United Nations Educational, Scientific and Cultural Organization

Sustainable Development Goals

Man and the Biosphere Programme

International Hydrological Programme

UNESCO Global Geoparks

Fostering Collaboration between UNESCO in the Field and Networks towards the Agenda 2030

In conjunction with

The 3rd Asia Pacific Biosphere Reserves Network (APBRN) Strategic Meeting

FINAL REPORT

21-24 July 2016
Bali, Indonesia

United Nations Educational, Scientific and Cultural Organization · Indonesia Funds-in-Trust

United Nations Educational, Scientific and Cultural Organization · From the People of Japan

United Nations Educational, Scientific and Cultural Organization · Malaysia Funds-in-Trust

EXECUTIVE SUMMARY

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UNESCO Regional Sciences Bureau for Asia and the Pacific event "Fostering Collaboration between UNESCO in the Field and Networks towards the Agenda 2030", organized in Bali, Indonesia, from 21 to 24 July 2016, was attended by 80 participants from 25 countries, 14 UNESCO Field Offices and nine Sciences Category 2 Centres. Key partners such as Japan Funds-in-Trust (JFIT), Indonesia Funds-in-Trust (IFIT) and Malaysia Funds-in-Trust (MFIT) representatives and National Commissions also attended.

The first day included the 3rd Asia Pacific Biosphere Reserves Network (APBRN) Strategic Meeting, and the second day focused on International Hydrological Programme (IHP) and interdisciplinary perspectives. The first two days hosted more than 50 presentations, while more than 30 posters were presented. The meeting offered a venue for networking, best practices exchanges and the elaboration of joint intersectoral (interdisciplinary) and interregional project proposals in Natural Sciences, with the aim to promote South-South Cooperation towards the delivery of the Agenda 2030 for Sustainable Development. The objectives were to:

- Discuss and elaborate strategies for fostering dialogue, cooperation, networking and sharing of knowledge as well as resources among the UNESCO Field Offices and its Networks to support the delivering of the Agenda 2030 through the UNESCO mandate on Natural Sciences.
- Discuss on a joint strategy for the implementation of the Lima Action Plan for Biosphere Reserves (BR) in the Asia-Pacific region.
- Support interdisciplinary initiatives and develop proposals for joint projects on Sciences.

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The output of these four days of debate, exchanges and brainstorming are summarized in a two-folded set of general recommendations.

1. COLLABORATION BETWEEN PROGRAMMES

a. Link Man and Biosphere (MAB) and IHP: e.g. Water issues should be addressed in the implementation of the Lima Action Plan for Biosphere Reserves, as very related to BR principles

b. How to use UNESCO sites such as BRs for interdisciplinary projects, such as Sustainability Sciences

c. Link MAB/IHP with other UNESCO programmes/sites, e.g. natural World Heritage, Geoparks

d. Both IHP and MAB secretariats acknowledge the need to collaborate more as there are clear links which can be established in solving issues related to both programmes (e.g. ecosystem services and water issues)

2. UNDERSTAND THE MECHANISM OF UNESCO AND HOW TO MAKE IT EFFICIENT

a. Collaborating closely with National Commissions which have the MAB National Committee, the IHP committee and the WH committee and where decision are taken at national level for contribution to the respective programmes and send outcomes of this meeting to all NatCom in the region.

b. Linking even more with chairs and category 2 centres which are commitment of universities to UNESCO and commitment of national government to UNESCO respectively in order to bring findings and outcomes to relevant stakeholders and practitioners, academia in the region.

c. Need to work at sub-regional level (South East Asia, South Asia, Pacific Island, etc.) to focus on their specific and relevant issues.

d. Strengthening collaboration with other UN agencies directly and with their category 2 centres (e.g. WMO, GRDC, ESCAP)

e. Establishing new Category 2 Centres and UNESCO Chairs in Natural Sciences through facilitation of the NatCom and Permanent Delegation of respective Member States and UNESCO Field Offices.

The participants also designed a set of key recommendations in the following sectors: Science to Policy, Water Science, Inter-regional and Interdisciplinary projects, Ecological and Earth Science. The detailed set of recommendations was shared with the relevant stakeholders (see Session 7, page 29). The working groups developed proposals for joint actions, resources and best practices sharing, better synergies, efficient inclusion of local communities in the design and implementation of UNESCO projects, better inclusion of the gender aspect in projects, and the organization of sub-regional meetings with key stakeholders for a more inclusive and efficient delivery at the local level.

UNESCO Field Offices are encouraged to propose joint proposals as a follow-up action for a concrete implementation of the new synergies between programmes, partners and offices identified during the workshop.

Contents

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Opening remarks

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21 July 2016, 9.00 – 9.30

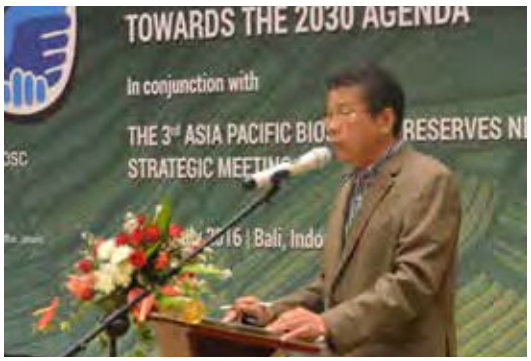
The meeting was officially opened by a video message from **Ms Flavia Schlegel,** Assistant Director-General for Natural Sciences, UNESCO, followed by welcoming remarks from Mr Shahbaz Khan, Director, UNESCO Jakarta, Mr. Mohd Khairul Adib Abd Rahman, Secretary General, Malaysian National Commission for UNESCO, and a video message from Mr Koichi Morimoto, Secretary General, Japanese National Commission for UNESCO.

Ms Flavia Schlegel, in her video message congratulated first the Regional Science Bureau for Asia and the Pacific, UNESCO Office Jakarta for bringing together and coordinating not only among field offices and HQ but also to support South-South Cooperation. The excellent collaboration between UNESCO and key donors of extra-budgetary programmes such as China, Indonesia, Japan, Republic of Korea and Malaysia is entering a new stage of stronger cooperation. The cooperation between UNESCO and these donors in the region has helped mobilization of expertise and services of Category 2 Centres and Chairs for South-South Cooperation for the benefit of the countries of Asia and the Pacific region as well as for Africa. A major focus of this strategic meeting is to focus on the role of the UNESCO Science family to deliver the 2030 Agenda for Sustainable Development. This represents a significant step forward in the recognition of the contribution of Science, Technology and Innovation (STI) to sustainable development. The region also needs to accelerate the implementation of the Sendai Framework for Disaster Risk Reduction (UNISDR, 2015), Samoa Pathway and Paris Agreement on Climate Change. She emphasized on the role of the Asia-Pacific Network of the Man and the Biosphere (MAB) Programme and MAB recently launched Lima Action Plan (2016-2025) as well as the role of the International Hydrological Programme (IHP) placing water security linked with 2030 Agenda at the heart of its eighth phase (2014-2021) and how fostering of intra and inter-regional cooperation through such meetings is essential to bring together the full value of UNESCO mandates to our member states. The field offices in the domain of Natural Sciences need to develop shared initiatives and programmes using UNESCO sites (MAB, IHP and World Heritage sites) to facilitate the delivery of SDGs and its related targets.

Mr Shahbaz Khan presented the meeting "Fostering Collaboration between UNESCO in the Field and Networks towards the Agenda 2030" programme. He reported there were 80 participants from 25 countries, 14 field offices, 9 Category 2 Centres. The first two days will host more than 50 presentations and more than 30 posters are presented. This meeting is the occasion for the networking and joint intersectoral and interregional project proposals in Natural Sciences and with the aim to promote

South-South Cooperation towards the delivery of the Agenda 2030 for Sustainable Development. The objectives are:

- Discuss and elaborate strategies for fostering dialogue, cooperation, networking and sharing of knowledge as well as resources among the UNESCO Field Offices and its Networks to support the delivering of the Agenda 2030 through the UNESCO mandate on Natural Sciences.
- Discuss on a joint strategy for the implementation of the Lima Action Plan for Biosphere Reserves in the Asia-Pacific region.
- Support interdisciplinary initiatives and develop joint project proposals on Sciences
- Mr Khan introduced the seven sessions and the field trip at the World Heritage Site of the Cultural Landscape of Bali Province: the Subak System as a Manifestation of the Tri Hita Karana Philosophy.



Mr. Adib in his message thanked the organizer for inviting him to this important meeting. He continued by highlighting the close relations / partnership between Malaysia and UNESCO. Malaysia and UNESCO recently organized the Asia¬ Pacific Regional Policy Forum on Early Childhood Care and Education (APFEC) from 19 to 21 July 2016 in Putrajaya, Malaysia. In the meeting between Mr Qian Tang, Assistant Director-General for Education and Hon. Education Minister on the sides of APFEC 2016, recognizing that Malaysia have co-hosted at Asia Pacific (ASPAC) level the Ministerial Meeting on Technical Vocational Education and Training (TVET) in 2015 and Early Childhood Care and Education (ECCE) in 2016; and being the Chair of ASEAN Education Minister's Meeting (ASED) and Executive Board member representing ASPAC, UNESCO again invites Malaysia to co-host with UNESCO in 2017 a Regional Conference on (Thematic) SDG. One of the areas discussed is on Goal 4.7 Global Citizenship, but this is still subject to further discussions/ agreement by both. Malaysia would like to get inputs from Jakarta and Bangkok on a suitable focus for the conference, one that is of high relevance to ASPAC.

Mr Koichi Morimoto in his video message expressed his country's commitment through the JFIT UNESCO Science Programme to deliver Sustainable Development in Asia and the Pacific region responding to Agenda 2030, the Sendai Framework for Disaster Risk Reduction, and the Paris Agreement on Climate Change. The Japanese Government/ MEXT are looking forward to see how JFIT Science Programme in Asia and the Pacific region will contribute to the regional delivery of the SDGs, particularly through a) Case studies of sustainable economic and social development utilizing Biosphere Reserves for MAB project BRIDGES (Biosphere Reserves Interconnected in Diverse Global Environments for Sustainability in Asia and the Pacific) ; b) Capacity building of marine environmental science based on sustainability science for IOC project; c) Capacity building and policy recommendation for comprehensive risk management of water disasters in cooperation with ICHARM for IHP project WISER (IHP-WISER in AP International Hydrological Programme Water Informatics for Sustainability and Enhanced Resilience in Asia and the Pacific).

Session 1

21 July 2016, 9.30 – 10.30

Chair:

Mr Shahbaz Khan
UNESCO Jakarta

Note takers:

Ms Ai Sugiura
UNESCO Jakarta

Mr. Jayakumar Ramasamy
UNESCO Bangkok

1. Keynote presentation

Transforming Our World: The 2030 Agenda for Global Action - The Role of Science Technology and Innovation,

Mr Hubert Gijzen
UNESCO Harare

The global agenda has changed since HG departure, transition from MDGs to SDGs and thanks to the three years' consultation process, the SDGs are well known.

For transforming our world, two major imbalances are to be overcome, imbalance between people and the planet (Climate change, deforestation, soil, oceans, fresh water), imbalance between people (poverty gap)

Science will be a tool for understanding the interrelations between the 17SDGs and 169targets.

1. Unfinished business of MDGs
2. Towards SD and green economy
3. Living in peace

No goal on science but science is one enabler of the SDGs.

The role of science in the past for development through:

- The industrial revolution enabling mass production,
- The medical revolution and the raise of pharmaceutical industry and
- The green revolution transforming food production and nitrogen fixation with now human nitrogen fixation surpassing natural nitrogen fixation.

At present, ICT Revolution is enabling science for development for the future: biotechnologies, nanotechnologies and we need to go to a Sustainable Development Revolution.

Science based revolutions present also benefits and externalities making possible enormous economic growth however many MDGs were still left behind.

Role of STI in MDGs were not really mentioned however it changed in the SDGs.

Science has a new position in Agenda 2030 however is Science a priority? Do politicians understand science? In the UN? Member States (MS)? How much is spent in R&D globally?

Science can then allow the transformative shifts which are around three key issues: energy, water and food.

2. Keynote presentation

First indications of Natural Sciences Sector priorities for next biennium and challenges in the Field: Preliminary draft 39 C/5 extrabudgetary planning for Asia-Pacific; and the SAGA project,

Ms L. Anathea Brooks
(UNESCO HQ) Natural Sciences Sector Executive Office

1. STI underlies all the SDGs, and our mapping of the SDGs to SC's work plans demonstrates this. As the body for science in the UN we should show how the different goals are interconnected (positive synergies, negative interactions, mutually supporting, etc.).

   If the next Secretary-General desires to have a Science Advisory body for the UN as many states do, UNESCO is ready.

   The first draft on UNESCO Draft Programme and Budget for 2018-2021 (39 C/5) was submitted in July 2016.

   From the AP region's consultation input, the order of SDG importance is:

   1. Goal 4 Education for Sustainable Development
   2. Goal 14 Ocean
   3. Goal 1 Poverty
   4. Goal 3 Health
   5. Goal 5 Gender
   6. Goal 6/15 Water sanitation and Life on Land

   So the natural sciences are there but not explicitly.

