



**JFIT - UNESCO Natural Sciences Programme**  
**on the**  
**Science to Support the 2030 Agenda and the Sendai Framework for Disaster Risk**  
**Reduction in Asia and the Pacific Region**

**Programme Objectives and Strategy**  
**2016 – 2021**

**July 2017**

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## **1. Introduction**

The Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted at the Third UN World Conference in Sendai, Japan, on 18 March 2015. It is the outcome of stakeholder consultations initiated in March 2012 and inter-governmental negotiations from July 2014 to March 2015, supported by the United Nations Office for Disaster Risk Reduction at the request of the UN General Assembly. In September 2015, the international community adopted the 2030 Agenda for Sustainable Development – an agenda that will shape the fundamental priorities, goals and strategies for development policy beyond 2015. Therefore, the JFIT-UNESCO Strategy for 2016-2021 addresses the Sendai Framework, 2030 Agenda and the UNFCCC Paris Agreement through international cooperation and sustainable development. This strategy is developed to mobilize science to tackle new challenges by crafting sustainable development solutions that are equitable for poverty eradication in Asia and the Pacific region. The new strategy also follows the recommendations of the external evaluation of the JFIT for Scientific Programmes on Global Challenges in Asia and the Pacific Region carried out in 2014.

The following recommendations were made by the external evaluator for the further success of the programme:

- a) Continue to ensure that projects are strongly linked with the implementation of UNESCO's quadrennial activities (C/5) for the Natural Sciences Sector. JFIT initiatives must enhance UNESCO's agreed expected results to its Member States.
- b) Develop joint programmes on science education, training and capacity building with more partners and relevant stakeholders to further enhance UNESCO's programmes.
- c) UNESCO needs to be cognizant of the value of this programme and further disseminate its results among other offices in the Asia and Pacific region.
- d) Ensure greater participation of Japanese collaborators in promoting future activities within the framework of the JFIT Agreement as was demonstrated in the various regional workshops/events that have benefitted many countries in the region.

This strategy aims to achieve sustainability outcomes at two levels:

- Deliver 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 which are readily integrated into UNESCO's programmes

- Showcase sustainability science principles and applications with a clear pathway to national and regional science policy

### **1.1. The Future We Want for All – The new global challenge**

Rising poverty and unemployment in Asia and the Pacific region have increased pressure on environmental resources as more people have been forced to rely more directly upon them. Indeed, 63% of the world's poor reside in the region despite the region's increased contribution to the world economy -- 25% in 2012 (UNDP, 2015). Many governments have cut back efforts to protect the environment and to bring ecological considerations into development planning. There has been a growing realization by national governments and multilateral institutions that it is impossible to separate economic development issues from environmental issues; many forms of development erode the environmental resources upon which they must be based, and environmental degradation can undermine economic development. Poverty is both a cause and effect of global environmental problems. Another threat that cannot be ignored comes from climate change; the region is vulnerable to the negative impact of climate change in particular through extreme weather events. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality. Meeting essential needs requires not only a new era of economic development for nations in which the majority are poor, but an assurance that those poor get their fair share of the resources required to sustain that development. Such equity would be aided by political systems that secure effective citizen participation and greater democracy in international decision making.

Sustainable development in the Asia and the Pacific region suggests that those who are more affluent should adopt life styles that are within the planet's ecological means - in their use of water, food and energy. Further, rapidly growing populations can increase the pressure on resources and slow any rise in living standards; thus sustainable development can only be pursued if population size and development are in harmony with the changing productive potential of ecosystems.

The Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan has directed the themes for Japanese Funds-in-Trust (JFIT) projects as follows: (Resolutions 2015/FY2014)

- i. MAB: Sustainable economic and social case studies utilizing BR
- ii. IOC: Capacity building of the marine environment based on sustainability science
- iii. IHP: Capacity building under policy recommendation for comprehensive risk management on water disasters in cooperation with ICHARM.

In this regard, the projects for the strategy include; Sustainability Transformation Across the Region (STAR), International Hydrological Programme Water Informatics for Sustainability and Enhanced Resilience (WISER) in Asia and the Pacific, Biosphere Reserves Interconnected in

Diverse Global Environments for Sustainability (BRIDGES) in Asia and the Pacific, Comprehensive Programme to Enhance Technology, Engineering and Science Education (COMPETENCE) in Asia, Bolstering Knowledge and Institutional Capacity for Ensuring Marine Biodiversity and Seafood Security, and the proposed Geoparks for Enhancing Multidimensional Sustainability (GEMS).

