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- **REPORT OF THE WORKSHOP ON CAPACITY-BUILDING FOR MAINSTREAMING ENVIRONMENTAL ASPECTS IN NATIONAL WATER POLICIES AND STRATEGIES THROUGH THE SOUTH-SOUTH COOPERATION FRAMEWORK (NAIROBI, KENYA, 26-29 MAY 2008)**
- **CAPACITY BUILDING FOR MAINSTREAMING ENVIRONMENTAL ASPECTS IN NATIONAL WATER POLICY AND STRATEGY THROUGH THE SOUTH-SOUTH COOPERATION FRAMEWORK**

(Background documents prepared by the UNEP Secretariat)

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**Workshop on capacity-building for mainstreaming
environmental aspects in national water policies
and strategies through the South-South
cooperation framework**
Nairobi, 26–29 May 2008

Report of the workshop

Introduction

1. The workshop on capacity-building for mainstreaming environmental aspects in national water policies and strategies through the South-South cooperation framework was held at the headquarters of the United Nations Environment Programme (UNEP), Gigiri, Nairobi, from 26 to 29 May 2008.
2. The workshop was convened as part of the UNEP response to Governing Council decision 23/1 I, which requested the Executive Director of UNEP to give the highest priority to the effective and immediate implementation of the Bali Strategic Plan for Technology Support and Capacity-building and its component on South-South cooperation. The main objective of the workshop was to develop a South-South cooperation programme for strengthening the capacity of developing countries to elaborate water policies within the framework of the UNEP water policy and strategy and through the South-South cooperation mechanism of the Bali Strategic Plan.

I. Opening of the workshop

3. The workshop was opened at 9.10 a.m. on Monday, 26 May 2008, by Mr. Mwangi Kiunjuri, Assistant Minister of Water and Irrigation of Kenya.
4. Opening statements were made by Mr. Tim Kasten, Chief of Natural Resources, UNEP Division of Environmental Policy Implementation, and Mr. Mwangi Kiunjuri.
5. Mr. Tim Kasten welcomed the participants on behalf of UNEP, and thanked them for supporting the efforts of UNEP to improve the management of water resources. He underlined the overarching importance of water as essential for ecosystems and human well-being, and integral to the achievement of all of the Millennium Development Goals. Despite recognition of the need for integrated water resources management (IWRM) in many international declarations and agreements, effective management of water resources remained a major challenge with 1 billion people worldwide still lacking proper access to clean water and 2.6 billion without adequate sanitation. The problem was compounded by a number of factors, including degradation of water resources, overextraction, the

increasing frequency of floods and droughts due to climate change and the growing food crisis. Food production needed to be increased, but sustainably and wisely.

6. Of the three pillars of sustainable development – environmental protection, social development and economic growth – the economic pillar had historically been given prominence, with environmental issues often dealt with as afterthought and entrusted to people with inadequate environmental training. At its sixteenth session, the United Nations Commission on Sustainable Development had identified capacity-building as a priority area and it was an important component of the water policy and strategy of UNEP.

7. UNEP, he continued, adopted an ecosystem approach to IWRM, with the hydrological basin as the basic management unit, and was working to assist developing countries to mainstream the environment into water policy, build capacity in water resources management and adapt to climate change. He stressed that while capacity-building came in many forms and there was no magic formula, several countries had learned valuable lessons and achieved levels of expertise that could be of assistance to others. Such South-South cooperation was an integral component of the Bali Strategic and the current workshop offered a forum for identifying practical ways in which national capacities for water resource management could be strengthened through South-South cooperation.

8. In his opening statement, Mr. Kiunjuri reiterated the crucial importance of water resources management in attaining internationally agreed development goals. Strengthened water governance was key, he said, to meeting the challenge of access to and equitable sharing of water in the face of the rising cost and declining quality of the resource, increased agricultural demand and pollution. He outlined measures taken to review the water policy and legislation in his country where almost half of the population lacked access to safe drinking water and sanitation. Noting that 50 per cent of Kenyan water resources were transboundary, he underscored the need for cooperation to ensure the fair and reasonable sharing of water resources between riparian States. He noted that the present workshop was being held at a time when the effects of climate change were being felt around the globe; adaptation to climate change was vital to securing water resources for the benefit of present and future generations. Declaring the workshop officially open, he expressed the hope that the present forum would provide an opportunity for participants to draw on experiences, lessons learned and successes to strengthen capacity on water resources management.

II. Organization of work

A. Attendance

9. The workshop was attended by participants from 16 countries representing government institutions, regional economic communities, research institutions, non-governmental organizations, universities and United Nations organizations. The list of participants to the workshop may be found in the annex to the present document. .

B. Programme of work

10. The programme of work for the workshop was as follows:

1. Opening of the workshop.
2. Organization of work.
 - (a) Attendance;
 - (b) Programme of work.
3. Presentations and discussion of key issues:
 - (a) Workshop objectives, expected outputs and programme;
 - (b) UNEP water policy and strategy;
 - (c) Discussion of issues arising from the presentations.

4. Capacity-building for mainstreaming the environment:
 - (a) Capacity-building for mainstreaming environmental aspects in national water policy and strategy;
 - (b) Discussion of issues arising from the presentation.
5. Further presentations and discussion of key issues:
 - (a) Organizational and thematic presentations;
 - (b) Country and subregional presentations.
6. Identification of challenges and strengths:
 - (a) Country-wise identification of challenges and strengths;
 - (b) Discussion of issues arising from the exercise.
7. Key components of a capacity-building programme:
 - (a) Presentation on suggestions for key components of a capacity-building programme;
 - (b) Discussion of issues arising from the presentation on key components;
 - (c) Group work on components of capacity-building programme.
8. South-South cooperation: strategic and operational approaches:
 - (a) Presentation on strategic and operational approaches to South-South cooperation as applied to water policy;
 - (b) Discussion of issues arising from the presentation;
 - (c) Group work on potential action regarding South-South cooperation.
9. Draft capacity-building programme:
 - (a) Presentation of the first draft of a capacity-building programme;
 - (b) Discussion of issues arising from the presentation;
 - (c) Presentation of the final draft of a capacity-building programme;
 - (d) Way forward.
10. Closure of the workshop.

III. Presentation and discussion of key issues

A. Workshop objectives, expected outputs and programme

11. Mr. Per Hansen, UNEP-DHI Water and Environment Collaborating Centre, gave a presentation on the objectives of the workshop and its expected outputs and programme. Outlining the background to the present workshop, he noted that, as a result of internal consultations within UNEP in response to Governing Council decision 23/1 I, a scoping workshop had been held with potential partners in October 2007 to identify means to move forward on capacity-building on water resources management. Following that workshop, a consultant to UNEP had prepared a comprehensive analytical paper to guide discussions on the development of a programme to strengthen national capacities for water resources management. The objective of the current workshop was to develop a draft of such a programme within the framework of the UNEP water policy and strategy using the South-South cooperation mechanism. Important activities for the workshop, he said, included identifying and prioritizing water-related policy issues, potential interventions and partners.

B. UNEP water policy and strategy

12. Ms. Elizabeth Khaka, Programme Officer, UNEP, gave a presentation on the UNEP water policy and strategy, which, she said, had been adopted by the Governing Council at its twenty-fourth session and provided the framework for and guidance on UNEP activities and what partners could expect from UNEP. The water policy and strategy incorporated the outcomes and principles of various international agreements and its main objective was to contribute to environmental sustainability in the management of water resources using an integrated ecosystem approach. Operationalization of the water policy would be undertaken through capacity-building and technology support, partnerships, building on existing initiatives and promoting stakeholder participation. The ecosystems-based approach, she noted, was based on IWRM and the environmental, social and economic principles that underpinned it.

13. Environmental considerations of the ecosystem approach included maintaining biodiversity in a holistic manner, considering environmental flows, supporting ecosystems functioning and considering full hydrological cycles, including ground, surface and rainwater. She stressed the particular importance of rainwater harvesting, which remained largely ignored in existing activities and planning related to water resources. In Kenya, for example, rainwater harvesting potential averaged 12,300 cubic meters per person per year compared to 633 cubic meters per person per year of renewable water resources. Groundwater resources had been greatly misused around the world with overabstraction and pollution leading to quantity and quality problems. While aquatic ecosystems contributed to the livelihoods of millions of people, the Millennium Ecosystem Assessment had found that some 60 per cent of ecosystems assessed worldwide were in decline and, of those, the majority were aquatic ecosystems. Water storage in developing countries was very low; in Africa, water storage averaged 746 cubic metres per person per year whereas in North America it averaged 6,150 cubic metres per person per year. It was crucial, she stressed, to increase water storage whilst paying attention to minimizing environmental damage.

14. UNEP was promoting tools and technologies to ensure the efficient and equitable use of water focusing on integrated supply and demand management approach policies. There was a particular need to address the risks associated with climate change, chemical pollution of water and solid wastes. The organization would continue to promote the mainstreaming of climate change in IWRM as well as adaptation to climate change.¹

C. Discussion of issues arising from the presentations

15. In response to a question on the potential of rainwater harvesting, Ms. Khaka noted that rainwater had not been included in most national water policies analysed to date. Where it had been included, it tended to be as storm water requiring drainage rather than as water for storage and use. Policies encouraging the whole range of means of rainwater harvesting were clearly needed. It was important, however, that rainwater harvesting was carried out in a sustainable manner, permitting, for example, the adequate recharge of rivers. UNEP was looking into developing guidelines on how much rainwater could be harvested sustainably in different regions.

IV. Capacity-building for mainstreaming the environment

A. Capacity-building for mainstreaming environmental aspects in national water policy and strategy

16. Mr. George Krhoda, Professor, University of Nairobi, gave a presentation on capacity-building for mainstreaming environmental aspects in national water policy and strategy through the South-South cooperation framework. The purpose of the presentation, which would form the basis of discussion in the workshop, was to provide an overview of the key national water policy formulation and

¹ More details on the UNEP water policy and strategy are available on the following UNEP website: www.unep.org/themes/freshwater.

implementation challenges; to identify strengths and lessons learned; and to pinpoint opportunities for addressing the identified challenges within the South-South cooperation framework.

17. A survey of the water instruments of a large number of developing countries had identified several key national policy and implementation challenges in the areas of political commitment, governance, capacity, public participation and stakeholder engagement, water allocation, effective communication, understanding ecosystem-based approaches, information management, transboundary water resources, rainwater harvesting and groundwater assessment and use. A number of water policy reform drivers had also been identified, including water scarcity, environmental deterioration, climate change, fear of conflict and the transboundary nature of water.

18. Based on that analysis, areas requiring attention to achieve effective policy reform had been grouped into five main categories: the enabling environment; resource assessment and environmental issues; institutions, legislation and regulations; management instruments; and cross-cutting issues, including transboundary waters, conflict, social change instruments and gender. He summarized the main characteristics of the ecosystem approach, which was seen as an effective framework for sustainable water resources management, with the river basin as the basic management unit. Finally, he outlined the key issues and challenges for policy development and implementation, and suggested a number of components that would give structure to efforts to mainstream the environment in national water policy and strategy, within a framework of South-South cooperation. The components were grouped into two “platforms”: facilitative components, and components related to experience in modern water policymaking and implementation.

B. Discussion of issues arising from the presentation

19. In the ensuing discussion a number of issues were raised. In response to a query about capacity-building for management of transboundary water resources, Mr. Krhoda acknowledged that it presented considerable difficulties, given that national institutional arrangements and policy adjustments were based on country needs and were thus difficult to harmonize. Transboundary considerations tended to be poorly represented in national policies and strategies.

20. One participant asked whether South-South cooperation based on the different levels of experience and capacity of developing countries was sufficient to achieve the envisaged results, or whether there were still areas of experience and capacity that were generally lacking and required greater external stimulus. Mr. Krhoda replied that there was still considerable potential for further South-South cooperation, with countries starting along the reform process learning from those with more experience. Many knowledge centres in the South, for example networks and regional banks, remained largely untapped.

21. Some participants requested clarification of the relationship between IWRM and the ecosystem approach. One participant said that the environment was already strongly represented in IWRM models and, while it had often not achieved the intended results, moving away from IWRM could put at risk the considerable work done in that area and ultimately slow progress; in any event, greater stress should be laid on the human element of the process, as without popular support sustainable use of the environment was not possible. In his reply, Mr. Krhoda said that the ecosystem approach offered a window of opportunity to mainstream the environment in a more comprehensive manner than was currently the case. For example, it offered an opportunity to embed the polluter pays principle into water policy, and laid greater stress on the importance of water to ecosystem services. The Chair added that the aim was not to supplant IWRM with the ecosystem approach but rather to strengthen the environment component of IWRM.