   But when AP Member States replied what they liked in the UNESCO programmes, the ranking was:

   1. MAB
   2. Policy and Capacity Building (PCB)
   3. IHP

   However, when asked where each activities are contributing to the SDGs, then number 1 is PCB.

   So for 39 C/5 preliminary draft:

   Main Line of Action (MLA) 1: Harnessing STI and knowledge for sustainable socio-economic development

   - Developing INCLUSIVE STI systems
   - Monitoring STI system more and more with UNESCO Institute of Statistics
   - Increasing capacity inclusive science (public understanding of science)

MLA 2: Advancing science applied for sustainable governance and management of natural resources, disaster risk reduction and climate change action

- Strengthening scientific cooperation (all international science programmes)
- Increasing resilience (DRR, climate change)
- Sites for sustainable development

There should be more inter-programme and intersectoral activities.

38 C/5 sharpened resource mobilization strategy priority themes are:

Natural science

» Supporting water security
» Strengthening Capacity Building and STI policy
» SD and biosphere conservation

Gender equality

» All Gender Equality Expected Result

Priority Africa

» STI and knowledge for the sustainable socio-economic development of Africa
» Sustainable management of Africa's national resources

Fundraising Strategy Working Group for SC undertook a SWOT analysis of current fundraising to come up with recommendations. Top recommendation: Establish consensus, within SC at Headquarters, Field Office and Category 1 Institutes on SC's resource mobilization priorities and advocate consistently for those priorities across UNESCO.

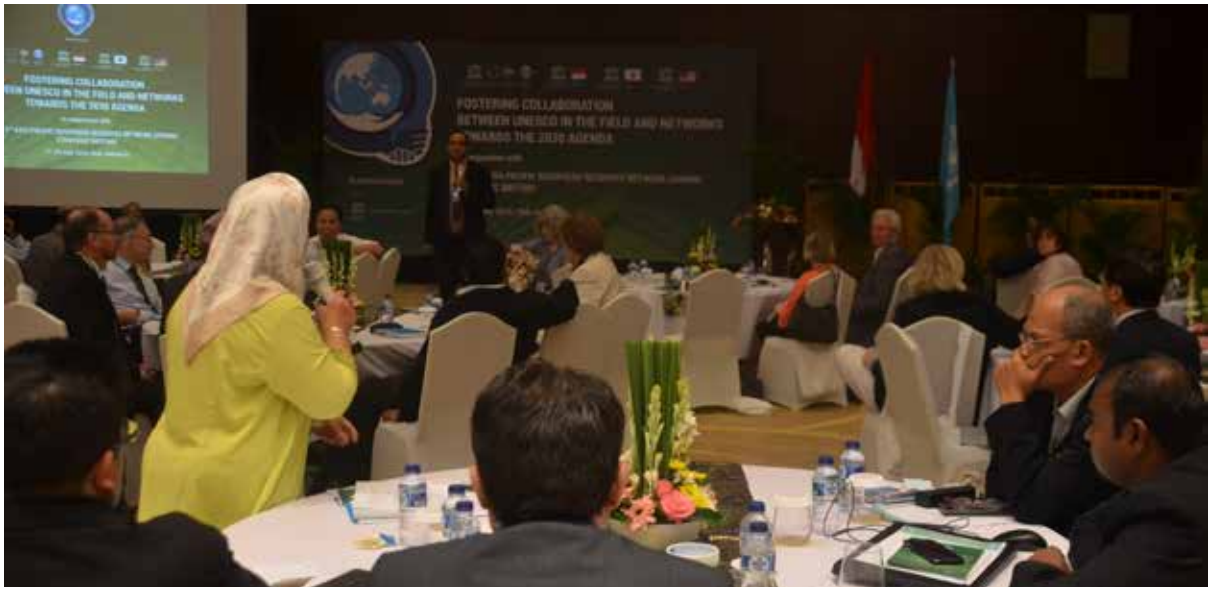
Standard steps for funds mobilization were shared.

Lessons learned from SC's resource mobilization experience were explained to call for collaboration and consistency in the way UNESCO works.

2. Presentation on SAGA: [STEM (science, technology, engineering and mathematics) for Gender Advancement] around US$ 689,000 funded by Sweden.

- Trying to identify where are the critical points in "pipeline" for women's scientific careers so that women stay in science and reach senior levels. Will enable UNESCO to do more.
- Toolkit for Member States to be pilot countries. Being a pilot enables a country to:

» Meet experts
» Review STI indicators and identify most useful ones
» Review policies related to gender equality and identify gaps.
» SAGA is looking for additional pilot countries, including in AP so please contact SAGA@unesco.org if your country is interested.



The first question was about how to link the SAGA project with BR management. UNESCO replied it has not been done as yet and that gender equality is only addressed in the MAB Programme by making sure gender balance is respected in nomination and selection processes. Not yet in Asia but in Africa, there are some projects on women and energy, or women and green economy. SC aims to increase gender balance to 40% of women during this biennium, and ADG/SC wants to make MAB more gender responsive. Follow-up was promised.

It was commented one of the failures of the MDGs was related to gender equality, which was not addressed properly but in the first presentation only the environment aspects of the SDGs were presented. Even though Goal 5 is specifically about gender equality, it should be mainstreamed in all the Goals. UNESCO replied of course the role of women is incontestable and essential in water, energy and food issues but the focus of the presentation was on the role of science for the delivery of the SDGs.

Another inquiry was on how the SDGs will be able to contribute to filling the gap between developing and developed countries in terms of efficient and "good" technologies especially in the food sector.

UNESCO Cairo Office suggested:

- UNESCO should look into the price of addressing climate change and financing the SDGs.
- In the implementation of the SDGs, the first thing to do is to bring Member States' capacity in STEM to a level where they are actually able to receive efficiently the technology transferred to them.
- Multi-criteria analysis should be considered more for the mathematical modelling of SDGs.
- A question on MLAs 3 and 5 was asked, but left for the UNESCO meeting.

The need to underline the effect of what can be returned from investments in the SDGs should be considered, and UNESCO responded that it is an ethical decision how SDG investments will be made while limiting resource losses, as the SDGs are supposed to be entirely country-driven.

Session 2-1

21 July 2016,
11.00 – 12.30

3rd Asia Pacific Biosphere Reserves Network (APBRN) Strategic Meeting

Chair:

Ms. Patricia McPhillips
UNESCO Kabul

Note takers:

Ms. Natalya Kim
UNESCO Almaty

Ms. Joana Vitorica
UNESCO Jakarta

Keynote presentation

MAB strategy and Lima Action Plan in Asia and the Pacific 2016-2025

Ms. Marie Prchalova,
UNESCO MAB Secretariat

The presentation was devoted to the MAB Strategy and Lima Action Plan 2016-2025, as well as its main provisions and strategic objectives. The Lima Action Plan (LAP) was elaborated based on the MAB Strategy for 2015-2025 and launched during the 4th World Congress of Biosphere Reserves in Lima in March 2016.

The key recommendations from the regional Biosphere Reserve (BR) networks and especially the one in Asia and the Pacific (APBRN), covering 142 BRs in 24 countries, include the following:

- promoting inclusive and results-oriented cooperation and networking within the MAB Programme;
- enhancing communication and information sharing within MAB and its networks;
- developing regional and national action plans to implement LAP accordingly;
- promoting networks of BRs;
- mobilizing contributions to achieve SDGs;
- fostering cooperation for resource mobilization.

The way forward:

- Convention on Biodiversity (CBD) invites MAB together with IHP and Local and Indigenous Knowledge Systems (LINKS) to address the Aichi Biodiversity Target 14. Further cooperation should be explored.
- The World Network of Biosphere Reserves (WNBR) is a strength and comparative advantage of UNESCO MAB Programme;
- Such cooperation with MAB is in line with the MAB Strategy 2015-2025 and the implementation of the Lima Action Plan 2016-2025.
- Enhance facilitating role of Field Offices;
- Implement the role of regional, sub-regional BR networks, as well as thematic networks and initiatives, and stakeholders/partnerships networks and national initiatives.

In conclusion, the main aspects of the MAB Programme in the upcoming period (39 C/5 planning) were highlighted, such as the potential to integrate aspects of all UNESCO Natural Sciences programmes, the regionalization of the MAB programme and the leading role of Field Offices in the implementation of MAB regionally and nationally, as well as in managing regional networks. Lastly, the MAB aims to promote BRs as sites for sustainable development towards the achievement of 2030 Agenda.

Network Reports:

East Asian Biosphere Reserve Network (EABRN)

Mr. Hans Thulstrup, UNESCO Beijing

» A brief profile of EABRN was presented: one of the first and most active BR Network with 7 Member States. Main functions: exchange of information, regular regional meetings, site-to-site cooperation.

» Latest achievements of the EABRN were presented, which include the following:

- biggest-ever EABRN training course, May 2015;
- 14th Network Meeting, October 2015 (setting priorities for coming decade; celebrating the 20th anniversary of EABRN; assessed the implementation of past 15 years);
- 2 field evaluations: China and Japan;
- contribution to Lima Congress, March 2016 (all 7 network countries took part in it);
- completion of Red Data Book.

» EABRN priorities for 2016-2025: promote joint research, river basin-scale research, expand training course activities, site-to-site cooperation, promote young scientists and education activities in BR, and increase partnerships with other regional networks.

» Next steps:

- 7th EABRN training;
- 15th network meeting (Kazakhstan 2017)

Mr. Shinsuke Nakamura, JBRN, Japan

» Building a local lead national network: Japanese Biosphere Reserves Network (JBRN) and Japanese Geoparks Network (JGN)

- JBRN: 3 main actors (Local governments, national government, researchers); Shiga meeting (2015) for reorganization of the network; local leadership
- Japanese Geoparks Network: 39 Geoparks (incl. 8 UNESCO Global Geoparks); national conference and training workshop 2-3 times per year.

» Activities in 2016: International Capacity development project (Geoparks); Mutual learning of Asian BR project (Book of case studies published; 4th JBRN meeting, 1st Asian Conference on Biocultural Diversity).

» Conclusion: Need and promotion of local lead networks of UNESCO's sciences programmes and international networking.

South and Central Asia MAB Network (SACAM)

Mr. Ram Boojh, UNESCO New Delhi

» A brief overview of SACAM Network, its member states, number of BRs and meeting was presented.

» Next 8th SACAM meeting: to be held in Almaty, Kazakhstan, in October 2016. Directed to discuss the implementation of LAP in SACAM region.

» Way forward:

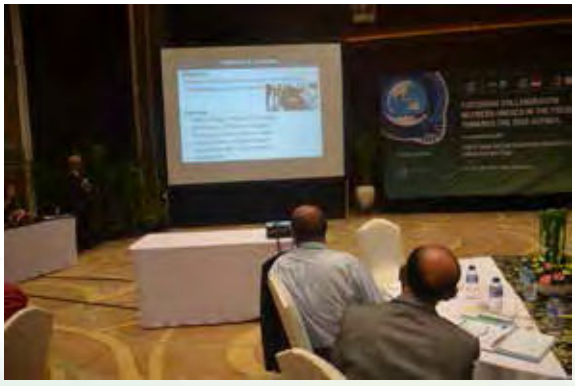
- set up MAB National Committees and BRs in the countries which do not have them;
- promote BR related research, education and management; as well as trans-boundaries BRs
- Implementation plan for MAB Strategy and LAP in SACAM and APBRN.

Mr. Ram Chaudhary, Nepal MAB National Committee

» The history and activities of the MAB in Nepal was presented, although Nepal does not have a BR yet, the Committee is active and has participated in several meetings on the topic. Many protected areas have been suggested to be nominated as BR.

» Nepal is a leading country in terms of conservation of its high biodiversity and charismatic species. It implements a landscape approach for the management of its protected areas.

» Way forward and conclusions: the several potential BR sites in Nepal will strengthen the relationship between people and environment towards achieving SDGs. The nomination process will need an integrated holistic approach, as well as ensure inclusiveness and benefits sharing. Regional cooperation is key for landscape conservation.



Southeast Asia Biosphere Reserves Network (SeaBRnet)

Mr. Shahbaz Khan, UNESCO Jakarta

- SeaBRnet profile: established in 1998, includes 9 member countries, and its primary objective is to foster cooperation on ecosystem and BR management related issues.
- Contribution to sustainable development: the network addresses the issues of sustainability, green economy, climate change, ecotourism, education, etc.
- SeaBRnet last activities:
  - 9th SeaBRnet meeting, 27-30 October 2015, Malang, Indonesia, on Visibility, Branding and Communication Strategies for BRs
  - 4th WCBR, March 2016, Lima, Peru: SeaBRnet and PacMAB regional workshop + Silk Road Initiative workshop
  - International workshop on Strengthening the Role of Local Governments in Implementing LAP, June 2016, Wakatobi BR, Indonesia. Wakatobi Recommendations for MAB-ICC.
- Future meetings: 10th SeaBRnet meeting in Malaysia (2016) and 11th SeaBRnet meeting in Thailand (2017).

