



United Nations  
Educational, Scientific and  
Cultural Organization

Organisation  
des Nations Unies  
pour l'éducation,  
la science et la culture

Organización  
de las Naciones Unidas  
para la Educación,  
la Ciencia y la Cultura

Организация  
Объединенных Наций по  
вопросам образования,  
науки и культуры

منظمة الأمم المتحدة  
للتربية والعلم والثقافة

联合国教育、  
科学及文化组织

## Detailed Report on the activities of the Organization in 2006-2007

### Major Programme II – Natural sciences

## MAJOR PROGRAMME II – NATURAL SCIENCES

### Programme II.1 – Science, environment and sustainable development

#### 31 C/4 Strategic Objective

**Strategic objective 5:** Improving human security by better management of the environment and social change

#### Sub-programme II.1.1 - Managing water interactions: systems at risk and social challenges

##### Para. 02111 - MLA 1: Assessing and managing the impacts of global change on the water cycle

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$1,564,000</b>	<b>Actual: \$1,564,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Decision-makers, professionals and stakeholders better informed about the state of the world's freshwater resources and critical governance issues.</p>	<ul style="list-style-type: none"> <li>• Two regional training courses on isotope hydrology methods for African and Arab States and IHP National Committees organized in collaboration with IAEA. Training material published, CD-ROMs available.</li> <li>• Case studies on endorheic basins in Latin America developed in Chile in coordination with Montevideo Office. Case studies will be published early 2008</li> <li>• Guidelines prepared and disseminated on the management of fossil aquifer systems in collaboration with the World Bank, published and disseminated.</li> <li>• WWDR2 was launched on 22 March 2006 in Mexico City during the 4<sup>th</sup> World Water Forum. The electronic version of WWDR1 and WWDR2 as well as the executive summaries and final reports of WWAP case studies are freely available on UNESCO's web portal.</li> <li>• WWAP Secretariat got the renewed mandate from UN-Water in August 2007 for the development of WWDR3. 4 professionals and 7 high level experts are working towards the</li> </ul>	<ul style="list-style-type: none"> <li>• Indicator development is one of the ongoing challenges of the World Water Assessment Programme. In this context, WWDR2 included 64 robust indicators on different challenge areas. Indicator development has now been undertaken by an expert group established by the WWAP Secretariat on database, indicators and monitoring.</li> </ul>	<p>Impacts of the activity maximized through regional participation</p>	<p>Material available in the countries for replication</p> <p>Publishing a list of robust indicators on the CD of WWDR2.</p> <p>Establishment of WWAP Expert Group on Indicators, database and monitoring.</p> <p>Involvement of WWAP in the work of UN IWRM Task</p>	

	<p>preparation of WWDR3. In this context, the first preparatory meeting was held in November with the participation of 62 prominent experts from UN agencies and other institutions. Italian funding has been secured for the 3<sup>rd</sup> phase (2006-2009).</p> <ul style="list-style-type: none"> <li>Given that water is a crosscutting issue in reaching the MDGs, WWAP is playing an active role in the work of UN Task Force on IWRM.</li> </ul>	<ul style="list-style-type: none"> <li>WWDR series are built upon sound science basis. In order to further improve this, expert groups are being established with the involvement of prominent experts.</li> </ul>		<p>Force.</p> <p>World wide visibility of WWDR series.</p> <p>Greater number of countries willing to contribute to the WWDR series as case study partners (12 countries in WWDR1 and 38 countries in WWDR2).</p> <p>Number of hits in UNESCO's web portal in 2006 World Water Day leading to the collapse of UNESCO's server.</p> <p>Growing number of professionals and high level experts taking part in WWDR3 related activities.</p> <p>Assignment of new WWAP Coordinator.</p> <p>Renewed mandate of WWAP.</p> <p>Successful WWDR3 preparatory meeting in November 2007.</p> <p>Generous Italian funding for WWDR3 as well as continuation of the financial support of Japanese Government.</p>	
<p>Scientific understanding of hydrological processes and variability across various sub-regional basin networks improved.</p>	<ul style="list-style-type: none"> <li>19 countries joined the FRIEND network, mostly in East Asia and Asia-Pacific, efforts focus on the involvement of countries in central Asia.</li> <li>The Global FRIEND report 2002-2006 was published and distributed following the 5<sup>th</sup> FRIEND International Conference.</li> </ul>			<p>The involvement of new countries in the network and the organization of technical workshops in the different regions, contribute to the sustainability of this IHP cross-cutting Programme.</p>	
<p>Experimental hydrology and science-policy research in basin management strengthened.</p>	<ul style="list-style-type: none"> <li>The evaluation of the HELP network and basins has started in order to reorganize the</li> </ul>		<p>The financial involvement of national organizations (i.e.: DWAF in South Africa or SEA</p>	<p>The evaluation of the basins expectations and the reorganization of HELP</p>	

	HELP framework. Thematic sub-networks on particular issues are greatly appreciated through the network community. The HELP International Symposium: Lessons from the South was a success.		in France) in activities as well as successful workshops contribute to the cost effectiveness of the Programme.	hierarchical framework ensure the emergence of ideas and new cooperation-based activities in the network. The next Global Call for basins is expected by a large number of members.	
Reliable global data and information on groundwater resources, including aquifer locations and characteristics compiled.	<ul style="list-style-type: none"> <li>Hydrogeological map (WHYMAP) at 1:25,000,000 scale published and distributed at the 4thWWF in Mexico 2006. Related geo-referenced database available and updates.</li> <li>Free-access web portal on groundwater resources established and updated.</li> </ul>		Databases updated and new hydrogeological information included.		

**Para. 02112 - MLA 2: Managing water as a scarce resource for human needs**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$3,145,000</b>	<b>Actual: \$3,134,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
Knowledge base and capacity of decision-makers and practitioners in the management of freshwater resources in arid, semi-arid areas and in urban areas enhanced.	<ul style="list-style-type: none"> <li>The global network G-WADI on Water and Development Information for Arid Zones has continued its strengthening and global expansion: in addition to the existing Asian G-WADI, the Arab G-WADI regional network has been set up and activities in Lac have started in earnest; in addition a number of high quality international events have been carried out by G-WADI.</li> <li>Artificial recharge guidelines published in cooperation with the IAH and the British Geological Survey. Conference and seminar organized. Strategies for aquifer recharge enhancement developed.</li> <li>Guidelines for urban water management strategies developed (three books published and disseminated in 2007 and nine books to be published early 2008).</li> </ul>			Guidelines will be translated in Spanish and used by water related Category II centres.	
Capacities for integrated groundwater resources management at national and international levels improved.	<ul style="list-style-type: none"> <li>Methodologies to address salt water intrusion threats in coastal aquifers published. International Conference organized (Sept. 07). Case studies identified in the</li> </ul>				

	<p>Mediterranean region.</p> <ul style="list-style-type: none"> <li>• Regional case studies on groundwater discharge to the ocean identified in the Mediterranean region and in Argentina.</li> <li>• Groundwater studies and training material published and training courses organized.</li> <li>• Regional workshops on the protection of groundwater-dependent ecosystems with emphasis on Wetlands organized in Tunisia (June 07) and Lisbon (Sept. 07). Case studies identified in the Mediterranean region.</li> </ul>		<p>Cooperation established with the Ministries of Environment and Water Resources of Tunisia, Algeria, Morocco, Croatia, Montenegro, Italy and Spain.</p>		
<p>Research and capacity-building networks on water supply issues reinforced at regional and international levels.</p>	<ul style="list-style-type: none"> <li>• International Symposium on Urban Water Management organized in UNESCO HQ in September 2007.</li> <li>• Training material (Training of Trainers) developed in collaboration with the Cat II Center on Urban Water RCUWM-Tehran. Training course organized in Pakistan.</li> <li>• Workshops and seminars on urban water management organized in different regions.</li> <li>• Software for Urban Groundwater Management developed. Case study selected for application.</li> <li>• Educational package on urban water developed and available in UNESCO web-site.</li> <li>• IHP statutory meetings (Council and Bureau) held.</li> </ul>		<p>Impact of the activities maximized through international cooperation with partner institutions, Cat I and II water related centres.</p> <p>Synergies with other international projects on urban water management (UNESCO-IHE/SWITCH project).</p>	<p>Activities implemented in cooperation with Cat I (UNESCO-IHE) and Cat II water related centres.</p> <p>Member states involved in the activities.</p>	
<p>Improved methodologies and guidelines developed for integrated river basin management at national and international levels.</p>	<ul style="list-style-type: none"> <li>• State of the Art of integrated river basin management prepared.</li> <li>• A framework for integrated water management for basins, sub-basins and aquifers developed.</li> </ul>				

**Para. 02113 - MLA 3: Mitigating water-related risks and facing social challenges**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$2,537,000</b>	<b>Actual: \$2,532,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Integrated approaches by local, national and international specialists to flood management improved.</p>	<ul style="list-style-type: none"> <li>• International Flood Initiative, supported by the International Centre for Water Hazard and Risk Management (ICHARM, Tsukuba, Japan), operational.</li> </ul>	<ul style="list-style-type: none"> <li>• The production of joint documents from the different International Organizations WMO, UNU, ISDR, IAHS and UNESCO required a strong cooperation from the members.</li> </ul>		<p>The motivation of the members, supported by the ICHARM secretariat, contributes to the sustainability of the Initiative.</p> <p>Workshops on flood prevention and risks mitigation will be organized.</p>	
<p>Rational use of groundwater to respond to emergency situations promoted.</p>	<ul style="list-style-type: none"> <li>• Guidelines on groundwater use in emergency situations published. Presentation at the 4thWWF Mexico 2006.</li> <li>• Inventory of groundwater bodies resistant to natural and human impacts in pilot regions.</li> <li>• Case studies undertaken and published. Three workshops organized (Tokyo, Tehran and Paris 2007) Proceedings in publications, all material available at UNESCO web.</li> </ul>				
<p>Cooperative framework and criteria for sustainable management of shared water resources, including transboundary resources, at local, regional and international levels developed.</p>	<ul style="list-style-type: none"> <li>• Training material for the management of transboundary water bodies, developed for South East Europe and Latin America.</li> <li>• Pilot courses organized in South East Europe and Latin America.</li> <li>• Training material used in several training workshop in Latin America (i.e. Ecuador, Venezuela, Brazil, Argentina).</li> <li>• Case Study on the Lake Titicaca produced jointly with experts form Bolivia and Peru.</li> <li>• Indicators/criteria for managing water resources developed and published, CD-Rom available.</li> <li>• Application of indicators/criteria in cooperation</li> </ul>	<ul style="list-style-type: none"> <li>• Interdisciplinary courses are crucial for the facilitation of transboundary water cooperation.</li> <li>• Trainers for a region specific course should come from the region in question. International trainers should only be involved as a back up solution.</li> <li>• Experts involved in case studies on the status of cooperation in a transboundary water basin should have knowledge about the physical aspects of the basin but they should above all have an advanced knowledge about the socio-economic and political aspects of the management of the water</li> </ul>		<p>Use of UNESCP-PCCP training material on transboundary water management in local universities in Latin America and South East Europe.</p>	

	<p>with the GEF.</p> <ul style="list-style-type: none"> <li>• Inventory of transboundary aquifers in various regions. Finalized in LAC, Africa and SEE, initiated in Asia.</li> <li>• Training course on legal and institutional aspects of management of transboundary aquifer Systems organized at UN Headquarters NY with UNILC. First draft of the articles for the law of transboundary aquifer systems finalized in cooperation with the Ministry of Foreign Affairs of Japan.</li> <li>• Maps of transboundary aquifers published.</li> </ul>	<p>resources of the selected basin.</p>			
<p>Awareness of ethical, historical, cultural and social dimensions of water promoted.</p>	<ul style="list-style-type: none"> <li>• Website established in English, French and Spanish (at least 10 web pages/language) for World Water Day 2006, informing on diverse aspects of the Water and Culture interrelationship, including history, heritage, worldviews; providing campaign material and multimedia content. Web pages viewed more than 150.000 times/year.</li> <li>• Short documentary film produced, informing on Water and Culture interactions.</li> <li>• 15 postgraduate students trained in 2007 in the "World History of Water Management" (first short course organized with UNESCO-IHE).</li> <li>• Publication "Ethics of Groundwater Use" translated into Spanish and Portuguese (LAC); publication "Water and Indigenous Peoples" translated into Spanish and disseminated (LAC). CD-Rom of Proceedings "Water and Cultural Diversity" produced and disseminated. Articles produced for the History of Water and Civilization manuscripts in progress "Water and Humanity: A Historical Overview", "Water and Human Settlement", Water, Food and Economy. Support provided to the launch of the film "Congo River" and publication of the book with the same title.</li> <li>• Research and awareness fostered through: organizing the International Symposium "The UNESCO Water Project: The Legacy of the Ancient Past"; support to the IWHA Conference "Pasts and Futures of Water"; organizing of the Session "Water and Cultural</li> </ul>	<ul style="list-style-type: none"> <li>• The lack of extrabudgetary funding hampered the implementation of the History of Water and Civilization book series project.</li> </ul>		<p>Websites still online and well visited; publications continuously demanded; scientific, professional and public interest in ethical, historical, cultural and social dimensions of water increasing.</p>	

	<p>Diversity” and WWD06 session on “Water and Culture” during the 4th World Water Forum.</p> <ul style="list-style-type: none"> <li>• Database produced of researchers in the field of water history and culture.</li> <li>• Photographic exhibition AQVA and First International Film Event co-organized, during WWF4, respective catalogues produced and disseminated.</li> </ul>				
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**Para. 02114 - MLA 4: Managing land-water-habitat interactions through an ecosystem approach**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$1,935,000</b>	<b>Actual: \$1,901,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Knowledge base enhanced for an eco-hydrological approach and for its integration into regional natural resources development strategies.</p>	<ul style="list-style-type: none"> <li>• Task forces on ecohydrology launched to enhance research, implementation and education of ecohydrology concept.</li> <li>• A regional ecohydrology centre established in Poland.</li> <li>• Book published on aquatic habitats in integrated urban water management. Case studies published on the same topic on a dedicated web site. Workshop organized at Urban Water Forum. Participation and booth at Brisbane River Festival and environmental flows conference. All above contributing to enhance the knowledge base related to the ecosystem management aspects of water issues and their actual implementation.</li> </ul>	<ul style="list-style-type: none"> <li>• The challenge now is to effectively and widely distribute the results of ecohydrology activities that have been implemented in the past ten years, in cooperation with the newly established (and other planned) regional ecohydrology centres.</li> <li>• The complex nature of the water agenda requiring effective interdisciplinary cooperation.</li> </ul>	<p>Satisfactory in comparison to the positive feed-back from the knowledge base and the fact that water is increasingly seen as important for ecosystem function and not only for direct human needs.</p>	<p>The concrete outputs (book, case studies) will likely remain in the market for quite some time ensuring the sustainability of the results achieved.</p>	
<p>Knowledge base and quantification of sediment transport processes improved for the protection of the aquatic and terrestrial environment.</p>	<ul style="list-style-type: none"> <li>• IRTCES a category II centre which also holds ISI secretariat is established.</li> <li>• International Sedimentation Initiative fully operational.</li> <li>• Enhancement of institutional and human capacities various trainings and workshop; Case studies for river basins prepared: The Yellow River; Yangtze River; Mississippi River; Rhine River; Danube River; Panama River; Nile River; Volga River; Zambezi River.</li> </ul>				