22. A participant drew attention to the challenge of coordinating the water policy review process with the many other sector policy review processes occurring simultaneously, particularly for economic policy, which may in many places be in conflict with water policy. Mr. Krhoda responded that water policy should attempt to be inclusive, embracing the environment, economic considerations and water as a social good, in keeping with the diversity of landscape and of society. While he acknowledged the problems presented by multiple policy reviews, the ecosystem approach offered a means of connecting diverse issues and bridging intersectoral gaps through the involvement of multiple stakeholders.

23. In response to a query about groundwater, Mr. Krhoda said that lack of knowledge was hindering assessment, governance and sustainable utilization of groundwater resources. Capacity-building related to the assessment of transboundary reserves, allied to information sharing, was critical from the outset.

24. Regarding the relationship between water and land issues, including tenure, Mr. Krhoda said that there was little in the literature on the topic, and it was rarely addressed in water policies.

V. Further presentations and discussion of key issues

A. Organizational and thematic presentations

1. Mara River basin case study

25. Ms. Musonda Mumba, Freshwater Programme Coordinator for Eastern Africa, World Wide Fund for Nature (WWF), gave a presentation on the application of the ecosystem approach to freshwater ecosystems, using the Mara River basin, Kenya, as a case study. She defined the ecosystem approach as “a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way”, and gave its four main principles as establishing partnerships; strengthening capacities; assessments of water resources and ecosystem functions; and linking practice to policy. The approach entailed involving development drivers in sustainable management of water resources.

26. An ecosystems approach had been taken in a study of the Mara River basin, a transboundary system straddling the border of Kenya and the United Republic of Tanzania. Methodologies used included an environmental flow assessment, a strategic environmental assessment and a climate change vulnerability assessment, with a biodiversity action plan as the outcome. Work had been undertaken with hoteliers, private enterprises (including gold mines), local communities, agriculturalists and government institutions to demonstrate the consequences of mismanagement and to show how proper management could realize the full potential of the Mara ecosystem as a critical provider of resources, an important habitat that attracted tourists and a water flow regulator. Linking local action to national policy and global market forces was the basis of the strategy.

27. Following the presentation there was some discussion of issues raised, including the environmental pressure placed on the Mara ecosystem by hotel construction and agriculture. Ms. Mumba briefly described a 2006 initiative whereby hoteliers from the Mara had been invited to a restaurant on the edge of Nairobi to witness how wastewater was cleansed in specially constructed wetlands. Several of the hoteliers had since adopted similar systems within the Mara. Regarding the use of chemicals for agriculture, she said that rainwater harvested in rooftop tanks in the area had been polluted by pesticides sprayed from aircraft.

28. The presentation prompted some discussion of the difficulties encountered by the Nairobi River Basin Programme in its efforts to clean up the badly polluted Nairobi River. One participant said that while many stakeholders had been involved in the programme, long-term solutions had proved elusive, and the density of population and industry in close proximity to the river meant that it was very difficult to apply the polluter pays principle. As with the Mara River, it was important to work locally to understand what was happening on the ground before moving to a larger perspective. Another participant said that enforcement of environmental protection measures was only possible when the environment was mainstreamed into water policy.

2. Models for analysing human-environment interactions

29. Ms. Guo Dongmei, Ministry of Environmental Protection, China, gave a presentation on models for analysing human-environment interactions, using indicators to measure changes and to help identify priorities for action. The pressure-state-response (PSR) framework included three elements: pressure (of factors on the environment), state (of the environment and changes in it), and response (of society to the situation). Developed from that was the driving force-state-response (DSR) framework, with “driving force” more widely encompassing human activities than “pressure”, “state” referring to, say, the status of an ecosystem or river basin, and “response” including such measures as policy, regulations and economic instruments. The driving force-pressure-state-impact-response (DPSIR) framework had been developed to take account of a wider range of interactions. In conclusion, she said application of those

frameworks to ecosystems was very difficult, given the complexity of ecosystems, the interlinkage of a large number of factors and the wide range of possible responses.

30. Following the presentation, one participant commented that the approaches outlined had been widely used and were useful in bringing diverse elements into a structured form, though it was generally not possible to ascertain, in a complex scenario, which pressures or driving forces were responsible for which changes, making it difficult to devise responses. In addition, in ecosystem analysis, there was little knowledge related to cost-effect assessment, and it was not easy to promote such analysis with those unfamiliar with the discipline.

3. Global Waters Partnership ToolBox

31. In his presentation, Mr. Hansen explained that the Global Waters Partnership ToolBox was a capacity-building tool on IWRM comprising a compendium of good practices developed by the Global Waters Partnership. The ToolBox was available in several languages on CD-ROM and on the internet and provided a vehicle for the exchange of knowledge for water managers around world, based on real-life experiences and lessons learned. It organized tools into three types: first, the laws, investments and policies which were the framework for other tools and created an enabling environment; second, tools which focused on the building of appropriate institutions and of capacity within those institutions; and third, management tools. The ToolBox was constantly being updated as challenges were solved and set out more than 50 practical cases illustrating how its tools had been used by water managers to tackle a variety of challenges, reference to key documents, contact details for contributors and relevant organizations, and links to pertinent websites.²

32. In response to questions raised, Mr. Hansen said that a number of themes were set out in the ToolBox, such as nature and environment or food and agriculture; relevant tools and case studies were set out within each theme. Ms. Simone Noemdoe, Water Resources Specialist, Cap-Net, noted that Cap-Net was working on the functions of river basin organizations as part of its training package and also on topics such as efficiency of water use and water demand management. Water valuation in the context of environmental costs and benefits was a key element of the training package, she said, as were catchment protection and water protection from an ecological point of view. She stressed that Cap-Net comprised 23 networks globally, including national and regional networks. Under Cap-Net, a monitoring and evaluation system was in place which followed up on participants to training courses and on the application of case studies.

4. Cap-Net: Harnessing the power of networks

33. Ms. Noemdoe gave a presentation on Cap-Net, which she described as an international network for capacity-building on IWRM aimed, in particular, at helping countries to build their capacity in water management to attain the targets of the Millennium Development Goals. It comprised a partnership of autonomous international, regional and national institutions, networks and water managers committed to capacity-building for the sustainable management of water resources. Cap-Net was an associated programme of the Global Water Partnership, supported by the United Nations Office for Project Services and the United Nations Educational, Scientific and Cultural Organization (UNESCO)-IHE Institute for Water Education, with funding provided by the Governments of the Netherlands and Sweden.

34. The main function of the Cap-Net secretariat was to support and strengthen networks, provide strategic and financial support, create synergies and provide training. The power of networks was harnessed through Cap-Net to ensure relevance, sustainability and the scale up of capacity-building activities. Cap-Net supported the development of case studies, research and needs assessment to ensure that its work remained pertinent. It was integrating climate change issues into its work, describing the links between water resources management and the effects of climate change. The network cooperated with a number of partners globally; one of the beauties of networks, she said, was that they were able to cross national and disciplinary boundaries. In 2007, Cap-Net had supported 41 courses on IWRM-related topics reaching some 1,800 participants from 73 countries, including trainers, educators, students, researchers, decision makers and water managers.³

2 Access to the Global Waters Partnership ToolBox is available through <http://www.gwpforum.org>

3 More information on Cap-Net is available on the network website at <http://www.cap-net.org>

5. Cap-Net initiatives in the Caribbean: Caribbean WaterNet

35. Mr. Christopher Cox, Senior Programme Officer, Caribbean Environmental Health Institute, gave a short presentation on Caribbean WaterNet, a newly formed regional network for capacity-building on IWRM and partner to Cap-Net. The objective of the network was to spread knowledge and facilitate capacity-building and communications in IWRM-related areas throughout the Caribbean. The network had been engaged in various activities since its inception, including a study on the potential of e-learning, the elaboration of an inventory of the region's skills and training needs in water supply and sanitation, IWRM-planning support for Grenada and training of trainers workshops on IWRM.⁴

6. Nile Basin Capacity-building Network for River Engineering

36. In his presentation, Mr. Sherif M. El-Sayed, National Water Research Centre, Egypt, noted that the sharing by ten riparian States of the Nile Basin, which represented one of the most complex and sensitive hydrological systems in the world, presented numerous challenges. The Nile Basin Capacity-building Network for River Engineering aimed to provide a forum for cooperation between the ten countries, creating an environment in which water sector professionals could share ideas, best practices and lessons learned with the objective of strengthening human resources development and building capacity.

37. Describing some of the activities of the network, he noted that a focal point network node comprising an association of individual professionals was located in each of the ten countries. Each node provided an in-country network, part of a regional cluster network and part of the regional network. Six collaborative research clusters had been established on the topics of geographical information systems (GIS) and modelling, river structures, flood management, river morphology, hydropower and environmental aspects. Project teams had been set up to work on various issues, such as river and hydraulic engineering, and to enhance the impact of the network on the ground. The network supported 14 regional research groups carrying out collaborative research and addressing real problems on the ground as well as an integrated research group and multidisciplinary research teams focusing on two hot topics, namely, climate change and its impact on water resources, and water scarcity management. Of the ten countries of the Nile Basin, nine were undertaking capacity-building activities at country level.

38. The network included more than 300 professionals, an administrative unit, nine nodes and in-country networks, six research clusters and a dynamic website. On the website, members of the network were able to log in to a collaborative platform for information exchange and facilitate collaborative work between research teams and contributors. Members met face-to-face once or twice every year but kept in close contact through the website. He described the features of the website, which contained links to relevant documents, scientific papers, discussion topics, information on upcoming events, a software library and announcements. The file manager function enabled members to organize their research documents and share them with their counterparts for editing purposes and when final. Other facilities included quick messaging for members who were online and email for members with customized address. The website included a Nile Basin Knowledge Map, which mapped the knowledge and experience within the Nile Basin setting out service providers such as networks, capacity-building institutions, ministers and stakeholders. The Nile water professional map categorized water specialists according to their area of expertise.⁵

7. Water Centre for the humid tropics of Latin America and the Caribbean

39. Ms. Africa Flores, GIS specialist, Water Centre for the Humid Tropics of Latin America and the Caribbean (Centro del Agua del Trópico Húmedo para América Latina y el Caribe) (CATHALAC), gave a presentation on the work of CATHALAC, a regional centre of excellence dedicated to the promotion of sustainable human development through integrated water and environmental management. CATHALAC was a partner of UNESCO-IHE Institute for Water Education, working on a number of water initiatives such as the White Water to Blue Water partnership and in collaboration with organizations including UNEP, the National Oceanic and Atmospheric Administration (United States),

4 More information on the Caribbean WaterNet is available at <http://www.cap-net.org>

5 The Nile Basin Capacity-building Network for River Engineering can be accessed through: <http://km.nbcbn.com/index.asp>

and the Chilean National Committee of the International Water Resources Programme. CATHALAC hosted the regional visualization and monitoring system for Mesoamerica (SERVIR) data portal, which was a joint venture between CATHALAC, the National Aeronautics and Space Administration (United States), the United States Agency for International Development, the World Bank, Central America's Commission for the Environment and Development and other partners. SERVIR was involved in numerous forecasting projects providing information for decision makers, including on climate change. A project for the expansion of SERVIR to Africa was under way in collaboration with the Centre for Mapping of Resources for Development. CATHALAC could provide support to South-South cooperation in many ways, including through technology transfer and capacity-building.⁶

40. In the ensuing discussion, participants described a number of specific examples of South-South cooperation in which they were engaged. Within the South African Development Community, said one, there was an arrangement that enabled some 58 members from universities to conduct joint activities. Another noted that countries of the North Africa region were working on a programme under the umbrella of the African Ministerial Conference on Water which enabled them to learn from each other, to harmonize their methodologies, and to assess national progress in the attainment of the water-related targets of the Millennium Development Goals. Other examples given by individual participants included that 22 Arab countries members of the Arab Water Council were sharing information and supporting one another in the development and implementation of IWRM plans; UNESCO was assisting a number of African countries by twinning river basin organizations for optimal information sharing; the Government of Cuba was engaged in South-South cooperation, in particular, with regard to minimizing land-based sources of pollution to water; the Government of Jamaica had gained considerable experience on the development of water management systems and was actively engaged in sharing that information.