## **1.2. Science, Technology and Innovation in the 2030 Agenda for Sustainable Development**

To understand the connections between science, technology and innovation (STI), poverty, and inclusive and sustainable development, the results of STI in the JFIT-UNESCO strategy should consider them as the integrated work of humans and technologies to produce outcomes to be effectively translated into responses to societal challenges. For example, a transportation system is not just vehicles and roadways, but also how people drive and ride, and build and carry out maintenance. A drug designed to save lives, such as insulin, can actually kill if it is not used according to instructions on the timing, control of dosage and equipment disposal, all of which require a certain level of education and preparation in a sociotechnical system<sup>1</sup>.

The development of solutions to key environmental global challenges, and the transition towards 'green societies' will require the mobilization of creativity, innovation and entrepreneurship. It will also require a clear strategy that puts science and education at its core. The innovations to transform our societies towards sustainability must be based on sound STI. In mobilizing such a 'Science for Sustainability' concept, however, we must apply a forward looking approach that aims to maximize the benefits and minimizes possible negative externalities from new science and technology (S&T) based innovations and developments. In that respect we need to learn from past mistakes. Besides, it is also clear that we need to 'educate for a sustainable future'.

There is broad consensus that a well-functioning national STI ecosystem needs to include, inter alia, political stability and well-functioning institutions, an educated gender-balanced workforce, sound research and education infrastructure, linkages between public and private innovation actors, enterprises committed to research and development, and a balanced intellectual property rights framework. However, this by itself is insufficient to ensure STI for inclusive and sustainable development.

Applying STI to inclusive and sustainable development involves three related approaches:

- a) Addressing basic needs through innovation capacity;
- b) Promoting entrepreneurship, starting at the grassroots level;
- c) Promoting inclusive development by building STI policies, capabilities and absorptive capacities.

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<sup>1</sup> Report of the Secretary-General E/CN.16/2014/2: Science, technology and innovation for the post-2015 development agenda, 2014.

[http://unctad.org/meetings/en/SessionalDocuments/ecn162014d2\\_en.pdf](http://unctad.org/meetings/en/SessionalDocuments/ecn162014d2_en.pdf)

First, we need to develop innovation capacity to meet the basic needs of people and foster them through policy incentives in order to solve local problems.

Second, in addition to its role in providing global public goods, STI serves as a crucial driver of rising prosperity and improved national competitiveness. Promoting entrepreneurship, including grassroots entrepreneurship, is a critical engine for improving living conditions and increasing incomes. Entrepreneurship is often disconnected from innovation policies, and the relevance of grassroots entrepreneurship is largely underestimated.

Third, building STI policies and other capabilities over time is an important prerequisite to promoting inclusive development.

The 2030 Agenda provides both the vision and the commitment to address and resolve the major challenges of our time, including: poverty eradication, peace and security, safe and sufficient food, sustainable energy, pollution prevention and control, water and environmental resources management, marine resources, control of existing and emerging diseases, mobility, natural and man-induced disasters, population growth, urbanization and sustainable, liveable cities. The development of solutions to these key global challenges and the overall transition towards a green economy will need to be based on sound STI.

### **1.3. JFIT – UNESCO Cooperation in Science for Sustainable Development**

In recognition of the important role of STI for sustainable development, MEXT has provided support via JFIT to strengthen UNESCO activities in the fields of science in the Asia and the Pacific region. According to the external evaluation of the previous JFIT-UNESCO Strategy (2008 – 2014), the programme has been very successful with valuable and encouraging results. Over the years, the programme supported important activities that have contributed to put science and technological innovations as key subjects to underpin the sustainable development agenda in Asia and the Pacific. Among the various supports to UNESCO science programmes, especially the Man and the Biosphere (MAB) Programme, the International Hydrological Programme (IHP), and the Intergovernmental Oceanographic Commission (IOC), the evaluation highlighted the following:

- A range of capacity building actions which has been carried out;
- Training courses organized by partners;
- Initiatives which involved youth, students and local communities;
- Awareness campaigns which provided clear visibility to the donor;
- A number of publications to capture the progress made by the projects;
- Improving of human wellbeing in the region.