<p>Scientific capacities to study and monitor mountain resources increased.</p>	<ul style="list-style-type: none"> <li>• Mountain biosphere reserve managers and scientists participated in 2 regional workshops (Argentina, April 2006) and Uganda (July 2007) to study impacts of global change on mountains.</li> <li>• Teaching Resource Kit for Dryland Countries published in French (English, Spanish and Arabic versions in preparation). Teaching Resource Kit for Mountain Countries in preparation.</li> <li>• Collaborative work initiated with Russian Federation to create an international centre for sustainable mountain development in the Caucasus, which could become a UNESCO Category II Centre.</li> </ul>	<ul style="list-style-type: none"> <li>• Project document for implementation of global change research strategy in mountains prepared and submitted to donor agencies, but requested funding level (US\$ 2,000,000) exceeds financial capacities for many donors. Securing of extra-budgetary funding will continue in next biennium.</li> <li>• Extra-budgetary funding (US\$ 465,630) secured from Flemish Government of Belgium for preparation of dryland and mountain educational kits, and other outreach activities.</li> <li>• The "Bishkek Global Mountain Summit+5" conference was originally planned to take place in 2007, but was postponed by the Kyrgyz Government to 2009.</li> </ul>	<p>To carry out monitoring and studies on mountain resources in the context of global climate change, Regular Programme funds can only function as seed money, while substantial extra-budgetary resources are needed to sponsor field research. However, regular programme funds were instrumental to maintain international scientific collaboration among scientists throughout the biennium.</p>	<p>International science community working on mountain and climate change research issues are fully informed on the "global change research strategy in mountains" which can be applied at the national level, in particular at the level of mountain biosphere reserves. One educational kit on drylands published (diffusion with other language versions in early 2008 through ASPNet). One additional educational kit for mountain countries in preparation. Creation of one international centre on sustainable mountain development will enhance knowledge on the rational management of natural resources.</p>	
<p>Capacities for water resources management in ecosystems with either abundant or scarce water resources, with special emphasis on coastal zones, small islands and the Polesie region, increased.</p>	<ul style="list-style-type: none"> <li>• Scientific activities implemented jointly by scientists of Belarus, Poland and Ukraine in preparation for nomination of West Polesie Transboundary Biosphere Reserve.</li> <li>• 4 island biosphere reserves created in the Pacific and in Africa. First intercontinental BR established between Spain and Morocco; World Mangrove Atlas almost accomplished; 2 technical courses on water resource management with special emphasis on biosphere reserves conducted in Micronesia and Bahrain; handbook for integrated coastal zone development in preparation.</li> </ul>	<ul style="list-style-type: none"> <li>• Obstacles exist in obtaining support for the transboundary biosphere reserve at the political/ ministerial level.</li> </ul>	<p>USD 30,000 contributions in kind received. For any USD received, more than one USD raised.</p>	<p>New biosphere reserves well established in the World Network of Biosphere Reserves, publications on water resource management widely distributed.</p>	

**Sub-programme II.1.2 - Ecological and earth sciences for sustainable development**

**Para. 02121 - MLA 1: Minimizing biodiversity loss through research and capacity-building for ecosystem management**

Regular budget (rounded to \$ thousand)	
Planned: \$890,000	Actual: \$888,000

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Understanding of inter-relationships between global change, ecosystem management and biodiversity loss among decision-makers improved.</p>	<ul style="list-style-type: none"> <li>• Forum and workshop held on the relationships between climate, bio-carbon sequestration, agriculture, energy, biodiversity and poverty reduction providing interesting insights for policy makers. Informal partnerships formed with private sector players. Besides focusing on natural ecosystems (e.g. forests) also urban areas were in focus, allowing for an examination of the biosphere reserve concept to urban sustainability challenges, including in relation to climate. Several cities interested now in applying for biosphere reserve status. Ecotechnie Chair established on climate related issues.</li> <li>• 6 policy briefs developed in collaboration with SCOPE made available to decision-makers</li> <li>• A follow-up programme on the Millennium Ecosystem Assessment developed in collaboration with ICSU and DIVERSITAS.</li> </ul>	<ul style="list-style-type: none"> <li>• The agenda of climate politics is quite dynamic and requires continued attention.</li> <li>• The importance of bearing the findings of UNESCO's ISPs to the attention of policy-makers, as recommended by the Overall Review Committee of MPs II and III.</li> </ul>	<p>Good in terms of visibility of events and resulting reports compared to staff and budgetary investments.</p>	<p>Policy makers in both public and private interested in follow-up activities.</p> <p>Research studies on biosphere reserves made available to policy-makers</p> <p>Scientific cooperation with international programmes (e.g. such as DIVERSITAS and SCOPE).</p> <p>Relevant publications for decision-makers.</p>	
<p>Scientists trained on sustainable development, including ecosystem management and sustainable use of biodiversity</p>	<ul style="list-style-type: none"> <li>• 24 African specialists recruited for the 4<sup>th</sup> Promotion of the ERAIFT, from 10 African countries at the postgraduate level.</li> <li>• First three Ph.D. graduated.</li> <li>• New buildings rehabilitated and equipped thanks to the substantial financial support of the Trust Fund EU / WB.</li> </ul>	<ul style="list-style-type: none"> <li>• Despite the political situation in DRC, UNESCO demonstrated its capacity to intervene and to reinforce capacity building activities in post-conflict countries.</li> <li>• ERAIFT curricula are much appreciated by several African countries: UNESCO recently received a formal request from Côte d'Ivoire to extend the ERAIFT model in Western Africa.</li> </ul>	<p>The UNESCO RP funds played a catalytic role as seed money allowing SC/EES to mobilize important funds from EU (680,000 €), in particular for the rehabilitation of the ERAIFT' new buildings.</p>	<p>Interest from the Private sector (Forestry industries, NGOs, etc.) to be involved in the ERAIFT project as donors (providing fellowships for managers, financing thematic workshops on training for trainers, participation in the ERAIFT' Executive Board, etc.).</p>	

<p>International cooperation in ecosystem research and management on arid lands and humid tropics advanced.</p>	<ul style="list-style-type: none"> <li>• One synthesis publication entitled "The Future of Arid Lands - Revisited" published focusing on 50 years of dryland research.</li> <li>• One international scientific conference on "The Future of Drylands" organized in Tunis (June 2006) in collaboration with 20 other international organizations. Conference proceedings edited (to be published in Feb. 2008). The "Tunis Declaration" as a result of the conference will shape future research priorities on dryland management.</li> <li>• PhD and master thesis have been funded on key issues related to arid lands in six West African Biosphere Reserves and training workshops were organized.</li> <li>• Research studies on biosphere reserves made available to policy-makers in the context of the IAASTD.</li> </ul>	<ul style="list-style-type: none"> <li>• Despite a relatively low RP budget, UNESCO as main organizer of the conference "The Future of Drylands" demonstrated high convening power by mobilizing 20 other international organizations which supported the conference directly or indirectly (via UNESCO).</li> <li>• The importance of bearing the findings of UNESCO's ISPs to the attention of policy-makers, as recommended by the Overall Review Committee of MPs II and III.</li> </ul>	<p>The main scientific contribution to the 2006 International Year of Deserts and Desertification was internationally master-minded by UNESCO, which organized the conference "The Future of Drylands". Despite relatively little financial RP resources from UNESCO (seed money of only \$ 35,000 from RP funds), over 400 participants attended the conference which testifies to a very good cost-effectiveness ratio.</p> <p>Support to master and PhD students has helped building national capacity in west Africa as well as generating important knowledge on interactions between people and ecosystems.</p>	<p>The synthesis publication "The Future of Arid Lands - Revisited" and the proceedings of the Tunis conference "The Future of Drylands" will be landmark and state-of-the-art compilations on current dryland management and development issues which will be used by scientists worldwide to ensure sustainable management in drylands. As a result MoU's have been established between scientific institutions and Biosphere reserves in order that research and knowledge generated feed management purposes on a long term basis. Executive summary on main results for decision makers was prepared.</p> <p>Inter-agency assessments with biodiversity focus.</p>	
<p>Multi-partner initiatives for rehabilitation of the Indian Ocean coastal ecosystem operational.</p>	<ul style="list-style-type: none"> <li>• A Marine Spatial Planning Initiative developed jointly with IOC and a related major workshop and publication implemented, produced and disseminated.</li> </ul>	<ul style="list-style-type: none"> <li>• Importance of the contribution of science to sustainable development demonstrated.</li> </ul>		<p>Participating partners identified.</p> <p>Network of collaborating agencies and institutes established.</p> <p>Best practices and research results disseminated.</p>	

**Para. 02122 - MLA 2: Biosphere reserves: promoting environmental sustainability**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$1,182,000</b>	<b>Actual: \$1,175,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Coverage of WNBR made more representative and its functioning improved.</p>	<ul style="list-style-type: none"> <li>• Support and technical advise provided to four Asian sub-regional MAB networks (EABRN, SeaBRNet, SACAM, PacMAB), thus facilitating the nominations of new biosphere reserves and the strengthening and functioning of existing biosphere reserves as well as regional collaboration among MAB National Committees.</li> <li>• Five new Biosphere Reserves established in the Arab Region.</li> <li>• A Marine Peace Park initiative developed between DPRK and ROK</li> <li>• Support to AfriMAB Network: organization of the AfriMAB Regional Meeting (Cape Town, South Africa, 10-15 September 2007) with concrete results (e.g. adoption of the AfriMAB Charter, launching of the first AfriMAB-Bureau, creation of an EXB Funds for AfriMAB with the voluntary contributions from the members and form National Committees and Biosphere Reserves Sites). This support facilitated the creation of two new BRs in the SADC region (1 in Malawi and 1 in South Africa). An initiative to create a per-urban biosphere reserve including the "Forêt de la Mondah" in Libreville (Gabon) is on going with the collaboration of the EU/ENEF/ERAIFT project.</li> </ul>	<ul style="list-style-type: none"> <li>• Two sub-regional MAB Networks in Asia benefit from additional financial support of major donor countries (Rep. of Korea for EABRN, and Japan for SeaBRNet). It would be important that for the SACAM and PacMAB networks, affluent countries of the respective sub-regions would also provide financial support. With RP funding alone, support to the networks will be insufficient.</li> <li>• The popularity of the biosphere reserve concept cannot be overestimated.</li> <li>• Importance of scientific cooperation for peaceful dialogue demonstrated.</li> <li>• The AfriMAB Meeting in Cape Town was a good occasion for the AfriMAB members to prepare their participation to the 3<sup>rd</sup> World Biosphere Reserves Congress (Madrid, 4 – 9 February 2008). The participants decided to elaborate a special technical note on "The problematic of the Biosphere Reserves zonation in Africa", as a concrete contribution of the AfriMAB to one of the 5-Points Agenda related.</li> </ul>	<p>Biosphere reserves are highly cost effective as their operations are covered by national sources and their international designation by UNESCO greatly enhances possibilities for mobilizing additional funding resources at the national and international levels.</p> <p>Low cost per biosphere reserve established (e.g. 2,000 each).</p> <p>South Africa gave a good example of the implementation of the Seville Strategy approach by launching the "new generation of Biosphere Reserves" that respond to the criteria of the Statutory framework for the World Network for Biosphere Reserves, implying the participation of the local actors, such as the municipalities and the local populations.</p> <p>Interest of the Donors (EU) to participate in the creation of the biosphere reserve process.</p>	<p>Biosphere reserves are now often commonly referred to as "learning laboratories for sustainable development". Their very existence testifies to sustainability in terms of economic and social development, as well as environmental conservation.</p> <p>Biosphere reserves are long-term institutional structures proven to stand the test of time.</p> <p>Case studies on role of biosphere reserves in transborder cooperation.</p>	

<p>Knowledge base on environmental sustainability issues in local biosphere reserves contexts strengthened.</p>	<ul style="list-style-type: none"> <li>• Training seminar and material prepared for training of biosphere reserve managers and local stakeholders. First seminar established in Chile with the prevision of seven following in the Latin American region.</li> <li>• 20 young researchers, mainly women, given the change to increase their knowledge about biosphere reserve issues and environmental sustainability through the MAB Young Scientists Award Scheme.</li> <li>• Three periodic reviews have been made (Bénoué, Waza and Dja) by Cameroon; the three dossiers were examined by the Advisory Committee for Biosphere Reserves, in 2006.</li> </ul>	<ul style="list-style-type: none"> <li>• Training must be implemented with the right target groups backed up by the political institutions.</li> <li>• The demand is higher than available financial resources. Fund raising needed.</li> </ul>	<p>In total more than 25 biosphere reserves established in the Latin American region and collaboration between this region and Spain achieved.</p> <p>With some \$5,000 each, some 20 young researchers committed to the UNESCO-MAB Programme. That is cost-effective.</p> <p>Recommendations from the Advisory Committee to strengthen the three functions of the three biosphere reserves.</p>	<p>These biosphere reserves are of the "new" generation and include all three well-established functions, including quality economies and economic sustainability.</p> <p>New generation of MAB researchers.</p>	
<p>Potential of biosphere reserves as a platform for conflict prevention, including in transboundary context, explored and made use of.</p>	<ul style="list-style-type: none"> <li>• 2 training workshops organized in West Africa, including one TBR on concertation approaches, including local communities using modeling and scenarios building.</li> <li>• 1 game role playing tested in six biosphere reserves in west Africa as tool for conflict prevention and management of resources.</li> <li>• 1 MAB technical note highlighting practices and experiences of dialogue in the World Network of biosphere reserves prepared in French and English.</li> <li>• 1 meeting for the first periodic review of a TBR organized (Vosges du Nord/Pfalzerwald TBR).</li> <li>• 1 meeting on indicators for measuring effective management of biosphere reserves, including participation organized and a core-set of indicators prepared.</li> </ul>	<ul style="list-style-type: none"> <li>• Methodological tools and dynamic approaches tested in biosphere reserves in Africa and in Europe have proven to be effective tools for conflicts prevention and for long term planning. The role of biosphere reserves as platforms for dialogue, concertation and conflict prevention as regards biodiversity conservation and sustainable use have to be outreached and lessons disseminated.</li> </ul>	<p>There are many practices and experiences on conflict prevention to be shared among the World Network as well as outside. The MAB web is to be more and more used as a clearing house mechanism for sharing these practices and experiences.</p>	<p>Research in biosphere reserves is used as a mediatory tool to facilitate concertation between different stakeholders, which highlight the unique value of biosphere reserves as learning sites for conflict prevention and dialogue, and for sustainable development.</p>	

**Para. 02123 - MLA 3: Enhancing linkages between cultural and biological diversity**

Regular budget (rounded to \$ thousand)	
Planned: \$313,000	Actual: \$312,000

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Knowledge base on cultural practices fostering local-level sustainable use of biodiversity in biosphere reserves established.</p>	<p>See achievements reported under the third expected result below</p>				
<p>Knowledge base on culture practices fostering local-level sustainable use of biodiversity in small island developing states established.</p>	<ul style="list-style-type: none"> <li>• The links between biological and cultural diversity were explored in a special issue of the International Social Science Journal on "Cultural Diversity and Biodiversity" (ISSJ No. 187, 2006), which has been published in collaboration with the Social Sciences Sector and the National Centre for Scientific Research (CNRS-France) as follow-up to the International Conference on "Biodiversity: Science and Governance" (UNESCO Paris, January 2005).</li> <li>• A dossier has been assembled and prepared for publication exploring the interdependence of cultural and biological diversity in the territory of the Jarawa peoples of the Andaman Islands, India.</li> <li>• Papers from the International Experts Meeting held in Aichi in April 2005 on 'Safeguarding the Transmission of Local &amp; Indigenous Knowledge of Nature' have been received and edited and await publication in early 2008. These examine links between biodiversity and indigenous knowledge transmission and maintenance.</li> <li>• Guides illustrating interlinkages between cultural practices and the fostering of sustainable biodiversity use within Andaman Sea islands (India, Thailand, Malaysia and Indonesia) produced in both English and Thai. Final donor report is being prepared for publication.</li> <li>• The school-children of the Hirkan National Park villages (Zangulash, Bandasar and Agkorpu, Azerbaijan) were trained to better understand the park's biodiversity, unique broadleaved deciduous forests and the</li> </ul>	<ul style="list-style-type: none"> <li>• Cutting-edge reflection on innovative approaches to describing interlinkages between biological and cultural diversity developed.</li> </ul>	<p>Publication in the International Social Science Journal in partnership with the Social Science sector and outside experts, offers an excellent venue and product at considerably reduced cost.</p>	<p>Case studies</p> <p>Access to and dissemination of research results.</p>	

	necessity of its protection and thus to contribute to the Hirkan National Park nature conservation, sustainable use and management of its natural resources.				
Awareness raised about the role of sacred sites, cultural landscapes and intangible heritage in ecosystem management and sustainable use of biodiversity.	<ul style="list-style-type: none"> <li>• Proceedings of the UNESCO international symposium (Tokyo, 2005) on "Conserving Cultural and Biological Diversity: The role of sacred natural sites and cultural landscapes" published and widely diffused.</li> <li>• Based on the Tokyo symposium, guidelines for the management and conservation of sacred natural sites have been compiled and reviewed through an international consultation process in collaboration with IUCN. Publication of guidelines will be effected in March 2008.</li> </ul>	<ul style="list-style-type: none"> <li>• Sacred natural sites and cultural landscapes have tremendous potential for preserving biological and cultural diversity. The natural sciences and culture sectors demonstrated their ability to collaborate on a topic in an intersectoral manner.</li> <li>• Partnerships with IUCN, CBD, UNU, FAO and UNPFII were instrumental in formulating management guidelines for sacred natural sites.</li> </ul>	International collaboration among various institutions (UNESCO, UNU, IUCN, FAO, CBD and UNPFII) provided the necessary leverage to formulate guidelines for the conservation and management of sacred natural sites.	Guidelines will be used and tested in protected areas (including in biosphere reserves and natural world heritage sites).	