Mr. Hoang Tri, Vietnam MAB

- There are 9 BRs in Vietnam, each one used by the Government and MAB for research projects.
- Approach: Benefit sharing, those who conserve nature get benefits from resulted economic development; Conservation-based tourism
- BR as a learning laboratory: linking water-energy-food nexus, climate change and social justice.

The Pacific Biosphere Reserve Network (PacMAB)

Ms. Serena Heckler, UNESCO Apia

» A brief introduction was presented on the Challenges (geographical, climatic and geological, economic and threats to livelihoods, scarcity of resources) and Opportunities (great biodiversity and cultural diversity, oceans, traditional system of governance) the Pacific Region offers.

» PacMAB: established in 2006 to promote cooperation within the region, 4 meetings held (recently in 2014). MAB has to be adapted to the priorities and needs of the region, e.g. focus on local management and a flexible zonation system.

» BRs in PAC:
- no new designations since 2007;
- 14 BRs in Australia + 3 BRs (FSM, Palau);
- new BRs may be under consideration in Papua New Guinea, New Zealand, Samoa, Fiji.

» Key challenges: debates about governing the core zones, integration of scientific and local, indigenous knowledge, land tenure issues are complex and even unresolved.

» Next steps: to find new interested stakeholders for knowledge exchange; 5th PacMAB meeting (2017?); preparation of new nominations; provide support and develop activities in existing BRs.

Mr. Sunny Prasad, MOEHC Fiji

» So far there are no BRs in Fiji, however, great potential: there is a number of protected areas (nature reserves, national parks, marine parks, forest reserves, wildlife sanctuaries) which could be declared as UNESCO BRs;

» Way forward:
- Better planning is required for establishing the MAB Programme in Fiji, as well as improving communication and coordination among all interested parties;
- Financial and technical support is strongly required.

DISCUSSION

How to use UNESCO sites such as BRs for interdisciplinary initiatives such as Sustainability Sciences was raised. Sustainability science is becoming of great importance and it requires a multidisciplinary approach. How it will be reflected in the LAP and what opportunities for cooperation with other UNESCO Sectors (Culture, Social and Human Sciences, Education, etc.) it provides was discussed.

Notably, the MAB Programme reflects an intersectoral approach to sustainable development. A BR is an intersectoral site itself, which encompasses, amongst others, both cultural diversity and social development aspects. This approach is reflected both in LAP and in the UNESCO draft Programme and Budget for 2018-2021 (39 C/5). It was emphasized that the main message of LAP is to implement sustainable development intersectorally.

Another discussion topic was the linkage between the MAB and the IHP Programmes. Specifically, how the implementation of the LAP will address water issues was enquired by IHP representatives. Most if not all the BRs include water resources or are closely related to water, which is essential for them, for example water management risks or for sustainability of endangered species.

It was noted that there have already been some discussions about potential use of BRs as monitoring sites for large river basins. There are some examples from Russia, which might be potentially replicated in other BR areas. Some movements towards addressing water as one of the priorities have been already made.

The UNESCO MAB Secretariat focuses on strengthening cooperation with the Division of Water Sciences to pursue wider collaboration between MAB and IHP Programmes. Cooperation with IHP for its wider involvement in implementation of the LAP, as well as addressing the water related issues in it, is promoted.

At the UNESCO Regional Bureau for Natural Sciences in Asia and the Pacific, the specialists and experts recruited will be responsible both for IHP and MAB Programmes. For instance, the Tropical Rainforest Heritage of Sumatra is a natural World Heritage sites which includes both IHP and MAB aspects, is a good example of combining issues together. In its border, Medan City has its watershed within a BR (Gunung Leuser) and manages its water resources ensuring stable water supply for the city at the same time. So, combining water issues with BRs is inevitable and will be further pursued.

It was also mentioned that, in the framework of the 2030 Agenda, the local governments aim to incorporate the SDGs into their national development plans. Therefore, one of the main tasks for UNESCO Secretariat, having excellent expertise in the field of DRR, IHP and MAB, is to help to bring those various experts together, so that all the challenges could be addressed in a comprehensive way.

Other discussion questions, such as data management in BRs or nominations of new BRs in countries will less experience (e.g. Uzbekistan), were suggested to be address directly to the presenters outside the session due to limited time.

Session 2-2

21 July 2016,
14.00 – 15.30

3rd Asia Pacific Biosphere Reserves Network (APBRN) and Partners

Silk Road Initiative for Sustainable Development

Chair:

Mr Christian Manhart
UNESCO Kathmandu

Notes takers:

Niloofar Sadeghi
UNESCO Tehran

Raza Shah
UNESCO Islamabad

Introduction by the Chair:

The Silk Roads are a network of trade (and war) routes across land and sea that spanned over most of the globe from prehistoric times until today, along which people of different cultures, religions and languages met, exchanged ideas and influenced each other.

These vast networks carried more than just merchandise and precious goods: the constant movement and mixing of populations also advanced the transmission of knowledge, ideas, cultures, arts and religions, which had a profound impact on the history and the civilizations of the Eurasian people, and has shaped our world today.

That is why UNESCO, an organization that aims at building peace and bringing together peoples and their cultures all over the world, has since long been working on the Silk Roads:

As early as in 1988, and as part of the World Decade for Cultural Development, UNESCO has launched an 'Integral Study of the Silk Roads: Roads of Dialogue'. Several land and sea expeditions were organized to retrace some of these routes, with the participation of experts from all the concerned countries. The purpose was to carry out field studies of the scientific, technological and cultural exchanges which took place between the East and the West, with a view to stimulating further research at the international and national levels.

Several other initiatives, such as Kathmandu office with the World Heritage Centre, to prepare the inscription on the WH List, of a transboundary Silk Roads corridor from China over Nepal, Bhutan and Pakistan to India. Another transboundary corridor in Central Asia has already been inscribed on WH List.

There is a great potential for the UNESCO offices in Asia and Pacific to cooperate in order to follow-up and develop further initiatives to promote development and intercultural exchange along the Silk Roads. During the last heads of office meeting in Paris, the regional Asia/Pacific group assigned to the Kathmandu office the task to coordinate such initiatives.

Main points raised by the panellists:

The Director of the ECO Institute for Environmental Science and Technology (ECO-IEST), Dr Asghar Mohammadi-Fazel, looked at the Silk Road from biodiversity conservation point of view. He noted that the system has, in itself, the intelligence to promote and advocate capacities to showcase best practices. Environmental challenges are all interwoven, biodiversity is linked to social and developmental context. Biodiversity is linked to sustainability.

Silk Road is providing solutions or had solutions in its conceptual framework: the very solution that it offers is borderless. It was borderless in wilderness conservation, geopolitics, social exchange, economic support and thus greatly contributed to regional peace. These all are at the heart of SDGs that foster collaboration and networking (B2B, S&T, socio-economic, biodiversity) which shows that the Silk Road was contributing to all the SDGs. It provided strong regional ties and integration that the benefit of the neighbour country was considered as the benefit of other countries and communities constantly learned from each other.

Mr Mohammad Ashraf, representing IHP Pakistan and PCRWR, briefed about the China-Pakistan Economic Corridor (CPEC) that is under construction. This program connects Gwadar port to China Xinjiang through highways, railways, oil and gas pipelines. The major issues in this region are: environmental degradation, extreme poverty, lack of investment & industrialization, lack of data/information. The impacts of CPEC on ecosystem and improved livelihoods of local communities shall be studied.

Ms Chimeddulam, NatCom Mongolia, reviewed the six (6) Biosphere Reserves of Mongolia and informed that Mongolia will be holding a conference in October on "Nomadic tourism and sustainable cities". She further suggested to hold workshops for sharing knowledge and expertise in the region.

Mr Purwanto from MAB Indonesia, reviewed the relevance of the Silk Road initiative to Indonesia's context and concluded that it is more appropriate for Indonesia to be involved in the Sea road (the spice road). This will help Indonesia to:

- Preserve its marine environment and to learn from other Biosphere Reserves along the route
- Improved fisheries
- It can be still used as a spice route
- Indonesian government may connect "sea toll" and BRs (assessing impacts of sea toll on BRs)

Roman Jashenko, Chair of MAB Kazakhstan, recalled that the Silk Road has various routes and often the northern route that crosses Central Asian countries were used. He had a number of suggestions for regional projects keeping in mind that the Silk Road is a great model for collective effort towards a common goal (the suggestions are brought at the last part under suggestions for regional collaborations). At the end, Mr Jashenko recalled that the Silk Road involves so many routes, so many sites and so many local governments. Therefore the job ahead of us is huge while the opportunities are huge too.

Mr Hong Tianhua, Director of HIST Category II Centre in China, briefed on the mandate of HIST which is to help sustainable development within all UNESCO designated sites including WH, NWH, BRs and Geoparks. HIST would be interested to be involved in the Silk Road initiative. HIST could contribute satellite images and RS for the management of BRs. Some concrete suggestions from the HIST included:

- Report on the state of conservation of BRs every two years
- Foster sister partnerships between the BRs in China and other BRs in Asia-pacific
- Climate change is a big threat. HIST is organizing the 2nd Huangshan Dialogue in September where UNESCO designated sites will be discussed in the context of climate change. He extended invitation to all participants of this meeting to attend this event.
- HIST offers capacity building for other BRs

Suggestions for regional projects:

- Comparative analysis of ecological and cultural legislations to find common approaches and to develop Silk Road countries' model laws
- Create transboundary BRs along the silk road (serial system of transboundary sites) e.g. Kazakhstan and Russia will be nominating the first transboundary BR this year in Altai site
- Regional studies to gather information and put all in a Silk Road website
- Needs assessment carried out at the regional level and common trainings are held to address them
- Eco-tourism and use of alternate sources of energies
- The transition zones of BRs do not have a good management mechanism. With the Silk Road we can establish common approaches to overcome these shortcomings.
- To implement activities across the Silk Road countries, take benefit of the already established intergovernmental platforms such as the ECO and also tap on available infrastructure such as the silk road railroad
- Knowledge sharing through an online platform
- Regional red-list for saving species
- Not to consider only as a road. We should consider as a world ecosystem. So it should give ecosystem services to the world.
- The Silk Road is the biggest economic project in our times. So we should use this opportunity to foster application of STI in achieving SDGs. We should use UNESCO sites to showcase application of STI in achieving SDGs within the framework of the Silk Road initiative.
- How to move forward? We need to develop a common approach that is multi-sectoral? How to proceed for funding? Use already initiatives such as UNESCO Tehran office to enlarge them. Make a synthesis of other projects. Develop a regional funds raising strategy to attract donors.
- Regional action plan is to be developed?
- Strategic environmental assessment can be carried out at various levels and can be applied in the silk road projects
- Hold the special silk road meeting among concerned field offices

Session 4

22 July 2016, 9.15-11.00

International Hydrological Programme Perspectives

Chair:

Mr Andrei Chevelev
UNESCO Almaty

Note takers:

Ms Ai Sugiura
UNESCO Jakarta

Ms. Natalya Kim
UNESCO Almaty

The session was articulated in three parts:

1. A review from IHP Secretariat on the last 22nd IHP council which took place in Paris on 13 June 2016
2. 15 presentations from IHP National Commissions, IHP-RSC members, Category 2 centres and water projects in the region.
3. Open discussions around four themes: Urban water and water quality, water education, water-related disaster and water partnership.

Report from 22nd IHP Council, Paris, 13 June 2016 – **Ms Sarantuyaa Zandaryaa, UNESCO IHP Secretariat**

Ms Sarantuyaa reported briefly on the 22nd IHP council which took place on 13 June in Paris and noted the official report is still under preparation.

The main points reported were:

1. The new Bureau for each region is: Hungary, Egypt, Japan (for Asia and the Pacific region) and Senegal.
2. The three main issues underlined during the council were:
    a. The change of IHP and IHP council
    b. The financing of IHP programmes
    c. The monitoring of SDGs
3. IHP has been identified within the UN to deliver Goal 6
4. Two new category 2 centres were approved one in Mexico and one in Brazil.
5. IHP was nominated to contributed to the High-level Experts and Leaders Panel on Water and Disasters (HELP)
6. Link with COP21 & COP22 and IHP were also identified.

Then Ms Sarantuyaa presented on the International Initiative on Water Quality (IIWQ). IIWQ mandate is defined as "A scientific cooperation programme aimed at promoting scientific research, knowledge and policies to respond to water quality challenges towards ensuring water security for sustainable development" and called for collaboration with stakeholders in the region.

Water activities in the region: presentation from the Water Category 2 Centres, IHP National Commissions in the region, IHP-RSC members and other water projects (15):

Mr Mahboubullah Afkhami, MOFA Afghanistan, presented on Afghanistan transboundary water management issues and the institutional and legislative tools currently available such as the Convention on the Law of the Non-Navigational Uses of International Watercourses 1997 or Afghanistan Water Law of 2009 and the current priorities for Afghanistan National Development plan on access to safe and clean drinking water and sanitation health, and food security through food production.

Mr Hery Harjono APCE, IHP Indonesia presented APCE new Ecohydrology concept defined by Zalewski dual approach concept supplemented by the cultural concept. Mr Hery reminded the agreement of Kalimantan meeting to launch a Peatland Ecohydrology demonstration site in Indonesia and called for a follow-up.