B. Country and subregional presentations

1. Elaboration of the national water resources plan in Brazil

41. Ms. Lara Montenegro, Ministry of Environment, Brazil, gave a presentation on the elaboration of the national water resources plan in Brazil. The national water law of 1997 had created a system for the management of water resources and the national water agency worked in water policy implementation. The pillars of the water law were that consumption was primarily for human and animal use in times of water scarcity and that the hydrographic basin was the territorial unit for implementation of the water policy and programmes. The water law recognized water resources as a public good endowed with ecological, social and economic values. The objective of the law was to ensure that water was available for present and future generations and it aimed to promote the wise use and sustainable development of water resources and promote prevention and defense against hydrological disasters. The law established a new framework for water management but also for public administration of the state. The legal and institutional water resources management framework made reference to systemic management of the public participation model. Instruments of the water law included water resources plans, classification of water bodies in accordance with water quality objectives, water rights permits, water uses charges, national water information systems.

42. In 2003, Brazil had been organized into 12 hydrological regions. A national water resources council established the rules for water policy. Other bodies responsible for policy formulation included basin committees, state councils, state basin committees and state secretariats. The elaboration process for the national water plan had included awareness-raising; resource mobilization and institutional arrangements; technical support for consultation; regional consultation with actors; consolidation of scenarios; adoption of scenarios by the national water resources council; consolidation of directives, goals and programmes; and approval by the national water resources council. The plan was, she said, a dynamic, participatory, multi-perspective process with continuous flexibility. One of the main lessons learned during the elaboration of the plan was the importance of multi-stakeholder participation on equal terms.

⁶ More information on CATHALAC and access to the SERVIR data portal is available through the website at www.cathalac.org

2. Water policy development in Lesotho

43. Mr. Motoho Maseatile, Senior Systems Analyst, Department of Water Affairs, Lesotho, gave a presentation on water policy development in Lesotho. In response to the limitations of the water resource act of 1978, a review of water management policy issues and strategies had been initiated in 1996 which had resulted in the 1999 water resources management policy. The policy had been based on the need for sustainability of water resources and had been elaborated with wide stakeholder participation. In the wake of the policy development, implementation tools had been elaborated. A coordinating body in the form of a water commission had been established for sector policy elaboration and coordination, and implementation tools had been developed including strategies, legislation, guidelines, standards and an implementation monitoring and evaluation plan. In order to enact the policy, it had been necessary to develop legislation; a bill was currently being drafted to ensure that a multi-sectoral regulator would oversee the water and energy sectors, for which one ministry was responsible. Among the immediate benefits of the process was that data management would be undertaken from a central point and stakeholders would benefit from the information sharing initiative.

3. Water resources management in Viet Nam

44. Mr. Nguyen Van Dien, Manager, Bureau of Water Resource Investigation, Viet Nam, gave a presentation on experiences related to water resources management in Viet Nam. In the North, Viet Nam shared a river with China. As the capital city, Hanoi, was located downstream, a reservoir had been built to control the water level in the city and avoid flooding. In the central area of the country where the river was very soft and steep, alternative solutions had been sought. As part of the water shed management, trees had been planted to decrease soil degradation. In response to widespread felling of the trees, a successful tree planting and caring programme benefiting local communities had been implemented.

4. Management of environmental and water resources in Indonesia

45. Mr. Sulad Sriharto, Director of Water Resources, Department of Public Works, Indonesia, gave a presentation on the management of environmental and water resources in Indonesia. The State Ministry of Environment and Water under the Ministry of Public Works was responsible for the national environment policy. Environmental aspects had been incorporated in water resources management in the country during an environmental impact study. The national water quality policy was the responsibility of the State Ministry of Environment for Rivers. Responsibility for rivers was divided between the provincial and the regional environment impact boards. River basin organizations were tasked with monitoring and reporting on water quality while water pollution control and industrial permits were under the authority of the provincial and regional environment impact boards. Law enforcement, however, remained very weak. Indonesia had experienced a number of environmental problems in recent years: rainfall patterns had altered in the country due to climate change, a number of droughts had occurred and invasive water hyacinth had led to the degradation of some of the larger lakes, including Lake Tondano and Lake Limboto. The implementation of rainwater harvesting projects would be an important step in helping the country to tackle its freshwater deficit.

5. Management of water resources in Bangladesh

46. Mr. Dhali Abdul Qaium gave a presentation on the management of water resources in Bangladesh where a national water policy, water strategy and participatory guidelines were in place. Despite successful planning, implementation remained a problem at the national level. Bangladesh was a land of rivers, which, he said, had shaped the history, economy and culture of the country. Water flowed through the country from Bhutan, China, India and Nepal. There were many climatic problems related to water resources in Bangladesh, including cyclones and storms that saw a surge height of over one metre in coastal zones. While the country received abundant water during monsoon periods, which often saw between 20 and 60 per cent of the national territory under water, some 25 per cent of the country was subject to water stress during the dry seasons. Land erosion was a considerable problem as were drainage congestion and salinity. Approximately 25 per cent of the population of Bangladesh was affected by arsenic contamination of groundwater; further water quality problems were experienced due to industrial development and sanitation challenges. To begin to respond to the many challenges, a national water management plan had been elaborated by over 30 stakeholders, including the State water resources planning organization, together with sectoral ministries and other agencies. The plan was a framework plan setting out 84 programmes divided into eight clusters and short-, medium- and

long-term planning. The environment was mainstreamed in the plan and it was consistent with the IWRM framework.

6. Rainwater harvesting in Kenya

47. Mr. David Mburu, Chair, Kenya Rainwater Association, gave a presentation on rainwater harvesting developments in Kenya. Two European Union-sponsored projects were under way in the country, building the capacity of local communities in dryland districts in Kenya to undertake rainwater harvesting. Some 80 per cent of Kenya was arid or semi-arid land, resulting in the degradation of rangelands. Rainwater harvesting projects aimed to reduce surface run-off to enable the re-vegetation of those rangelands. Rainwater was harvested in small ponds, which were then used by farmers for micro-irrigation with drip feeds. The water from run-off harvesting along roads was used for crop production and livestock. In rangelands, the water ponds enabled local communities to store water for up to three months. Techniques were adapted to the local terrain: plastic linings were used in areas where seepage was a problem, rock water harvesting was employed for rock catchment dams, sand dams were developed in sandy river beds. Local communities were taught how to maintain their water ponds, including tackling recurrent problems such as siltation.

7. Integrated water resources management in North Africa

48. Mr. Khaled Abu-Zeid, Senior Water Resources Specialist, Centre for Environment and Development for the Arab Region and Europe (CEDARE), gave a presentation on IWRM in North Africa. The Arab region was characterized by water scarcity with rainfall on the fringes of region, irrigation was vital for agriculture and there was considerable variation in the access of the local population to safe drinking water and sanitation. The countries of the region depended on irrigation for agriculture. CEDARE had carried out an assessment in each of the countries of the Arab region, which had clearly demonstrated that they were at different stages of progress on IWRM. CEDARE had proposed entry points to assist countries to adopt IWRM, including institutional strengthening of the Arab Water Council; capacity-building on IWRM for Governments and civil society; development of IWRM plans; a regional programme for attainment of the targets on water of the Millennium Development Goals; a state of water report; the establishment of an Arab water facility; and IWRM implementation.

49. CEDARE hosted the secretariats of the Arab Water Council and the North Africa African Ministerial Conference on Water. In the course of its work, it had compiled the costs of implementing the Millennium Development Goal targets on water and sanitation and had assessed how well each country in the region was faring in attaining those targets. In Egypt, for example, investment of \$29 billion would be required to implement the national water resources plan for 2005–2017. The plan set out national objectives with policy objectives, including protection of the water system with the polluter-pays principle, as well as strategic measures, activities to be carried out and main roles. National ministries, civil society, non-governmental organizations and the private sector all had roles to play under the plan.⁷

8. Development of the water sector in Algeria

50. Mr. Ali Dakiche, Deputy Director, West National Water Resources Agency, Ministry of Water Resources, Algeria, gave a presentation on the development of the water sector in Algeria. He described activities undertaken by the West National Water Resources Agency in pursuit of the development of the water sector. The agency worked in a number of capacities, including on the collection of catchment information, prospection and evaluation of ground and water resources, and follow-up of resources with respect to quantity and quality. Agency tools included a hydro-climatologic observation network, a piezometric network, and an inspection network for water quality. The observation network comprised 200 hydrometric stations and 800 pluviometric stations, among others. The network was automatically observed and the agency held databases for catchment statistics and observations. Information organized included 110,000 files on water points, 30,552 pluviometric station years and 3,707 hydrometric station years. Water quality analysis was undertaken by seven laboratories nationwide. Algeria shared a water aquifer with the Libyan Arab Jamahiriya and Tunisia and information exchange with those countries was an important element of the agency's work.

⁷ More information on CEDARE is available at www.water.cedare.org.

VI. Identification of challenges and strengths

A. Country-wise identification of challenges and strengths

51. In order to identify areas where South-South cooperation had particular potential, an exercise was undertaken whereby those participating identified, for their own countries, the challenges and strengths that hindered or supported the mainstreaming of the environment in national water policy and strategy, within a number of thematic areas: quantity, quality, allocation, climate change, biodiversity, and others. Within each thematic area, a number of issues were identified. For each issue, participants indicated whether or not it was being dealt with in policy or in implementation, and whether progress was being made in dealing with it.

52. In the first part of the follow-up to the exercise, Mr. Thomas Chiramba, UNEP, gave a presentation on the challenges that participants had identified within the thematic areas, for both policy and implementation. As regards quantity, there were weaknesses in both policy and implementation; for quality, weaknesses were overwhelming in implementation; both allocation and climate change presented considerable policy and implementation challenges; and for biodiversity there were overwhelming implementation challenges.

53. Mr. Chiramba also presented a compilation of the results of the country-wise identification of challenges, highlighting the issues that particular countries had drawn attention to, in both policy and implementation, within the thematic areas listed above, drawing attention to any commonalities that had emerged. The presentation is contained in annex I to the present report.

54. Where quantity was concerned, demand and supply, monitoring and data collection, land use and watershed management posed particular challenges. Regarding quality, the main challenges identified related to pollution and wastewater. Aspects of allocation that presented difficulties included conflict, corruption and allocation to agriculture. For climate change, reduced water supply, desertification and deforestation were concerns. Challenges to biodiversity included loss of species, invasive species and degradation. Other challenges identified included capacity-building and knowledge management. In almost all instances implementation was seen to lag behind policy formulation.

55. In the second part of the follow-up to the exercise, Mr. Per Hansen presented a compilation of the results of the country-wise identification of strengths, using the same methodology as for the presentation on challenges. The presentation is contained in annex I to the present report.

56. Where quantity was concerned, data collection and monitoring were well represented in both policy formulation and implementation, as were aspects of reuse and recycling. With respect to quality, pollution and monitoring were fairly well represented in policy and implementation, and wastewater was identified as an important issue. Regarding allocation, most countries had dealt with the matter in policy but progress towards implementation was slow, and conflict and policy reform were also issues. For climate change, some countries had made progress in adaptation and mitigation measures, but monitoring and data collection were areas of weakness. For biodiversity, several countries had succeeded in establishing protected areas, though few had measures to combat invasive species. Other issues identified as requiring consideration in national policy and implementation were knowledge management, capacity-building and stakeholder involvement. In general, the exercise on identification of strengths revealed that less progress had been made in implementation than in policy formulation, while major gaps remained in both categories. Throughout all issues, differences in country capabilities had been identified that offered potential for South-South cooperation.

B. Discussion of issues arising from exercise

57. In the discussion of issues arising from the exercise there was extensive comment on the comparative strengths and weaknesses that had been revealed in implementation and in enforcement. There was agreement that the exercise had been successful in revealing areas where countries differed in the progress that had been made, offering opportunities for countries that had made more progress to be of benefit to others in a South-South cooperation framework. Some interest was expressed in climate change as a relatively new area for engagement. Little policy formulation had been undertaken, and

while some mitigation and adaptation plans existed, they tended to be sectoral and had thus far received little finance.

