Aceh Besar dan Kota Banda Aceh. Jurnal Limnotek Vol. 21 No. 2 Tahun 2014.	2014

Sutapa, I.D.A. 2014. Kualitas air gambut Sungai Sala. Jurnal Oseanologi dan Limnologi Vol. 40. no.3.	2014
Sutapa I.D.A. 2014. Coagulation-Flocculation efficiency level of water treatment plant prototype. Jurnal Teknologi Indonesia Vol. 37 No.3	2014
Sutapa I.D.A. 2014. Perbandingan efisiensi koagulan poli aluminium khlorida dan alumunium sulfat dalam menurunkan turbiditas air gambut dari kabupaten katingan provinsi kalimantan tengah. Juarnal riset Geologi dan Pertambangan, Vol. 24 No. 1	2014
Sutapa I.D.A. 2014. Kualitas air gambut Sungai Sala. Jurnal OLDI No. 2.	2014
Subehi, L., Wibowo, H., Jung, K.S. 2014. Characteristics of rainfall-discharge and water quality at Lake Limboto, Gorontalo, Indonesia. Jurnal ITB.	2014
Subehi, L., Wibowo, H., Ridwansyah, I. Characteristyc of physical catchment at Lake Buyan	2014
Luo P, Apip, He B, Duan W, Takara K, Nover D. 2015. Impact Assessment of Rainfall Scenarios and Land-Use Change on Hydrologic Response Using Synthetic Area IDF Curves. Journal of Flood Risk Management.	2015
Kobayashi K, Otsuka S, Apip and Saito K. 2015. Ensemble Flood Forecasting to Support Dam Water Release Operation using 10 and 2 km-resolution JMA Nonhydrostatic Model Ensemble Rainfalls. Nat. Hazard Earth Syst. Sci. (NHESSS) Dicuss, 3 (7411-7456).	2015
Ignasius Dwi Atmana Sutapa. 2015. Classification of peat water quality in Giam Siak Kecil Bukit Batu biosphere reserve, Province of Riau. Jurnal Teknologi Indonesia Vol 38, No. 2.	2015
Handoko U, Apip. 2015. Pemanfaatan Data Luaran MRI-AGCM untuk studi perubahan hujan ekstrim di beberapa DAS yang masuk ke kota Jakarta. Prosiding Seminar Nasional Bendungan Besar 2015 dan Rapat Anggota Tahunan KNII-BB, Kupang 28-29 Mei 2015, pp. 219-229.	2015
Fakhrudin M. 2015. Kajian Erosi pada DAS Ratai Lampung Selatan. Prosiding Semnas Limnologi VII-2014, pg. 308-317	2015
Fakhrudin M. 2015. Kajian Erosi pada DAS Ratai Lampung Selatan. Prosiding Semnas Limnologi VII-2014, pg. 308-317	2015

Chrismadha T, Lukman, Fakhrudin M. 2015. Lingkungan perairan Danau Ayamaru, Papua Barat. Prosiding Seminar Nasional Limnologi VII.	2015
Fakhrudin M. 2015. Zero runoff untuk pengendalian banjir di Jakarta. Warta Limnologi, No. 53/Tahun XXVII, Pusat Penelitian Limnologi LIPI, page 9-13.	2015
Subehi L. 2015. Lakes of the world; the 15 priority lakes of Indonesia; Newsletter ILEC No 61-2.	2015
Apip. 2015. 20-km, 1-hour MRI-AGCM3.x model iklim dengan resolusi tinggi: Bagaimana awal dan proses pembuatannya? Warta Limnologi, pp. 21-25 No. 54/Tahun XXVII, April	2015
Subehi L. 2015 The Initiative in supporting freshwater sustainable development in Indonesia. DIWPA News Letter no. 33.	2015
K Kenichiro, S Otsuka, Apip, K Saito . 2016. Ensemble flood simulation for a small dam catchment in Japan using 10 and 2 km resolution nonhydrostatic model rainfalls. Natural Hazards and Earth System Sciences (NHES) 16, 1821-1839	2016
Meti Yulianti, Apip, Luki Subehi. Analisis spasial laju infiltrasi dan permeabilitas tanah sebagai dasar konservasi air di DAS Batanghari . Proseding seminar nasional daerah aliran sungai.	2016
Harjono, H. 2017. APCE Best Learning Pengelolaan air : Sintesis: Menarik Pembelajaran Pengelolaan Sumber Daya Air. Publisher: Sekolah Pascasarjana Universitas Gadjah Mada, Yogyakarta.	2017
Fakhrudin, M. 2017. APCE Kebijakan Pengelolaan air : Pengembangan Demosite Ekohidrologi. Publisher: Sekolah Pascasarjana Universitas Gadjah Mada, Yogyakarta.	2017
Sutapa, I.D.A., Maftuah E, Sunaryani, A., Pawitan, H. 2017. Comprehensive ecohydrology to study to support agriculture and water resources management in peatland - Central Kalimantan. Jurnal Teknologi Indonesia, Vol 40, N0. 2	2017
Sutapa, D.A. 2017. Study of IPAG60 plant performance reliability in treating different peat water to support clean water services in peatland areas. Jurnal Teknologi Indonesia, Vol 40, No 2	2017
Fakhrudin, M., Danuarti, D. 2017. Zonasi resapan air hujan sebagai dasar konservasi sumber daya air. Jurnal Limnotek, Vol. 1.	2017