Mr Delviyandri PDAM Tirtanadi, Indonesia, presented on the work and challenges Tirtanadi is facing in fulfilling its role in providing safe drinking water to Medan city. An IFIT project is looking at opportunities for Tirtanadi to extend their service area for Medan city water supply, a study on water price and social acceptance as the catchment area is part of the World Heritage site of Tropical Rainforest Heritage of Sumatra.

Mr Putu Santikayasa IPB, Indonesia presented on the work done as IFIT project on Borobudur World Heritage and the implication on water resource competition between tourism use and agricultural uses and the challenges in order to reach a sustainable use of water.

Ms Niloofar Sadeghi Komjani, Category 2 Centre RCUWM-Tehran, IDI Secretariat, IHP Iran presented on RCUWM-Tehran (Regional Centre for Urban Water Management –Tehran) which was established in 2002 and International Drought Initiative, established in 2010, activities in the region. In particular, the synergic work with G-WADI AP was underlined. Also IDI has launched the integrated Drought monitoring/prediction system in West and Central Asia and called for contribution from countries in the region.

Mr Katsuhito Miyake, Category 2 Centre ICHARM (International Centre for Water Hazard and Risk Management in Tsukuba Japan), IFI (International Flood Initiative Secretariat), IHP Japan, presented ICHARM activities in the region as well as its mandate as centre for excellence in Water hazard and risk management, education hub and research hub in related areas. After focusing the first 10 years on floods, ICHARM is now including drought risk management.

Mr Kenichiro Kobayashi, Kobe University, IHP Japan presented the Catalogues of Hydrological Analysis as the successive series of the Catalogues of Rivers. The purpose of the Catalogues of Hydrological Analysis is "to make a reference book for enhancing the understanding of hydrology and water resources in the Southeast Asia and the Pacific region through various examples using the information included in the Catalogue of Rivers". Prof Kobayashi called for a contribution on models or modules.

Mr Shigenobu Tanaka, Kyoto Nagoya IHP-Training course, Kyoto University, IHP Japan reported first on the outcomes of the 25th IHP Training course which took place in Kyoto in December 2015 and introduced the theme for the 26th IHP Training course in Nagoya for 27 November – 10 December 2016 on "Coastal vulnerability and freshwater discharge" and called for nomination of participants through IHP National Commission under the coordination of UNESCO Office Jakarta.

Mr Mohd Abdul Nassir bin Bidin, Department of Irrigation and Drainage Malaysia (MIHP), IHP Malaysia presented Malaysia IHP activities related to the delivery of SDGs water related goals. Mr Nassir underlined the three pillars of MIHP activities in Research, standardization of hydrological practices and education, training and public information. MIHP proposed three project ideas: 1) Workshop on Water Resources Security in the Context of Sustainable Development Goals, 2) Hydrological Procedure Guidelines or Standards, and 3) The National Water Programme for Young Leaders for Students.

Mr. Mohd Nazim Keling – HTCKL, presented their mission as knowledge and capacity building hub for hydrological cycle, urban storm water management and ecohydrology. South-South inter-regional cooperation project conducted with UNESCO Office Jakarta was also presented.

Ms Chimeddulam, IHP National Commission Mongolia presented on Mongolia IHP National Commission activities focused on the renewed Mongolian national IHP committee and on the organization of the next 24th IHP-RSC meeting in Ulaanbaatar in October 2016.

Mr Muhammad Ashraf, chairman PCRWR, director of Category 2 Centre RCWMRIAZ and chair of IHP Pakistan presented activities of PCRWR related to IHP especially on groundwater monitoring in quality and quantity and mitigation measures to drought including capacity building of local farmers and water practitioners.

Mr Junaid Naseem, UNESCO Office Islamabad presented the outcomes of JICA funded UNESCO project in Pakistan on strengthening flood capacity management phase 1 (2012-2014) and the scope and current achievements of phase 2 (2015-2017).

Mr Ulrich Looser from Koblenz GRDC (Federal Institute of Hydrology, Germany) first presented ICWRGC (UNESCO Category 2 Centre International Centre for Water Resources and Global Change under the auspices of UNESCO) activities on behalf of its director Prof Siegfried Demuth. ICWRGC is contributing to both IHP and Hydrology and Water Resources Programme (HWRP) of WMO. Mr Looser then presented GRDC (Global Runoff Data Centre under the auspices of WMO) activities and iterated the importance of sharing historical water quantity and quality data regionally and globally.

DISCUSSION

1. **Collaboration between programmes**

    - Link MAB and IHP: e.g. Water issues should be addressed in the implementation of the Lima Action Plan for Biosphere Reserves, as very related to BR principles
    - How to use UNESCO sites such as BRs for interdisciplinary projects, such as Sustainability Sciences
    - Link MAB/IHP with other UNESCO programmes/sites, e.g. natural World Heritage, Geoparks
    - Both IHP and MAB secretariats acknowledge the need to collaborate more as there are clear links which can be established in solving issues related to both programmes (e.g. ecosystem services and water issues)

2. **Gaps in knowledge in water related matter**

    - Revive indigenous/traditional water management practices
    - Understand privatisation and monetarization of water (water quantitative and qualitative aspects)
    - Gender aspect of water management or water related issues
    - Water diplomacy and water governance issues and UNESCO has a big role to play here.

3. **Understand the mechanism of UNESCO and how to make it efficient**

    - Work more closely with National Commissions which have the MAB committee, the IHP committee and the WH committee and where decisions are taken at national level for contribution to the respective programmes and send outcomes of this meeting to all National Commissions in the region.
    - Link even more with chairs and category 2 centres which are commitment of universities to UNESCO and commitment of national government to UNESCO respectively in order to bring findings and outcomes to relevant stakeholders and practitioners, academia in the region.
    - Need to work at sub-regional level (SEA, SA, Pacific Islands, etc.) to focus on their specific and relevant issues.
    - Strengthening collaboration with other UN agencies directly and with their category 2 centres (e.g. WMO, GRDC, UNESCAP)
    - Establishing new Category 2 Centres and UNESCO Chairs in Natural Sciences through facilitation of the NatCom and Permanent Delegation of respective Member States and UNESCO Field Offices.

Session 5-1

22 July 2016, 14.00-15.30

Interdisciplinary Perspectives

Chair:

Ms. Beatrice Kaldun
UNESCO Dhaka

Note taker:

Mr. Kristanto Sinandang
UNESCO Jakarta

Mr. Jayakumar Ramasamy
UNESCO Bangkok

Ms. Maria Iniguez de Heredia, UNESCO Phnom Penh, started the session by presenting the progress of "Restoring and Enhancing Angkor World Heritage Site and Water Management System at Siem Reap City and Tonle Sap Biosphere Reserve". The objective of the project is to use the sustainability science concept for developing a management plan. The project is located in the North West part of the country, namely Siem Reap City, Angkor World Heritage site, and Tonle Sap BR.

She pointed out the 5 main steps of the Sustainability Science Approach being employed by the project, namely:

1. Co-realisation of a common problem;
2. Co-envisioning futures;
3. Co-shaping into the envisioned society;
4. Co-implementation; and
5. Monitoring and evaluation.

The project has taken the initial step of data collecting leading to the identification of the main problems: excessive ground water pumping under Siem Reap City; periodic flowing of hydrological regime in the Tonle Sap Biosphere Reserve; and groundwater pollution due to municipal wastes in the Siem Reap. The immediate way forward for this project was a workshop to deliberate on Step 2 co-envisioning futures. Ms. Heredia also highlighted that the project location is in 2 UNESCO sites of Cultural World Heritage and MAB Programme.

Ms. Rahmah Elfithri, LESTARI, Malaysia, presented the "Establishment of Sustainability Science Demonstration Pilot Project on Restoring and Managing Langat River, Malaysia for Future" by the Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia (UKM), in close consultation with UNESCO Office Jakarta, under the UNESCO framework of "Sustainability Transformation Across the Region (STAR)", funded by Japanese Fund in Trust (JFIT).

The project aims to deliver a clear understanding of sustainability science outcomes at the regional policy levels through establishment of a platform as a depository of sustainability science best practices and development of a regional strategy and tools. Langat River Basin, Malaysia, is

one of the UNESCO IHP HELP (Hydrology for the Environment, Life and Policy) River Basins and the only river basin from Malaysia under HELP network. The Langat River Basin in Malaysia is chosen as a pilot demonstration site to apply sustainability science for restoring and managing Langat River, where the area is facing rapid development in terms of urbanization, industrialization, road network and agriculture.

Ms Elfithri explained the statistics of the Langat River and the fact that the river is transboundary and runs through an area now having rapid development of a large scale socio-economic projects.

Aiming to restore the river into its original condition, the project has identified the management objectives for restoration and management of the river. It has also concluded the analysis of issues including improving the water quality, which has been scored 0.74 using water quality index, meaning not bad. The project has also helped the proponents to formulate the Framework, Strategy, and Actions Plans leading to the determination of Way Forward facing emerging challenges.

However, a number of challenges like forest fragmentation, development pressure on land use, forest cover loss are still present. Restoring and managing rivers are integral part of IRBM implementation. It is possible to overcome these challenges by Integrated River Basin Management (IRBM) implementation in Langat River Basin including through Social Learning, Collaborative Decision Making (CDM), Sustainability Science Approach, etc. Upon completion of the project there will be a policy option available to restore the river basin.

Mr. Ivan Henares delivered a presentation on "Maintenance of the rice terraces of the Philippines Cordilleras", a completed JFIT funded project harnessing the wisdom of the local community. STAR Sustainability Science Implementation Framework, is a five stepped, problem-driven, multi-criteria spiral approach to implement sustainability science, a tool for water problem solving in the particular context of UNESCO World Heritage sites (WH, natural and cultural), UNESCO MAB Biosphere Reserves (BR) and UNESCO IHP HELP basin.

This pioneering research explores the use of sustainability science as a framework to develop strategies and tools that can facilitate transition to sustainable living by harnessing the wisdom of early human and nature interactions demonstrated in the cultural landscape. This research project demonstrates the use of sustainability science to explore the cultural landscape in the Philippine Cordilleras. The rice terraces of the Philippines Cordilleras are living cultural landscapes dedicated to the production of rice. These are landscapes where local people and environment have interacted for a very long time. To pilot this study, the research was conducted in Mayoyao. Mayoyao is one of the municipalities of Ifugao and is the site of one of the rice terraces clusters in the Philippine Cordilleras.

A literature review revealed the lack of maintenance of the rice terraces The Focus Group Discussion (FGD) facilitated by the project deliberated on how the villagers relate with the damaged terraces, leading to the identification of causes: insufficient water supply, earth worms, and natural hazards. The FGD also identified the benefits of the rice terraces including provision of rice supplies, sources of income for the government and farmers. The exercise has helped the formulation of 5 points envisioned future and recommendations to go about them.

One recommendation was the creation of a body that would manage the World Heritage property while protecting Outstanding Universal Value (OUV) of the Rice Terraces of the

Philippine Cordilleras. It is primarily a community concern, however being a World Heritage site, its protection is ultimately a national responsibility. The current institutional arrangement will benefit from reorganization, providing governance powers and an effective management system, especially on policy formulation, implementation of programmes and recommendations, monitoring and evaluation, and information dissemination. Ultimately, the new body will enable and be in synergy with the establishment of sustainable rural development in Ifugao.

Mr. Takuya Nihira of Osaka University, Japan, presented UNESCO Biotechnology School in Asia (2012-2016) funded by Japan Funds in Trust. The project is its third phase. The UNESCO-JAPAN cooperation on biotechnology initially started as the UNESCO international Programme under Microbiology in 1973. Later it became a biotechnology course in 2003 with multiple partners in Asia. The course offered students the possibility to spend one year in one of the sponsor country and, for the latest part of the course, go to Japan for advanced training. Under the current programme, the different consortium of universities in Japan, Thailand, Vietnam and Indonesia can now award Master's Degree to the trainees. Some of the current professors hosting students from Biotechnology School in Asia are former trainees from UNESCO International Programme for Microbiology and the sustain effort of Osaka University and UNESCO enabled the creation of a strong network of scientists who are now leading biotechnology research in the region.

Mr. Achmad Husni Thamrin of Keio University, Japan delivered a presentation on the "Comprehensive Programme to Enhance Technology Engineering and Science Education in Asia". This project is also funded by JFIT, supporting School on Internet Asia (SOI Asia), and providing courses of Master Class (face to face sessions) and Connect Asia (on line courses). Mr Thamrin cited an event One Day in Asia, of a webinar when UNESCO DG visited Jakarta, which was attended by 3,592 people. Mr. Thamrin opined that capitalizing on UNESCO's network of resource persons, technology can bring out amplified results.