**Para. 02124 - MLA 4: Global Partnerships in earth sciences and earth system monitoring**

<b>Regular budget</b> (rounded to \$ thousand)
<b>Planned: \$839,000</b> <b>Actual: \$1,090,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
Research of the earth system and scientific networks strengthened through interdisciplinary projects.	<ul style="list-style-type: none"> <li>• Under the International Geoscience programme, 54 multidisciplinary IGCP projects provided the platform to improve and exchange applied and fundamental earth science knowledge putting emphasis on mobilizing intellectual resources in developing countries. This has stimulated the transfer of earth science information and geological knowledge between industrialized and developing countries. IGCP projects brought together several thousands of scientists from all continents to co-operate in cutting-edge research work, in project meetings and capacity-building activities. The new projects have working groups in 57 Member States. IGCP gives special emphasis to Africa and in order to highlight this, the African Sub-Saharan countries involved are: Angola, Botswana, Cameroon, Kenya, Malawi, Mozambique, Namibia, Nigeria, Senegal, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia and Zimbabwe). The total number of ongoing IGCP projects for 2006 and 2007 stands at 44</li> </ul>	<ul style="list-style-type: none"> <li>• As international programme IGCP is in a position to react flexibly to changing priorities in its parent organizations and in the outside world. The field of earth sciences has evolved since the inception of the programme over 35 years ago. Initially, the IGCP projects focused on basic geoscience research and the correlation of earth events. More recently, the emphasis changed towards themes oriented to society. In line with the Medium-Term Strategy, IGCP is changing from a programme with focus on fundamental sciences to a programme concentrating on applied geosciences, including mitigation of geo-hazards, such as earthquakes, landslides and volcanic eruptions.</li> <li>• IGCP became more interdisciplinary in nature and co-operates very</li> </ul>	UNESCO has provided the initial impetus for this programme by providing seed money. The programme is capable of sustaining itself when UNESCO funding ceases.	IGCP is a cost shared programme, jointly sponsored by UNESCO and IUGS (International Union of Geological Sciences). Other funding partners are actually being looked for. As IGCP gives only seed money funding, the main costs of the project meetings and research is carried by the IGCP project leaders and their partners.	

	and 47 respectively.	closely with the Division of Water Sciences to strengthen the principal priority of UNESCO in the natural sciences.			
Awareness of earth sciences and economic benefits generated from sustainable geo-tourism increased.	<ul style="list-style-type: none"> <li>• 18 Geoparks in 10 different countries (Europe, Asia, and South America) became member of the Global Network of National Geoparks under UNESCO during the biennium. UNESCO supported the 2<sup>nd</sup> International Geoparks Conference in Belfast in 2006, which had great media coverage and triggered enormous international interest. The Asia-Pacific Geoparks Conference in Malaysia in 2007 under the auspices of UNESCO contributed to further advancement and stimulation of geo-heritage and geo-tourism activities and the creation of Geoparks in Asian/Pacific countries.</li> </ul>	<ul style="list-style-type: none"> <li>• The Geoparks concept is an innovative way to carry the interest of science popularization, environmental education and sustainable development. UNESCO has the chance to react and be now in the lead of this very attractive outreach activity and make Earth Science a strong, dynamic force in UNESCO.</li> <li>• It is obvious that the growing interest will require more time and money to administer and manage the requests and the coordination within UNESCO and the regional Geoparks Networks. It is clear that administration and management needs resources - money and people. As only seed money is forthcoming from UNESCO's RP, the only other option is sponsorship.</li> <li>• Another challenge is how UNESCO can assure its role within the regional Networks and to continue maintaining its lead position in the future.</li> </ul>	Within Europe UNESCO receives strong support through the European Geoparks network, which is under European-Union funding.	The interest in the Geoparks initiative is steadily growing. Not only in Europe but all over the world Geoparks are being adopted as a tool for regional development and environmental education, involving local communities. New regional Networks will soon be born following the examples of the European or the Asia-Pacific Network which are responding to the emerging interest in this region of the world and which are the ambassadors for Geoparks in their regions for UNESCO.	
Collaborative science policy-maker mechanisms established to highlight value of global earth observation.	<ul style="list-style-type: none"> <li>• A major effort was undertaken to foster closer cooperation between GEOSS, CEOS and IGOS. This led to joint planning for Earth Observation by GEOSS and CEOS. Preparations are made to transition the work of IGOS directly into GEOSS.</li> <li>• A ministerial conference on EO was organized successfully in November 2007 in Cape Town. The conference called for a strengthening of capacity building in EO and will mobilize the donor agency community to this effect.</li> </ul>	<ul style="list-style-type: none"> <li>• The reinforcement of the cooperation among the partnerships in Earth Observation was started, but needs now to progress further in the coming biennium.</li> <li>• The political messages of the ministerial conference will have to be translated into action for building a long-term Global Earth Observation System.</li> </ul>	The work of the different partnerships in Earth observation is very cost effective. The scientific community, the space agencies and the specialized agencies of the UN work together in a cost effective manner to build with the Member States an efficient Earth Observation System.	The efforts of the different partners in EO are complementary and plans made to ensure sustainable EO System will be in place by 2015.	



<p>Network on use of space technologies for monitoring, conservation and capacity-building activities benefiting biosphere reserves and World Heritage sites established.</p>	<ul style="list-style-type: none"> <li>•The UNESCO network of space partners significantly strengthened through the formal establishment of cooperation agreements and the implementation of joint activities.</li> <li>•Large number of joint projects for the benefit of Member States implemented.</li> <li>•A series of capacity building workshops implemented.</li> </ul>		<p>Compared to USD 90,000 invested, this activity is extremely beneficial for UNESCO.</p>		
<p>Member States' capacities strengthened to produce geological maps and technical documents based on information collected <i>in situ</i> and from space.</p>	<ul style="list-style-type: none"> <li>•In addition to the continuation of the preparation of continental scale geological maps and technical documents, a new project was started to build a worldwide electronic database for accessing basic geological and geophysical information worldwide via internet. The project is named "OneGeology". Several workshops were organized to involve all countries in this project.</li> </ul>	<ul style="list-style-type: none"> <li>•The OneGeology project will greatly enhance the awareness of the general public on the earth and its sustainable management. The project was successfully initiated but efforts will need to be continued over the next 2 biennia for its completion.</li> </ul>	<p>The cooperation in geotechnical data collection and dissemination is very cost effective. It is implemented through a joint effort of UNESCO and the Commission for the Geological Map of the World (CGMW), a highly efficient scientific NGO. The major geological surveys of the world also support the project.</p>		
<p>Earth science-related education and training materials as well as curricula prepared, integrating results from space observation.</p>	<ul style="list-style-type: none"> <li>•Space education workshops for secondary students and teachers were organized in Vietnam (2006) and Ecuador (2007) in the framework of the Space Education Programme.</li> <li>•Workshops on space technology applications for Latin American and African teachers held through CEOS Working Group on Education.</li> </ul>	<ul style="list-style-type: none"> <li>•The majority of space-education materials are in English. UNESCO's assistance in the translation of the materials into other languages is solicited to ensure quality control.</li> <li>•The revision of national science curricula will take years.</li> </ul>	<p>The workshops were organized in cooperation with space-related government agencies with the support of the Ministry of Education who covered logistic expenses; invited experts participated in a voluntary basis and were not paid consultation fees.</p>	<p>A pilot "National Space Education Programme" was formulated for Vietnam and Ecuador which will serve as a blueprint for implementation of space education activities in these countries.</p> <p>Translation from English into Spanish of "Educator's manual in rocket launching" in cooperation with UNESCO Quito Office.</p>	
<p>International Year of Planet Earth proclaimed by the United Nations General Assembly.</p>	<ul style="list-style-type: none"> <li>•The U.N. General Assembly declared 2008 as the International Year of Planet Earth. UNESCO and IUGS were nominated as the principal implementing agencies. An IYPE Secretariat was created. National Committees were set up in 55 countries. National outreach activities to raise the awareness of the population on the earth sciences and their role in sustainable development were determined. The efforts will be continued over 2008 and 2009.</li> </ul>	<ul style="list-style-type: none"> <li>•The Year's preparation was successfully started in 2007, but the activities and projects will have to be implemented in 2008 and 2009. This will need a sustained effort of continued cooperation of the scientific, government decision-makers and industrial communities.</li> </ul>	<p>The Year is led jointly by UNESCO and IUGS. This working relation is very cost effective, as it gets supported by not only the international decision making but also scientific communities.</p>	<p>The IYPE started in 2007 and will continue over 2008 and 2009. The sustainability is assured through the cooperation with the different national committees that were created in the Member States and that work in close collaboration with the UNESCO National commissions.</p>	

**Sub-programme II.1.3 - UNESCO Intergovernmental Oceanographic Commission**

**Para. 02131 - MLA 1: Addressing scientific uncertainties for the management of the marine environment and climate change**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$816,000</b>	<b>Actual: \$833,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>International cooperation reinforced on scientific research in marine environment.</p>	<ul style="list-style-type: none"> <li>Joint research activities were carried out in the Sea-level programme, Ocean CO2 programme, Climate and Fisheries programme, Coral Bleaching programme, and Coastal Nutrient Export programme. Networks were maintained and enhanced in Sea-Level Observing System, Ocean CO2 Observing Network, Global Coral Reef Monitoring Network, and Harmful Algal Bloom Network. In response to UN requests to give urgent consideration to ways of integrating and improving the management of risks to the marine biodiversity of seamounts, cold-water coral reefs and certain other underwater features, the IOC developed a comprehensive assessment report.</li> <li>The initial phase of the UN Global Marine Assessment has been successfully launched under the leadership of IOC and UNEP.</li> </ul>	<ul style="list-style-type: none"> <li>Effective communication of the research and policy-relevant results developed through the broad range of activities of MLA 1 is challenging and should be a priority in the next biennium.</li> </ul>	<p>Most IOC science activities are conducted in partnership with other international organisations or research programmes. Whilst maintaining leadership and responsiveness towards the needs of Member States, the IOC investments are very often critical and instrumental in launching large scale research initiative with global impacts.</p>	<p>The demand for science based information and products on ocean ecosystem health and productivity is increasing as progressively ocean management schemes are being established at national, regional and global scale (for e.g. for the High Seas). This demand will continue to drive investment in marine sciences and research.</p>	
<p>Capacity of Member States improved to implement Integrated Coastal Area Management.</p>	<ul style="list-style-type: none"> <li>An indicator-based handbook for measuring the progress and outcomes of integrated coastal and ocean management programmes and guidelines for marine spatial planning were produced; guidelines for mainstreaming coastal hazards were initiated. The indicator handbook was applied in 10 coastal management plans at different scales. Marine spatial planning and coastal hazards guidelines will be applied in 2008-2009. 2 medium-term new coastal management projects were initiated addressing coastal groundwater management and adaptation to climate change.</li> </ul>	<ul style="list-style-type: none"> <li>A factor of success in the area of integrated coastal area management has been working directly with national and local agencies responsible for coastal zone management to jointly develop and test approaches, methodologies and tools.</li> </ul>	<p>IOC resources are being invested in targeted areas where IOC has a comparative advantage. Once specific ICAM products are developed through scientific expert groups, these are then adapted at regional level through the implementation of regional project, usually funded by external donors, providing returns to the Member States.</p>	<p>Coastal Management is being promoted by more than 130 countries as well as by several regional and international conventions and agreements. The development of targeted products bridging the gap between science and decision making is crucial and much needed.</p> <p>Several countries are translating the IOC Handbook in their local language (Vietnam, Brazil, and China) for their own purpose.</p>	