Fakhrudin M., Chrismada, T., Ridwansyah, I. 2017. Evaluasi fluktuasi tinggi muka air danau paparan banjir untukantisipasi penerapan peraturan perundangan: (Studi Kasus Danau Cascade Mahakam). MLI 2017.	2017
Fakhrudin M., Chrismada T., Ridwansyah I. 2017. Pengembangan demosite ekohidrologi di Waduk Saguling, DAS Citarum. MLI 2017.	2017
Santikayasa, I.P., Perdinan, Basit, R.A. 2017. Water allocation for agriculture complex terrain under changing climate. IOP Conference series: Earth and Environmental Sciences 54 (1).	2017
Cahyanti, R. P., Santikayasa, I.P. 2017. Analisis sebaran banjir berdasarkan scenario periode ulang debit (studi kasus subdas Citarum Hilir). Jurnal Dialog Penanggulangan Bencana BNPB.	2017

Annex 4: Memoranda of Understanding

No.	Institution/University/Organization			
	International	Year	National	Year
1	UNU-TOKYO, Japan	2017	Indonesia Power, Bandung – West Java	2015
2	ICHARM - Japan	2013	Bogor Agriculture Institute (IPB), Bogor	2015
3	RUCWM, Tehran – Iran	2013	Lambung Mangkurat University, Banjarbaru – South Kalimantan	2015
4	HTC Kuala Lumpur, Malaysia	2013	Palangkaraya University, Palangkaraya – Central Kalimantan	2015
5	RC-IRBM, Nigeria	2017	Gadjah Mada University, Yogyakarta	2015
6	UTM - Malaysia	2017	University of Timor, TTU District, East Nusa Tenggara	2013
7	USM - Malaysia	2017	BALITTRA (Research & Development of Agricultural Swamp Land), Ministry of	2015
8	NAHRIM, Malaysia (<i>in progress</i>)	2017	Balitrawa (Research & Development Center of Swamp), Ministry of Public Works and Housing	2015
9	Perbadanan Putrajaya, Malaysia (<i>in progress</i>)	2017		

TERMS OF REFERENCE

For the review of the Asia Pacific Centre for Ecohydrology (APCE) in Indonesia, as a Category 2 Centre under the auspices of UNESCO

1. BACKGROUND INFORMATION

1.1. Historical background

UNESCO delivers on its mandate through a broad variety of activities, including those implemented through Category 1 and Category 2 institutes/centres, where Category 1 refers to the centres which are legally a part of UNESCO and Category 2 refers to those which operate under the auspices of UNESCO, with no financial support from the Organization. These centres serve in their fields of specialization as international or regional centres and poles of expertise to provide services and technical assistance to Member States, cooperation partners and also internally to the network of UNESCO Field Offices. In this context, the UNESCO category 2 water centres are expected to contribute directly to attaining UNESCO's strategic programme objectives and expected results for the Natural Sciences Sector (SC) aligned with the four-year programmatic period of the C/5 document (Programme and Budget), including the two global priorities of the Organization (Africa and gender equality), and related sectoral or programme priorities and themes as well as those of UNESCO's International Hydrological Program (IHP).