VII. Key components of a capacity-building programme

A. Presentation on suggestions for key components of a capacity-building programme

58. Mr. George Krhoda gave a presentation on suggested components of a capacity-building programme for South-South cooperation. The presentation is set out in annex II to the present report. He said that it was important to bear in mind that sound policy was dynamic and required constant review and evaluation, and that policy was generally country specific. It was better, therefore, to consider South-South cooperation as a sharing of experiences rather than a translocation of policies. In line with the UNEP Water Policy and Strategy, the key issues to be considered in designing the programme were clustered within three categories: assessment, management and cooperative framework.

59. The proposed programme, he continued, had two main platforms. Platform 1 consisted of the facilitative components, comprising a South-South water policy and strategy forum; information sharing, data gathering and documentation; establishment of a water policy and strategy trust fund to manage South-South cooperation on water; and a network for policy and strategy analysis. Platform 2, experience in modern water policymaking and implementation, comprised management challenges (policy planning, formulation and implementation); institutional mandates and roles; management instruments; and transboundary and river basin organizations. The key, he concluded, was to find a methodology to translate policy into strategy and then into implementation, overcoming the disconnect that often existed between those elements.

B. Discussion of issues arising from presentation on key components

60. Following the presentation, the Chair drew attention to the linkages between the issues identified and the presentations on capacity-building and on the challenges faced. He stressed that the aim of the process was not to propose a new approach to management of water resources but to raise the profile of the ecosystem in IWRM in order to promote environmental sustainability. He added that the issues identified by countries in the exercise on country-wise strengths and weaknesses would provide input into the discussion on the components of the proposed programme.

61. During the ensuing discussion much interest was expressed in the proposed programme, and initial suggestions for adjustments were proffered. Several participants highlighted the good work that was already being done at national and regional levels within several of the components.

62. A number of participants said that advantage should be taken of existing initiatives and ideas; there was no need to reinvent the wheel. Regional organizations and networks existed with structures already in place that could increase the effectiveness of a South-South cooperation programme, which need not limit itself to country-to-country interaction. One participant said that lessons could be learned from activities being undertaken under North-South cooperation; for example, the European Union had set up a twinning programme for North and South river basins, and a similar idea could be used for pairs of basins in the South. Another asked what would be the added value of establishing a South-South water policy and strategy forum, given the amount of work already being done in that area. Coordination, and avoidance of overlap, were seen as critical challenges.

63. One participant noted that policy development did not take place in a vacuum, but had to take account of, and adapt to, a wide variety of contextual factors. It was important, therefore, to think practically, engage in implementation at an early opportunity, and then adapt to changing circumstances. Others agreed that there was an urgent need for action and resource mobilization.

64. Some participants pointed to the need for training of managers responsible for policy implementation, including through making an inventory of skills needed, developing and improving training materials such as toolkits, and holding workshops. It was important to look beyond capacity-building for water resource managers and engage those individuals and agencies responsible for central planning and finance. Sectoral engagement was also important for a range of specific areas, including agricultural water use, disaster management and groundwater. A participant noted that

environmental issues were rarely well represented in the curricula of education institutions, and advocacy should be undertaken in that regard.

65. One participant said that care should be taken not to focus on large countries with transboundary issues; other territorial units, such as small island developing States, had specific issues that also required attention.

C. Group work on components of capacity-building programme

66. Following the presentation and discussion, Ms. Johanne Jelnes, Programme Officer, UNEP, introduced an exercise whereby the participants, in four groups, suggested components for a capacity-building programme for South-South cooperation, and who should be targeted by the programme; and suggested implementation modalities for addressing the components identified. She said that the participants in the exercise should be imaginative and creative while bearing in mind that the resulting programme must be implementable and sustainable in the long term.

67. The exercise generated a good deal of discussion and a range of opinions emerged over what should constitute the components of a capacity-building programme for South-South cooperation. Components given prominence in various presentations included climate change, institutional reform, advocacy and sensitization of decision makers, knowledge management and information sharing, participation in existing forums, and transboundary elements. Regarding who should be targeted, senior decision makers were seen as a priority group, while suggestions related to universities and research institutions, postgraduate students and experts indicated the importance of advocacy supported by firm scientific evidence and expert opinion.

68. Suggestions regarding implementation modalities included capacity-building through training, workshops and seminars; pilot studies and projects; engagement of expertise, including national centres of excellence; development of specific tools, including toolkits for decision makers and methodological guidance; information sharing, with a website as an essential component; and establishment of a sustainable trust fund. One group suggested a hierarchy of forums at national and regional levels under a network forum.

VIII. South-South cooperation: strategic and operational approaches

A. Presentation on strategic and operational approaches to South-South cooperation as applied to water policy

69. Mr. Bob Kakuyo, South-South Cooperation Coordinator, UNEP, gave a presentation on strategic and operational approaches to South-South cooperation, particularly as applied to water policy. He said that South-South cooperation should be a long-term, systematic process that was an integral component of larger processes. It required substantial political commitment and investment and needed to demonstrate tangible benefits. While South-South cooperation had worked well in a number of sectors and a range of international institutions had developed agreements and initiatives in the area, the environment had not been accorded priority thus far.

70. He looked at some mechanisms by which South-South cooperation could be achieved, including triangular cooperation, with, for example, a network of collaborating centres and institutions in the South supported by expertise and finance from the North, thereby generating additional resources to bolster the South-South exchange. He then outlined the key features of a web-based clearing-house mechanism, under development at UNEP, that could bring together seekers and providers of goods, services and information, thus matching demand and supply. He concluded by suggesting some approaches that could be taken regarding South-South cooperation in water policies and strategies, and put forward some potential actions for consideration.

B. Discussion of issues arising from presentation

71. In the ensuing discussion, one participant raised a query about time frames, noting that many instances of South-South cooperation had taken some years to bear fruit. Mr. Kakuyo said that that depended on the complexity and range of the cooperation undertaken. The initial phases – definition of

the scope of the project and identification of the institutional mechanisms and resources required – could be completed relatively quickly for specific projects, while the implementation phase was undertaken in the long term. Another participant said that while South-South cooperation offered promise, lessons must be learned from previous attempts at North-South cooperation, which often failed because of inappropriate interventions.

C. Group work on potential action regarding South-South cooperation

72. Following the presentation and discussion, further group work was undertaken based on the potential actions for consideration put forward by Mr. Kakuyo, namely identifying capacity-building needs; identifying expertise and best practices; identifying opportunities and practical mechanisms; specifying institutional arrangements; and sustaining South-South cooperation initiatives. The groups were invited to make specific suggestions within those areas of potential action.

73. Reporting back to the workshop, the chairs of the groups made a number of suggestions for possible inclusion in the draft programme. On capacity-building, specific actions might include augmentation of existing activities with knowledge-sharing regional workshops; training courses; the identification of a cluster of lead countries with good practices in place; the facilitation of information exchange in existing regional structures; formalized partnership exchange agreements at the appropriate level of expertise; and exchange visits. In the broad area of climate change and climate variability, training courses, methodologies, research case studies and short-term exchange visits were seen as important elements of capacity-building.

74. With regard to identifying available south-specific expertise, activities suggested included technology transfer; exchange visits; discussion groups; collection of best practices; case studies; policy and strategy analysis; a website; publications; core curriculum adjustment for environment; and water-related academic programmes and calls for participation and partners through a UNEP clearing house. An inventory of existing initiatives and programmes, and the exchange of policy experiences and provision of policy support, were seen as important opportunities and practical mechanisms to facilitate and maximize South-South cooperation solutions. Important institutional arrangements identified included interministerial committees; a secretariat; a technical advisory body; networking forums; a connection to clearing house communities and agreements with specialized centres of excellence.

75. Environmental aspects that could be components of a water policy included ecosystem services; resource-directed measures; source-directed controls; land-use practices and impact on the environment.

76. On institutional reforms for effective stakeholder engagement in national water policy development review and implementation moderation and sharing of contents were seen as important as were access to methodologies, guidelines and technology to strengthen integrated management of surface and groundwater. Decision makers would benefit, it was felt, from a toolkit targeted to that group describing practical means for the integration of environmental aspects into water management and policies. Also important for decision-makers would be the development, promotion and dissemination of research studies through South-South cooperation and the development of indicators for ecosystem management. Linking up with other successful existing networks would assist decision makers to understand the value of the hydrological cycle while the sharing of experiences, best practices and case studies would heighten their awareness of pollution control issues. Coordination and consultation would be crucial to updating and reviewing transboundary water agreements to incorporate the ecosystem consideration; advisory services and research studies would be required to revise legislations.

77. Finally, regarding the sustaining of South-South initiatives, it was proposed that activities would best be led by United Nations organizations, Governments and institutions that were engaged in leading similar existing initiatives.

78. It was agreed that the main elements presented by the working groups would be incorporated by representatives of the groups working in collaboration with the secretariat into the draft programme to be presented by Ms. Khaka during the final session of the workshop.

IX. Draft capacity-building programme

A. Presentation of the first draft of a capacity-building programme

79. Mr. Chiramba presented a table setting out the first draft of a capacity-building programme as it had evolved based on the comments of groups and participants to date. The secretariat had, he said, considered the presentations made by the groups as well as comments by individual participants, and elaborated the first draft on that basis.

80. The first component of the draft programme was mainstreaming environmental aspects in policy formulation and implementation at policy level, as part of which the following components were required:

- (a) Awareness creation for decision makers on ecosystem aspects;
- (b) National policy and strategy analysis;
- (c) Elaboration of instruments for policy development.

81. The second component on strengthening institutions necessitated the following interventions:

- (a) Institutional reform for stakeholder engagement in policy development and implementation;
- (b) Institutional function in part mandates and roles.

82. For the third component on enhancing expertise, the following were needed:

- (a) Application of the ecosystem approach;
- (b) Adaptation to climate change and variability;
- (c) Management instruments.

83. On the fourth component, programme facilitation, important elements were described as:

- (a) Knowledge management;
- (b) Information sharing;
- (c) Twinning.

84. The fifth component, programme coordination, included the following elements:

- (a) A forum;
- (b) Networking;
- (c) Resource mobilization;
- (d) A structure for coordination.

B. Discussion of issues arising from the presentation

85. In the ensuing discussion, participants pointed to a number of additional issues for inclusion in the draft programme. One participant noted that climate variability and climate change should be tackled as separate issues; while the globe had always been subject to climate variability, climate change required an entirely different kind of response and should be featured more prominently in the draft programme. Several participants stressed the importance of including technology transfer as part of the programme and others called for the relationship between the programme and IWRM to be clearly defined. A number of participants who spoke felt that the identification of specific capacity-building needs would best be undertaken by stakeholders at the national level. Other issues raised by individual participants included the need to define the roles of those leading the programme; the importance of creating an initiative that would be sustainable; and the need to specify the management instruments that would be used for the purposes of the programme. One participant noted that South-South cooperation was not a new endeavour, quoting among other existing initiatives the Jakarta-based Non-Aligned Movement Centre for South-South Technical Cooperation. He urged other

participants to think about centres of excellence and research centres in their countries or regions that might be used for the propagation of South-South cooperation.

86. It was agreed that the secretariat would work on incorporating the outcomes of the group work and suggestions that had arisen during discussions in the draft programme for final presentation prior to the closure of the workshop.

C. Presentation of the final draft of a capacity-building programme

87. During the final session of the workshop, on the morning of Thursday, 29 May 2008, Ms. Khaka presented the draft elements of a programme on capacity-building for mainstreaming environmental aspects in national water policies and strategies through the South-South cooperation framework as developed by the secretariat in collaboration with participants to the workshop. The overall goal of the programme was, she said, to strengthen the environmental component of IWRM in the planning, legislative and implementation processes. Objectives included enhancing the application of the ecosystem management approach; strengthening networking between water managers and stakeholders in countries of the South; and reducing capacity gaps in environmental aspects through information exchange. She provided an overview of the draft programme set out in a table format comprising columns on components, key activities, potential partners and time frame. It was agreed that the secretariat would incorporate the comments made by participants during the final session and finalize the draft programme after the closure of the workshop. The outcome of the final drafting by the secretariat of the programme is set out in annex III to the present report.

D. Way forward

88. Mr. Chiramba gave an overview of the way forward following the workshop. As a first step, the workshop report would be finalized and circulated to participants. The report of the workshop would be presented to the Committee of Permanent Representatives to UNEP and other relevant forums. A further analysis of workshop outputs would be undertaken, including a detailed proposal for implementation and fund-raising. Further assessment of needs and strengths would be carried out, including dialogue with countries and institutions on needs and strengths in specific areas. Phased implementation would be initiated through the establishment of programme facilitation and coordination and a pilot programme.