**Para. 02132 - MLA 2: Developing operational capabilities for the management and sustainable development of the open and coastal ocean**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$1,470,000</b>	<b>Actual: \$1,459,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Coordination of the provision and use of ocean observations, data and warning services enhanced.</p>	<ul style="list-style-type: none"> <li>• The Global Sea Level Observing System has played a leading role in the upgrade of the global network of sea level stations and in particularly in the Indian Ocean. The number of operational sea level stations grew by more than 25%.</li> <li>• The number of deployed drifting profiling Argo floats has reached its target level of 3000 floats as set out in year 2000.</li> <li>• The Indian Ocean Tsunami Early Warning System (IOTWS) is operational since July 2006.</li> <li>• Concerning the Ocean Portal, during 2006 the OceanDocs African node has been completed making available over 1000 full-text papers as well as the OceanDocs for the Caribbean and South America, and Permanent Ocean Data and Information Networks have been developed in Africa, Latin America and the Indian Ocean region,</li> </ul>	<ul style="list-style-type: none"> <li>• Commitments and contributions to the Global Ocean Observing System and its secretariat.</li> <li>• Enabling nations in different stages of economic development to establish coastal ocean observing systems with the related infrastructure and to benefit from data and information provided by GOOS.</li> <li>• Prompt communication of tsunami warning to communities at risk.</li> <li>• Implementation of the IOC data sharing policy.</li> </ul>	<p>Prompt communication of tsunami warning to communities at risk. On a global scale considerable resources are spent by member states (though with a large spread) on coastal and open ocean observation activities to better understand and forecast the ocean and climate and to control and mitigate the effects of natural hazards. An increasing number of ocean observation activities are contributed to the Global Ocean Observing System. The funds spent on intergovernmental coordination of GOOS represent a minuscule fraction of the total amount spent on global ocean observation collection by member states. (As an example Australia alone spends \$ 23.7 million per year on observing activities in support of GOOS).</p> <p>The IOTWS was coordinated by IOC almost exclusively with extrabudgetary funds, therefore showing great cost-effectiveness.</p>	<p>There is a growing demand for a sustained global ocean observing system that can provide the data and products for the public good for effective management and sustained utilization of the oceans. There is a need for sustained financial support from the regular programme to underpin the intergovernmental coordination of GOOS.</p> <p>Sustained coordination of tsunami warning systems required appropriate funding from the regular programme.</p>	

	supporting Member States with training and infrastructure.				
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**Para. 02133 - MLA 3: Capacity of Member States in marine science for the coastal ocean strengthened**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$1,536,000</b>	<b>Actual: \$1,514,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
Marine scientific research capacities enhanced.	<ul style="list-style-type: none"> <li>Over 100 directors and senior scientists from 100 institutes in more than 75 countries have been trained in leadership skills. Proposal-writing workshops have been conducted and teams of project leaders trained to work effectively together in 2 regions. Increasingly, participants to the workshops pay their own airfare: in the last workshop in Brazil, half of the out-of-country participants paid their own airfare; this shows that countries are quickly taking ownership of the IOC-initiated self-driven capacity development.</li> </ul>	<ul style="list-style-type: none"> <li>Limited human and financial resources of targeted marine science institutes, insufficient experience or training in leadership of scientific organizations, and lack of individuals experienced in the process of developing and submitting competitive funding proposals.</li> </ul>	Close to 1 million USD has been raised to implement activity from 2006 to 2009, in addition to the funding of a JPO in Nairobi for 2 or more years, which represents an excellent ratio of EXB to RP funds. Workshops are almost all conducted back-to-back with other regional events to save on travel costs, and institutes should be raising large new funds for their capacity development thanks to the bid-writing workshops conducted.	<p>Increasing proportion of the workshop costs are born by participants (see column on achievements).</p> <p>Institutes are empowered to raise their own funds with the proposal-writing workshops.</p>	
Capacities built to implement the articles on Marine Scientific Research (Part XIII) and Transfer of Marine Technology (Part XIV) of UNCLOS.	<ul style="list-style-type: none"> <li>Compilation of national legislation and analysis of Member States' practices in marine scientific research has been made available through the internet. A roster of nationally-designated experts was established to promote and facilitate the development and conduct of marine scientific research. Through a dedicated website, demands for marine technology transfer from Member States can be circulated.</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of UNCLOS provisions on marine scientific research through IOC data sharing policy and, possibly, an international legal instrument.</li> </ul>	Over 60 Member States participated in the annual sessions of ABE-LOS and intersessional work. It can be calculated that the expenditure on this activity corresponds to less than \$3,000 per country over the biennium. This modest investment enables IOC and UNESCO to keep their Member States engaged and active in the development of the Law of the Sea.	Assisting Member States with the implementation of the provisions of UNCLOS on marine scientific research and marine technology transfer and the related mandates of the United Nations General Assembly is an institutional task of the IOC that requires to be supported by the Regular Programme. In 2006-2007, extrabudgetary resources (excluding in-kind) represented less than 25% of the overall budget of this activity.	

## Programme II.2 - Capacity building in science and technology for sustainable development

### 31 C/4 Strategic Objectives

**Strategic Objective 6:** Enhancing scientific, technical and human capacities to participate in the emerging knowledge societies

### Sub-programme II.2.1 – Basic and engineering sciences, renewable energy and disaster management

#### Para. 02211 - MLA 1: IBSP and partnerships in the basic sciences

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$2,532,000</b>	<b>Actual: \$2,527,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>IBSP fully functional and first set of projects implemented.</p>	<ul style="list-style-type: none"> <li>Monitoring mechanism of IBSP established. 40 IBSP projects for capacity building in the basic sciences and science education identified and carried out in the regions in response to proposals by Member States. In pursuance of scientific expertise within the IBSP in the Caribbean region, the report <i>Using science, technology and innovation to change the fortunes of the Caribbean region: practical recommendations to ensure implementation of the Plan of Action of the CARICOM Conference on "Harnessing Science and Technology for Caribbean Development"</i> prepared. The first phase of the IBSP evaluated and its results reported to the Executive Board and the General Conference. New IBSP strategy of action, to be pursued within the Medium Term Strategy 2008-2013 in line with recommendations of the Ministerial Round Table on the basic sciences and the Overall Review Committee for Major Programme II and III, designed and endorsed by the Executive Board at its 176th session.</li> </ul>	<ul style="list-style-type: none"> <li>As called by the Ministers responsible for science at the Ministerial Round Table on "The Basic Sciences: Science Lever for Development", UNESCO should place greater emphasis on promoting the basic sciences and science education with a view to the attainment of a science culture as a precursor of a knowledge-based society worldwide, through various means it has at its disposal and, in particular, the recently launched flagship International Basic Sciences Programme. The Ministers appeal is particularly expedient given the strong relevance of the IBSP to UNESCO's capacity-building role highlighted by the Overall Review Committee for Major Programmes II and III and the fact that the IBSP has become a new platform to fulfil UNESCO's unique mandate in the basic sciences and science education. As also emphasized by the Overall Review Committee, the internal funding of the IBSP in UNESCO has so far been very limited. The IBSP Scientific Board fully shares this assessment, and strongly urges that the budget of the programme</li> </ul>	<p>IBSP projects proposed by Member States have mobilized important extra-budgetary investments and have set in motion global and regional partnership in capacity building in science.</p>	<p>The projects selected and carried out spurred the creation of new or reinforced capacities to be further used for research, training and the use of scientific knowledge.</p>	

		<p>be increased by 30% so that the IBSP may respond to the expectations of Member States and provide the essential services they need. The experience IBSP has gained so far and the resulting strategy of action it has elaborated provide the IBSP with the tools needed to be an efficient means for harnessing regional and international cooperation for capacity-building in science and science education, and for providing scientific advice to policy- and decision-makers.</p> <ul style="list-style-type: none"> <li>• Additional (extrabudgetary) resources should be identified.</li> </ul>			
<p>Capacity of national and regional institutions reinforced in basic research in the physical sciences, life sciences and interdisciplinary areas.</p>	<ul style="list-style-type: none"> <li>• The objectives set out for the biennium were addressed through various actions undertaken with specialized partners such as CIMPA, ASM, ICRO, MCBN, IUMS, TWAS and centres of excellence such as CERN and IMPA for physics and mathematics, respectively, as well as in a joint cooperation between UNESCO and ISESCO.</li> <li>• Support was provided for advanced training activities in the basic sciences (international and regional meetings, training courses and Summer schools, workshops and cost-sharing fellowships) and establishment of networks to address the need for strengthening capacity in the regions and build on existing endogenous capacity. (Some examples are the support provided towards establishment of an East African Biological Resources Centre, a network of centres of excellence for the conservation and utilization of microbial diversity; the interregional networks on plasma physics; the promotion of science education through UNESCO associated centres for microscience experiments; as well as support of the activities of the South Eastern European Network in Mathematics and Theoretical Physics (SEENET-MTP) through the Venice Office). The start-up phase of the proposed Regional Centre of Biotechnology Education and Training in India was marked with a meeting of experts which brought experts from the scientific community both at</li> </ul>	<ul style="list-style-type: none"> <li>• The main challenge was to do something meaningful and at a larger scale, with limited funds available under Regular Programme.</li> <li>• The need to involve leadership to ensure institutional commitment was noted as well as the need for UN Country Offices to work closely, although this is being facilitated through UNDAF at country level.</li> <li>• It was important to maintain a continuous exchange of information between the different institutions involved in the activities.</li> <li>• The wealth of biodiversity within the region serves as a strong impetus for the countries to pursue natural products chemistry, microbiology and biotechnology as priority research areas. It is an important challenge for UNESCO to promote the two regional Networks (Natural Products Chemistry; Microbiology and Biotechnology) to enhance their role in the various international, regional and national cooperation mechanisms operating in this</li> </ul>			

	<p>the regional and international level in order to define existing areas of expertise in the region and set the priority focus for the Centre, considered also the basic working structure and potential for start up activities within existing structures and in collaboration with international partners. Through the ICTP, capacity building activities carried out through international and regional as well as south-south cooperation in mathematics, physics and interdisciplinary areas. Further, access to many electronic journals for scientists in developing countries was provided through ICTP as well as pursuing science dissemination activities towards developing countries, doing research and organizing training on low-bandwidth and wireless networks.</p> <ul style="list-style-type: none"> <li>• Activities involving the UNESCO field offices continued within the framework of cooperation with ICSU, with activities like the UNESCO-ICSU Conference for Academies of Eastern and South-Eastern Europe on Global Science and National Policies: the Role of Academies (Chisinau, May 2007), the clarification of UNESCO/ICSU cooperation in the Asia Pacific region identifying disaster management as one of the areas of cooperation.</li> </ul>	<p>sector. However, due to declining support from UNESCO, the Regional Networks have not been as active as before. It is important to find new options (especially in funding) by which the Network activities could be maintained as these Networks have a significant role, and give UNESCO a high profile, in contributing to the overall regional cooperation in the fields of chemical sciences and biotechnology.</p> <ul style="list-style-type: none"> <li>• There is value in fostering a decentralized, regional context for UNESCO-ICSU cooperation that will leverage on existing cooperation mechanisms, as well as on the familiarity of the Jakarta field office with cultural norms and work styles in the region.</li> <li>• Although there is a strong sense of shared goals and common concerns between ICSU and UNESCO, and the relationship between their respective regional offices in Kuala Lumpur and Jakarta is off to a good start, as well as having a lot of good program ideas that the two organizations could pursue, actual implementation could be stalled by the need to find external funding first, as neither organization has enough funds on their own to support the envisioned projects. It is therefore prudent to expect only modest achievements for this biennium; year 2007 will probably be mainly spent in program development and resource mobilization, rather than actual project implementation.</li> </ul>			
<p>Scientists trained in basic sciences, with emphasis on women and youth from</p>	<ul style="list-style-type: none"> <li>• Training opportunities were supported including through the field offices, in particular for development of young scientists and</li> </ul>	<ul style="list-style-type: none"> <li>• Women teaching staff were encouraged to participate in the workshop and provided with</li> </ul>			

<p>developing countries, LDCs and countries in transition.</p>	<p>women scientists from developing countries. Some of these activities include Summer schools in mathematics and Trainers' training workshops in optics and photonics were held in which there was a high participation of women. In 2006 alone, the ICTP organized 62 scientific workshops or seminars, and hosted 25 such activities within a broad array of fields, not limited to theoretical physics. The total number of participants amounted to circa 5,000 different scientists, from 125 countries. This included a number of young scientists from LDC undertaking 12 months intensive training in classes at ICTP in preparation for further studies at PhD level.</p> <ul style="list-style-type: none"> <li>• Collaboration with L'Oréal continued with evaluation and selection of the UNESCO-L'Oréal Awards and Fellowships for 2006 and 2007 (5 laureates in materials science and 15 fellows in the life sciences) and also collaboration and participation in activities of the International Network of Women Engineers and Scientists (INWES).</li> <li>• Support was also provided for the establishment of the Federation of African Chemical Societies and the establishment of a new UNITWIN network (Cannes, France, June 2006) in Women, science, technology and development bringing together 7 UNESCO chairs, which aims to set up a research and training programme on science and technology from a gender perspective, and train women and adolescent girls in sustainable and participative management of resources, using the sciences and technologies. In collaboration with <i>Paris Match</i>, two international scientific forums were organized and hosted at UNESCO, Paris on advances in research in health, on musculoskeletal disease (2006) and cancer (2007). In all, well over 500 women received training through these activities.</li> </ul>	<p>requisite financial assistance.</p> <ul style="list-style-type: none"> <li>• Suggestions from past workshops were seriously considered and discussions with stakeholders are ongoing; financial constraints provide real challenges.</li> </ul>			
<p>Research and teaching capacities increased in mathematics, physics, chemistry, and the life sciences in selected developing countries and countries in transition.</p>	<ul style="list-style-type: none"> <li>• A number of training workshops, conferences and Summer schools were supported and organized enhancing the transfer of advances in the basic sciences and also promoting new methodologies in teaching these. Workshops were organized which provided training for physics teachers in active learning methods in optics and photonics and a training manual</li> </ul>	<ul style="list-style-type: none"> <li>• The main challenge was to do something meaningful and at a larger scale, with limited funds available under Regular Programme. The teaching of the basic sciences is present in the overall National System of Education. Considering the</li> </ul>			



	<p>was produced- Active Learning in Optics and Photonics Training Manual; Young researchers in mathematics were trained in 3 CIMPA summer schools. In collaboration with partners like ISESCO, IUPAC, International Foundation for Science and the Radmaste Centre at Witwatersrand University, Microscience Workshops were organized, including through the field offices and in collaboration with National Commissions, promoting the use of this readily accessible and affordable teaching tool for schools and teacher training colleges. In addition support was provided for the translation of the Microscience teaching and learning materials into Russian, Arabic, Spanish, among others. Support was provided for the organization of workshops in the biological sciences and biotechnology, enabling the participation of scientists from developing countries. Through the New Delhi Office, development of an extra-budgetary proposal for Maldives (Training of teachers in science) and in Sri Lanka (Development of laboratory handbooks in basic sciences). Implementation of these activities is ongoing. In biotechnology and through the Jakarta Office, national initiatives among the members of the Regional Network in Microbiology and Biotechnology also contributed to the training of researchers, in addition to those trained under the ongoing UNESCO Inter-University Postgraduate Course in Biotechnology. Further and through the focal points of the Regional Network on Microbiology and Biotechnology, bilateral and national initiatives have been reported, that indicate outreach and active establishment of new collaborative initiatives. Thailand alone reported around 8 such initiatives in 2006.</p> <ul style="list-style-type: none"> <li>• Scientific journals in the area of biotechnology and online access to current scientific information were provided to a number of institutions in developing countries through collaboration with partners like the ASM, the EJB and RIS.</li> </ul>	<p>limitation of available resources, the biggest challenge is to implement actions that contribute to perfection of this System.</p> <ul style="list-style-type: none"> <li>• The importance of selecting experienced, knowledgeable and confident resource persons for effective facilitation and realization of workshops and project objectives was imperative to the success of country level actions. Coordination with the local authorities and national commissions are a key factor for the success of this activity</li> </ul>			
<p>Regional and national capacities for HIV/AIDS prevention strengthened.</p>	<ul style="list-style-type: none"> <li>• Within the framework of the UNAIDS Unified Budget and Workplan (UBW) for 2006/2007, and in particular through the project: African Universities Responding to HIV/AIDS through the faculties of Science, several activities</li> </ul>	<ul style="list-style-type: none"> <li>• The importance of selecting experienced, knowledgeable and confident resource persons for effective facilitation and realization of workshops and project objectives</li> </ul>			

	<p>were carried out.</p> <ul style="list-style-type: none"> <li>• A workshop was organized (April 2006) on curricula reforms for 24 universities from 5 countries in Africa (Botswana, Eritrea, Kenya, Ghana and Rwanda); a further in-country training workshop was organized in December 2006 on Integration of HIV/AIDS into curricula for universities in Ghana involving 7 participating institutions of higher learning. Support was provided to faculty sensitization workshops on the need for integration of HIV/AIDS into Engineering and science courses in 19 of the participating universities. Youth friendly materials and workshop reports were disseminated to all participating Universities. Financial support was also given for the production of a report on a study conducted on the impact of Peer Education on HIV prevention among Kenyatta University students.</li> <li>• Preliminary contacts were made for development of a project to identify institutions/scientists for a network of African researchers and science communicators for HIV and AIDS. Phase II of the extra-budgetary funded "Families First Africa Project", was approved (July 2007) and preliminary activities in capacity-building have begun in Cameroon.</li> </ul>	<p>was imperative to the success of country level actions. Coordination with the local authorities and national commissions are a key factor for the success of this activity.</p>			
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**Para. 02212 - MLA 2: Promoting capacities in science, engineering and technology education**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$556,000</b>	<b>Actual: \$547,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Interest in engineering, science and technology raised among young people and policy-makers.</p>	<ul style="list-style-type: none"> <li>• The interest and awareness of young people and policy makers in EST has been promoted through such activities as the award-winning Mondialogo Engineering Award (the second round of the MEA concluded with a Symposium and Award Ceremony in Mumbai in December 2007). EST was also developed at the World Congress on Engineering Education focusing on the mobility of engineers in Budapest in March 2006, the International Conference on Engineering,</li> </ul>	<ul style="list-style-type: none"> <li>• One of the main challenges facing engineering science and technology around the world relates to the decline of interest and enrolment of young people in EST and adverse consequences for capacity and development, especially in developing countries. This relates to the main challenge facing EST activity at UNESCO, which is similarly constrained by limited and</li> </ul>			