The General Conference of UNESCO has mandated that each existing agreement with category 2 institutes or centre be reviewed in consultation with the Member State(s) with a view to bringing it into conformity with the new strategy for category 2 entities and respective sectoral strategies. To that effect, it is necessary to carry out a formal review before a decision is taken to renew the existing agreement concerning the designation of the Asia Pacific Centre for Ecohydrology (APCE) in Indonesia, located in Cibinong, as a category 2 centre under the auspices of UNESCO.

APCE was established in 2011, following the decision of the General Conference of UNESCO at its 35th session in 2009 (35 C/20). The present agreement of the center was signed on 28 March 2011 between UNESCO and the Government of the Republic of Indonesia and entered into force on 30 April 2012. It will come to an end in April 2018, and the request for evaluation and renewal of the agreement of the Center had reached UNESCO prior to that date. The Agreement stipulates the following:

1.2. Status of the Centre

APCE is established under the Indonesian Institute of Sciences, the governmental authority for science and research of the Government of the Republic of Indonesia. The Centre shall enjoy, on the territory of the Republic of Indonesia, the personality and legal capacity necessary for the exercise of its functions.

1.3. Budget

The Government of the Republic of Indonesia shall provide all the resources, financial or in kind, needed for the administration and proper functioning of the Centre

1.4. Purpose of the Centre

Under the provisions of the agreement signed in 2011, the Centre aims at the following objectives:

- e) promote research in order to better understand the relation and uses between biota and hydrology in the Asia and the Pacific region ;
- f) identify a hierarchy of environmental problems in selected areas associated with ecohydrological processes;
- g) introduce, enrich, and disseminate ecohydrological principles at the national, regional, and international levels;
- h) elaborate better and long-lasting problem-solving approaches in urban areas;
- i) create a platform for the collaboration and exchange of scientific, technical and policy relevant information for ecohydrology;
- j) generate scientific and technical information, as well as a knowledge base related to broad water education;
- k) create a background to transition toward operational procedures aimed at sustainable water resources development, and generate a new way of thinking among water scientists, policy-makers and decision-makers in Asia and the Pacific; and
- l) increase the awareness of people at all levels of the importance of the sustainability of water resources through an ecohydrological approach.

The functions of the Centre are:

- a) coordinate the implementation of cooperative research projects and studies with central and local governments, as well as the private sector;
- b) build and run networking for information and knowledge exchange;
- c) organize training courses, seminars, workshops and meetings; and

d) produce publications and disseminate information.

APCE is one of the 37 water-related category 2 centres under the auspices of UNESCO and is the only one hosted in Indonesia.

1.5. Rationale for the review and underlying principles

In order to enhance the operation and effectiveness of individual UNESCO category 2 institutes/centres, as well as the effectiveness of their network, the General Conference at its 37th session amended the Integrated Comprehensive Strategy for Category 2 Institutes and Centres under the auspices of UNESCO (37 C/Resolution 93)¹, as contained in document 37 C/18 Part I and its annex², and requested the Director-General to apply the strategy to all proposals for the establishment of category 2 institutes and centres and to all renewals of existing agreements. This integrated comprehensive strategy supersedes all relevant prior resolutions by the General Conference on the subject.

The General Conference has mandated that each existing agreement with category 2 institute or centre be reviewed in consultation with the Member State with a view to bringing it into conformity with the new strategy for category 2 entities and respective sectoral strategies. To that effect, it is necessary to carry out a formal review before a decision is taken to renew the existing agreement concerning the designation of Category 2 status. The following principles as set out in the document 37 C/18 part I are particularly relevant in the context of the review.

A.3 Periodic review and evaluation

A.3.1 The agreement for the establishment of an institute or centre as a category 2 institute shall be concluded for a definite time period, not exceeding six years. The agreement may be renewed by the Director-General in the light of the review in A.3.2 and A.3.3 and the evaluation referred to in A.3.4 and once the Executive Board has taken its decision.

A.3.2 At least six months prior to the expiration of the agreement, the Director-General

¹ <http://unesdoc.unesco.org/images/0022/002261/226162e.pdf>

² <http://unesdoc.unesco.org/images/0022/002217/221715E.pdf>

will carry out a review of the activities of the institutes and centres and of their contribution to the strategic programme objectives of the Organization and the strategy for category 2 institutes and centres approved by the General Conference.