The theme of this JFIT-UNESCO programme is: ***“Science to Support the 2030 Agenda and Sendai Framework for Disaster Risk Reduction in Asia and the Pacific Region”***. With a view to optimize the benefits and impacts of this programme, and to align it with UNESCO's Medium-Term Strategy for 2014-2021 (37 C/4), Programme and Budget for 2014-2015 (37 C/5) and 38 C/5 for 2016-2017, the UNESCO Office, Jakarta has developed the Programme Objectives and

Strategy for the programme for a period of six years (2016-2021). It will be further revised in the light of the forthcoming 39 C/5 for 2018-2019 and 40 C/5 for 2020-2021.

## **2. UNESCO Regional Science Bureau for Asia and the Pacific**

The UNESCO Office, Jakarta serves two dimensions: a) as a Cluster Office, representing UNESCO in Brunei Darussalam, Indonesia, Malaysia, the Philippines, and Timor Leste in all UNESCO fields of competence, and b) as a Regional Bureau for Science, covering the Asia and Pacific region, with programmes in Freshwater, Oceans, Environmental Sciences, Basic and Engineering Sciences, Earth Sciences, Local and Indigenous Knowledge Systems (LINKS), and Small Island Developing States (SIDS).

The Office has prepared a new Science Support Strategy in line with the 37 C/4, which will use a Results-Based Management (RBM) approach in the design and implementation of programmes and projects, where performance will be judged against pre-defined benchmarks and delivery targets in Cluster countries and in the region for effectiveness, impact and visibility.

The main elements of this strategy include:

- 1) The development of coherent and demand driven country based programmes (UNESCO Country Programming Document (UCPD)), which articulate UNESCO's role within the country's Development Plan and within the joint UN Programme (UN Development Assistance Framework (UNDAF)). A pioneering UCPD was produced for Indonesia in October 2007. UCPDs for Timor Leste and the Philippines were produced in 2009 and for Brunei Darussalam and Malaysia in 2013. The strength of the UCPDs lies in their development via joint consultations between the Office and the respective Governments, so that they are fully demand based.
- 2) The development of strong partnerships in the region, which include partnerships at national level, with Government, National Commissions, stakeholders, NGOs, donors, and at regional level, with Southeast Asian Ministers of Education Organization (SEAMEO), Association of Southeast Asian Nations (ASEAN), International Council for Science (ICSU), Asian Institute of Technology (AIT), Asian Development Bank (ADB), university networks, UNESCO Category 2 Centres, and UNESCO's IOC Sub-Commission for the Western Pacific (IOC/WESTPAC), among others.
- 3) Improvement of programme effectiveness is crucial considering the limited resources available via the Regular Programme budget. The aim is to gradually shift the Office portfolio from the current large number of smaller and short term activities towards a coherent and consolidated programme with larger initiatives, following recommendations of the Natural Sciences Sector's resource mobilization strategy. The four Regional Science flagship programmes are an example of how this could work for the regional Natural Sciences programme. At country level, the UCPDs (and UNDAFs) will guide the

development of larger extra-budgetary initiatives. Such larger initiatives provide opportunities for collaboration with partners, including other UN agencies.

The cooperation between MEXT and the UNESCO Office, Jakarta, described in this paper, is positioned in the context of the Office's Regional Science Bureau function, "*mobilizing science knowledge and policy for sustainable development*", and will be implemented in close collaboration with other UNESCO Field Offices, IOC/WESTPAC, Category 2 Centres, Japanese partner institutions, and other institutions and partners in the region.

### **3. Objectives**

#### **Strategic Objectives**

The objective of the JFIT for Scientific Programmes on Global Challenges in Asia and the Pacific Region is to support and strengthen UNESCO activities in science for sustainable development in the Asia and the Pacific region in line with UNESCO's strategic programme objectives and priorities, by utilizing Japan's financial and scientific resources.

The overarching objectives defined in the UNESCO's Medium-Term Strategy for 2014-2021 (37 C/4) guide the JFIT for Scientific Programme with respect to gender equality, the development of activities for youth, the involvement of Least Developed Countries (LDCs), SIDS and countries in transition.

The strategic objectives for Major Programme II – Natural Sciences are two in number:

SO 4: Strengthening science, technology and innovation systems and policies – nationally, regionally and globally;

SO 5: Promoting international scientific cooperation on critical challenges to sustainable development.