Moving to IFIT funded projects, the sixth presentation was on Tropical Rainforest Heritage of Sumatra delivered by **Mr. Joshua van Berkel**. The Strategic Environmental Assessment (SEA) under development is part of the Corrective Measures & Action Plan, which aims to deal with the impacts to TRHS OUV and recommend appropriate mitigation measures. SEA is generally understood as a systematic & anticipatory process undertaken to analyze environmental effects of proposed plans, programmes & other strategic actions and to integrate the findings into decision-making. In TRHS, the SEA will assess the impacts of the road development plans, looking at cumulative impacts, interactive impacts, and international and regional scale impacts, producing recommendations to decision makers to avoid negative impacts. The biggest challenge thus far has been to verify road plans and obtain sufficiently detailed baseline data.

Mr Ardito Kodijat, head of UNESCO Jakarta DRR and Tsunami Unit, presented another set of IFIT funded projects. One project is supported by the Science Unit on adaptation of Visual Inspection for defining the Safety Upgrading Strategies (VISUS) Methodology for Indonesia whereas the other one is on Indian Ocean Tsunami Information Centre (IOTIC) supported by IOC. The VISUS adaptation project started with the funding of Indonesian Funds in Trust and

receives additional support in 2016 from Global Facilities for Disaster Reduction and Recovery (GFDRR) through the UK Aid. The project introduced the VISUS methodology to be adopted by the Government of Indonesia to assess school safety. The methodology has been piloted in 60 schools in Bandung, West Java in 2015 and additional 100 schools in Ambon this year. The VISUS assessment produced reports that will help decision makers on prioritizing their resources to strengthen schools' safety. The report using infographic to ease the understanding in reading the report. The reports could also be made available in open street map. Regarding the way forward, a proposal is being submitted for 2017 GFDRR funding and implementation to introduce lessons learned to other countries in the region. The IOTIC Projects are supported by UNESCAP, Indonesian Funds-in-Trust and Malaysia Funds-in-Trust. The activities provide services for capacity building, education, awareness, and preparedness to the Indian Ocean Member States. The IOTIC Project also produced booklets, videos and other materials for public information and awareness.

Ms. Philomene Robin, UNESCO Jakarta, presented the scientific programmes jointly implemented by UNESCO Jakarta and the French Ministry of Foreign Affairs & International Development. She illustrated how UNESCO-MOFAID regional scientific workshops, organized with a different Asian scientific institution each year, enhanced the development of ICT-Asia and Bio-Asia programmes. The programmes finance both a network (over 600 scientific from Asia and France since 2004) and a grant scheme, in the value of Euro 200,000 per year, which has supported up to now 89 multilateral scientific research projects. Another UNESCO-Jakarta/MOFAID programme, one of the most difficult and yet successful, according to Ms. Robin, was the RFCC (Regional Forum on Climate Change) hosted by AIT in July 2015.

Ms. Liu Chang from the International Knowledge Centre for Engineering, Sciences and Technology (IKCEST), China, presented Beijing Action Plan. The initiative was the output of a UNESCO Science Centres Coordination Meeting. The plan has 5 objectives, about science to policy, building a climate change scientific network, and call for collaborative research projects, with the expected outcome of cooperation among science centres to support the implementation of Agenda 2030. There have been nine agreements generated to operationalize the Beijing Action Plan. Ms Liu concluded her presentation by sharing the calendar of events for the remaining part of this year, including 2 international training workshops.

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Session 5-2

22 July 2016, 15.30-17.00

Interdisciplinary Perspectives

Chair:

Mr Hubert Gijzen
UNESCO Harare

Note takers:

Ms. Sharizad Sulaiman
UNESCO Jakarta

Mr. Junaid Naseem
UNESCO Islamabad

The Chair began by giving a brief background of the establishment of the Malaysia Funds-in-Trust (MFIT), established under the framework of the Malaysia-UNESCO Cooperation Programme (MUCP) to support UNESCO and its targeted countries to achieve the internationally agreed goals, mutual engagement of government, social partners and academicians in promoting South-South Cooperation (SSC), and exchange of expertise in knowledge and good practices. Announced in 2009 at the 35th Session of the UNESCO General Conference, and signed in 2013, it is hoped that this bilateral initiative would contribute to the enhancement of SSC in the 5 major programmes of UNESCO – education, natural science, social and human sciences, culture, communication and information; as well as the newly adopted Agenda 2030 and its 17 Sustainable Development Goals (SDGs). Through this Fund, the cooperation between Malaysia and UNESCO is strengthened, in particular through the mobilization of Malaysian expertise and services of Malaysian institutions, including the existing Category 2 Centres and South-South cooperation for the benefit of the countries of the Asia and the Pacific region as well as for Africa, with particular emphasis on Least Developed Countries (LDCs) and Small Island Developing States (SIDS).

Highlights from Presentations:

Mr. Shahbaz Khan presented AP-FAST project, a newly approved project under MFIT and how it could facilitate accelerating science and technology knowledge services for SDGs into National Development Plans in Asia and the Pacific. This project will foster global partnerships and will enhance SSC to build and improve knowledge societies based on SD & STI, and it will also establish strong links with governments and regional bodies, i.e. ESCAP. This will be achieved by organizing regional strategic meetings on the implementation of SDGs, these meetings will also be open to selected participants from other regions; and by identifying effective and inclusive means for the use of S&T knowledge for implementing a transformational development agenda.

Ms. Rahmah Elfithri, representing LESTARI, UKM presented Langkawi Geopark as a demonstration of sustainability science linked with ecotourism. It was argued by the presenter that this Geopark promotes best environmental management principles and practices with a clear pathway to regional science policy interface. A few workshops and trainings have been already organized in this study. Key issues of this study includes mangrove exploitation, litter, river pollution etc. which could be solved by sensitizing the local community.

Mr. Ahmad Zubair Sapian of Putrajaya Corporation demonstrated ecohydrology biotechnologies in Putrajaya Lake and wetlands, which covers an area of 4,931 hectares (12,184.7 acre/49 km²). Putrajaya Wetlands project is functioning very well so far and water quality is protected by trapping sediments and retaining excess nutrients and other pollutants such as heavy metals. These functions are important as this wetland is connected to the lake downstream, that are in turn used by humans for activities with water body contact, boating, cruising, fishing and other activities. These same functions are also critical for the fish and other wildlife that inhabit these waters. One of the tourist attraction in Putrajaya is the boat cruise around the urban manmade lake. There are about 300,000 people cruising around the lake using the boat. The research team had estimated their value by applying the Direct Market Value (DMV) method, calculated from the direct fees that customer paid for the services. He also shared the challenges faced and way forward including the importance of having foreign experts in providing additional input.

Mr. Samsudin Tugiman presented role of ISTIC as an international platform in enhancing science, engineering and technology standard in AP and Africa. Mission of ISTIC is to act as an international platform for South-South Cooperation in science, technology and innovation leveraging the network of the G77 and the Organisation of the Islamic Cooperation (OIC) to achieve the overall goal of increasing capacity for management of science, technology and innovation throughout developing countries. He explained ISTIC's management structure and programmes. He mentioned that the way forward for ISTIC was to align programmes with relevant SDGs and by seeking financial support from potential donors. He reiterated the importance of this event as this provides an opportune time for Centres like ISTIC to engage with representatives/stakeholders from Member States etc.

Mr. Sunny Yurendra Prasad presented on climate change education (CCE) in Fiji with goal to enrich learners' minds, to create network, and to empower people to adopt more sustainable, peaceful, prosperous, happy and longer lifetime. During this CCE project, multiple workshops have been organized and in the first 2 workshops, officers from UNESCO and delegates from Universiti Kebangsaan Malaysia, Institute of Teacher Education Malaysia and Sultan Idris Education University, Malaysia, coordinated, further helping these officers. Recommendations from this study were to further review the climate change education, periodic reporting to UNESCO Jakarta, effective networking between UNESCO and Ministries of Environment and Education, and SIDS.

Ms. Serena Heckler began by introducing Ms. Ese Fulivai from the Tongan Ministry of Lands and Natural Resources. She then presented community-based loss and damage assessment for the tourism and agriculture sectors in the Pacific and Southeast Asia. The University of the South Pacific's Pacific Centre for the Environment and Sustainable Development are their partner in this study. Objectives of the study is to generate and share new knowledge and improve understanding and awareness on loss and damage caused by the adverse impacts of climate change in the Pacific and Southeast Asia Small Island Developing States (SIDS) and to provide new insights into how to enhance tools and approaches to address loss and damage in the tourism and agriculture sectors in the region. Community-based research communities better understand the impacts of climate change, both sudden and slow onset, also data was

generated on Loss and Damage in the Pacific to the limits of adaptation. Draft final report of the project prepared by the University of the South Pacific has already been submitted to the Apia Office for review.

The Chair then invited the following Malaysian participants to share briefly information about their institution and expertise.

Mr. Nor Azazi Zakaria presented sustainable urban storm-water management as flooding, water shortage and water pollution are inter-related National issues in Malaysia. There is lot of water when flooding occurs but that water is not managed efficiently but now there are some projects to develop artificial wetlands, dry ponds and swale to store that extra water. He concluded his presentation by inviting all delegates to the 37th IAHR World Congress in Kuala Lumpur from 13 August to 18 August 2017.

Mr. Zulkifli Yusop gave examples of sustainable water management from Malaysia. Presentation started with introduction of Institute of Environmental and Water Resource Management. Health threatening chemicals in drinking water due to the presence of new emerging pollutants (NEPs) in water resources as natural organic matter (NOM) and existing conventional treatment system fails to address the issues of endocrine disrupting chemicals (EDC), antibiotics, polymers, pesticides and biocides, cleaning agents, flame retardants for furniture and plastics. Arsenic affecting 23% of people in provinces polluted by arsenic are drinking the tube well water but there are affordable arsenic removable technologies in Cambodia. He also presented 'Wadi Corridor Modeling for Urban Flood Management' for city of Madina, a study carried out 2011 and 2014 in collaboration of Talbah University, Madina. They developed a flood modelling system, generated flood hazard maps and evaluated flood damages in the city.

Mr. Ismail Yusoff presented Current research progress on groundwater resources in Malaysia and started with introduction of University Malaya and its Faculty of Science. One of the major problem of ground water in Malaysia is high iron concentration; which remains high even after water treatment. A report published in 2005 indicates that iron concentration ranged from 88 to 95% of the dissolved metals, the remainder being lead, arsenic and manganese. Drinking of high iron containing water can lead to health problems e.g. premature aging, osteoporosis, arthritis, liver damage, etc. They have been able to remove iron using ionic liquid, which involves a lengthy iron removal and stripping process, but there is a need to produce a ground water filter and to commercialize it in near future.

Ms. Rashidah Shuib gave a very thought provoking presentation on importance of gender balance. She started with the introduction of Women's Development Research Centre (KANITA) and stressed the fact that SDGs could not be met without having a more gender balance approach as this is bigger than SDG 5. She said that gender should be integral to all of the goals in SDGs as well as incorporated in UNESCO's work like STI, Natural Science Programme, Social Science Programme, MAB, and in other core issues like climate change, water security, and DRR.

Field Trip

23 July 2016, 9.00 – 18.00

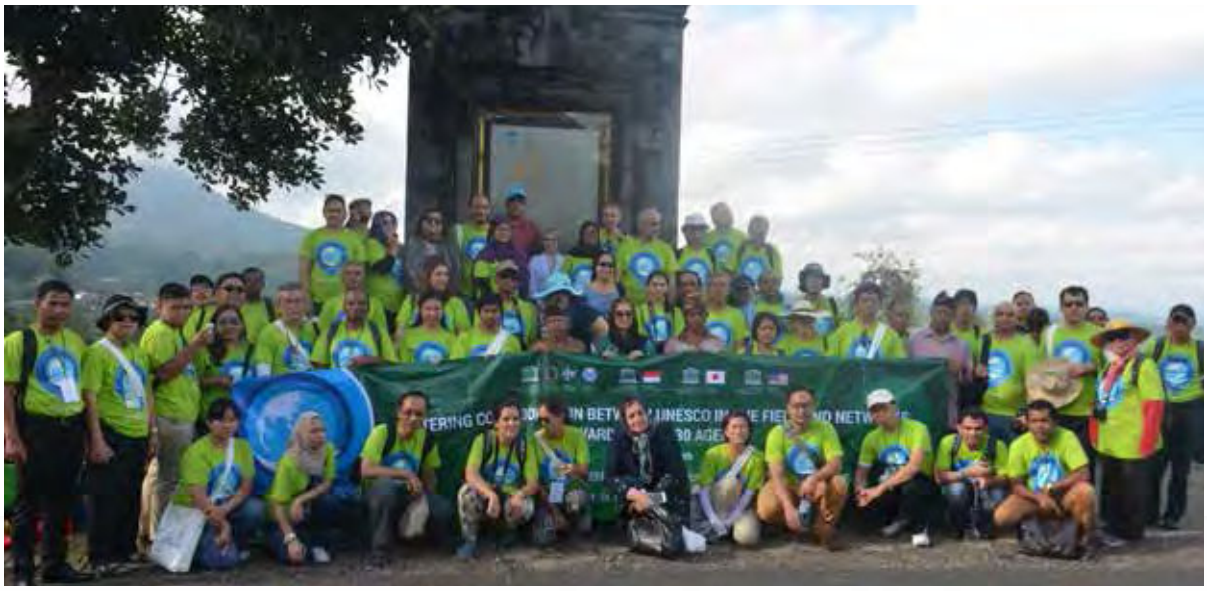
The field trip provided participants with the opportunity to discover the UNESCO World Heritage site of the Cultural Landscape of Bali Province, the Subak Traditional System of Irrigation and Water Management, Batukaru Hindu Balinese Temple and Jatiluwih Rice Fields.