	<p>Technology and Innovation in Small and Medium-Sized Enterprises in Cracow in 2007, the International Seminar on “Problem Based Learning and Engineering Education”, held in September, 2007, at Aalborg University Denmark, co-organised by the new UNESCO Chair in Problem Based Learning in Engineering Education, and the “World Conference on Science and Technology Education” held in Perth in July 2007. There was a particular focus on policy makers at the “Consultation Meeting on Integrating Science and Technology into National Development Policies” held in September 2006 in Mombasa. Various international activities are being organized to promote EST, including the 2008 World Engineers Convention. There has also been a focus on gender and EST, including the International Colloquium on “Empowering Women in Engineering and Technology: Global Efforts for Local Empowerment” held in Tunis in June, 2007.</p>	<p>declining human and financial resources.</p>			
<p>International cooperation strengthened on science and engineering for development.</p>	<ul style="list-style-type: none"> <li>• International cooperation has been strengthened through the development and support of networks and partnerships, particularly, with the World Federation of Engineering Organisations (WFEO), International Council for Engineering and Technology (ICET), International Council of Academies of Engineering and Technological Sciences (CAETS), Engineers Without Borders, Engineers for a Sustainable World and Engineers Against Poverty. Particular activities include the co-organisation of the “International Conference on Innovation for Development” in May, 2007, with the European Association for the Transfer of Technology, Innovation and Industrial Information (TII), support of a meeting of Engineers Without Borders Europe meeting in Trento in March 2007, development of foresight activity in conjunction with Aachen University at the “Scenarios of the Future: Vision of Technology and Models of Society in the Age of Global Risks” event in October 2007. Networking also includes the development of the technology knowledge network - “TecKnowNet”. Other cooperation includes preparation for the 2008 World Engineers Convention (to be held in Brazil), the International Engineering Congress,</li> </ul>				

	<p>"Engineering 2010: Technology, Innovation and Production for Sustainable Development" to be held in Buenos Aires, and the 2010 World Engineers Convention to be held in Geneva. International cooperation included cooperation with the "Global Forum: Building Science, Technology and Innovation Capacity for Sustainable Growth and Poverty Reduction" at the World Bank and UNIDO Expert Group Meeting on Future of Technology Foresight in February and May 2007.</p>				
<p>Information and teaching materials for science, engineering and technology developed in cooperation with universities and competent institutions.</p>	<ul style="list-style-type: none"> <li>Information, learning and teaching materials have been developed, supported and published in engineering science and technology include a UNESCO Toolkit on "Technology Business Incubation" (and has proved so popular it is almost sold out, and has also been published in Chinese, Japanese, Farsi) and "Gender Indicators in Engineering, Science and Technology". Further Toolkits being developed in the "Science and Technology for Development" series. The Sudan Virtual Engineering Library project at the University of Khartoum has been most successful – serving as a mirror service for the MIT Open Courseware project in Sudan, forming part of the open sourceware programme of the University of Khartoum and a model for the "Sudanese Universities Virtual Library". A Toolkit on capacity building for asset management is being developed. A major activity was launched in 2007 – the first UNESCO Engineering Report - "Engineering: Issues and Challenges for Development". Development of a new publication on "Technology, Policy and Poverty Reduction" was also launched. Related achievements include the establishment of electronic clearinghouse for technology for small-scale enterprises in Africa and facilitating the integration of technology issues into policies for poverty eradication in Africa.</li> </ul>				
<p>Role of science, engineering and technology recognized as vectors for reaching sustainable development Goals. Capacity for asset management</p>	<ul style="list-style-type: none"> <li>The role and application of engineering science and technology have been promoted on the ground and at various for a including the "International Forum: Engineering and Technology for Poverty Reduction" and "International Workshop on Engineering for</li> </ul>				

improved.	Poverty Eradication and the Millennium Development Goals”, co-organised with the South Africa Institution of Civil Engineers in February 2006 and November 2007, the “International Workshop: Engineering Education for Sustainable Development” held at Tsinghua University in November 2006, and “International Conference on Engineering and Sustainability Energy for Developing Countries” held in Rio de Janeiro, August 2007. Building capacity for asset management includes the development of a UNESCO toolkit of learning and teaching materials on this topic.				
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**Para. 02213 - MLA 3: Renewable energy sources for development**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$576,000</b>	<b>Actual: \$574,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
Capacities in renewable energy education enhanced in selected developing countries	<ul style="list-style-type: none"> <li>• Further implementation of the Global Renewable Energy Education and Training (GREET) Programme with special focus on its African Chapter.</li> <li>• Organisation of a series of national/regional training workshops and seminars on the use and application of renewable energy systems.</li> <li>• Organisation of the UNESCO annual summer school on “Solar electricity for rural and remote areas” targeting participants from developing countries.</li> <li>• Production of learning/teaching material and text books</li> <li>• Sharing of scientific and technological knowledge through support to international renewable energy conferences and exhibition.</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced local capacities to manage, use and maintain renewable energy systems.</li> <li>• Access in developing countries to relevant scientific &amp; applied knowledge necessary for the adaptation and application of new energy technologies to local needs and priorities.</li> <li>• Global nature of energy challenges and the energy role for sustainable development will require availability of local competencies and dissemination of related scientific knowledge and technology.</li> </ul>			
Capacities for energy policy planning strengthened in different regions, especially Africa and small island developing states.	<ul style="list-style-type: none"> <li>• Strengthening parliamentary capacities for renewable energy legislation and policy in the ECOWAS.</li> <li>• UNESCO regional conference at Ministerial level on “The strategic role of renewable</li> </ul>	<ul style="list-style-type: none"> <li>• Development of local competencies to formulate energy policies &amp; planning.</li> <li>• Identification of viable routes to foster international cooperation to</li> </ul>			

	<p>energy in sustainable development in Central Asia” aiming at identifying regional energy priorities and challenges and define a regional energy action plan.</p> <ul style="list-style-type: none"> <li>• Organisation of a Ministerial Conference on “Energy in a Changing World” to discuss the Energy challenges; Science &amp; Sustainable Energy Development and Reducing Energy Poverty.</li> <li>• Technical support provided to the Community of Sahel-Saharan States (CEN-SAD) and the African Energy Commission (AFREC).</li> <li>• Collaboration with UN entities through UN-Energy.</li> </ul>	<p>improve energy access, promote sustainable development and mitigate climate change.</p> <ul style="list-style-type: none"> <li>• Activities targeting policy/decision makers enhance the understanding on the role of renewable energy in the global energy system especially the rural electrification.</li> <li>• Partnership UN Energy Group is to be developed further.</li> </ul>			
Models for capacity building in renewable energy developed.	<ul style="list-style-type: none"> <li>• Development &amp; implementation of a training platform to serve as a tool to conduct weeklong seminars and training activities</li> <li>• Training of trainers.</li> <li>• Pilot Solar Village in Cameroon to serve as model for replication.</li> <li>• Solar electrification of rural school in Lesotho.</li> <li>• Production of publication on Lessons learned and best practices.</li> <li>• Support to regional networks.</li> </ul>	<ul style="list-style-type: none"> <li>• Use of renewable energy as a major tool for Sustainable Development</li> <li>• Access to energy for poverty eradication;</li> <li>• Mitigation of Climate change and environment Protection</li> <li>• There is a strong need to the further development of pilot initiatives and models due to their: (i) catalytic role; (ii) innovative character; (iii) multiplier effect and (iv) added value.</li> <li>• The production of publication on Lessons learned and best practices serve as a tool to inspire and guide other institutions and communities.</li> </ul>			

**Para. 02214 - MLA 4: Disaster prevention and preparedness**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$574,000</b>	<b>Actual: \$574,000</b>

<b>33 C/5 Expected Results</b>	<b>Achievements</b>	<b>Challenges/ Lessons Learnt</b>	<b>Cost- Effectiveness</b>	<b>Sustainability (Indicators or Measures)</b>	<b>Recommendations by the Executive Board</b>
Networks and capacities for assessing natural hazards and fostering disaster risk mitigation reinforced.	<ul style="list-style-type: none"> <li>• Regional and national networks on knowledge sharing and capacity-building for earthquake risk mitigation were strengthened in Mediterranean and Asia Regions. Platforms were provided for partnership and</li> </ul>	<ul style="list-style-type: none"> <li>• UNESCO should seek a lead role in promoting and implementing the Tokyo 2006 Action Plan on Landslides, based on the visibility achieved for the Organization by the</li> </ul>	The success invested by UNESCO both in human and financial terms in the organization of regional workshops on earthquake risk	<p>Networks and regional mechanisms established.</p> <p>Countries benefited from capacity building</p>	

	<p>collaboration among specialists in seismological data and engineering techniques in Mediterranean and Asia Regions. The possibility of establishing new regional networks has been explored. UNESCO furthered the setting up and the implementation of the 2006 Tokyo Action Plan on Landslides. The promotion and sharing of landslide risk reduction practices were facilitated among a group of 50 worldwide specialists and institutions. The Libyan National Seismological Network was inaugurated. Capacity building and training were provided to enable technicians and seismologists to monitor the network.</p>	<p>adoption of this plan.</p> <ul style="list-style-type: none"> <li>• Strengthening and revitalizing regional disaster risk reduction platforms remains an objective to be pursued. The regional programmes on reduction of earthquake losses in Asia and Mediterranean Regions continue to represent important efforts, which need to be enhanced further. There is a need to mobilise additional resources to initiate new regional projects.</li> <li>• Partnership and collaboration among various expert groups and institutions played an important role in strengthening regional activities in earthquake and landslide risk reduction.</li> </ul>	<p>reduction in Asia and Mediterranean Regions, as well as in the global meetings on landslides, have mobilized important extra-budgetary resources and have set in motion global and regional networks.</p>	<p>programmes.</p> <p>Technical and educational institutions involved in collaborative activities.</p> <p>Events organized and co-sponsored.</p>	
<p>Culture of disaster preparedness promoted and disaster-resilience strengthened.</p>	<ul style="list-style-type: none"> <li>• UNESCO continued to play its part in the implementation of the Hyogo Framework for Action on Disaster Resilience 2005-2015 adopted at the World Conference on Disaster Reduction, Kobe, Japan, 2005. Partnerships for the education part of the Framework were promoted. Focus was made on facilitating knowledge networks for disaster prevention and promoting education for disaster reduction. UNESCO continues serving as a convener of the United Nations inter-agency platform on knowledge and education, aimed at enhancing information sharing and knowledge on disaster preparedness. UNESCO played a strategic role for disaster education in the preparatory process for the first session of the Global Platform for Disaster Risk Reduction held in Geneva in June 2007. The 2006-2007 world campaign on education for disaster reduction was launched in June 2006 at UNESCO Headquarters. It served as a driver for several stakeholders concerned with education for disaster reduction and school safety. International conferences and workshops, exhibitions and production of didactic tools organized and co-sponsored by UNESCO enabled exchanges of information and knowledge among scientists and practitioners on education and local knowledge for disaster reduction and enhanced the visibility of UNESCO's role in promoting education and</li> </ul>	<ul style="list-style-type: none"> <li>• The lead role of UNESCO in promoting education for disaster reduction in partnership with UN ISDR and other agencies is to be developed further.</li> <li>• UNESCO should capitalize on the visible role it is acquiring in coordinating education for disaster reduction.</li> <li>• UNESCO activities on education for disaster reduction are a fine example of inter-sectoral cooperation (between the SC and ED sectors).</li> </ul>	<p>The pivotal role made by UNESCO in UN ISDR Cluster on education for disaster risk reduction has been at the centre of a global movement involving several stakeholders within UN member states, civil society and NGO community.</p>	<p>Events on education and disaster risk reduction organized and co-sponsored.</p> <p>Organizations and Institutions involved in collaborative activities.</p> <p>Toolkits and didactic tools on disaster reduction education produced and collected.</p>	

	awareness for disaster reduction.				
Technical advice provided to national institutions for post-disaster recovery and for disaster risk mitigation planning, including gender-sensitive approaches.	<ul style="list-style-type: none"> <li>• UNESCO assisted the communities and the government to build back and improve the educational system in Kashmir.</li> <li>• Post-earthquake mission and initiatives were also carried-out in Iran and Peru.</li> </ul>	<ul style="list-style-type: none"> <li>• Investigations and actions following natural disasters are multidisciplinary, intersectoral and require collaborative interagency approaches, including the framework of One UN exercise. They also require a specific gender-dimension approach in order to ensure that all victims are informed and assisted.</li> </ul>		Expertise provided.	Countries introduced/improved disaster risk mitigation planning.

### Sub-programme II.2.2 - Science and technology policies for sustainable development

Para. 02221 - MLA 1: Promoting policy dialogue and building capacities in the formulation of science, technology and innovation policies

Regular budget (rounded to \$ thousand)	
Planned: \$1,104,000	Actual: \$1,317,000

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
Formulation of S&T policies and strategies as well as mechanisms for S&T systems improved	<ul style="list-style-type: none"> <li>• The UNESCO guidelines for policy formulation as well as examples of science policies developed with the help of UNESCO are diffused on-line and in hard copies.</li> <li>• In cooperation with the UIS, capacity building in the area of S&amp;T indicators was developed through regional training workshops.</li> <li>• Lesotho, Nigeria, Mongolia and Rwanda adopted S&amp;T policies developed with UNESCO assistance.</li> </ul>	<ul style="list-style-type: none"> <li>• There is a need to work more closely with the other UN agencies working in this area namely UNIDO and UNCTAD.</li> <li>• Acting as One UN in STI represents the main challenge for UNESCO.</li> </ul>	The cooperation with some UN agencies and other international organization such as ISESCO as well as the generous support of some donors, namely Japan and the UK, made it possible to use UNESCO's resources as seed funds.	All guidelines, STI policy documents and outcome of major conferences are published and shared through the website; the number of countries responding to UNESCO S&T survey is increasing and the quality of their inputs to UIS questionnaire is improving.	
Access by universities to knowledge for science, technology and innovation issues facilitated	<ul style="list-style-type: none"> <li>• EOLSS is made available free of charge to all universities in LDCs; Free access was also secured for countries such as India, Romania and Mauritius.</li> </ul>	<ul style="list-style-type: none"> <li>• The poor ICT infrastructure in the African universities is a serious impediment.</li> </ul>	The total cost (including staff cost) of the EOLSS is covered thanks to extra-budgetary support.	Expand the free access to all universities in the developing countries.	
Participatory governance of national and regional S&T systems promoted.	<ul style="list-style-type: none"> <li>• A sub-regional Science Policy Forum for South east Europe established in Romania (June 2007); the South and South East Asian Science Policy forum initiated in Delhi India (November 2007); the World Science Forum was organized in Budapest in November 2007.</li> </ul>	<ul style="list-style-type: none"> <li>• The outcome of these forums is still limited to general recommendation and declarations of intentions; there is need to ensure that more focus is given to actions.</li> </ul>	All these forums were organized with other regional and/or international agencies (ALECSO, TWAS, ISESCO, and ICSU) and with generous contribution from host countries, namely Hungary.	UNESCO's involvement is still necessary as the concept of these forums is new.	