UNESCO's approved Programme and Budget for 2016-2017 (38 C/5) defines six "Main Lines of Action (MLAs)" for its Major Programme II: Natural Sciences:

#### **Main Line of Action 1: Strengthening STI policies, governance and the science-policy-society interface**

Expected Result 1: STI policies, the science-policy interface, and engagement with society, including vulnerable groups such as SIDS and indigenous peoples, strengthened

#### **Main Line of Action 2: Building institutional capacities in science and engineering**

Expected Result 2: Capacity-building in research and education in the natural sciences enhanced, including through the use of ICTs

Expected Result 3: Interdisciplinary engineering research and education for sustainable development advanced and applied

### **Main Line of Action 3: Promoting knowledge and capacity for protecting and sustainably managing the ocean and coasts**

Expected Result 4: Scientific understanding of ocean and coastal processes bolstered and used by Member States to improve the management of the human relationship with the ocean

Expected Result 5: Risks and impacts of tsunamis and other ocean-related hazards reduced, climate change adaptation and mitigation measures taken, and policies for healthy ocean ecosystems developed and implemented by Member States

Expected Result 6: Member States' institutional capacities reinforced to protect and sustainably manage ocean and coastal resources

### **Main Line of Action 4: Fostering international science collaboration for earth systems and disaster risk reduction**

Expected Result 7: Global cooperation in the geological sciences expanded

Expected Result 8: Risk reduction improved, early warning of natural hazards strengthened and disaster preparedness and resilience enhanced

### **Main Line of Action 5: Strengthening the role of ecological sciences and biosphere reserves**

Expected Result 9: Use of biosphere reserves as learning places for equitable and sustainable development and for climate change mitigation and adaptation strengthened

### **Main Line of Action 6: Strengthening freshwater security**

Expected Result 10: Responses to local, regional and global water security challenges strengthened

Expected Result 11: Knowledge, innovation, policies and human and institutional capacities for water security strengthened through improved international cooperation

In the upcoming UNESCO Programme and Budget for 2018-2019 (39 C/5), greater visibility is given to the ocean, and to UNESCO-designated sites, such as biosphere reserves (BRs) and UNESCO Global Geoparks, with the aim to use them preferentially as learning sites for inclusive and comprehensive approaches to environmental, economic and social aspects of sustainable development.

In conjunction with the above and future MLAs, the Bureau and its implementation partners will also pay special attention to the design and delivery of programmes through an intersectoral approach, by working across sectoral frontiers, based on commonly defined objectives to deliver action and capitalize on one of UNESCO's principal comparative advantages, namely its intersectoral approach to problem solving. Some intersectoral actions will involve climate change, disaster risk reduction, SIDS, and indigenous peoples, along with science education, education

for sustainable development, research policy and capacity building, and support to countries in post-conflict and disaster situations.

#### **4. Programme Strategy**

The strategy of this JFIT-UNESCO Programme is based on two main elements. First, the programme identifies a limited number of well-selected strategic programme focus areas, which are in line with the 37 C/4, which relate to critical role of science for sustainable development with special attention to the Post-2015 development agenda, and which are of main relevance to the Asia and the Pacific region. The choice of programme focus areas will directly contribute to the ability of Member States to achieve the internationally agreed development goals, including the Sustainable Development Goals (SDGs). Secondly, the strategy identifies a set of optimal programme delivery mechanisms such as the RBM approach, which contribute to maximize programme design and delivery in terms of effectiveness, impact, and visibility.

Science implementation efficiency will be reinforced through integrative strategies, such as the activities based on concrete geographical and temporal contexts, which can benefit from bringing together also the interdisciplinary experience of UNESCO's intergovernmental and international scientific programmes and conventions, including IOC, the International Basic Sciences Programme (IBSP), IHP, MAB, International Geoscience and Geoparks Programme (IGGP), Management of Social Transformations (MOST) Programme, as well as the networks of UNESCO Category 2 Centres and Chairs.