X. Closure of the workshop

89. Following the customary exchange of courtesies, the workshop was declared closed at 1.15 p.m. on Thursday, 29 May 2008.

Annex I

Summary of country-wise identification of challenges and strengths

Quantity

Issue	Policy	Implementation	country code
Demand/Supply(Leakages & loss)	1	0	9
Demand/supply Limited Quantity	0	0	12
Demand/supply	0	0	1
Demand/supply	0	0	8
Demand/supply	progress	0	10
Monitoring (data Collection)	0	0	4
Monitoring (data Collection and analysis)	1	0	7
Monitoring	0	1	5
Monitoring	0	0	13
Land zoning for source protection	0	0	6
Land use changes	0	0	6
Land use	1	0	9
Land use	progress	0	14
Water shed managemnet	progress	0	12
Water Shed Management	1	0	7
Water Shed Management	1	0	10
Water reuse/recycling	0	0	7
Uneven flow	progress	0	14
Transboundary	progress	1	5
Transboundary	0	0	8
Surface/Groundwater recharge	0	0	14
Surface/Groundwater interaction	0	0	12
Riparian Zone det	1	1	2
Overabstraction	0	0	1
Overabstraction	progress	0	14
Insuffiient Infrastructure	0	0	6
Infrastructure	0		5 to be checked
Illegal abstraction	1	0	9
Floods	1	1	8
Environment (?)	0	0	10
Env. Flow	1	1	2
(Lack of) IWRM	progress	1	3

Quality

Issue	Policy	Implementation	country cc
Pollution heavy	1	0	1
Pollution (polluter pays)	1	0	2
Pollution (Polluter pays principle)	0	0	13
Pollution (Polluter pays principle)	1	0	14
pollution	1	progress	4
Pollution	1	progress	6
pollution	0	0	10
pollution (industrial)	1	0	9
land use	1	progress	2
land use	1	progress	7
land use	1	0	9
land cover change	progress	0	3
Waste water disposal & treatment	1	progress	7
waste water	progress	progress	1
waste water	1	progress	2
Monitoring (data collection)	0	progress	4
Monitoring	0	0	12
lack of protection zones	1	progress	7
Lack of projection zones	1	0	5
Industrial accidents	1	progress	1
Health hazards ?	0	0	12
Water shed degradation	0	0	12
Water safety planning	1	progress ?	6
Water safety (pricing ?)			5
water borne diseases ?	?	0	10
Transboundary (Exchange of information)	1	progress	5
storage	1	0	9

ALLOCATION

Issue	Policy	Implementation	Country Code
Allocation/Policy	0	0	12
Allocation/Corruption	0	0	10
Allocation reform	in progress	limited	2
Allocation enforcement	1	0	9
Allocation Conflict	1	limited	4
Allocation Conflict	0	0	7
Allocation Conflict	0	progress	14
Too much allocation for irrigation	0	0	12
Too much allocation for agri/urban/long dist	0	0	1
Water sources conservation	1	0	9
Water conservation			14
Transboundary restrictions	1	1	12
Poor planning (limited resource assessment)	0	0	6
Infrastructure	0	0	10
Environmental flow	1	0	9
Economic/social feasibility	0	0	7
Build on local knowledge			7
to be checked			5

CLIMATE CHANGE

Issue	Policy	Implementation	Country Code
Less water (drought)	1	progress	7
Less water - reduced water supply	0	0	6
Less water - more flood - less prediction	0	0	1
Less water - more flood	1	progress	9
Less water	0	0	10
Desertification	0	0	10
deforestation	1	progress	7
Deforestation	0	0	10
Adaptation (need for)	0	0	3
Adaptation			14
Ecosystem vulnerability	0	0	5
Rainwater harvesting	1	progress	9
Rainwater harvesting			14
data collection and analysis	0	0	5
data collection and analysis	1	progress	9
Mitigation measures			14
Water use efficiency	1	progress	7
Land loss	0	0	4
Increased storm damage	0	0	6
Flood - tide rising	0	0	4
Drought management	0	0	12
CC preparedness	0	0	12
CC modelling	0	0	5
Capacity to assess CC	0	0	12

BIODIVERSITY

Issue	Policy	Implementation	Country Code
loss of species	0	progress	6
loss of species	?	?	10
loss of endemic species & special ecosystems	0	0	3
Loss of Coastal Ecosystems			6
Loss of biodiversity area (protected areas)	1	progress	10
Loss of Biodiversity	1	progress	4
Less ecological function of rivers	1	progress	1
Land use change	1		1
land degradation	1	0	2
Invasive weeds	?		9
Invasive species	0	0	1
Food security			5
Food security			14
Eco-regions	1	0	7
Degradation of Biodiversity	1	progress	4
Decrease in species diversity	1	0	2
Change in forest cover			14
Assessment and monitoring	0	0	13
Wetlands	?		9
unsustainable utilisation	0	0	10
Riparian Area			14
Pollution	1	progress	5
Overexploitation			5
Over exploitation of biodiversity	?		9

OTHERS

Issue	Policy	Implementation	Country Code
Capacity for CSO			9
Capacity building for IWRM			6
Capacity Building			14
knowlegde Managemnet			5
Knowlegde management (Lack of dissimination of reseach findings)			10
Water/Environmnet versus Economic Policies			13
Role sharing			14
Policy implementation			13
Payment for water shed services			14
Linking in wider development			6
Legal challenges			10
Institutional Reforms			5
Impact of human activities	0	0	5
Ecological recovery	0	0	1
Deforestation	1	progress	4
Compensation			9
Benefit Sharing			9
"Meritocracy"			10

Country Codes

- 1. China**
- 2. South Africa**
- 3. Panama**
- 4. Vietnam**
- 5. Algeria**
- 6. Caribbean Region**
- 7. Brazil**
- 8. Bangladesh**
- 9. Tanzania**
- 10. Kenya**
- 11. Sudan**
- 12. Lesotho**
- 13. Indonesia**
- 14. SADC Secretariat**

Annex II

Suggested components of a capacity-building programme

Overall Goal:

To strengthen the environmental component of IWRM planning, legislative and implementation processes.

Objectives

- Enhance the application of the ecosystem management approach
- Strengthen networking between **water managers and stakeholders** in South countries
- Reduce capacity gaps in environmental aspects through information exchange

	COMPONENTS	MODALITIES		
		Key Activities/ Actions	Potential PARTNER /AGENCY / COUNTRY/ORGANISA TION	TIME FRAME
1.	Assessment, dissemination & Sharing of Information	<p>Assessment</p> <ul style="list-style-type: none"> - Collection of best practices - Case studies - Compiling Policy and strategy analysis - Inventory of existing initiative /programmes - Identify the cluster of lead countries with good practice in place (Representation from different geographic groupings) <p>Dissemination</p> <ul style="list-style-type: none"> - Web-based Information System - Publications for awareness raising - Core curriculum adjustment for environmental/water academic programmes - Technology transfer - Discussion groups - Networks - Media 	<ul style="list-style-type: none"> - Governments - UN-Water - Nile IWRM – Net - CBD Secretariat - Donors - Global Water Partnership (Regional Secretariats) - CEDARE (Arab Region) - ARAB Water Council - Nile Basin Initiative - INA Water Partnership - SEARNET (Southern and Eastern African RWH network) - CEHI (Caribbean) - NBCBN-RE - SADC –Water Division 	<p>1-3 years – ongoing</p> <p>ID countries 1-6 months</p>

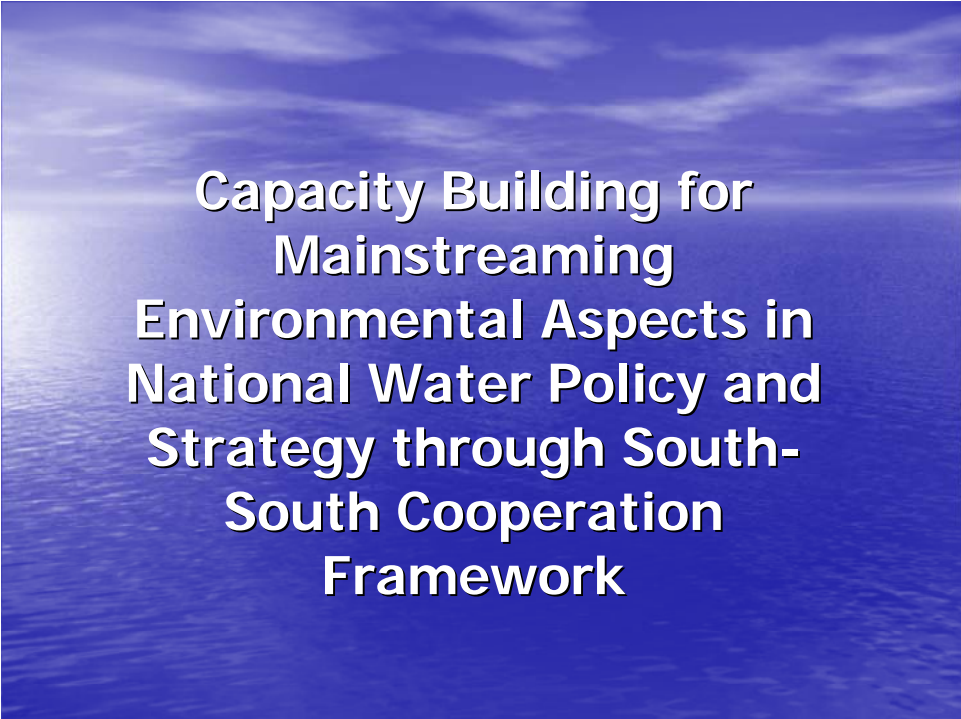
		MODALITIES		
	COMPONENTS	Key Activities/ Actions	Potential PARTNER /AGENCY / COUNTRY/ORGANISA TION	TIME FRAME
2.	Human resources development	<ul style="list-style-type: none"> - Experience Exchange through Networking regional workshops (for decision makers, professionals, etc) - Capacity building training courses - High level-targeted events (Panel discussions, ..etc) - Facilitate exchange based on the experience in the existing regional structures /institutions. - Formalized partnership exchange agreements (right level or expertise) - Exchange visits (Study tours) - Twinning 	<ul style="list-style-type: none"> - Governments - UN-Water - CBD Secretariat - Nile IWRM – Net - Donors - Global Water Partnership (Regional Secretariats) - CEDARE (Arab Region) - ARAB Water Council - Nile Basin Initiative - INA Water Partnership - SEARNET (Southern and Eastern African RWH network) - CEHI (Caribbean) - NBCBN-RE - SADC –Water Division 	<p>1-3 year outlook</p> <p>Formalized arrangements 0-1 year</p> <p>Training courses – ongoing to medium term</p>
3.	National, regional, transboundary Policy/Strategy/Plans formulation & Implementation	<ul style="list-style-type: none"> - formulation - Assist in developing environmental components of IWRM policies/plans - Policy experience and support extended (across other sectors e.g. planning, economy, forestry etc) - Formalized partnership exchange agreements (right level or expertise) 	<ul style="list-style-type: none"> - UN-Water - Governments - Institutions leading existing initiatives - Institutions with capacity building experiences (as listed above) - Water Utilities - CEDARE (Arab Region) - ARAB Water Council - Global/Local NGO's - Donors 	1-3 years - ongoing
		<ul style="list-style-type: none"> - Implementation - Research exchange/ Collaboration E.G Twin basin initiative - Assist countries in implementing environmental components of IWRM policies/plans - Formalized partnership exchange agreements (right level or expertise) 	<ul style="list-style-type: none"> - UN-Water - Governments - Institutions leading existing initiatives - Institutions with capacity building experiences (as listed above) - CEDARE (Arab Region) - ARAB Water Council - Global and Local NGO's - E.G Indonesia Perusahaan Jasa Tirta I and II (Payment for Environmental Mechanism and Operation maintenance) 	1-3 years - ongoing

		MODALITIES		
	COMPONENTS	Key Activities/ Actions	Potential PARTNER /AGENCY / COUNTRY/ORGANISA TION	TIME FRAME
			- Donors	
4.	Institutional Development	- Resource Mobilization - Strengthen Institutional Functions - Improve Stakeholder Participation - Formalized partnership exchange agreements (right level or expertise)	- UN-Water - Governments - Institutions leading existing initiatives - Institutions with capacity building experiences - Donors	1-3 years - ongoing

- **Issues** (collective issues from workshop are common to all components)
 - Management Instruments
 - Water Quality & Pollution
 - Climate Change
 - Allocation
 - Institutional Aspects
 - Legislative Aspects
 - Modeling & Assessment
 - Ecosystem Services & Management
 - Land Use
 - Environmental Impact Assessment (EIA)
 - Strategic Environmental Assessment (SEA)
 - Stakeholder Participation
 - Transboundary Waters
 - Others from Working Groups & UNEP Water Policy & Strategy
- **Target groups** (Governments, Universities, Research Institutions, Existing Networks, Regional Organizations, NGOs, CBOs, CSOs, ..etc)
- **Program/Project/Framework Management Arrangements** (Steering Committee, Regional/Country Representations, Organizational Structure, resources mobilization, Budget, implementation plan, Duration (UNEP Water Policy), .etc)

Annex III

Draft capacity-building programme



Capacity Building for Mainstreaming Environmental Aspects in National Water Policy and Strategy through South- South Cooperation Framework



Purpose of the paper

- Broad overview of the key national water policy formulation and implementation challenges
- Strengths and lessons learned
- Opportunities for addressing the identified challenges within SSC framework
- UNEP role and interventions based on its mandate and competence.