	<ul style="list-style-type: none"> <li>Capacity-building in S&amp;T innovation pursued with focus on development and of science &amp; technology parks; More than 100 specialists from Africa, Arab States, and Asia trained Cooperation with international associations World Association of Science parks (IASP) and World Technopolis Association (WTA) strengthened; regional pilot projects initiated in Egypt for the Arab States.</li> </ul>	<ul style="list-style-type: none"> <li>There is a pressing need to work closely with other UN agencies, namely UNIDO in this area.</li> </ul>			
Regional cooperation among scientists promoted.	<ul style="list-style-type: none"> <li>Israeli Palestinian Science Organization was supported. IPSO launched two calls for proposals that generated wide response from the scientific Community both in Israel and Palestinian. It is now fully operational and generating external funding for its projects. UNESCO continues to provide seed funding to encourage further cooperation among scientists.</li> </ul>	<ul style="list-style-type: none"> <li>The political situation is making it more difficult to involve scientists from both the West bank and Gaza.</li> </ul>	UNESCO's contribution was limited to the holding of the International Scientific Council of IPSO. This allowed the mobilization of more than \$1 million.	IPSO's sustainability depends to a large extent on the political environment in the region.	
Role of science as vector of common heritage and cooperation better understood.	<ul style="list-style-type: none"> <li>International Exhibitions and Symposia on the history of Science and Technology in Islamic countries organized (in Istanbul, Kuala Lumpur and Paris) to demonstrate that science is a common heritage.</li> </ul>	<ul style="list-style-type: none"> <li>This approach proved to be very effective; efforts need to be pursued.</li> </ul>	The contribution of the Institute of history of Arabic-Islamic Science and technology in Germany was fundamental, as was the cooperation with ISESCO and the Malaysian Government that made it possible to fulfil this important project.	Series of publications including catalogues already published; outcome of the symposia are posted on-line.	

**Para. 02222 - MLA 2: Inter-island and interregional cooperation for sustainable development of Small Island Developing States (SIDS)**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$630,000</b>	<b>Actual: \$625,000</b>

<b>33 C/5 Expected Results</b>	<b>Achievements</b>	<b>Challenges/ Lessons Learnt</b>	<b>Cost- Effectiveness</b>	<b>Sustainability (Indicators or Measures)</b>	<b>Recommendations by the Executive Board</b>
Priorities for sustainable development needs of SIDS identified.	<ul style="list-style-type: none"> <li>2 comprehensive intersectoral reports were submitted to UN (2006; 2007) detailing measures taken by UNESCO to implement UN GA Res. 60/194 on 'Follow-up to and implementation of the Mauritius Strategy'.</li> <li>A dedicated house-wide website (<a href="http://www.unesco.org/en/sids">www.unesco.org/en/sids</a>) was updated with the latest information, and brochures and publications (Sustainable Island Living-The Mauritius Strategy in Action) profiling</li> </ul>	<ul style="list-style-type: none"> <li>Considerable intersectoral collaboration was mobilized for sustainable development of SIDS. SIDS member states expressed considerable appreciation for the dedicated website and published reviews that report house-wide on SIDS projects and programmes.</li> <li>Sustainable development requires a holistic approach necessitating</li> </ul>			

UNESCO activities in SIDS were prepared in Eng, Fr and Spanish and widely distributed.

- Youth Visioning for Island Living (YV) initiative - offered capacity building opportunities for young people to act on sustainable development issues. Major partners: Lighthouse Foundation (Germany), UNESCO Youth section, Youth for a Sustainable Future Pacifika, UNAIDS TakingItGlobal; and local youth organizations. The projects fell under 3 broad themes: the environment, culture and employment. 35 projects were implemented in total: 8 in the Atlantic, Indian Ocean, Mediterranean, South China Seas region (AIMS), 11 in the Caribbean and 16 in the Pacific. Eight projects relating to HIV/AIDS were implemented.

- Support was provided to the UNESCO-UNITWIN partnership with the Small Islands States Universities Consortium, formalized early 2007.

- Through the JAK Office a national 'Coral Reef Resource Monitoring Network' was initiated in collaboration with the Indonesian Ministry of Marine Affairs, LIPI (Indonesian Science Institute), national Universities, NGOs and

intersectoral action, but putting this into practice in SIDS is a difficult task. The remoteness of many islands as well as limited internet access hampers efficient communication. As well, travel costs to bring islanders together limit both regional and interregional actions. Activities need to be tailored to local realities and priorities, rather than a 'one size fits all' approach. In this context, the Field Offices are essential mediators, with their proximity to and comprehensive knowledge of local situations.

- Many of the youth begin with no experience in project management and reporting. Therefore, the initiative became a major capacity-building exercise, which is undoubtedly one of the most important outcomes (templates were created to guide youth leaders in reporting and managing financial statements; Youth leaders were required to partner with a youth organization to assist in implementation). Projects stall as youth leaders unexpectedly moved elsewhere or took up other obligations without notification; Slow and expensive telecommunication networks in developing islands lead to infrequent and inadequate information exchange.

The most effective use of available resources was often achieved through creating partnerships that led to in-kind contributions. Youth were encouraged to search for extra sponsorship from the local community. For example, in Papua New Guinea, the National Fisheries Authorities provided free training for the construction of a fish farm. In New Zealand, a local businessman and one of the tutors of the Niuean language classes provided a donation to cover expenses so that classes could be provided free of charge.

Partnering with TakingItGlobal (online youth community) and Youth for Sustainable Future Pacifika (online youth network) led to an established network of thousands of youth.

Multi-stakeholder networking and cooperation has been established, including a national 'Coral Reef

	<p>UNESCO. Supporting of an exemplary marine resource assessment and monitoring project in West Sumatra.</p> <ul style="list-style-type: none"> <li>•The development of a Marine Protected Areas (MPA) Network and the launch of a national MPA database were assisted in Indonesia, to provide a comprehensive and reliable decision-support system on the status of Indonesia's marine protected areas.</li> <li>•Media and publications were produced, such as a documentary film, newspaper supplements, posters and a national web-portal regarding community-based coastal and multi-hazard Disaster Risk Reduction. Awareness has been increased through close collaboration with Government and Non-Government stakeholders. Strengthened collaboration with UN sister agencies in the national UN technical working group for disaster risk reduction (UNTWG DRR).</li> </ul>		<p>Despite limited RP funds, focused efforts by Jakarta office on one MPA network in one country led to strong stakeholder collaboration and provision of matching funds by government agencies.</p>	<p>Resource Monitoring Network' between Indonesian Ministry of Marine Affairs, LIPI (Indonesian Science Institute) and UNESCO. The resource-specific database on Marine Protected Areas now exists in Indonesia.</p> <p>Community participation in disaster risk reduction has been maintained since the 1<sup>st</sup> phase of the UNESCO intervention on Nias Island ended. The 20 trained community-trainers and facilitators have been approached by Save the Children, UNDP, SurfAid and other organizations active on Nias to provide their skills and experience in widening the awareness raising efforts.</p> <p>The establishment of a national web-portal on Community-Based DRR is being maintained and improved by a network of stakeholders.</p>	
<p>Strategies for sustainable development pathways for SIDS elaborated.</p>	<ul style="list-style-type: none"> <li>•UNESCO was represented at the inter-regional UNDESA sponsored meeting to advance Mauritius Strategy Implementation (Rome, November 2006).</li> <li>•Networking among Europe-based permanent delegations to UNESCO was facilitated in order to help better profile SIDS issues and reinforce inter-regional cooperation.</li> </ul>			<p>Facilitating networking among Europe-based permanent delegations of SIDS to UNESCO sets the basis for better inter-regional cooperation.</p>	

	<ul style="list-style-type: none"> <li>• Through the Apia office, assistance was provided to elaborate and refine an in-depth study on 'Sustainable Development: A Pacific Islands Perspective' - a joint initiative of the Pacific Centre for Sustainable Development (PACE-SD) at the University of the South Pacific as well as to the Information Note on Science and Technology Policy in the Pacific led by Australian National University, Canberra</li> <li>• A civil society strategy for sustainable development has been developed in the AIMS region.</li> </ul>				
<p>Environmental knowledge-sharing consolidated among SIDS, including across regions.</p>	<ul style="list-style-type: none"> <li>• Sandwatch project, focusing on beach monitoring, sustainable management, and ESD was furthered in three regions. Following Member State interest, the Sandwatch approach was adapted to: rivers and mangroves in the Caribbean; rivers in the Pacific; and community-based approaches in the Indian Ocean. 2 pilot projects have been launched in collaboration with KNG office, one in Dominica on RiverCare (45 camp leaders were trained to hold summer camps on RiverCare and Sandwatch with more than 650 students) and one in Jamaica (SHED: Schools halting environmental degradation) primary and secondary teachers in the watershed of the John Crow and Blue Mountain National Park, discussed and contributes to the drafting of the SHED manual dealing with watersheds. The Sandwatch manual was translated into French and Spanish, allowing access to a wider audience. The manual and its tools are being used successfully by schools in islands, currently numbering 21 in total.</li> <li>• A regularly updated website (<a href="http://www.sandwatch.org">www.sandwatch.org</a>) was developed and 8 quarterly e-newsletters covering a wide range of issues including climate change were prepared and widely distributed. These 2 networking tools allowed exchange of news and information on activities around the globe.</li> </ul>	<ul style="list-style-type: none"> <li>• Bringing together the global community on Sandwatch has led to an unparalleled exchange of information and experiences on activities and projects in the area of sustainable development and ESD.</li> <li>• Sandwatchers have been very eager to get involved as well as to share their experiences. The website and periodic newsletters proved to be extremely useful as networking and information-sharing tools.</li> </ul>		<p>A regional Sandwatch exhibition initiated by the National Commission in Trinidad in December 2006, demonstrated how countries are taking ownership, and the project's long-term sustainability and viability. This is further demonstrated by the strong inputs (22 Sandwatch Teams in countries worldwide) for the newsletter on Climate Change.</p> <p>Partner organizations and UNESCO field staff are keen to continue the initiative as they see it as an innovative capacity building tool. Some youth have been able to sustain their initial projects through successful partnerships and sponsorships. In Tonga, the On the Spot youth group created radio shows to build awareness of the Millennium Development Goals. They are now a registered NGO and through sponsorship from Youth for a Sustainable Pacifica and Youth For</p>	

				<p>Change (Italy), they are participating in online training sessions to expand their skills and begin producing their own shows. In Dominica, the activities of the Palé Kwéyòl project, which included free language classes, was aimed at reviving and preserving the Creole language. Its immediate success encouraged the Cultural Division of the Government of Dominica to sponsor the whole project for its second year of implementation and to ensure that the Spelling Bee and Kwéyòl March become annual activities.</p>	
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**Para. 02223 - MLA 3: Local and indigenous knowledge systems for sustainable development and natural resource management**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$126,000</b>	<b>Actual: \$126,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Community capacities to record, manage and mobilize local and indigenous knowledge strengthened.</p>	<ul style="list-style-type: none"> <li>Awareness of the role of indigenous people in water management was generated through the launch and dissemination of the LINKS publication "Water and Indigenous Peoples", developed jointly by the Science and Culture Sectors, in 2006. In 2007 an updated Spanish version of this volume was published and disseminated in collaboration with the Water Sciences Division and Montevideo Office.</li> <li>That the knowledge of local fishers' can contribute to fisheries management was highlighted by the sales volume "Fishers' Knowledge in Fisheries Science and Management", published and officially launched in 2007.</li> </ul>		<p>Production costs for the English and Spanish versions of Water and Indigenous Peoples were shared with the Culture Sector, Division of Water Sciences and Montevideo Office so as to pool relevant expertise and reduce translation/production costs.</p> <p>The Universities of British Columbia and Memorial (Canada) provided a great volume of in-kind expertise for the production of the sales volume on Fishers' Knowledge in Fisheries Science and Management.</p>	<p>Publications and pedagogical tools have solicited much interest, leading to requests for reprints (e.g. Marovo Encyclopaedia, Solomon Islands); and demand for other language versions (e.g. Canoe is the People CD-ROM in Maori, Water and Indigenous Peoples in Spanish).</p>	

	<ul style="list-style-type: none"> <li>• An International Experts Meeting on "Indigenous Knowledge and Changing Environments" was held in Cairns, Australia (19-23 August 2007), with extrabudgetary funding from the Christensen Fund. This highlighted how communities facing environmental change may build upon coping and adaptation strategies rooted in indigenous knowledge.</li> <li>• The ways that indigenous peoples can play a central role in observing, informing and responding to climate change was highlighted during a side event on "Indigenous People and Climate Change: impacts and responses". This featured indigenous experts on climate change, and was held in 2007 during the General Conference.</li> <li>• A funding proposal for action research and training on indigenous knowledge mobilization in biodiversity management and governance in Palau, Solomon Islands and Vanuatu has received co-funding commitments from the Government of Japan funds-in-trust and has been submitted to UNEP/GEF.</li> </ul>		<p>Effort invested in extrabudgetary fund-raising has generated positive results in one instance (Christensen Fund), but in another instance has been hampered by major shifts in procedures and policies of the funding organization (Global Environment Facility). This has generated a considerable volume of surplus work with still no tangible outcome.</p>		
<p>Relevance of local and indigenous knowledge for education for sustainable development in SIDS documented.</p>	<ul style="list-style-type: none"> <li>• The introduction of indigenous knowledge content into Solomon Islands school curricula was furthered through reprinting and shipping the popular volume "Reef and Rainforest: An environmental encyclopaedia of Marovo Lagoon, Solomon Islands" (UNESCO 2005), to the Solomon Islands for distribution to schools. Pilot development of a supporting teacher manual is also underway.</li> <li>• The introduction of indigenous knowledge and language content into Pacific school curricula was enhanced by the production, launch and dissemination of an indigenous Maori language version of the interactive CD-ROM learning tool entitled "The Canoe is the People: Indigenous Navigation in the Pacific" (original launched in 2005 with the Communication &amp; Information Sector).</li> <li>• Production of a volume in Mayangna and Spanish, on indigenous Mayangna knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• Translation of pedagogical materials into indigenous languages has proved to be particularly complex and challenging due to a lack of qualified linguists, problems transcribing languages with no written form, and the many different dialects of the same language encountered.</li> </ul>	<p>Production of the Maori language version of the interactive CD-ROM benefited from the active support (human and financial) of Waikato University (New Zealand)</p>	<p>There is a great demand for pedagogical materials based on local and indigenous knowledge in vernacular languages from local communities and Ministries of Education, who recognize the need for user-specific approaches in pedagogical materials.</p>	

of the aquatic ecosystem in the Bosawas Biosphere Reserve (Nicaragua) has advanced to the final stages and is expected to be printed and launched in mid-2008.