##### **4.1 Strategic Programme Focus: Science Goals and Targets under the 2030 Agenda for Sustainable Development**

The main focus area of the JFIT-UNESCO Strategy will be poverty eradication, which appears as the greatest global challenge facing the region and world today and an indispensable requirement for sustainable development. The other aspects include the recognition of sustainable consumption and production and natural resource management and protection as essential requirements for sustainable development. Paying special attention to the importance of human rights principles (ethics in science), including the rule of law, good governance and gender equality; the Strategy should be implemented in accordance with national circumstances and priorities; and/or regional and sub-regional orientations. This will require to recognize the specific challenges faced by each country in the region in achieving sustainable development, while underscoring special challenges facing LDCs, landlocked developing countries and SIDS, as well as those facing middle-income countries and countries experiencing conflicts. JFIT-UNESCO Strategy keep in mind the need of addressing cross-cutting issues. For example, working on poverty eradication, the integration of biodiversity conservation measures into national and local development strategies, planning processes and poverty reduction strategies is fundamental. Also, programmes and projects should focus on vulnerable groups.

The role of STI in addressing the above challenges is crucial, but in order to optimize the benefits we need to reposition and better plan STI investments and efforts. The aim would be to link STI

closer to development concerns and to bring it closer to people. In other words, we need to position STI to support SDG achievement, and stimulate STI education and awareness raising by focusing on local SDG challenges such as water and the environment in communities.

To address the above challenges, the JFIT-UNESCO Programme aims to stimulate and to exploit new scientific developments, to contribute to capacity building and training, and to promote networking activities in these areas. The JFIT-UNESCO Programme will not be able to cover all of the issues listed above, as this would result in a dilution of programme efforts.

The programme therefore will address selected aspects of the following focal areas:

**STI policy:** This activity aims at strengthening the national capacity of selected countries in the region in formulating and reviewing STI policy as well as in the reform of their science system. The programme will assist the beneficiary countries in elaboration of national strategy to use STI as a driving force to achieve sustainable development, including poverty eradication, disease prevention and environmental conservation. The focal area will comprise capacity building activities (STI policy training workshops at national and regional level) and technical assistance on STI policy formulation and review.

**Climate change:** Asia and the Pacific is vulnerable to climate change and impacts are projected to become more intense in the future. The region also accounts for nearly half of global greenhouse gas emissions. The JFIT-UNESCO strategy should support countries confront the dual challenge of adapting to a changing climate at the same time as reducing greenhouse gas emissions by building capacity to integrate climate change adaptation and mitigation into national development policies. In addition, it is important to raise awareness on the potential impact of climate change, and to provide the local communities with the knowledge to mitigate and adapt to the potential effects of climate change. As UNESCO Global Geoparks, within the IGGP, hold the records of past climate change, they could be used as outdoor classrooms to learn about climate change.

**Water and ecosystems:** According to the Sendai Framework for Disaster Risk Reduction and SDG 6, the many threats to water resources in the Asia and the Pacific region reveal a complex picture and raise many concerns. Many countries still are facing huge challenges such as poor access to water and sanitation, limited water availability, deteriorating water quality and ecosystems, and increased exposure to climate change and water-related disasters. Special emphasis will be given to hydrology, MAB biosphere reserves, biodiversity and ecosystem conservation, coastal zones and SIDS, monitoring of biodiversity loss, and climate change adaptation, as well as on the conservation of biological diversity using UNESCO's inter-governmental programmes such as IHP and MAB.

**Ocean:** The ocean is central to the 2030 Agenda as SDG 14 addresses the challenges in order to “conserve and sustainably use the oceans, seas and marine resources for sustainable development”. In Asia and the Pacific region, as the most densely populated region and growth engine of the world economy, human livelihoods and prosperity have been inextricably linked to the ocean, with large impacts on the surrounding coastal waters and marine ecosystems, such as marine pollution, overfishing, biodiversity and habitat loss, and climate

change such as sea level rise and ocean acidification. As such, it is imperative to strengthen sound scientific research, sustained observations and services, and enhance scientific capacity to underpin the sustainable governance of the ocean in the region.

**Sustainability science**: Sustainability science is an emerging field of problem-driven science focusing on an interdisciplinary approach that promotes cross-disciplinary coordination, and requires global cooperative effort to advance understanding of the dynamics of human-environment systems. Sustainability science in UNESCO aims to promote collaboration between Natural Sciences (SC) and Social and Human Sciences (SHS), while benefiting also from the education, culture, and communication/information mandates of the Organization. Thus, this area will help to raise awareness about sustainability science among policy makers in the Asia and the Pacific region, with a view to position this as part of national and regional science policies.