Key national policy and implementation challenges[1]

- Strong political commitment for the water sector, recognition of engaging parliament, government leaders and officials;
- Water governance - overlapping institutional mandates and roles, multi-sector and multi-level coordination, collaboration and implementation;

Key national policy and implementation challenges[2]

- Lack of capacity – legal and institutional, management, conflict resolution, ecosystems management, etc;
- Public participation and stakeholder engagement;
- Water allocation reforms and programmes;

Key national policy and implementation challenges[3]

- Comprehensive and effective communication and outreach strategy;
- Understanding ecosystems based approaches in water resources management factoring in the full range of terrestrial and aquatic ecosystems;

Key national policy and implementation challenges[4]

- Comprehensive information and knowledge management systems and processes;
- Transboundary water resources specifically sharing information, coordination and harmonization between sectors at the national level and across national boundaries;
- Groundwater resources assessment and use.

Water policy reform drivers

- Water scarcity – natural, historical or management.
- Environmental deterioration – biodiversity, invasive weeds, pollution, wetland, land use change.
- Climate change and variability including droughts and floods
- Apparent fear of conflicts – sub-national and national
- Transboundary or international nature of water

Summary of Lessons learnt from ongoing water policy reforms

- Enabling Environment
- Resource Assessments
- Institutions, Legislation and regulations
- Management instruments
- Cross cutting issues

Enabling environment

- Political commitment and stakeholder participation
- Status of policy and legislative development- new, dated, under review
- Implementation of policies and strategies-capacity, guidelines, tools,
- Improving knowledge and information management

Institutional roles and functions

- Overlapping mandates and roles
- Institutional and human capacity
- Poor coordination
- Poor deployment of human resources
- Public participation and stakeholder engagement
- Devolution, decentralisation, governance aspects

Resource assessment and environmental issues

- No comprehensive data collection and monitoring;
- Rapid population and economic growth;
- Absence of groundwater policy;
- Weak enforcement of environmental legislation;
- Weak institutions;
- Lack of technical capacity.

Infrastructure development

- Supply-oriented as response to climate change and variability
- Improved catchment conservation
- Biased towards water supply not sewerage treatment and solid waste disposal
- Pollution laws lagging behind infrastructure development

Summary of Management and ecosystem approach

- Economic instruments
- Water demand management and efficiency
- Water allocation and environment.

Economic instruments

- Tariffs, user charges, pollution charges, taxes, economic valuation of water etc;
- Limitations include social/religious values, economic and environmental externalities, intrinsic economic value of water;
- Ecosystem valuation and PES not common; methodology of these approaches.

Water allocation and environment

- Comprehensive water allocation programme absent;
- Water allocation for environmental flows or payments for ecosystems services are not in place;
- Regulatory instruments, water rights, paucity of data and information, poor knowledge of the resources, limited financing, and limited human capacity;
- Short-term interests, political expediency, lack of enforcement of permits, etc

Demand management and efficiency

- Use selective incentives to promote efficient and equitable use of water
- Economic measures (pricing), regulation, education and awareness raising, technology improvements, water-loss control, water reuse and recycling.
- Economic growth and ensure environmental health imbalance.

Summary of cross cutting issues

- Transboundary waters
- Conflict resolutions
- Social change instruments
- Gender issues

Transboundary water issues

Step 1: Apply all-inclusive approach application of internationally agreed environmental principles such as the “polluter pays” principle; sharing technical data and information; the precautionary principle and “principle of no significant harm”.

Transboundary water issues

Step 2: River basin management approach for comprehensive ecosystems planning and conflict resolution. All competing users of water to be reconciled.

Good practices[1]

- Nile Basin Initiative devoted mainly to the goal of building confidence in regional cooperation and its key elements include a shared vision, strong riparian ownership, effective lead donor partnerships and commitments, flexible financing, a systematic incremental process, and transparency and accountability.

Good practices[2]

- Komati River basin system - clarifying institutional roles in the management was helpful in reducing tension between South Africa, Swaziland and Mozambique.

Good practices[2]

- The Niger Basin Authority - through harmonization and coordination of policies, ensuring control of legal aspects, fostering common projects regulating navigation in the river has been able to mobilize financial resources.

Good practices[3]

- Enhancing transparency as in regional programme for sustainable development of the NSA, leads to cooperation, in addition to the importance of clear and separate roles for political and technical institutions, involvement of stakeholders at all levels of the basin, and respect for local knowledge.
- Nubian Sandstone Aquifer (NSA) is huge fossil water resource, estimated at 150,000 km³, (Chad, Egypt, Libya, Sudan)

Conflict resolutions[1]

- Helping to mitigate conflict and increase confidence, both within and among states.
- Helping to ensure broad participation in dialogue processes on resource governance and management

Conflict resolutions[2]

- Support strengthening of institutions in order to improve water management and co-ordinate water use
- Help integrate conflict impact assessments and water resource assessments.

Social change instruments

- International and national legal instruments as well as some countries recognize the "right to clean water" i.e International Covenant on Economic and Social Rights.
- New water culture lobby group calls for "eco-friendly" and sustainable management of water.

Gender mainstreaming hindered by poor understanding[1]

- Narrowly defined environmental goals that exclude women's interests
- Women have different uses, priorities and responsibilities for water resources hence analyse trends along gender lines in terms of access and control over water and water rights
- Gender differences and inequalities mean that women and men experience changes in water availability, services or water policies differently

Gender mainstreaming[2]

- How individuals respond to changes in water resources management
- Influence collective responses between men and women to water resource management issues
- Women often face specific obstacles to participating in a decision-making and policy implementation.

IWRM approach

- Aims at achieving sustainable development focusing on water resources;
- Characterized by its catchment approach, inter-sectoral and interdisciplinary approach and multiple management objectives;
- BUT excludes multiple resources and environmental considerations.

Change areas proposed

- Problem-based approach
- Ecosystem vitality, including human wellbeing
- Areas of national relevance and maximum impact, i.e. poverty, health, meeting MEAs or any other global commitments
- Enhanced coordination, joint planning, etc "create a big picture"
- Initially limit assessment to chosen area of entry.

Ecosystem approach

- Land and aquatic ecosystems, based on a river basin as a whole.
- Specific ecosystems: forests, land, wetlands, urban ecosystems, interface between freshwater and coastal ecosystems

Ecosystem approaches recognize

- Interdependence and multi-dimensionality of social, cultural, economic dimensions, i.e. poverty and environment.
- Environmental dimensions of sustainable water resource management = Ecosystem functioning, services; water resources and economy.

Ecosystem functioning and water policy[1]

- Water quantity - meeting supply/demand gap, over-abstraction.
- Water quality maintenance and pollution control, treatment and disposal of wastewater.
- Water allocation - policies, environmental flows, demand/supply gaps, demand management, infrastructure development, groundwater, implementation and enforcement

Ecosystem functioning and water policy[2]

- Climate change and variability - droughts, floods, (rainwater harvesting, dams, groundwater recharge, etc)
- Biodiversity degradation - changes in forest cover, wetlands, invasive species.

Ecosystem-based River Basin Management[1]

- Achieves RBM objectives and multiple global environmental benefits including environmental sustainability, water services, aquatic ecosystems
- Incorporates ecosystem functions into water policy framework including water cycle, nutrients cycle, etc.
- It is e-functions that link to e-services.

Ecosystem-based River Basin Management[2]

- Maximizes and optimizes total value of the ecosystem functions by conserving and even enhancing these functions for the next generations.
- Examples- sanitation, wastewater collection, reuse and reallocation

Key issues and challenges for policy development and implementation[1]

- **Assessments:** Sub-national, national and regional trends in water quality and quantity, defining environmental visions, priorities and goals, awareness raising and information sharing on environmental issues, public participation, issues regarding climate change and variability.

Key issues and challenges for policy development and implementation[2a]

- **Management challenges:** Enabling environment (socio-cultural context), Water legislation and regulations, environmental legislations, water financing, policies, approaches and guidelines.
- **Institutions:** Co-ordination, decentralization (depending on country context), Environmental Authorities, EIA processes, enforcement of environmental laws, water-related MEAs.

Key issues and challenges for policy development and implementation[2b]

- **Management instruments:** practical and technical environmental guidelines, methods, and tools; ecosystems valuation, payment of ecosystem services.

Key issues and challenges for policy development and implementation[3]

- **Challenges relating to cooperative frameworks:** Sub-national, national and regional joint planning and management, transboundary waters, RBOs, South-South mechanisms, capacity of regional institutions, regional networks, etc

Key messages[1]

Challenges and constraints that impede effective mainstreaming of environmental aspects

Key messages[2]

Strengths and successes registering positive advances in mainstreaming environmental aspects in some countries and which could therefore serve as potential interventions for the identified challenges.

Key messages[3]

Potential strategic approaches for establishing the necessary enabling environment for the desired SSC activities and initiatives.

Platform 1: Facilitative components

- *Component 1: South-South Water Policy and Strategy Forum*
- *Component 2: Information sharing, Data gathering and Documentation*
- *Component 3: Establish a Water Policy and Strategy Trust Fund to manage the SSC on water*
- *Component 4: Network for policy and strategy analysis*

Platform 2: Experience in modern water policy making or implementation

- *Component 5: Management challenges (policy planning, formulation and implementation)*
- *Component 6: Institutional mandates and roles*
- *Component 7: Management instruments*
- *Component 8: Transboundary and River Basin Organizations*

THE END

THANK YOU FOR

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Annex IV

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**CAPACITY BUILDING FOR MAINSTREAMING ENVIRONMENTAL
ASPECTS IN NATIONAL WATER POLICY AND STRATEGY THROUGH THE
SOUTH-SOUTH COOPERATION FRAMEWORK**

UNEP PROGRAMME OUTLINE

July 2008

TABLE OF CONTENTS

1. BACKGROUND	4
2. STATUS OF COUNTRIES' EXPERIENCES IN AND CONTRIBUTION TO MAINSTREAMING ENVIRONMENTAL ASPECTS IN WATER POLICY	4
3. INSTITUTIONS POSSESSING ENVIRONMENT AND DEVELOPMENT EXPERIENCES.....	5
4. KEY ISSUES AND CHALLENGES FOR POLICY FORMULATION AND IMPLEMENTATION.....	6
4.1 Water policy assessments, information sharing and dissemination.....	6
4.2 Institutional development.....	6
4.3 Human resources development.....	6
4.4 Formulation and implementation of national, regional, transboundary policy/strategy and IWRM plan.....	6
5. MANDATE AND JUSTIFICATION OF THE PROGRAMME	6
5.1 UNEP's Mandate	6
5.2 Justification of the programme.....	7
6. PRINCIPLE CONSIDERATIONS FOR THE PROPOSED PROGRAMME	8
7. PROGRAMME ASSUMPTIONS	8
8. PROGRAMME GOAL AND OBJECTIVES	8
8.1 Overall Goal:	8
8.2 Specific Objectives.....	8
8.3 Suggested areas of technical interest	9
9. PROGRAMME LOGICAL FRAMEWORK ANALYSIS	9
9.1. Programme Logical Framework objective matrix.....	10
9.2 Programme Logical framework output matrix	11
9.3 Proposed activities.....	16
9.4 Projected Workplan.....	20
ANNEX 1. THE SCOOPING WORKSHOP REPORT	26
ANNEX 2: THE WORKSHOP REPORT.....	26
ANNEX 3: SUMMARY OF COUNTRY-WISE IDENTIFICATION OF CHALLENGES	26
ANNEX 4: IDENTIFICATION OF WATER ALLOCATION ISSUES AND CHALLENGES.....	28
ANNEX 5: IDENTIFIED ISSUES AND CHALLENGES RESULTING FROM CLIMATE CHANGE AND CLIMATE VARIABILITY	29
ANNEX 6: IDENTIFIED ISSUES AND CHALLENGES RESULTING FROM BIODIVERSITY DEGRADATION.....	30
ANNEX 7: SUMMARY OF COUNTRY-WISE IDENTIFICATION OF STRENGTHS	32
ANNEX 8: EXAMPLES OF INSTITUTIONS AND NETWORKS	32
ANNEX 9: RESOURCE MOBILIZATION.....	33
Self financing by participation developing countries.....	33
Individual bilateral cooperation initiatives	34
Collective resources.....	34
"Triangular cooperation" approaches.....	34
Private sector engagement and Partnerships	34
ANNEX 10: PROGRAMME MANAGEMENT	35
Organizational, administrative and financial arrangements.....	35
Monitoring, assessments and evaluation.....	35