**Para. 02313 - UNESCO-IHE Institute for Water Education**

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned:</b> \$ -	<b>Actual:</b> \$ -

**31 C/4 Strategic Objective**

**Strategic Objective 5:** Improving human security by better management of the environment and social change

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Impact of water education and training on sustainable development increased, primarily in developing countries.</p>	<ul style="list-style-type: none"> <li>• UNESCO-IHE received formal NVAO (Netherlands Flemish Higher Education) accreditation of all four MSc programmes.</li> <li>• The number of short courses increased.</li> <li>• The external evaluation was positive in support of the Institute's goals and business plans.</li> <li>• 423 MSc students registered by the end of 2007 almost 100% from developing countries; 195 MSc awarded in 2006 and 188 MSc awarded in 2007.</li> <li>• 11 PhD graduations in 2006 (of whom 2 with distinction) and 6 PhD graduations in 2007. Overall 68 PhD fellows registered by the end of 2007.</li> <li>• 348 water sector professionals in short courses in 2006 and 373 in 2007.</li> <li>• Distance learning participation growing from 83 participants in 8 courses in 2006 to 177 participants in 10 courses in 2007.</li> <li>• 3 regional refresher seminars organized for alumni in Africa and Asia in 2007.</li> </ul>	<ul style="list-style-type: none"> <li>• The evaluation led to recommendations which are being addressed. Most important are:</li> <li>• Increased coordination and coherence between programs.</li> <li>• Increase volume and level of research including expansion of co-funding opportunities.</li> <li>• Increasing opportunities for financing and co-financing (on the basis of a more flexible financing structure) of MSc students is necessary and urgent.</li> <li>• The Institute needs more flexibility in funding especially since the NFP funding system will change.</li> <li>• We also do a lot of tailor made courses. Especially on request and this means that there is a huge need!</li> </ul>	<p>The institute is very efficient in use of funds for education. For the registered NFP participants for the academic period 2007-2009 we had 71 full NFP which were transformed in 117 Co-financed fellowships. Group training contracts in which local governments or organisations pay most part of the fellowships are also a very efficient way of education funds use.</p>	<p>Via a grant facility at UNESCO HQ the Institute tries to secure its future funding and create more flexibility. This in order to avoid to be to depending from NFP funding (which will soon change is operational conditions)</p>	
<p>Research capacity in the water sector, focusing on MDG-related topics and primarily targeted to</p>	<ul style="list-style-type: none"> <li>• Guidelines for scientific output for scientific staff were introduced with positive result.</li> </ul>	<ul style="list-style-type: none"> <li>• The Institute must maintain its scientific output and quality of its</li> </ul>	<p>Towards the end of the biennium a process in which increasing the research</p>	<p>Establishment of the Global Partnership for water Education and</p>	

<p>solving problems in developing countries.</p>	<ul style="list-style-type: none"> <li>• UNESCO-IHE became an official member of SENSE Research School and all current PhD students were welcomed to fully participate in SENSE, UNESCO-IHE participates in the General Board, the Educational Committee and in the SENSE Core Programme.</li> <li>• 211 scientific publications issued in 2006 and 234 in 2007. The Institute's publication protocol was incorporated in the Quality Management System. The library substantially expanded its collection of on line scientific publications.</li> <li>• 105 capacity building projects carried out.</li> <li>• The Strategic Plan 2008-2013 and the Business Plan 2008-2013 were finalised.</li> <li>• During the biennium the Watermill (Water and the Millennium Goals) project was finished. Important research projects with large regional and global participation of researchers and research institutions were continued. Most prominent are the global SWITCH project (approximately 35 active partners) and the NBCBN project with participation of researchers from 10 different countries of the Nile Basin.</li> <li>• Chapter 13, "Enhancing knowledge and capacity", of the 2<sup>nd</sup> World Water Development Report was published in 2006.</li> </ul>	<p>publications and is in constant search to balance both its development mission and academic objectives.</p> <ul style="list-style-type: none"> <li>• In follow up to the earlier announced establishment of the Global Partnership for Water Education and Research a new business plan was developed and approved that took all the lessons learned throughout the first years of operation of UNESCO-IHE.</li> </ul>	<p>subsidy base was brought to an end. With the ministry of development cooperation an agreement on the establishment of a joint DGIS UNESCO-IHE Research Cooperation was established. The evaluation has demonstrated that it is necessary to raise the base subsidy of the institute with 2.5 M€</p>	<p>Research strategy on the basis of the business plan and action plan.</p> <p>Conclusion of the joint DUPC research and partnership development funding facility for a period of five years (approximate value is 4 million Euros per year).</p> <p>Process started towards increased base subsidy by the Netherlands Ministry of Education.</p>	
<p>Capacities built for indigenous capacities of local water-related organizations, particularly in developing countries.</p>	<ul style="list-style-type: none"> <li>• To fee income goal was realized and project were realized/are being organized in Panama, Iran, Indonesia, Brazil and South East Asia.</li> <li>• During the biennium a large scale two year training program was started up in Iran, education and training with a focus on lowlands development was started in Indonesia, new cooperation set up with the Hydro-informatics Centre in Brazil and the initiative for development of the Asia Pacific Water Forum of Knowledge Hubs was started up. Negotiations on research cooperation between Panama and UNESCO-IHE are continued.</li> </ul>	<ul style="list-style-type: none"> <li>• Although projects could be developed and acquired, difficulties were faced in implementing certain activities beyond the control of the Institute. Issues, such as applying for visa. Is being solved by making special arrangements with Embassies, etc.</li> </ul>	<p>Increasing the number of e-learning courses and distance learning course will create extended capacity and will make courses more easily accessible for participants.</p> <p>Each year a number of refresher courses are organized in cooperation with alumni and partner institutions in the regions.</p>	<p>Implementation of the Global Partnership for Water Education and Research on the basis of the business plan and with the increased 5 year funding.</p>	



	<ul style="list-style-type: none"> <li>• In 2006 32 and in 2007 35 capacity building projects were organized. Mainly in developing countries.</li> <li>• Advisory services in 2006: 17 (also mainly in developing countries. In 2007 this was 13.</li> <li>• Education and Training projects: 20 in 2007 and 21 in 2006. (some started in an earlier year so some overlap).</li> <li>• Policy and forum development in 2006: 5 in 2007: 3.</li> <li>• Research and development in 2007: 31 and in 2006: 32.</li> </ul>				
<p>Partnerships reinforced for knowledge-sharing and joint activities in education, research and capacity-building.</p>	<ul style="list-style-type: none"> <li>• The First phase was completed and UNESCO-IHE worked on a proposal to the Dutch Ministry of Development Cooperation for the UNESCO-IHE Partnership for Water Education and Research. This proposal and accompanying budget were approved in early 2008.</li> <li>• Proposals for further integration of the activities of UNESCO-IHE within the overall program of UNESCO-IHP have been developed and start to be implemented. Cooperative activities with UNESCO- Cat 2 Centers are continued and intensified with most prominent examples of a PCCP oriented course with Dundee University and a course on Flood Control and Disaster Management with ICHARM Japan. UNESCO-IHE has become a member of the UNSGAB commission and is prominently involved in preparations for the next WWF in Istanbul on the theme of capacity development.</li> <li>• The Institute organized a three day symposium on capacity building and many partners and possible new partners attended this seminar. 250 water professionals, leaders and politicians were attending this symposium.</li> <li>• In 2006 a Cooperation Agreements with Boussinesq Centre for Hydrology, the Coca Cola Company, Union of Dutch Water Board, and the Universidade de Sao Paulo were signed. Active support was given to WaterNet (Zimbabwe) IWRM capacity building network</li> </ul>	<ul style="list-style-type: none"> <li>• In accordance with its mission and on the basis of the experience gained in its first five year period as a UNESCO Category I institute, UNESCO-IHE is transforming itself into the 'Global Partnership for Water Education and Research with the mission to combine the strengths of all partners and enhance the capacity of partners. This will require certain institutional adaptations necessitating investments in didactical materials, research and staff development.</li> </ul>	<p>The cooperation within the IHP activities related to the DESD will increase internal cooperation in UNESCO and will enable UNESCO-IHE to make increasingly good use of the services of the regional UNESCO offices capacity.</p>	<p>The integration programme is a priority from the side of the main financing agencies both the Netherlands DGIS and the Netherlands Ministry of Education. Both the management and the Board of the UNESCO IHP endorse this initiative, which should be fully operational in 2008</p> <p>The five year, 4 million Euro, DUPC funding facility has as an explicit objective to strengthen the international water and environment related networks and partnerships.</p>	

in Southern African, CBCBN-RE (Nile Basin) and CK Net (10 universities in Indonesia dealing with water resources and irrigation management).

- In 2007 Institutional Agreements were signed with the Ministry of Water Resources of Nepal, the University of South Florida, the Asian Institute of Technology, the Asian Development Bank & Singapore Public Utilities Board, The National Water and Sewerage Corporation of Uganda, the Politechnica University Timisoara in Romania and the Instituto Mexicano de Tecnologia del Agua. A programme for the UNESCO-IHE Global Partnership for Water Education and Research was developed.

- There are now 10 UNESCO Category II Centers related to water. The latest one was opened in Japan: the International Center of Water Hazards and Risk Mitigation. Future exploration has now focused on how to forge closer links among the centers, with UNESCO-IHE, as part of UNESCO, serving as the central hub. This is part of what the UNESCO Director General referred to as a 'new model' for moving an entire sector forward on the international scene, joining the Un system with other organizations to address in a consolidated manner issue of great importance.

- Towards the end of 2007 the involvement and contribution of UNESCO-IHE to the implementation of the activities related to tertiary education for water in the framework of the Decade for Sustainable Development was set up. This program is exactly identifying what UNESCO-IHE in close cooperation with UNESCO-IHP will do. More particularly this is:

- Global inventory on guidelines for tertiary water education.
- Establish the UNESCO-IHE / IHP grant facility for tertiary water education.
- Global needs survey for water education.
- Dissemination program, (special brochures, reports, etc.).

Para. 02323 - The International Centre for Theoretical Physics

Regular budget (rounded to \$ thousand)	
Planned: \$1,015,000	Actual: \$1,015,000

31 C/4 Strategic Objectives

**Strategic objective 4:** Promoting principles and ethical norms to guide scientific and technological development and social transformation

**Strategic objective 5:** Improving human security by better management of the environment and social change

**Strategic objective 6:** Enhancing scientific, technical and human capacities to participate in the emerging knowledge societies

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
Efforts in the advanced research training of scientists, especially young scientists, and university teaching staff in physics and mathematics enhanced.	<ul style="list-style-type: none"> <li>ICTP remains a place for strong research and training activities in basic physical sciences and mathematics. In the biennium, the number and quality of scientific visitors at ICTP has remained stable, in the order of 7.000 seminar participations per year.</li> <li>The 12 months Diploma programme for young scientists from the Developing Countries most in need has been nearly doubled in size, to 50 students per year, of which one class only from Sub-Saharan Africa belt.</li> <li>Research and Educational activities are carried out within: impact of global change, water and soil quality, terrestrial and marine ecology, drought and flood, earthquakes, tsunamis, water resources, crop productions, fisheries, renewable sources, hydrogen energy, fusion, medical physics, advanced x-ray imaging, accelerators for biomedicine, information and communication technology, ecological economics, nanoscience.</li> <li>Mori Fellowships: Japanese Government is sponsoring doctoral and post-doctoral students (14) from sub-Saharan Africa.</li> </ul>	<ul style="list-style-type: none"> <li>The needs of the world have changed for some time, so some of the resources and efforts have been steered in new directions. The ones with which ICTP is most concerned have to deal with global changes and sustainable development.</li> <li>ICTP is continually making efforts to increase the participation of female scientists in its programmes and to favour the participation of scientists from the least developed countries. The average participation rate of female scientists at ICTP is about 30%.</li> </ul>			
Cooperation among Affiliated Centres, Networks, and other external activities strengthened.	<ul style="list-style-type: none"> <li>Network on seismic hazard in Asia established.</li> <li>SESAME: Collaboration between Elettra and ICTP continues.</li> <li>Established free electronic Journals Delivery Service, Open Access Archive launched,</li> </ul>	<ul style="list-style-type: none"> <li>International Thermonuclear Experimental Reactor (ITER): ICTP has been concerned with energy from its very beginning. ICTP is now very interested in becoming involved in the ITER programme. If the goal is to provide a viable</li> </ul>			

	<p>established new electronic journal African Physical Reviews, Together with CERN organized regional workshops on open access for science in developing countries.</p> <ul style="list-style-type: none"> <li>•EGRID: collaboration with Italian Ministry of Education, University and Research, and University of California, Los Angeles, and IFNM on computational grids, and held training in Trieste, Venezuela and for individuals from Nigeria and Sri Lanka.</li> <li>•STEP, Sandwich Training Educational Programme continued, with 25-30 students from developing countries per year.</li> <li>•South-south cooperation: Signed agreements with Brazil, China and India for taking a larger share of responsibility for carrying out ICTP's work in their regions. Special support programmes for Cuba, Azerbaijan, Iran, Pakistan and South Africa.</li> <li>•South Korea: signed agreement to establish an ICTP Regional Centre.</li> <li>•India: signed agreement to establish an International India Centre for Physical Sciences and Mathematics.</li> <li>•Africa: Mathematics network expanded to include more Western parts as well as the Eastern Africa. The LAM network expanded by partnering it with South-Africa. Network on nanosciences in Africa started in collaboration with South-Africa. Agreement signed with iThemba Labs in South-Africa to host scientists from the rest of Africa, ICTP covering travelling expenses.</li> <li>•G8-UNESCO World Forum on Education, Research and Innovation-New partnership for sustainable development, was held 10-12 May in Trieste, with some 800 participants from research, academia, government and industry from 70 countries. The focus was often on Africa.</li> </ul>	<p>source of energy to the world at large through fusion, it is important that the people from needy countries be involved in the enterprise from the very beginning. Since scientists from all over the world visit ICTP, they can make connections to ITER through ICTP. ICTP could also develop a network of scientists to work on the analysis of data coming from ITER. Discussions are ongoing.</p>			
<p>Collaboration with Major Programme II enhanced.</p>	<ul style="list-style-type: none"> <li>•Many of the activities of ICTP have a bearing on other activities within Major Programme II.</li> <li>•ICTP's activities also infringe on some of the activities of the Major Programme I.</li> </ul>				

## Projects relating to cross-cutting themes

### Eradication of poverty, especially extreme poverty

#### 31 C/4 Strategic Objectives

**Strategic objective 1:** To contribute to a broadening of the focus of international and national poverty reduction strategies through the mainstreaming of education, culture, the sciences and communication.

**Strategic objective 2:** To support the establishment of effective linkages between national poverty reduction strategies and sustainable development frameworks, focusing on UNESCO's areas of competence. Furthermore, to help mobilize social capital by building capacities and institutions, especially in the public domain, with a view to enabling the poor to enjoy their rights.

**Strategic objective 3:** To contribute to an enabling national policy framework and environment for empowerment, participatory approaches and livelihood generation.