**Disaster preparedness and response**: Natural disasters cannot be prevented entirely, but via targeted efforts and by using science and education enormous savings can be achieved in both human lives and property. The UNESCO Office, Jakarta houses the 'Jakarta Tsunami Information Centre', with three roles: information, training, and a clearing house function. Japan has excellent expertise and institutional capacity in this field, which could be exploited regionally. The International Centre for Water Hazards and Risk Management (ICHARM) is just one of such centres with a regional mandate in Asia and the Pacific. Education and awareness raising for disaster preparedness is a strategic area that could benefit from collaboration with the regional ICSU Office and with a range of other partners in the region. Cooperation with UNESCO IOC/WESTPAC on regional ocean observing systems could also be developed. The region also hosts the secretariat of two major initiatives in water-related disaster themes: the International Flood Initiative with its Secretariat in ICHARM and the International Drought Initiative with its Secretariat in Regional Centre on Urban Water Management (RCUWM)-Tehran, that have strategies to minimize disastrous impacts of floods and droughts and maximize their benefits by building monitoring systems based on models and big data and identifying best practices taking in account local knowledge. Moreover, cooperation with the IGGP could be developed as well, especially with the UNESCO Global Geoparks among the region, which contributes to raise the awareness of geological hazards including volcanoes, earthquakes and tsunamis.

**Biotechnology**: Through capacity building and innovations in biotechnology, substantial contributions can be expected to the achievement of the SDGs. This can be achieved by applying biotechnology to food security, to reduce child mortality, to combat major diseases including malaria, HIV/AIDS and others, and to provide solutions for environmental sustainability.

**Intersectoral actions**: The issue of climate change is a threat both to societies and the ecosystems that sustain them; therefore, in addressing the challenges of climate change and similar cross-cutting issues in Asia and the Pacific, adopting an intersectoral approach will help to achieve greater results towards a sustainable region. Other inter-sectoral actions may include science education, research policy and research systems, ethics of science, post-conflict and disaster preparedness and risk reduction, and capacity building. Also, intersectoral actions will include giving greater visibility to UNESCO-designated sites, such as biosphere reserves and

UNESCO Global Geoparks, and to use them preferentially as learning sites for inclusive and comprehensive approaches to environmental, economic and social aspects of sustainability.

## 4.2 Programme delivery mechanisms

The topics mentioned above will be addressed in an integrated manner, through which each intervention may connect and address several priority areas. The JFIT-UNESCO programme aims to maximize the effectiveness, impact and visibility of programme delivery by adopting a number of approaches, including:

- Aligning activities directly with the UNESCO C/4 and C/5
- South-South-North collaboration and establishment of strong partnerships
- Programme effectiveness (coordinator, aiming at co-financing modalities, aim at development of larger projects/programmes)
- Improving the presentation and visibility of activities and results to donors, Member States, and the larger public.

**UNESCO's C/4 and C/5:** The Medium-Term Strategy (37 C/4) and the Programme and Budget (37 C/5, 38 C/5, and draft 39 C/5) form the basis for this JFIT-UNESCO Natural Sciences programme. The JFIT-UNESCO Strategy builds fully on the 37 C/4, with revisions scheduled at the start of every new C/5 periods.

**Partnerships and South-South-North collaboration:** The quality of programme delivery under the JFIT-UNESCO programme will be ensured via the development of quality partnerships. The delivery of the JFIT-UNESCO programme will consider the establishment of effective regional partnerships, bridging between strong Japanese institutions and other partners in the wider region. These partnerships will be tailored to the needs and focus of the individual activities. UNESCO will actively contribute to the establishment of such strong partnerships, and will for instance link activities to the water-related Category 2 Regional Centres, operating under the auspices of UNESCO and other areas of the sciences. The Directors of Category 2 regional water-related Centres met in Beijing in 2016 and agreed to engage in collaborative programmes. Of particular interest is the ICHARM in Japan, which focuses on water-related disasters. In the field of water, cooperation is also envisaged with the Asia Pacific Water Forum and the Japanese Water Forum. Also of interest is the newly established Category 2 Regional Centre for Biotechnology in New Delhi, India, the new Category 2 Centre on South-South cooperation on Science and Technology for Sustainable Development in Malaysia, and the Regional Centre on Life-long Learning for Sustainable Development in Asia and the Pacific, hosted by the Philippines. UNESCO IOC/WESTPAC), the regional arm of the IOC, is mandated to advance ocean knowledge and develop research capacities of countries in this region, in view of their needs and challenges they have been faced in conserving and sustainably using the oceans, seas and marine resource. The involvement of IOC/WESTPAC will be key to successful intersectoral and multidisciplinary programme delivery, addressing issues as disaster preparedness, water, and climate change. Other strategic partners in the region include selected universities, AIT, the SEAMEO Regional Centres, ASEAN, ADB, ICSU and other UN agencies. Projects developed under the JFIT-UNESCO Natural Sciences programme will also encourage staff exchanges

between these partner institutions, as an effective means of capacity building and knowledge exchange.