ACRONYMS

ADB	Asian Development Bank
AfDB	African Development Bank
AIT	Asian Institute of Technology
AMCEN	African Ministers' Council on Environment
AWF	African Water Facility
DANIDA	Royal Danish Embassy/DANIDA
DEPI	Department of Environment Policy Implementation
EUWI	European Union Water Initiative
GEF	Global Environmental Facility
GWP	Global Water Partnership
IUCN	International Union of Conservation of Nature
JWF	Japan Water Forum
GWP-SEA	Global Water Partnership – South East Asia
NEPAD	New Partnership for Africa's Development
UNDP	United Nations Development Programme
UNCTAD	United Nations Centre for Trade and Development
UNIDO	United Nations Industrial Development Organization
UNEP-ROA	United Nations Environment Programme – Regional Office for Africa Programme
UN FAO	United Nations Food and Agricultural Organization
UNEP-DEPI	Department of Environment Policy Implementation,
UNDP	United National Development Programme
UNEP-ROA	United Nations Environment Programme – Regional Office for Africa Programme
UNDP-GEF	International Waters and Land Degradation
UNDP-RC	United Nations development Programme Regional Center in Bangkok
UNESCAP	Environment and Sustainable Development Division
UNDP RC	UNDP Regional Center in Bangkok
UN FAO	United Nations Food and Agricultural Organization
UNESCAP	Environment and Sustainable Development Division
UNESCO	United Nations Educational, Scientific and Children's Organization

<http://www.spm-water-ap.net/spm/modules/xfsection/article.php?articleid=1>)

CAPACITY BUILDING FOR MAINSTREAMING ENVIRONMENTAL ASPECTS IN NATIONAL WATER POLICY AND STRATEGY THROUGH THE SOUTH-SOUTH COOPERATION FRAMEWORK

PROGRAMME OUTLINE

1. BACKGROUND

Increasing complexity of economic, social and environmental realities in water management requires application of ecosystem-based and multi-sectoral approach in water policy as well as in national development plan, poverty alleviation strategy, MDGs and IWRM plans. Factoring reduction of water pollution, waste management and over-consumption, on one hand, and taking in to account climate change impact, environmental flows, and the role of women in water management on the other has not been in doubt. Since Rio in 1992 unsustainable development has continued, especially in the developing countries without stop. Poverty, environmental degradation, disasters and impact of climate change and poor service delivery are threatening livelihoods, especially in developing countries. One and a half decades after Rio, countries were challenged by the 2005 World Summit call to prepare MDG-based national development strategies and urging the implementation of IWRM plans and strategies in these national plans. While some progress has been made in achieving the MDGs, a common framework for policy formulation and implementation as well as methods for tracking progress towards addressing MDGs and IWRM in conjunction with another has been illusive. Few IWRM programmes have advanced from planning to next stage of full-scale implementation of a set of policies and a plan of action.

The Millennium Ecosystem Assessment (MEA), analysing 24 ecosystem services and finding 15 are in global decline, woke all up to approach environmental issues in rather an integrated and holistic manner. Aquatic ecosystems were one of the most affected. Water quality and quantity depend on ecosystems functioning and vice versa. Not only does the deterioration of ecosystems affect the poor communities most strongly, it also hinders the attainment of the MDGs which were adopted to accelerate development in 2000. From the massive literature available, a lot of work has been done in implementing environmental aspects of water management in limited number of countries of the SADC region, South East Asia, including India and China, and Brazil. However, few countries have adopted an ecosystems approach in sustainable water resources management while many others have implementation challenges of the same.

After internal UNEP consultations, a decision was taken to develop and implement a comprehensive high-profile South-South Cooperation programme in the field of water with the support and participation of selected countries of the South. The consultations informed the preparatory processes that included a scoping meeting in Nairobi from 4 to 5 October 2007, specifically to brainstorm and explore priority areas of capacity development and also to identify key elements for consideration in developing a broader programme of support to strengthen institutional capacities for addressing freshwater resources using South-South Cooperation modalities. The countries represented at the scoping workshop, namely, Brazil, Kenya, Oman, Panama, South Africa and Viet Nam constituted the core countries for the study. The scoping workshop report is shown as Annex 1. Further work included an issue report based on an in-depth desk study and web searches on water policy and strategy formulation and implementation in selected developing countries. These were followed by a workshop convened on May 26th to 30th 2008 in Nairobi. The workshop report is shown as Annex 2.

2. STATUS OF COUNTRIES' EXPERIENCES IN AND CONTRIBUTION TO MAINSTREAMING ENVIRONMENTAL ASPECTS IN WATER POLICY

Developing countries have shown their commitment to espousing sustainable development by ratifying many of the multilateral environmental agreements. The strategic orientation has been to develop environmental policies and legislation, including Environment Impact Assessment (EIA) processes, and establish institutions that deal with environmental issues. As may be noted, water legislation embodies certain environmental aspects, but such are dealt with sectorally without reference to the environmental law or ecosystems management methodology.

Some of these water legislations are relevant for implementing ecosystems approach. Forging collaborative ventures and partnerships amongst stakeholders could promote mainstreaming of ecosystem approach in water management. Several countries have no comprehensive water policy and strategy and several others are revising their water legislations (see for example Annex 3). In deed many countries have environmental legislation and EIA processes, but water sector has not benefited from these sectoral policies. Environmental issues and EIAs processes are hosted in other institutions that are generally weak or whose priorities significantly differ from those of water resources management. Achieving policy integration and institutional harmony is one approach of tackling the water management challenge.

Inadequate capacity is a major constraint to achieving sustainable water resources management in many developing countries. Numerous reports and meetings, such as UNCED in 1992 and successive World Water Forums have identified capacity building as a priority area for intervention. A recent review by UNEP Coordinating Centre for Water and Environment found that many developing countries do not have capacity to develop water policies. This makes it essential to ensure that, as a first step, there are supporting policies, strategies and institutional framework for implementation. UNEP is therefore promoting the enhancement of capacity in developing countries to develop and implement water policies within the framework of the Water Policy and Strategy (WPS).

The proposed programme is a response to capacity needs in policy formulation and implementation in developing countries and to fulfill UNEP/GC Decision 23/1.1, which requested the UNEP's Executive Director to give the highest priority to effective and immediate implementation of the Bali Strategic Plan on Capacity building and Technology transfer and its component on South-South Cooperation. The choice of the water sector for this proposed programme is deliberate because water availability remains the greatest challenge for developing countries. Developing countries face different types of challenges regarding water quantity, water quality, water allocation, climate change and climate variability, biodiversity degradation amongst many others, a summary of which are shown in Annex 3. Demand for water will steadily increase, sometimes due to the wrong reasons such as general lack of awareness on the consequences of indiscriminate water use in the absence of management instruments and tools, such as economic incentives, water pricing mechanisms and unambiguous water allocation rules. Lack of common understanding of environmental aspects, absence of sustained cross-sectoral and multi-level participation and national capacity gaps at all levels are seen as the main drivers of water reforms in the developing countries. On the one hand, there are several countries that have demonstrated strengths in formulation of water policy using ecosystems approach and others that require support to initiate such policy formulations on the other as shown in Annex 4. Plans, therefore, to apply ecosystems approach in national water policy will focus on countries' specific circumstances such as social, cultural, economic and environmental needs for sustainable water resources management.

The capacity of national governments and other stakeholders require strengthening to mainstream best practices and a gender equality perspective in water resources management into national development planning processes and for the restoration of degraded ecosystems. The government's central role is to bring together various stakeholders and coordinate adoption, planning and implementation of ecosystem approach in water management to meet the MDGs goals and reduce poverty. Both the governments and stakeholders will require improved access to relevant solutions, experiences and expertise from institutions and "centres of excellence" for integrated water resources management.

3. INSTITUTIONS POSSESSING ENVIRONMENT AND DEVELOPMENT EXPERIENCES

A number of sub-regional and regional groupings in the South have well-established "centres of excellence" possessing a wide range of proven relevant environment and development solutions, experiences and expertise. Limited access to technology and information, and weak networks, a common feature in the countries of the South, tend to hamper the development of integrated institutional mechanisms and collaboration. In addition, there are existing networks whose capacity may be improved to provide the required information and tools for mainstreaming environmental aspects in sustainable water management. The steps to follow would include to:

- Enlist the services, including networks, information systems, training, etc., of selected existing centres to support the ecosystem management approaches on capacity building in water policy and strategy in developing countries using as SSC mechanism;
- Provide solutions, experiences and expertise that can address water policy development and implementation concerns, and
- Incorporate a number of sub-regional and regional networks and collaborating centres, which respond to, facilitate and/or implement UNEP programmes.

4. KEY ISSUES AND CHALLENGES FOR POLICY FORMULATION AND IMPLEMENTATION

4.1 Water policy assessments, information sharing and dissemination

Issues and challenges to be considered under this component include sub-national, national and regional trends of deteriorating water quality and quantity, inadequate definition of environmental visions, priorities and goals, lack of awareness and information sharing on environmental issues, lack of public participation, inadequate measures to mitigate against climate change and climate variability. Additional issues raised during consultations include dated water legislation and regulations, environmental legislations, water financing and water policies that are unable to cope with the changing governance structures, and absence or lack of adoption of new approaches and guidelines for water management.

4.2 Institutional development

Institutional challenges to be considered under this component include poor co-ordination between water-related institutions, need for decentralized governance structure, weak environmental authorities, ineffective EIA processes, lack of enforcement of environmental laws, and non adaptation of water-related MEAs.

4.3 Human resources development

Human capacity challenges to be considered under this component include lack of practical and technical skills, absence of environmental guidelines, methods, and tools as well as need to embrace ecosystems valuation and payment of ecosystem services.

4.4 Formulation and implementation of national, regional, transboundary policy/strategy and IWRM plan

The group of challenges to be considered under this component includes cooperative issues, such as absence of sub-national, national and regional joint planning and management, transboundary waters, river basin organisations (RBOs), South-South mechanisms, capacity of regional institutions, regional networks, etc.

5. MANDATE AND JUSTIFICATION OF THE PROGRAMME

5.1 UNEP's Mandate

- UNEP's Water Policy and Strategy's overall goal is to contribute substantively to environmental sustainability in the management of water resources, utilizing integrated ecosystems approaches¹, as a contribution to the internationally agreed targets and goals relevant to water and socio-economic development. The freshwater "strategy" is outlined in the conceptual considerations of ecosystems-based approaches, sound economic and social considerations and addressing risk and operational means in building capacity, partnerships and stakeholder participation. Three key components for UNEP's freshwater work are assessment, management and cooperation and tied together within a framework of integrated water resources management (IWRM).

¹ UNEP Water Policy and Strategy, UNEP, 2006.