A.3.3 The Director-General will include the results of this review in her/his report to the Executive Board on the execution of the Programme with recommendations as to whether the designation as category 2 institute or centre under the auspices of UNESCO should be maintained, terminated or not renewed. For each institute and centre under review, the termination or non-renewal of an agreement is incumbent upon the Executive Board.

A.3.4 To facilitate the review, the Internal Oversight Service will consider in its planned evaluations of strategic programme objectives, the contribution of the relevant category 2 institutes and centres to the strategic programme objectives under review.

E.1 Financial obligations

E.1.1 UNESCO shall have no financial obligations or accountability for the operations, management and accounting by any category 2 institute or centre and shall not provide financial support for administrative or institutional purposes.

E.1.2 UNESCO Member State(s) or individual institutions concerned shall meet the costs of the feasibility study related to the establishment of a category 2 institute and centre proposed, the costs of the renewal review assessments, as well as the costs of UNESCO staff participation in a governing body of institute or centre, as appropriate.

E.1.3 If a category 2 institute or centre ceases to receive financial support from sponsoring Member State(s) or any other funding source the Director-General shall invite sponsoring Member State(s) to explore other funding possibilities within the period of six months. Should there be no result, the Director-General may propose to the Executive Board to terminate the agreement signed and cancel the designation as category 2 entity.

2. PURPOSE AND USE OF THE REVIEW

The main purpose of the review is to inform the decision-making process on the renewal of the Category 2 Status of the Centre. The findings of the review will be included in the Director-

General's report to the Executive Board on the execution of the Programme with her/his recommendations as to whether the designation as category 2 institute or centre under the auspices of UNESCO should be maintained, terminated or not renewed.

In addition, the review is also to inform the Member States of UNESCO, the UNESCO Secretariat and other stakeholders on the Centre's overall performance, its contribution to the Strategic Programme Objectives of UNESCO and on the implementation of the Integrated Comprehensive Strategy for the Category 2 Institutes and Centres (37 C/Resolution 93 and document 37 C/18 Part I and its annex).

The results of the review will be shared with the institute/centre under review. The report of the review will also be made available on the relevant sector's website.

3. REVIEW SCOPE

In order to meet the purpose of the review described above, the following parameters shall be considered by independent expert(s) responsible for conducting the review and writing an evaluation report that is consistent with UNESCO's reporting mechanisms.

- a) The extent to which the activities and outputs by the centre are in conformity with those set out in the Agreement signed with UNESCO and are potentially adaptable to current UNESCO's strategic programme objectives and expected results aligned with the four-year programmatic period of the current Programme and Budget, and related sectoral or programme priorities and themes;
- b) The relevance of the Centre's programmes and activities to achieving prevailing UNESCO's strategic programme objectives and sectoral or intersectoral programme priorities and themes. In particular:
 - The Centre's contributions to UNESCO strategic objectives and to expected results 10 "Responses to local, regional and global water security challenges strengthened" and 11 "Knowledge, innovation, policies and human and institutional capacities for water security strengthened through improved international cooperation" under Main Line of Action 6 "Strengthening freshwater security"
 - The Centre's ongoing and planned contributions to the implementation of relevant thematic and focal areas of the eighth phase of IHP (IHP-VIII for 2014-2021) in the region and internationally;

- c) The effectiveness of the Centre's programmes and activities to achieving its stated objectives;
- d) The quality of coordination and interaction with UNESCO, both at Headquarters and in the field (including UNESCO Field Offices and UNESCO National Commissions), and other thematically-related category 1 and 2 institutes/centres with regard to planning and implementation of programmes;
- e) The quality of partnerships with government agencies, public/private partners and donors;
- f) The nature and quality of organizational arrangements, including management, governance, reporting and accountability mechanisms;
- g) The human and financial resource base and the quality of mechanisms and capacities, as well as context-specific opportunities and risks for ensuring sustainable institutional capacity and viability;
- h) The process of mobilizing extrabudgetary resources and to what extent such extrabudgetary funding is aligned to the strategic programme objectives of UNESCO.