The cooperation with Japanese universities and institutions will be given particular attention, as the programme aims to mobilize their knowledge and expertise for science delivery in the region. In the past implementation of the JFIT-UNESCO Natural Sciences programme a wide range of partners from Japan have been included in the various projects. Besides these partners, and where additional expertise and technical skills are needed, new Japanese institutions may be included; when needed, the Natural Science Committee of the Japanese National Commission for UNESCO will be contacted for suggestions.

Another strong element in the regional partnership development is the presence of 14 UNESCO Field Offices in the Asia and the Pacific region, which will be useful to tailor the projects and programmes to the specific needs of corresponding sub-regions and countries. An important activity to be considered under the JFIT-UNESCO programme would be to organize regional coordination workshops through ICTs and face-to-face to stocktake on progress and refine priorities for Science in Asia and the Pacific. Such workshop could involve representatives from the above mentioned partners, and could help to further fine tune and set the strategic direction of the programme.

**Programme effectiveness:** In order to achieve optimal effectiveness, the programme will consider, wherever possible, to engage in co-financing modalities. Such co-financing could come from either the UNESCO Regular Programme funds, and/or from other donors and partners. One approach that could contribute to effectiveness is to engage in pilot projects and feasibility studies, which could lead to the development of larger donor funded initiatives. The full funding from JFIT of individual activities over extended periods of time will be avoided.

The effectiveness of delivery will also heavily depend on the administration and coordination of the programme. To this end the UNESCO Office, Jakarta with backstopping from UNESCO Headquarters Divisions will ensure optimal planning, reporting, coordination and (sub-) contracting of activities under this programme. It is desirable that a full time Japanese expert or a National Programme Officer will be appointed in the UNESCO Office, Jakarta for the coordination of the JFIT-UNESCO Programme.

**Optimize visibility:** The success of the JFIT-UNESCO Programme could be further amplified by improving the visibility of results and by sharing the products and lessons learned. To this end the programme will develop a brochure and a website. The website will provide an overview of ongoing and upcoming programme activities, events, partners, donors and results achieved. All publications, reports and products generated under the programme will duly acknowledge the funding sources for each activity.

### **4.3 Programme Implementation**

The programme planning and implementation will be adjusted in harmony with annual workplans and annual activity reports. Although the present strategic plan presents new directions for the JFIT-UNESCO programme, it was agreed that no abrupt changes will be made to ongoing

successful initiatives currently funded under this JFIT-UNESCO programme. As from 2016, however, the programme will foresee changes in terms of developing larger (and possibly longer) and preferably inter-sectoral initiatives along the strategy outlined in this paper.

Considering the size of the budget, a regular 'call for proposals', is not considered to be cost-effective, and carries an additional risk of dilution of effort. Project proposals will be prepared by UNESCO Office, Jakarta, in its function as the Asia and the Pacific Regional Bureau for Science and submitted via UNESCO Headquarters to Japan (see guidelines, item 4). In the preparation of proposals UNESCO Office, Jakarta, will proactively seek inputs from UNESCO Field Offices in the region, UNESCO IOC/WESTPAC, beneficiary countries and other partners, including Category 2 Regional Centres, ICSU, universities and research centres, and Japanese partners. The overall direction and focus of the programme and its projects will be discussed during Annual Review Meetings, with participation of representatives from MEXT, UNESCO Office, Jakarta and UNESCO Headquarters and possibly other partners, if deemed necessary.

This document outlining the programme objectives and strategy is to be considered as a rolling document, which can be reviewed and if necessary adjusted any time upon mutual agreement between the main programme partners, i.e. MEXT and UNESCO Office, Jakarta. As indicated above, a formal review and update will be done every two years, in line with the UNESCO C/5 programme planning cycle.