The participants were welcomed at the Museum Subak by Ms Ratna Dawitrani, head of Museum Subak and Prof I Wayan Windia from Universitas Brawijaya, Bali, introduced the concept and the philosophy of the Subak system.

Picture 1 : Prof I Wayan Windia, (left), Jatiluwih (right) .

Then the participants visited Paru Batukaru Hindu Balinese Temple. Pura Luhur Batukaru is a Hindu temple in Tabanan Bali located on the Southern slope of Mount Batukaru, Bali's second highest volcano. The temple is one of nine *kayangan jagat* (directional temples) meant to protect Bali from evil spirits.

The participants then headed back to Jatiluwih Rice fields.



Picture 2 : Group Photo at UNESCO World Heritage site of the Cultural Landscape of Bali Province, Jatiluwih Rice Fields.

GENERAL RECOMMENDATIONS

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Session 7

24 July 2016, 9.00-11.00

Breakout discussion on regional and inter-regional joint project proposals

Mr Shahbaz Khan summarized the two days of presentations and exchanges and requested the participants to break out into four groups to reflect and discuss on regional and inter-regional joint proposals and recommendations.

The four groups were:

1. Science to Policy,
2. Water Science,
3. Interdisciplinary and inter-regional and
4. Ecological and Earth Sciences.

1. COLLABORATION BETWEEN PROGRAMMES

a. Link MAB and IHP: e.g. Water issues should be addressed in the implementation of the Lima Action Plan for Biosphere Reserves, as very related to BR principles

b. How to use UNESCO sites such as BRs for interdisciplinary projects, such as Sustainability Sciences

c. Link MAB/IHP with other UNESCO programmes/ sites, e.g. natural World Heritage, Geoparks

d. Both IHP and MAB secretariats acknowledge the need to collaborate more as there are clear links which can be established in solving issues related to both programmes (e.g. ecosystem services and water issues)

2. UNDERSTAND THE MECHANISM OF UNESCO AND HOW TO MAKE IT EFFICIENT

a. Work more closely with National Commissions which have the MAB National Committee, the IHP committee and the WH committee and where decision are taken at national level for contribution to the respective programmes and send outcomes of this meeting to all NatCom in the region.

b. Link even more with chairs and category 2 centres which are commitment of universities to UNESCO and commitment of national government to UNESCO respectively in order to bring findings and outcomes to relevant stakeholders and practitioners, academia in the region.

c. Need to work at sub-regional level (SEA, SA, Pacific Islands, etc.) to focus on their specific and relevant issues.

d. Strengthening collaboration with other UN agencies directly and with their category 2 centres (e.g. WMO , GRDC, ESCAP)

e. Establishing new Category 2 Centres and UNESCO Chairs in Natural Sciences through facilitation of the NatCom and Permanent Delegation of respective Member States and UNESCO Field Offices.

SCIENCE TO POLICY

1. **Increase Asian Field Offices' participation to the flagship program GO-SPIN (Global Observatory for STI Policies Network), a database listing national policies reviews, best practices and improvement targets.**

2. **Enhance UNESCO advocacy role to make sure National Sciences Policies, once developed, are implemented and sustainable.**

   - Influence the right parliamentary members to weight on Science budgets vote
   - Develop and implement follow-up plans
   - Explain to politicians that Science Policies should be holistic and incorporated to all Ministries' plans of action, not MOSTIs only, since it has strong impacts on other policies (i.e. industrial, health, population, etc.).
   - Explain the economic benefits of Science to politicians, in particular in the field of risk preparedness where prevention is always much less costly than after disaster reconstruction – in terms of finance and human lives.
   - Remind governments that Science Policies must go over decades and must be included in education
   - Increase UNESCO Field Offices partnerships with rich partners (OECD, WB, others), who can help funding the implementation of science policies.
   - Strengthen UNESCO advocacy by bringing good science policies examples to other countries.

3. **Involve local communities in Science Studies in order to**

   - Provide governments with grassroots data.
   - Develop projects corresponding to the real needs of local communities.
   - Link with SAGA gender projects

4. **Improve UNESCO communication on Science towards policy makers by:**

   - Including heads of UNESCO Field Offices (FOs) in the email list of the Natural Sciences Sector, in particular those FOs without science officers, and extend regional cooperation for them.
   - Linking with science and education ministries, in particular in risk preparedness
   - Make sure to invite the appropriate national partners to the World Science Forum.

WATER SCIENCE

1. **Bring IHP to the Pacific**
   - Start with a workshop in the Pacific to bring UNESCO expertise in Asia to the Pacific
   - Jointly plan a programme for raising IHP profile & activities, mainly focused on Asia for the moment, in the Pacific (IHP, Secretariat, Cat.2 Centers, Chairs should come)
   - Build and reinforce the Asia-Pacific network
2. **Use Sustainability Science to maintain healthy water systems with:**
   - Eco-hydrological approach
   - Concrete demonstration sites
   - Emphasis on reducing water pollution
3. **Develop Best Practices Collection for Water Management**
   - Develop an IHP Platform. Publish a book or some documentation reflecting best practices
   - Disseminate the book/document across the region providing scenarios of best practices, lessons learned, etc.
4. **Address overarching/cross-cutting issues, notably:**
   - How to implement, monitor and evaluate through a gender lens
   - Inclusion of local and traditional knowledge in plans and implantation
   - Climate change issues / concerns
   - Ensure appropriate design for community education on new methods
   - Water governance, which requires political leadership at the highest level.
   - Capacity building, best practices sharing & water governance should be involved in all initiatives
   - Transition from water supply to demand management
   - Awareness-raising and information sharing for appropriate decision making for change
5. **Climate Change**
   - Scenarios and future planning: ICHARM would be willing to share its research results on "Programme for Risk Information on Climate Change", which will be completed in mid-2017
   - Find a way to benefit from UNESCO's programmes and tools in the fields: share best practices; bring IHE, IHP and WWAP to the field
6. **Link upstream & downstream users focusing on:**
   - Benefit sharing
   - Conflict resolution
   - Science-to-Policy interfaces
   - Watershed management – see for instance Thailand's watershed management and payment for ecosystem services (PES).
7. **Identify region specific potential donors.**
8. **Transboundary water concerns and efficient/effective water management**

INTERDISCIPLINARY AND INTER-REGIONAL

Participants discussed in detail about the main elements of joint Interdisciplinary and Inter-regional projects, and agreed on the following key points:

1. Project must have Gender Framework /lens and Sustainability Science focus
2. Consideration on the current global context e.g. relevant SDGs as well as Climate Change
3. Knowledge sharing about best practices and actions focusing on youth and women
4. Use of new and innovative technologies for development associated with Global initiatives such as Silk Road, DRR notably within Sendai Framework for Disaster Risk Reduction 2015-2030 etc.
5. Use of UNESCO sites specially three functions of Biosphere Reserves (Conservation, Development and Logistics) as models for interdisciplinarity combining science, society and culture and the gender lens
6. Develop a global governance mechanism for different sites categories
7. Recognize Indigenous knowledge systems and foster community engagement
8. Livelihood issues of stakeholders need to be addressed

ECOLOGICAL AND EARTH SCIENCES

1. Capacity Building & Sharing Best Practices

- Share best practices from the region

  Example: Malaysia's Langkawi Tourism Blueprint on eco-tourism, where:

  - » Revalidation of geopark is proven efficient and a masterplan has been developed with stakeholders' participation
  - » Sites are administrated by BR (Tasik Chini) and geopark (Langkawi) authorities.

- Foster Capacity Building

  Example: in Central Asia, SIDS and LDC, where MAB Committees need support to understand better:

  - » BR concept, how to submit a file for nomination of a BR, how to become member of which regional MAB network, how to make the MAB fully functional, how to engage local authorities, how to promote the transition zone of BRs, how to create a model for BR legislation, etc.

- PROPOSAL: HIST (China) can help with capacity building on BRs & Geoparks
  - » Use of space technics for monitoring (e.g. every 2 years) and sustainable management of UNESCO designated sites
  - » Organize symposiums (e.g. "Challenges faced in WH Rice Terraces")

2. **Develop synergies between UNESCO designated sites**

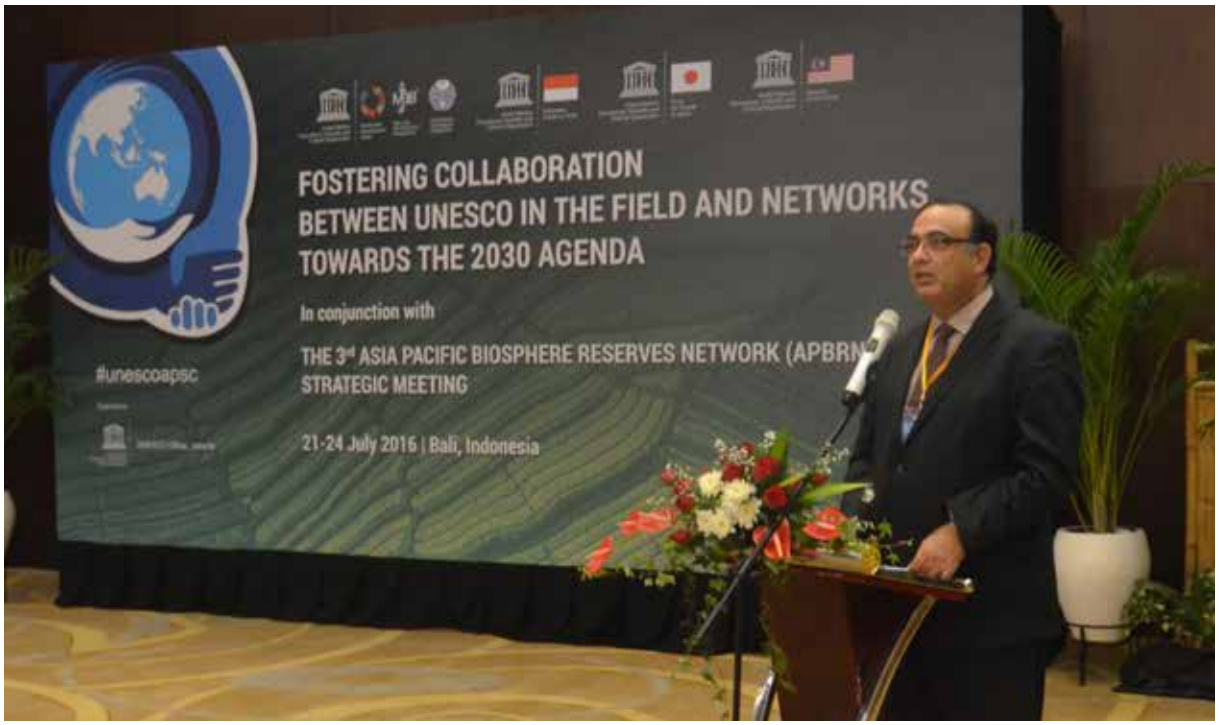
- UNESCO has a wide network across the globe of its designated sites (WH, BRs and Geoparks). Synergies among these designated sites will further strengthen them and contribute to their sustainable management by sharing of experience and new approaches.
- Japan in recent years has taken the initiative to organize joint BR & Geoparks meetings. It was suggested to develop joint meetings at the regional level to foster synergies among UNESCO sites.
- Promote Earth-Sciences programmes in countries which have a great potential
  - » Share information on procedures to nominate a Geopark
  - » Promote Earth-Science Education in Central Asia (e.g. similar to the Africa initiative)