#### Para. 02411 Indigenous building technologies in Central Asia and Afghanistan

Regular budget (rounded to \$ thousand)

Planned: \$150,000

Actual: \$150,000

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Manual produced in national languages on traditional techniques for the construction and repair of earth architecture; local community leaders, architecture and engineering students and professionals trained in and sensitized to the value of traditional architecture and technology; vulnerable groups empowered to build their own affordable schools, houses, health centres; prototype energy-efficient and ecologically friendly models built for housing; technical competencies of sub-regional experts enhanced; legislation for seismic reinforcement of old buildings improved.</p>	<ul style="list-style-type: none"> <li>Indigenous knowledge for construction promoted and utilized, in particular through the translation of a training manual on "Earthen Structures" prepared by CRATERRE.</li> <li>Community leaders and professionals sensitised, through earthen architecture projects in three countries UZB, Tadjikistan and Afghanistan. In particular Boysun crafts training centre built (complement to JAP FIT project), Tashkent silk weaving/natural dye workshop built, premises of Khiva silk weaving/natural dye workshop restored and extended, construction of 'Yak House' cultural centre in Murghab, Tajikistan completed; brick making and foundation of Bactria Centre in Mazar-i-Sharif, Afghanistan completed.</li> <li>Moreover preventive conservation work carried out at Ayaz Kala fortress.</li> </ul>	<ul style="list-style-type: none"> <li>Performance of ACTED NGO in Afghanistan was not very high. Maintenance of buildings in traditional techniques is not always performed.</li> <li>Pilot demonstration buildings have created a lot of interest and are a good advocacy tool.</li> </ul>	<p>The projects were carried out in cooperation with other NGOs, which contributed with financial means.</p>	<p>Values of indigenous knowledge promoted through distribution of publication. National capacities of specialists on implementing of conservation works on earthen buildings strengthened.</p>	

Para. 02412 The UNISOL-TAPE alliance against poverty

Regular budget (rounded to \$ thousand)	
Planned: \$200,000	Actual: \$200,000

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Learning and teaching materials, good practices and curricula on engineering, technical and vocational education and training further disseminated.</p>	<ul style="list-style-type: none"> <li>• Achievements of the TAPE Project relate particularly to the development of networking, international cooperation, advocacy and information materials on technology and poverty eradication. These include the development of the technology knowledge network - "TecKnowNet", cooperation with the World Federation of Engineering Organisations (WFEO), American Association for the Advancement of Science (AAAS), American Association of Engineering Societies (AAES), Engineers Against Poverty (EAP), Engineers for a Sustainable World (ESW) and Engineers Without Borders/Ingénieurs Sans Frontières (EWB/ISF).</li> <li>• "Small is Working: Technology for Poverty Reduction" has been developed and disseminated as a video + booklet and Video CD. A policy paper on "Technology for Poverty Reduction: Policy Priorities" and book "Minding the Gap: Technology, Policy and Poverty Reduction", are being prepared for publication in 2008. Technology and poverty reduction will be a focus of the 2008 World Engineer's Convention in Brasilia (co-sponsored by UNESCO). Follow-up continues to the publication of the report of the UN Millennium Project Task Force on Science, Technology and Innovation - "Innovation: Applying Knowledge in Development".</li> </ul>	<ul style="list-style-type: none"> <li>• The TAPE project has faced various internal and external challenges. There are few programme staff at headquarters and in the field with backgrounds and experience in technology and poverty reduction – capacity recruitment and development is an urgent priority, supported by adequate financial resources, if UNESCO is to make a contribution to the MDGs. For maximum flexibility, budgetary resources need to be managed from headquarters, in conjunction with Field Offices, where there may be no staff with adequate background. Externally, the field of engineering, technology and poverty reduction is constrained by a lack of interest and understanding of the field by planners and policy makers – which is one of the advocacy and policy goals of the project. However, CCT project activities are an important way for UNESCO to develop more thematic programming on important issues – such as poverty reduction and the MDGs. Thematic programming is an important area toward which UNESCO should be moving, and developing, as a response to the MDGs.</li> </ul>	<ul style="list-style-type: none"> <li>• The TAPE Project connects closely with the UNESCO Engineering Sciences and Technology Programme and related activities, including the Daimler-UNESCO Mondialogo Engineering Award (now in its third phase, 2008-09) and the SIDA-SAREC Forum on Higher Education, Research and Knowledge. Based on output per input of human and financial resources, the TAPE Project is highly cost-effective.</li> </ul>	<ul style="list-style-type: none"> <li>• The TAPE Project is highly sustainable – "TecKnowNet" has been established and developed, partnerships have been developed with universities and NGOs in the international engineering and technology community (including WFEO, AAAS, AAES, EWB, EAP and ESW. Information and learning materials have been developed and disseminated, a policy paper and book are in preparation, and project-based activities on engineering, technology and poverty eradication are being promoted in conjunction with the Daimler-UNESCO Mondialogo Engineering Award. The TAPE Project supported the very successful and ongoing Sudan Virtual Engineering Library (SUDVEL), and also continues as part of the Engineering Programme.</li> </ul>	
<p>Medical and social services offered by universities and outreach posts improved.</p>	<ul style="list-style-type: none"> <li>• Increased and improved combined medical and social services offered by the UNISOL Coordinator TICH (Tropical Institute of Community Health and Development; GLUK - Great Lakes University of Kisumu), in the Nyanza Province of Kenya (7 districts: Bondo, Siaya, Kisumu, Nyando, Suba, Rachuonyo, and Gucha); as well as in the districts of Uganda and Tanzania neighbouring Nyanza; on the basis of shared training programmes</li> </ul>	<ul style="list-style-type: none"> <li>• For the third time in UNISOL's 6-years history, the project lost one of its academic pillars (at the coordinating institution "Tropical Institute of Community Health and Development in Africa) through untimely death. Still, the solid network spirit built over the years allowed for rather prompt qualified replacement, without disruption or</li> </ul>		<p>The modality of annual scientific conferences (the last of which was held in May 2007 at Kisumu, Kenya, in conjunction with the International SAHARA Network of the Human Sciences Research Council of South-Africa); brought regularly together</p>	

	<p>within the University Network, student exchange and strong community-links based on specific code-of-conduct developed for Academia-community partnership.</p>	<p>painful adjustments.</p> <ul style="list-style-type: none"> <li>• Institutional Development, especially the upgrading of the coordinating institution TICH to University status, with the capacity to award their own diploma; was delayed by budgetary shortness (estate for the campus) and politics – but the major hurdles could be overcome in 2006 when TICH acquired official university status. Awarded their first diploma in May 2007</li> </ul>		<p>a small but critical mass of donors (representatives from Rockefeller, Helen Keller Foundations, CIDA..) who keep abreast with projects underway.</p> <p>The joining of University of Ottawa in 2004 is very beneficial for ongoing capacity-building with TICH and the network partners: new curricula have been established; student exchange, and research upgrading; as well as tutoring of advanced research.</p>	
<p>Sensitivity of combined health and social data improved, and utilization of such data in health planning and administrative decisions increased.</p>	<ul style="list-style-type: none"> <li>•The major achievement of UNISOL was to support the development, by the UNISOL coordinator TICH (see above), a community-sensitive information system (CBIS) which is actually functioning in the district hospitals of the above-mentioned 7 Kenyan districts (Nyanza Province) and in the neighbouring districts of Uganda and Tanzania. In 2006, the database was adopted as "Kenyan government model".</li> </ul>	<ul style="list-style-type: none"> <li>•The strong international links of UNISOL furthered both its institutional development as its capacity to transfer results of academic work to decision-making/policy formulation, as well as to impact methods of service delivery (implementation of policies).</li> </ul>		<p>The CBIS has been officially adopted by the Kenyan Ministry of Health as a model database (2006).</p>	

## The contribution of information and communication technologies to the development of education, science and culture and the construction of a knowledge society

### 31 C/4 Strategic Objectives

- Strategic objective 1:** Agreeing on common principles for the construction of knowledge societies  
**Strategic objective 2:** Enhancing learning opportunities through access to diversified contents and delivery systems  
**Strategic objective 3:** Strengthening capacities for scientific research, information sharing and cultural exchanges  
**Strategic objective 4:** Promoting the use of ICTs for empowerment, governance and social participation

### Para. 02421 Small Islands' Voice (SIV)

<b>Regular budget</b> (rounded to \$ thousand)	
<b>Planned: \$250,000</b>	<b>Actual: \$249,000</b>

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Online and off-line tools and practices, including video productions, on environmental management, cultural diversity and other key social issues developed and shared; sustainable development integrated into the education system; youth-led sustainable development projects initiated and results exchanged.</p>	<ul style="list-style-type: none"> <li>• SIV Global internet forum (www.sivglobal.org) connects more than 30,000 islanders. Its outreach is expanded through repetition by other wire and Internet services, and use of other media such as radio and newspapers. The forum has become a very influential tool: (1) inspired by discussions on island vulnerability, partners in Palau established an inter-regional Island Vulnerability electronic discussion group; and (2) other organizations such as the South Pacific Applied Geoscience Commission (SOPAC) and several individuals requested specific topics to be profiled. Recent topics include: alternative fuels, commercial whaling, genetically modified organisms, tourism problems in SIDS, colonialism in the 21st century and disputed islands.</li> <li>• Many of the responders indicate appreciation of the forum as an open platform for discussion for highlighting issues of relevance to small islands, as well as its awareness raising and educational role.</li> <li>• SIV youth internet forum proved an innovative way to provide interregional student-to-student exchanges on sustainable island living in 12 islands in three regions. An external assessment of the SIV Youth Internet Forum demonstrated that the forum is appreciated by students and teachers alike,</li> </ul>	<ul style="list-style-type: none"> <li>• Due to insufficient funds available for new internet connections in a significant number of islands, SIV's focus has been directed towards providing places (internet forums) for substantive discussions for existing internet users. As a result SIV Global has almost become a household name on many islands. SIV Global continues to be appreciated as a communication mode, and based on feedback the forum provides an important place where island issues can be aired and discussed in a frank manner.</li> <li>• Slow and expensive internet connections in some islands, as well as natural events such as hurricanes, hamper efficient implementation of internet based activities, yet also encourage innovation and adaptability by islanders.</li> <li>• Implementation of some activities has taken longer than initially anticipated; this is due to the very limited human resources especially in the smaller islands.</li> <li>• Despite the positive assessment of</li> </ul>	<p>Collaboration with Scotland online to manage the SIV Global internet forum in exchange for promoting their work (without financial remuneration).</p> <p>Promotion of SIV via other organisations and websites such as <a href="http://www.sidsnet.org">www.sidsnet.org</a>, hosted by the United Nations Department of Social and Economic Affairs.</p> <p>Production of DVD 'Sustainable living – the island way' though partners in Palau which significantly reduced the cost as compared to having it done in Paris.</p> <p>Using Field Offices, National Commissions and local expertise to implement and monitor activities.</p> <p>Substantial use of teleconferencing.</p>	<p>Small Islands Voice 'groups' established in a number of partner islands. They continue to advocate and undertake activities to address sustainable development concerns, particularly involving youth. Examples: SIV Back Chat group in St. Kitts &amp; Nevis, SIV group in St. Vincent &amp; the Grenadines, Seychelles.</p> <p>First-hand information about local realities from islanders' perspectives. The exchanges provide incentive and ideas for behaviour modification and actions on the ground that contribute to sustainable island living, which will last beyond the SIV project cycle.</p> <p>Despite the termination of the CCT project modality in the 34 C/5, based on its considerable success and support and interest from Member States, the SIV</p>	



and it provides ideas and incentives for behaviour modification and actions on the ground that contribute to sustainable island living.

- SIV achievements have been profiled outside of UNESCO through dissemination of publications and presentations. For instance, five SIV representatives presented different perspectives on Community Visioning at the Islands of the World IX Conference in Maui, Hawaii, July 2006.
- A video entitled 'Sustainable Living – The Island Way' featuring the specific sustainable development activities on the ground was produced and launched at the 'Islands of the World Conference in Maui, Hawaii in July 2006. It has been widely distributed.
- Specific project activities on waste management, recycling, environmental monitoring, and environmental awareness are being implemented and shared among the 13 islands; their impact is widened through discussions on the SIV Global and SIV Youth Internet forums.
- Additionally, through SIV, establishment, equipment and improvement of internet connections in islands is noteworthy: Community radio station and Multimedia Centre equipped at Bequia Community High School and at Institut des mineurs, Cape Verde.
- SIV closely collaborated with the Youth Visioning for Island Living, in promoting youth led activities on sustainable development. 35 micro-projects in the Indian Ocean, Caribbean and Pacific regions were implemented.
- SIV activities, exchanges, forums, meetings have developed individual capacity, thereby helping them to participate effectively in their islands as well as in the international arena.

SIV-Youth Internet Forum, It has proved difficult to maintain its dynamism. This is partly due to the lack of time teachers can afford and the inflexibility of the curriculum and lessons, and partly due to the long intervals of time between exchanges.

- The on-the-ground projects, focusing on community action for sustainable development, are among the most lasting achievements of SIV.
- The impact of these projects was expanded beyond individual islands by the efficient use of exchanges, meetings and conferences; internet forums; newsletters as seen by the replication of similar activities in other islands, and requests to join SIV.
- Committed island partners, with first-hand knowledge of local realities, are crucial for the success and continuation of SIV.

Global forum will continue to be implemented via the regular programme of SC/PSD/SCS.

**Para. 02422 Community-based information portals on oceans for the African, Latin American and Caribbean regions**

Regular budget (rounded to \$ thousand)	
Planned: \$100,000	Actual: \$100,000

33 C/5 Expected Results	Achievements	Challenges/ Lessons Learnt	Cost- Effectiveness	Sustainability (Indicators or Measures)	Recommendations by the Executive Board
<p>Portals recognized by local and international stakeholders as reference information tool on oceans and coastal areas; knowledgebase on oceans/coastal areas related issues improved; agreements on transfer of ownership of the Portals to partner organizations reached.</p>	<ul style="list-style-type: none"> <li>• Latin America and the Caribbean. Increase by 200% of number of editors/content providers to better cover the information needs of all focus audiences.</li> <li>• Provided training to editors in “science writing” through a specific tutorial.</li> <li>• Continued publication of printed newsletters as well as national public awareness campaigns.</li> <li>• Usage of African ocean portal has increased due to recognition by local and international stakeholders. The chief editor of portal was invited to meetings of the UNEP Clearing House Mechanism for Western Indian Ocean,</li> </ul>	<ul style="list-style-type: none"> <li>• National Institutions are the best partners if they are involved since the start of the Project. Training to trainers must be the best approach for new editors.</li> <li>• Partnership for promotion and awareness is highly required.</li> <li>• The main risk to have many editors from different countries and expertise fields is to lose the general concept of the Portal and make it complicated for users.</li> <li>• Universities and media could be the most effective partners for promotion and provision of contents.</li> <li>• Limited internet access in Africa impacted on the level of usage of the portal. The introduction of the newsletter however led to substantial increase in site visits.</li> </ul>	<p>After 5 years the Regional Ocean Portal for Latin America and the Caribbean: Portal Oceanico has compiled more than 5,488 knowledge objects related with ocean issues such as maritime affairs, environmental themes, papers, libraries, catalogues, educational resources, ocean services, ocean sciences, disaster management information, inventory of marine institutions, international activities and many other information material. The Portal has recruited more than 501 editors from Latin America and the Caribbean regions, and contains contributions mostly in Spanish, but also has material in Portuguese, English and French. National marine information from 40 countries is included in the portal. More than 821 subjects and 77 discussion fora were established. A total of more than 96,804 visits to the portal have been registered. Visitors came from 118 different countries. 81.2% of them come from Latin America and the Caribbean, 16.7% from the USA, Canada, Europe and the other comes from Asia, Africa and Oceania.</p> <p>The portal was maintained as a useful information source with limited budgets. The contribution of partners such as NEPAD/COSMAR and</p>	<p>For the Latin American Portal, until the middle of 2006, the average number of daily visits was near to 60, however, a significant fall of them has been evidenced during last months of 2006. Despite of the significant efforts to keep an active contribution of volunteer editors and promotion, the proposed goal has not been accomplished. To get sustainability in the Portal, it will necessary to increase the number of visitors, institutional mechanisms must be established to get the support of relevant Marine institutions from the region, to keep the Portal useful to visitors offering usable information about the Ocean. At the middle of 2007, the rate of visits has improved to 57.9 and is expected to continue growing until the end of this year.</p> <p>Sustainability of the portal depends on the continued input of new materials, and also on the availability of dedicated editors who</p>	

UNEP/GEF WIOLab project, and the African Coelacanth Project. Knowledge objects doubled to more than 4280, topics to more than 280 and the site visits to more than 22,600. Twelve issues of the COSMARNews newsletter was produced and circulated in collaboration with NEPAD/COSMAR to publicize the portal.

- Partnership developed with the NEPAD/COSMAR secretariat led to increase in number of editors as well as broadening of user base. Collaboration with ODINAFRICA was crucial to development of the portal as it provided an established network of scientists and institutions.

ODINAFRICA greatly contributed to the development of the portal.

will continue moderating materials entered in the portal. In the short term ODINAFRICA will be able to provide the editorial support. The collaboration with NEPAD/COSMAR should be cemented as a possible long term solution.