4. REVIEW METHODS

The evaluation methods to be employed are to be clarified in the review framework to be proposed by the external evaluator, showing how each of the review dimensions mentioned in the previous section will be addressed with regards to sources of data and data collection methods. The following methods are among those that can be considered:

- Document review (desk study)
- Interviews with stakeholders (face to face, phone/skype)
- Field visit(s) and observations, and
- Questionnaires / surveys with stakeholders

SC/HYD, the UNESCO Office, Jakarta and APCE will provide expert(s) with documentations to be reviewed in the desk study. Interviews are to be conducted with relevant UNESCO staff (SC/HYD, UNESCO Office, Jakarta), APCE staff and other key individuals (academics and professionals who have been involved in training conducted by APCE).

The Centre will make the following documents available to the independent expert(s):

- A copy of the existing agreement between the Member State and UNESCO establishing the institute/centre;

- Annual progress reports and biennial self-assessment reports on the contribution to UNESCO's programme objectives;
- Periodic financial reports;
- List of staff;
- List of key publications;
- List of donors and project partners;
- Minutes of the meetings of the Governing Board of the Centre;
- Support provided to Member States;
- Available audit and evaluation reports

5. REVIEW TEAM

The review team will consist of one or two independent expert(s). Qualifications of the independent reviewer(s):

- At least 10 years of professional experience in research and/or capacity-building in the field of water management
- Academic degree (PhD preferred) in the above-mentioned field
- At least five years' experience in policy and programme evaluation; strong knowledge of evaluation methods and data collection skills
- Fluency in English (written and spoken)
- Knowledge of the role and mandate of UNESCO and its programmes
- No involvement in current or past activities of the center under the Center's present agreement.

6. PLANNING AND IMPLEMENTATION ARRANGEMENTS

6.1 Management arrangements

SC/HYD and the UNESCO Office, Jakarta will assist in the preparation and organisation of the review exercise and will facilitate the field visits of the evaluators. The evaluator(s) will be responsible for being self-sufficient as regards logistics (office space, administrative and secretarial support, telecommunications, printing of documentation, etc.). However, suitable working space, when necessary, will be provided during the visit to Cibinong. While the evaluator(s) is/are primarily responsible for the dissemination of all methodological tools (surveys, questionnaires), SC/HYD and the UNESCO Office, Jakarta will facilitate this

process to the extent possible (providing contact information, email addresses, etc.). Relevant stakeholders are being requested to provide planning documents, mission reports or other documents relevant to the evaluation.

6.2 Time schedule and deliverables

The evaluator(s) should propose an inception report consisting on:

- i) Background, objectives and key review questions; and
- ii) Methodology (customized framework of how the exercise intends to cover the entire scope of the evaluation.)

Draft review report: The process for preparing the draft review report shall allow adequate time for a discussion of the findings and the recommendations that have been proposed with SC/HYD and pertinent stakeholders, including the Government of Indonesia and APCE.

Final review report: The final report (maximum 30 pages excluding annexes) should be structured as follows:

- Executive summary (maximum four pages);
- Purpose of the review;
- Scope of the review;
- Methodology;
- Findings;
- Recommendations (including a formal recommendation on (dis)continuation of the Category 2 status);
- Annexes (including interview list, key documents consulted, Terms of Reference).

The language of the report will be English.

The review report will be shared with the Centre and made available on the SC website.

Table 1: Tentative Schedule for the review

WHEN	WHAT	WHO
July 2017	Draft TOR	SC/HYD
	Finalization of TOR	SC/HYD, SC/EO, UNESCO Office, Jakarta and IOS
September-November 2017	Advertising for candidates	APCE
	Selection of external evaluator	APCE and SC/HYD
	Establishing a contract with evaluator	APCE
	Briefing of external evaluator	SC/HYD, UNESCO Office, Jakarta
December 2017	Completion of review framework (design)	Evaluator(s)
	Field visits	Evaluator, SC/HYD, UNESCO Office, Jakarta
January 2018	Submission of draft report to UNESCO	Evaluator(s)
	Review and comment on draft	SC/HYD, SC/EO, UNESCO Office, Jakarta
	Finalization of the review report	Evaluator(s), SC/HYD, SC/EO, UNESCO Office, Jakarta, IOS
February 2018	Submit final report to GBS	SC/HYD
April 2018	Presentation of final report to	Director-General

	UNESCO's Executive Board	
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