3. **Better coordinate networks' interactions**

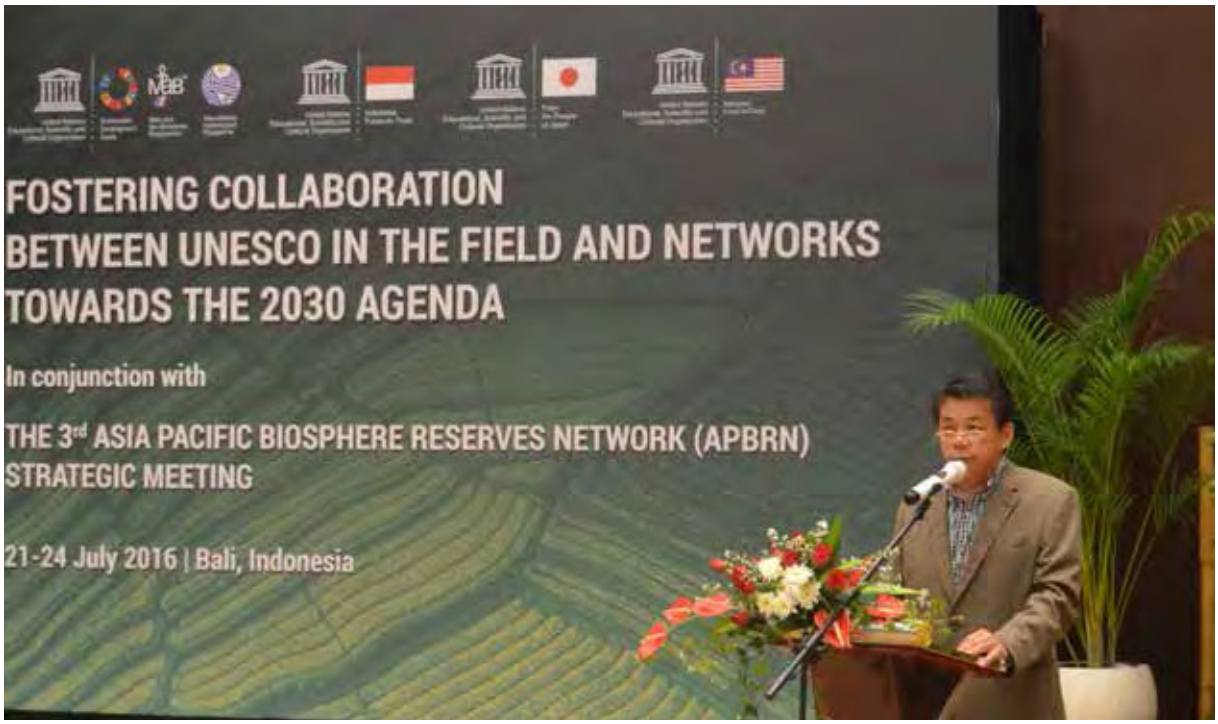
- Organize a Regional MAB Network Meeting to:
  - » discuss how to become an official member of the MAB network and selecting the right network that matches the geographical location, clarify whether having a BR is a requirement to become a member and if so, offer observer status to learn and prepare for becoming a member
- Rotate the SACAM secretariat within UNESCO Field Offices to provide better outreach and coordination with the entire sub-region (West, South and Central Asia)
- Rely on new initiatives such as transboundary cooperation for BRs;
- Enhance the role of local government in BR management

SELECTED PICTURES

Picture 3 Remarks from Ms Schlegel, ADG Science



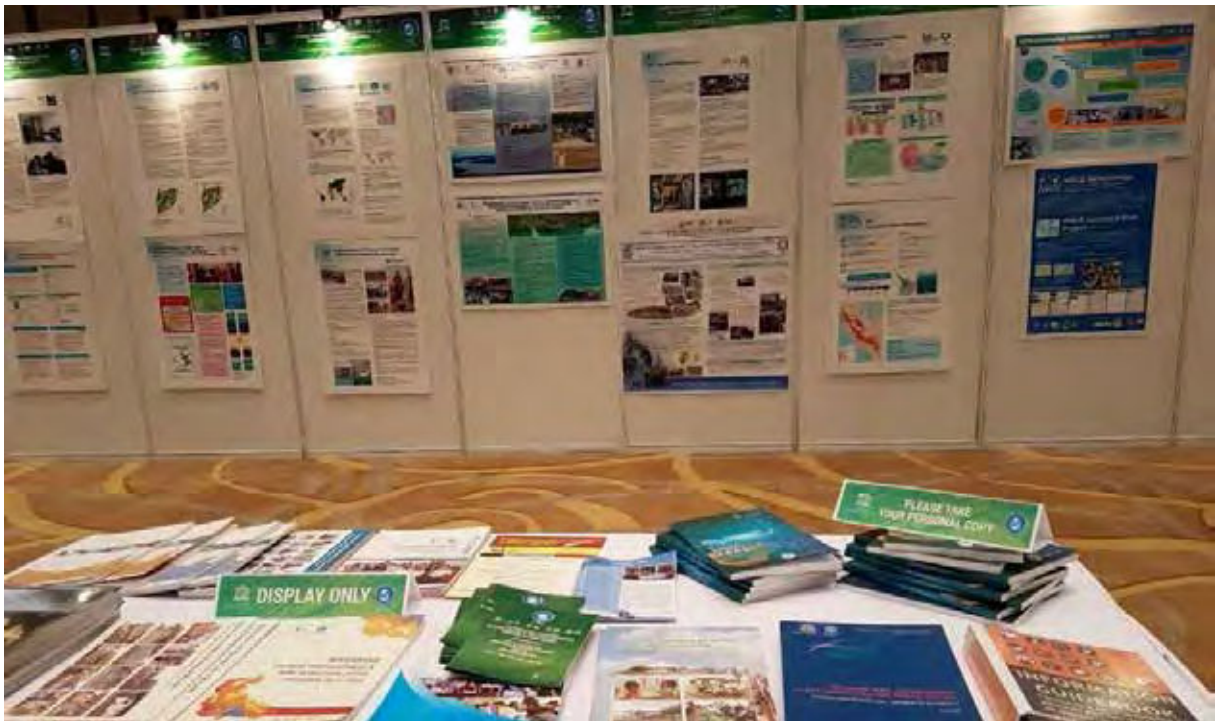
Picture 4 Mr Khan, Director and Representative Jakarta Office



Picture 5 Remarks by the Secretary General of the Malaysian NatCom

Picture 6 Remarks by the Secretary General of the Japanese NatCom

Picture 7 Group photo day 1



Picture 8 Poster session

Picture 9 Day 1

Picture 10 Day 4 breakout discussions

ACRONYMS

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APFEC	Asia-Pacific Regional Policy Forum on Early Childhood Care and Education
ADG	Assistant Director-General
APBRN	Asia and the Pacific Biosphere Reserves Network
APCE (Indonesia)	Asia Pacific Centre for Ecohydrology under the auspices of UNESCO (UNESCO Category 2 Centre)
AP-FAST MFIT	Facility for Accelerating Science & Technology Knowledge Services for SDGs into National Development Plans in Asia and the Pacific
ASEAN	Association of Southeast Asian Nations
ASED	ASEAN Education Ministers Meeting
ASPAC	Asia and the Pacific
BR	Biosphere Reserve
BRIDGES JFIT	Biosphere Reserves Interconnected in Diverse Global Environments for Sustainability in Asia and the Pacific
CBD	Convention on Biological Diversity
CCE	Climate Change Education
COMPETENCE JFIT	Comprehensive Programme to Enhance Technology Engineering and Science Education in Asia
CONNECT-Asia	Collaboration for Network-eNabled Education, Culture, Technology and science – Asia
DRR	Disaster Risk Reduction
EABRN	East Asia Biosphere Reserves Network
ECCE	Early Childhood Care and Education
ECO-IEST	ECO Institute for Environmental Science and Technology
GFDRR	World Bank Global Facilities for Disaster Reduction and Recovery
GOàSPIN	Global Observatory of Science, Technology and Innovation Policy Instruments
GRDC (Germany)	Global Runoff Data Centre under the auspices of WMO
HIST (China)	International Centre on Space Technologies for Natural and Cultural Heritage under the auspices of UNESCO (UNESCO Category 2 Centre)

HTC-KL (Malaysia)	Humid Tropics Hydrology and Water Resources Centre for Southeast Asia and the Pacific (UNESCO Category 2 Centre)
HWRP of WMO	Hydrology and Water Resources Programme of WMO
IAHR	International Association for Hydro-Environment Engineering and Research
ICHARM (Japan)	International Centre for Water Hazard and Risk Management under the auspices of UNESCO (UNESCO Category 2 Centre)
ICT	Information and Communications Technology
ICWRGC (Germany)	International Centre for Water Resources and Global Change under the auspices of UNESCO (UNESCO Category 2 Centre)
IDI	International Drought Initiative
IFI	International Flood Initiative
IFIT	Indonesia Funds-in-Trust
IHP	UNESCO International Hydrological Programme
IHP-RSC SEAP	International Hydrological Programme Regional Steering Committee for South East Asia and the Pacific
IKCEST (China)	International Knowledge Centre for Engineering Sciences and Technology under the auspices of UNESCO (UNESCO Category 2 Centre)
IOC	UNESCO Intergovernmental Oceanographic Commission
IOTIC-IOC	Indian Ocean Tsunami Information Centre
ISTIC (Malaysia)	International Science, Technology & Innovation Centre for South-South Cooperation under the auspices of UNESCO (UNESCO Category 2 Centre)
JBRN and JGN	Japanese Biosphere Reserves Network and Japanese Geoparks Network
JFIT	Japan Funds-in-Trust
KANITA –USM Malaysia	Centre for Research on Women and Gender, Universiti Sains Malaysia
LAP	Lima Action Plan
LDC	Least Developed Countries
LESTARI –UKM Malaysia	Institute for Environment and Development, National University of Malaysia (Universiti Kebangsaan Malaysia)
LINKS	Local and Indigenous Knowledge Systems
MAB	UNESCO Man and Biosphere Programme

MAB-ICC	International Co-ordinating Council of the Man and Biosphere Programme
MDGs	Millennium Development Goals
MEXT Japan	Ministry of Education, Culture, Sports, Science and Technology Japan
MFIT	Malaysia Funds-in-Trust
MIHP	Malaysia IHP
MOE Fiji	Ministry of Education Fiji
MS	Member states
MUCP	Malaysia-UNESCO Cooperation Programme
NatCom	National Commission for UNESCO
OIC	Organisation of Islamic Cooperation
OUV	Outstanding Universal Value for World Heritage
PacMAB	Pacific Biosphere Reserves Network
PCB	Policy Capacity Building
PCRWR Pakistan	Pakistan Council of Research in Water Resources
PDAM Tirtanadi (Indonesia)	Perusahaan Daerah Air Minum Tirtanadi (Local Drinking Water Company Tirtanadi)
RFCC	Regional Forum on Climate Change
RCUWM-Tehran (Iran)	Regional Centre for Urban Water Management –Tehran under the auspices of UNESCO (UNESCO Category 2 centre)
RCWMRIAZ (Pakistan)	Regional Centre for Water Management Research in Arid Zones under the auspices of UNESCO (UNESCO Category 2 Centre)
SACAM	South and Central Asia MAB network
SAGA	STEM for Gender Advancement
SDGs	Sustainable Development Goals
SeaBRnet	South East Asia Biosphere Reserves Network
SIDS	Small Islands Developing States
SOI	School On Internet
SSC	South-South Cooperation
STEM	Science, Technology, Engineering and Mathematics

STI	Science, Technology and Innovation
TVET	Technical Vocational Education and Training
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO-MOFAID (France)	UNESCO-French Ministry of Foreign Affairs and International Development
UNISDR	United Nations Office for Disaster Risk Reduction
VISUS Indonesia	Visual Inspection for defining the Safety Upgrading Strategies
WH	UNESCO World Heritage
WISER JFIT	IHP-WISER in AP International Hydrological Programme Water Informatics for Sustainability and Enhanced Resilience in Asia and the Pacific
WMO	World Meteorological Organization

Rationale

The new 2030 Agenda for Sustainable Development represents a significant step forward in the recognition of the contribution of Science, Technology and Innovation (STI) to sustainable development. Through its Natural Science programmes, UNESCO is contributing to the overall implementation of Sustainable Development Goals (SDGs) by providing policy assistance to support developing countries in strengthening their scientific and technological capacity, and to help Member States design effective policies, based on the best available knowledge, including local and indigenous knowledge systems.

Sustainable solutions - whether at the global, regional or country level - require creativity, new advances in scientific knowledge, discoveries, innovations and most importantly collaboration among the main players. Innovation geared towards sustainable development has the potential to lift economic growth, create green jobs, and boost social development while at the same time contributing to environment protection and conservation.

Among the Intergovernmental Scientific Programmes of UNESCO, the Man and the Biosphere (MAB) Programme is aiming to set a scientific basis for the improvement of the relationships between people and their environment globally. For implementation of its interdisciplinary work on-ground, MAB relies on the World Network of Biosphere Reserves (WNBR). The 669 Biosphere Reserves (BR) in 120 countries, serving as models for sustainable development, are the places where local development agendas are connected for contributing to the Agenda 2030. The recently launched Lima Action Plan (2016-2025) places strong emphasis on thriving societies in harmony with the biosphere for the achievement of the SDGs, both within BRs and beyond, through the global dissemination of this models of sustainability.

Along MAB Programme, UNESCO International Hydrological Programme (IHP) has placed water security at the heart of its eighth phase (2014-2021) defining it as “the capacity of a population to safeguard access to adequate quantities of water of acceptable quality for sustaining human and ecosystem health on a watershed basis, and to ensure efficient protection of life and property against water related hazards -- floods, landslides, land subsidence and droughts” (UNESCO, 2014). Because water is ubiquitous, water and water security issues are strongly echoed in the newly adopted SDGs with water security related targets in nine out of seventeen goals (1, 2,3, 6, 9, 11, 14 and 15). The region also needs to implement Sendai Framework for Disaster Risk Reduction (UNISDR, 2015) and Paris Agreement on Climate Change (UNFCCC, 2015). Asia and the Pacific region is strong with its IHP Regional Steering Committee for South East Asia and the Pacific and 17 National Committees, two major UN family initiatives, the International Flood Initiative and the International Drought Initiative as well as 6 Water Centres and 6 Water Chairs in order to transform the region in a water secure one.

Working together to achieve our common goal and for making our planet Earth a better place to live is the main challenge to overcome after this meeting. All the activities of UNESCO either at HQ or in the field are interconnected but are sometimes implemented in isolation due to several limiting factors. Inter-regional cooperation could be one way to overcome these limitations. The field offices in the domain of Natural Sciences should start thinking about joint initiatives and programmes to the delivery of SDGs and its related targets. The development of projects and flagship programmes to be implemented in more than one country or region could be a key for strengthening South-South cooperation and for ensuring sustainable scientific cooperation on science, policy and society interface.

Objectives

This UNESCO strategic coordination event aims to:

1. Discuss and elaborate strategies for fostering dialogue, cooperation, networking and sharing of knowledge as well as resources among the UNESCO field offices and its network to support the delivering of the Agenda 2030 and its SDGs through the UNESCO mandate on Natural Sciences.
2. Discuss on a joint strategy for the implementation of the Lima Action Plan for Biosphere Reserves in the Asia-Pacific region.
3. Support interdisciplinary initiatives and develop joint project proposals on Sciences.

Participants

1. UNESCO Natural Sciences Senior Managers
2. UNESCO Natural Sciences Programme Specialists
3. MAB National Committees and representatives from BR networks
4. IHP National committees and Water stakeholders including IFI and IDI
5. UNESCO Natural Sciences Category 2 Centres and Water Chairs
6. UNESCO Jakarta Sciences project related partners in the region (JFIT, MFIT, IFIT)

Venue

The meeting will take place in:

Inaya Putri Bali Resort

Kawasan Wisata Nusa Dua, Lot 5-3

Bali 80363, Indonesia

Phone: +62 361 77 4488

Fax: +62 361 77 1135

http://inayahotels.com/

Participants will be hosted in the same venue.

Programme

20 July 2016: Arrival in Bali

Day 1: 21 July 2016	
08:15	Registration
08:45 – 09:00	Safety briefing
09.00 - 09.30	**Opening Session** Opening Remarks • Message from Ms Flavia Schlegel, Assistant Director General for Sciences UNESCO • Mr Shahbaz Khan, Director UNESCO Jakarta • Bali Government (TBC) • Mr. Mohd Khairul Adib Abd Rahman, Secretary General, Malaysian National Commission for UNESCO • Message from Mr. Koichi Morimoto, Secretary-General, Japanese National Commission for UNESCO Photo session Master of Ceremonies: Ardito Kodijat, UNESCO Jakarta
9.30 - 10.30	**Session 1** Transforming Our World: The 2030 Agenda for Global Action - The Role of Science Technology and Innovation, Hubert Gijzen, UNESCO Harare (15 min) Consultation meeting on Natural Sciences priorities for the new biennium and challenges from the field: 39C/5 EXB Planning for Asia-Pacific and SAGA, Ms L. Anathea Brooks, UNESCO Natural Sciences Sector Executive Office (45 min) Nt. Ms Ai Sugiura, UNESCO Jakarta & Mr Jayakumar Ramasamy, UNESCO Bangkok
10.30 – 11.00	Coffee break
11.00 – 12.30	**Session 2 (part 1)** 3rd APBRN Chair: Ms Patricia McPhillips, UNESCO Kabul Lima Action Plan in Asia and the Pacific (15 min) – Ms Marie Prchalova, UNESCO MAB Secretariat Network Reports (10 min each) • EABRN – Mr Hans Thulstrup, UNESCO Beijing & Mr Shinsuke Nakamura, JBRN • SACAM – Mr Ram Boojh, UNESCO New Delhi & Ram Chaudhary, Nepal • SeaBRnet – Mr Shahbaz Khan, UNESCO Jakarta & Mr Hoang Tri, Vietnam MAB. • PacMAB – Ms Serena Heckler, UNESCO Apia & Mr Sunny Prasad, MOEHC Fiji Q&A (30 min) Nt. Ms Joana Vitorica, UNESCO Jakarta & Ms Natalya Kim, UNESCO Almaty
12.30 – 14.00	Lunch

14.00 – 15.30	**Session 2 (part 2)** 3rd APBRN and partners Silk Road Initiative for Sustainable Development Chair: Mr Christian Manhart, UNESCO Kathmandu Panel Discussion: Mr Roman Jashenko (MAB Kazakhstan), Mr Asghar Mohammadi-Fazel (Iran), Ms Chimeddulam (NatCom Mongolia), Mr Y. Purwanto (MAB Indonesia), Mr Hong Tianhua (HIST China), Mr Mohammad Ashraf (PCRWR and IHP Pakistan) Nt. Niloofar Sadeghi, UNESCO Tehran & Raza Shah, UNESCO Islamabad	
15.30 – 16.00	Coffee break	
16.00 – 17.30	**Session 3** Parallel 3A Posters exhibition and stakeholders networking: Success stories for Sustainable Development (part 1) Mr Ganni R. Mulya & Ms Felicia Angelina, UNESCO Jakarta	**Parallel 3B** UNESCO Field Coordination Mechanisms to promote field and inter-regional cooperation (UNESCO staff only) Mr Axel Plathe, UNESCO FC (via Skype) Mr Hubert Gijzen, UNESCO Harare Nt. Mr Junaid Naseem, UNESCO Islamabad & Ms Maria Iniguez de Heredia, UNESCO Phnom Penh Office
19.00 – end	Welcome Dinner Impressions from participants	

Day 2: 22 July 2016	
09.00 – 09.15	**Introduction to Day 2** Mr Shahbaz Khan, UNESCO Jakarta Master of Ceremonies: Ms Sharizad Sulaiman, UNESCO Jakarta
09.15 – 11.00	**Session 4** International Hydrological Programme Perspectives Chair: Mr Andrei Chevelev, UNESCO Almaty (5min/presenter) IHP activities in the region and the regional delivery of SDGs water related goals • Report from 22nd IHP Council, Paris, June 2016 – Ms Sarantuyaa Zandaryaa, UNESCO IHP (10min) • Water activities in the region: presentation from the Water Cat 2 Centres, IHP NatCom, IHP-RSC members and other water projects (14) – » Mr Mahboubullah Afkhami, MOFA Afghanistan » Mr Hery Harjono APCE, IHP Indonesia » Mr Delviyandri PDAM Tirtanadi, Indonesia

09.15 – 11.00	» Mr Putu Santikayasa IPB, Indonesia » Ms Niloofar Sadeghi Komjani RCUWM-Tehran, IDI, IHP Iran » Mr Katsuhito Miyake ICHARM, IFI, IHP Japan » Mr Kenichiro Kobayashi, Kobe University, IHP Japan » Mr Shigenobu Tanaka, Kyoto Nagoya IHP-Training course, Kyoto University, IHP Japan » Mr Mohd Abdul Nassir bin Bidin Department of Irrigation and Drainage Malaysia (MIHP), IHP Malaysia » Mr. Mohd Nazim Keling – HTCKL, IHP Malaysia » Ms Chimeddulam, IHP NatCom Mongolia » Mr Muhammad Ashraf RCWMRIAZ IHP Pakistan » UNESCO ISB/JAK (JICA project in Pakistan) » Mr Ulrich Looser, GRDC and ICWRGC, WMO/IHP Germany • Setting directions for water security and Agenda 2030 in the region (Group discussion: Water related disaster, Urban Water, Water education) (20min) Nt. Ms Ai Sugiura, UNESCO Jakarta & Ms Natalya Kim, UNESCO Almaty
11.00-11.30	Coffee break
11.30– 12.30	**Session 5 (part 1)** Interdisciplinary Perspectives Chair: Ms Beatrice Kaldun, UNESCO Dhaka (5 min/presenter) 1. JFIT Science projects in the region: Sustainability Science, PCB, Innovation and Technology • Sustainability Transformation Across the Region (STAR): » Maintenance of the Rice Terraces of the Philippines Cordilleras– Mr Ivan Henares IH+MD Heritage + Tourism, Philippines » Restoring and Managing Langat River, Malaysia for Future– Ms. Rahmah Elfithri LESTARI, Malaysia » Restoring and Enhancing Angkor World Heritage Site and Water Management system at Siem Reap City and Tonle Sap Biosphere Reserve – Ms Maria Iniguez de Heredia, UNESCO Phnom Penh Office • Biotechnology School in Asia Phase II and – Mr Takuya Nihira, Osaka University, Japan • COMprehensive Program to Enhance Technology, Engineering and ScieNCE Education in Asia (COMPETENCE) – Mr Achmad Husni Thamrin, Keio University, Japan 2. IFIT Science projects in the region: • Tropical Rainforest Heritage of Sumatra - Mr Joshua van Berkel (DHI) • DRR – Mr Ardito Kodijat, UNESCO Jakarta
11.30– 12.30	3. French cooperation: BIO ICT Asia – Ms Philomene Robin, UNESCO Jakarta 4. Beijing Action Plan – Ms Liu Chang, IKCEST, China Nt. Mr Jayakumar Ramasamy, UNESCO Bangkok & Mr Kristanto Sinandang, UNESCO Jakarta

12.30 – 14.00	Lunch	
14.00 – 15.30	**Session 5 (part 2)** 3rd APBRN Interdisciplinary Perspectives Chair: Mr Hubert Gijzen, UNESCO Harare (5 min/presenter) Network Reports (10 min each) 1. MFIT Science projects in the region: • AP-FAST: Facilitating for Accelerating Science & Technology Knowledge Services for SDGs into National Development Plans in Asia and the Pacific; - Mr. Shahbaz Khan, UNESCO Jakarta • Science Harnessed for ASEAN Regional Policy (SHARP): Establishment of the sustainability science demonstration site in Langkawi - Ms. Rahmah Elfithri, LESTARI • Upscaling Water: Putrajaya Lake & Wetland Ecosystem Services Economic Assessment - Mr. Ahmad Zubir Sapian, PPJ • ISTIC- an International Platform for Enhancing Science, Engineering and Technology Standards through South-South Cooperation – Mr. Samsudin Tugiman, ISTIC • Climate Change Education: A Fiji Context (Title to be advised), - Mr. Sunny Prasad, MOEHC Fiji • Towards Economic Resilience in the Pacific - Ms Serena Heckler, UNESCO Apia 2. Presentation by Malaysian institution: • Mr. Nor Azazi Zakaria, River Engineering and Urban Drainage Research Centre (REDAC), USM • Mr. Zulkifli Yusop, Centre for Environmental Sustainability and Water Security (IPASA), UTM • Mr. Ismail Yusoff, Dept. of Geology, UM • Ms Rashidah Shuib, Centre for Research on Women and Gender (KANITA), USM Nt. Ms Sharizad Sulaiman, UNESCO Jakarta & Mr Junaid Naseem, UNESCO Islamabad	
15.30 - 16.00	Coffee break	
16.00 – 17.30	**Session 6** **Parallel 6A** Posters exhibition and stakeholders networking: Success stories for Sustainable Development (part 2) Mr Ganni R. Mulya & Ms Felicia Angelina, UNESCO Jakarta	**Parallel 6B** UNESCO Science Coordination Regional science coordination mechanisms (UNESCO staff only) Ms Anathea Brooks, UNESCO SC/EO Mr Shahbaz Khan, UNESCO Jakarta Nt. Mr Hans Thulstrup, UNESCO Beijing & Mr Nazar Hassan, UNESCO Cairo
19.00 – end	Dinner Impressions from participants	

Day 3: 23 July 2016		
09.00 – end	Field visit to the Subak Traditional Irrigation System and Bali Cultural Landscape	Local hosts

Day 4: 24 July 2016	
09.00 – 11.00	Coffee break
11.00 – 12.30	**Session 7** Breakout discussion on regional and inter-regional joint project proposals (1h) Chair: Mr Shahbaz Khan, UNESCO Jakarta Master of Ceremonies: Ms Dinanti Erawati, UNESCO Jakarta **1. Sciences Policy** Moderators: Mr Christian Manhart, Mr Andrei Chevelev, Ms Philomene Robin **2. Earth Sciences** Moderators: Ms Marie Prchalova, Mr Ardito Kodijat, Ms Niloofar Sadeghi **3. Water Sciences** Moderators: Ms Patricia McPhillips, Mr Raza Shah, Ms Sarantuyaa Zandaryaa **4. Interdisciplinary** Moderators: Ms Beatrice Kaldun, Mr Nazar Hassan, Mr Ram Boojh Presentation of proposals (10 min each + 20 min discussion)
11.00 – 11:30	Coffee break
11:30 – 12:00	**Closing Session** 39C/5 Planning, Reflections of the meeting and Way forward Mr Shahbaz Khan, UNESCO Jakarta
12:00 – 14:00	Lunch
14:00	Departure

Annex 2: Links to meeting materials

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Presentations:

https://www.dropbox.com/sh/dornu2k4b9mpb4f/AABxIsF35sHB29zqgtvylub1a?dl=0

Japan Funds-in-Trust:

http://jfit-for-science.asia/ (to be updated)

Malaysia – UNESCO Cooperation Programme: Malaysia Funds-in-Trust

http://mucp-mfit.org/ (to be updated)

Annex 3: List of participants

#unescoapsc

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