- The Bali Strategic Plan² (BSP) for technology support and capacity building considered the cornerstone of UNEP's work, serves as the umbrella framework for "coherent, coordinated and effective delivery of environmental capacity-building and technical support activities" in response to well defined country priorities and needs. The BSP establishes South-South Cooperation (SSC) as a key mechanism for implementation of the BSP and in particular, the achievement of capacity building objectives set forth in the BSP. Specifically, the plan underscores the importance of SSC and stresses the need to intensify efforts directed towards institutional capacity-building, including through the exchange of expertise, experiences, information and documentation between the institutions of the South in order to develop human resources and strengthen the institutions of the South.
- Further more the UNEP South-South Cooperation (SSC) provides an opportunity to tap and share the experiences of governments, harness the potential of regional institutions in the South to cooperate, build partnerships and strengthens networks in areas of felt need. Some key guiding principles that direct the programme include efforts to build on existing capacities, ensuring that activities have national ownership, and programmes are tailored to individual countries based on an assessment of needs, taking in to account efforts already in progress and integrated with other sustainable development initiatives in partnership with other organizations.

5.2 Justification of the programme

- Inadequate capacity is a major constraint to achieving sustainable water resources management in many developing countries³. Numerous reports and meetings such as Agenda 21, World Water Forums⁴ and UNEP, through its collaborating centre UNEP Coordinating Centre for Water and Environment (UCC-Water), have identified capacity building in water policy formulation and implementation as a priority area for intervention.
- Challenges and constraints that impede effective mainstreaming of environmental aspects are lack of human and institutional capacity. However, strengths and successes registering positive advances in mainstreaming environmental aspects in some countries and which could therefore serve as potential interventions for the identified challenges (see Annex 4) have been identified. The developing countries are diverse in terms of their exceptionally rich natural resources base and a heritage with many globally significant hotspots of tropical as well as a highly specialised and drought-adapted dryland ecosystem flora and fauna. The proposed programme addresses ecosystem degradation and further builds upon the potential strength of existing networks and institutions in the South.
- Target groups identified include governments, universities, research institutions, existing networks, regional organizations, Non-governmental organizations (NGOs); Community based organizations (CBOs), civil society organizations (CSOs), etc. (see Annex 5). Mainstreaming Environment and sustainability into African Universities (MESA) being a UNEP flagship programme for incorporating core elements of environment, social and economic development in university learning forms an appropriate vehicle for capacity building at university level.

² The 23rd session of the Governing Council/Global Ministerial Forum adopted the Bali Strategic Plan for Technology Support and Capacity Building to strengthen the capacity of the Governments of developing countries and countries with economies in transition to enable them, amongst other, to achieve their environmental goals, comply with international agreements and implement the programmatic goals set by the Governing Council and other internationally agreed development goals.

³ Institute of Hydraulic Engineering, Water and Environment: Key to Africa's Development. The Delft Agenda on Building Capacity in Sub-Saharan Africa, IHE, Delft, the Netherlands, August 1993.

⁴ Especially the fourth World Water Forum held in Mexico in 2006 highlights progress made by nations towards meeting the target.

6. PRINCIPLE CONSIDERATIONS FOR THE PROPOSED PROGRAMME

The proposed programme considers the following principles as the basis for its effectiveness in water policy and strategy planning and development, and these includes:

- Focusing on mainstreaming environmental aspects of water management using ecosystem approach;
- Building on ongoing national water sector reforms, existing administrative networks and user organizations;
- Individual countries prioritizing and consider specific but urgent needs as building blocks to resolving systemic environmental challenges in sustainable water resources management and meeting the MDGs targets;
- Making short-term tactical action plans, sometimes with limited data and information, focusing on monitoring, adaptive and targeted research and iterative planning in accordance with opportunities provided by the countries of the South;
- Allocating adequate own resources as a demonstration of their commitment in resolving key environmental water issues; and
- Developing a long-term strategic approach to address water sector reforms through policy assessment, review of dated or formulation of new legislations and guidelines, and adopting best practices.

7. PROGRAMME ASSUMPTIONS

The proposed programme has made certain assumptions. The first assumption is that each country places priority on the use of South-South Cooperation mechanism as a vehicle for delivering capacity development for countries of the South. Secondly, capacity building for water policy/strategy using ecosystems approach has an adequate demand from programme countries. The countries are willing; on one hand to involve UNEP in capacity building under the framework of the SSC, and on the other that UNEP has capacity to mobilize financial and technical support to ensure full implementation of the programme. It is further assumed that UNEP will be able to mobilize sufficient resources to support the programme and that the experiences and resources in the South will be available for use.

8. PROGRAMME GOAL AND OBJECTIVES

8.1 Overall Goal:

- To strengthen national capacities for sustainable water resources management in developing countries within the framework of the UNEP Water Policy and Strategy using South-South Cooperation mechanisms.

8.2 Specific Objectives

The overall objective is to build capacity at sub-national, national and regional levels for mainstreaming environmental aspects using ecosystem approach in planning and implementation of water policies/strategies through systematic application of South-South Cooperation mechanisms. The specific objectives are:

- Support, facilitate and promote the compilation of information, preparation of guidelines, evaluation of case studies and other knowledge assets on the application of ecosystem approach to planning and implementation of water policy and strategy at sub-national, national and regional levels, and building upon shared management issues and challenges in the context of South-South Cooperation;
- Facilitate dissemination and exchange of accurate and relevant water policy information on application of ecosystem approaches for mainstreaming environmental aspects in integrated water management;

- Consolidate and strengthen capacities of existing and/or promote new regional networks and partnerships on ecosystem approaches in water management expertise and initiatives;
- Stimulate and strengthen capacities of research institutions within given regions in the field of ecosystem approach in water policy and strategy in developing countries; and
- Develop and support implementation of identified management instruments and tools to reduce indiscriminate water consumption, pollution and sustainably manage water demand.

8.3 Suggested areas of technical interest

Identified areas of technical challenges and issues requiring support were gleaned from the Issue Paper, brainstorming sessions and the recent workshop; and include:

- Management Instruments
- Water Quality & Pollution
- Climate Change
- Water allocation
- Institutional aspects
- Legislative aspects
- Modeling and assessment
- Ecosystem services and management
- Land Use
- Environmental Impact Assessment (EIA)
- Strategic Environmental Assessment (SEA)
- Stakeholder participation
- Transboundary waters

9. PROGRAMME LOGICAL FRAMEWORK ANALYSIS

Logical framework analysis has been carried out on goals and objectives as well as for components. Each of the components and most of the indicators have been refined to better reflect modifications, which are not dramatic departures from the earlier report, but rather a further articulation following the workshop and extensive discussions with relevant UNEP staff. They are presented in Tables 9.1, 9.2 and 9.3 in the following pages.

9.1. Programme Logical Framework objective matrix

	Objectively Verifiable indicators	Means of verification (reports, monitoring campaigns, interviews, records)	Important assumptions
<p>Overall Goal:</p> <ul style="list-style-type: none"> National capacities for water resources management in developing countries are strengthened within the framework of UNEP Water Policy and Strategy using South-South Cooperation mechanisms 	<ul style="list-style-type: none"> Number of reviews of ecosystem approaches conducted. Number of countries of the South mainstreaming environmental aspects in water policies and IWRM Plans. Number of achievements resulting from SSC mechanisms. 	<ul style="list-style-type: none"> Water management reports and updates. Progress reviews in countries of the South. 	<ul style="list-style-type: none"> Each country places priority on South-South cooperation Water policy capacity building demand from programme countries. Support to other countries of the South and willingness to involve UNEP, and UNEP capacity to provide (mobilize) financial and technical support.
<p>Purpose:</p> <ul style="list-style-type: none"> Capacity building for mainstreaming environmental aspects using application of ecosystem approach in planning and implementation of national water policies through systematic application of South-South Cooperation mechanisms. 	<ul style="list-style-type: none"> Number of water policy and relevant management instruments⁵ developed. Number of countries adopting ecosystem approaches in water policy formulation and implementation. 	<ul style="list-style-type: none"> Semi annual reports on the number of countries applying ecosystem approach Reports of national water policy and strategy reforms. Reports on institutional reforms for stakeholder engagement in policy development and Implementation. M&E reports; semi-annual programme performance reports; Midterm programme reviews. 	<ul style="list-style-type: none"> Availability of sufficient experiences and resources in the South.

⁵The relevant management instruments are based on issues and strengths discussed and included in the Annexes.

9.2 Programme Logical framework output matrix

Component 1: Compilation and dissemination of policy information				
Outcome ⁶	Outputs (products, goods and services)	Objectively verifiable indicators	Sources of verification	Assumptions
1.1 Guidelines and tools for ecosystems approach applied in planning and management of national and regional water policies	1.1.1 Guidelines and formats for compiling information on status of water policy	1.1.1.1 Number of countries adopting the guidelines for information compilation	Progress reports	Coordination and support from UNEP regional offices, national and regional Centres of Excellence
	1.1.2 Case studies and best practices compiled	1.1.2.1 Number of reports of case studies compiled. 1.1.2.2 Number of methodologies and guidelines developed and adopted by participating countries	Toolkit for decision makers on how to integrate environmental aspects into water policies and water management including climate change vulnerability assessment, monitoring, valuation of aquatic and terrestrial ecosystem services and goods.	
1.2 Sub-national, national and regional bodies have greater capacity for assessment of current status of water policy/strategy	1.2.1 Compilation of policy reviews and strategy analysis including adaptation to climate change	1.2.1.1 Regional meetings/workshops held	Report on countries that have completed their assessment and those not started water policy making	
	1.2.2 Inventory of existing initiatives or programmes by different countries	1.2.2.1 Number of countries that have completed their assessment and those not started water policy making 1.2.2.2 Representation from different UN regions/geographic groupings established		
	1.2.3 Cluster of lead countries with good practice in place			
	1.2.4 Cluster of countries that require support from the lead countries			

⁶ Outcomes describe the intended changes in institutional performance or behavioral changes.

<p>1.3 Participating institutions are better able to disseminate water policy information.</p> <p>1.4 Participating institutions are effectively equipped to share information</p>	<p>1.3.1 Web-based Information System</p> <p>1.3.2 Publications for awareness raising</p> <p>1.3.3 Media engaged.</p> <p>1.3.4 Discussion/Working groups.</p> <p>1.4.1 Networks⁷ of water policy makers and implementers established/strengthened and operational</p>	<p>1.3.1.1 Web site on water policy formulation and implementation highlighting ecosystems approach launched.</p> <p>1.3.2.1 Information and experiences shared through publications, media reports, discussion groups and networks</p> <p>1.4.1.1 Entry point to the existing UNEP Clearing House</p> <p>1.4.1.2 Strong and effective partnerships developed and exchange/tour visits made.</p> <p>1.4.1.3 Number of strong and effective networks operational.</p>	<p>Monitoring and bi-annual progress reports</p>	<p>Coordination and support from UNEP regional offices, national/regional Centres of Excellence</p>
<p>Component 2: Skills development for water policy formulation and implementation</p>				
<p>Outcomes</p>	<p>Outputs</p>	<p>Objectively Verifiable Indicator</p>	<p>Sources of Verification</p>	<p>Assumptions</p>
<p>2.1 Critical mass of experts trained and equipped to mainstream environmental aspects in water policy and strategy.</p>	<p>2.1.1 Core curriculum adjustment for environmental/water academic programmes</p> <p>2.1.2 Regional workshops for decision makers, professionals, etc.</p> <p>2.1.3 Capacity building</p>	<p>2.1.1.1 Training courses – ongoing to medium term</p> <p>2.1.1.2 Number of training, workshops, research, case studies, and seminars organized</p> <p>2.1.2.3 Number of relevant water management instruments developed on identified challenges</p>	<p>Indicators for ecosystem management adopted.</p> <p>Country-specific tracking database on capacity built and utilized.</p>	<p>Coordination and support from UNEP regional offices, national/regional Centres of Excellence</p>

⁷ Network establishment- to be determined, such as possible structure, restricted membership (nucleus?); Core functions; operational procedures and protocols. Network portal (web-based) discussion forum exchange forum content, moderation, etc. linkages to the Clearing-House on SSC.

<p>2.2 Partnerships and agreements developed, exchange visits, and their impact in skill development is established.</p>	<p>training courses/ modules, including technical issues 2.1.4 Critical mass of experts trained</p> <p>2.2.1 Partnerships agreements signed</p> <p>2.2.2 High level-targeted events including panel discussions, etc.</p> <p>2.2.3 Agreements between institutions on exchange visits at right levels or expertise</p> <p>2.2.4 Exchange programme visits study tours, twining, etc. to familiarize policy makers on policy making environment</p>	<p>2.2.2.1 Number of partnership agreements signed</p> <p>2.2.2.2 Number of agreements on exchange visits signed between institutions</p> <p>2.2.2.3 Number of policy makers are enabled to participate in exchange visits and study tours</p>	<p>Monitoring and bi-annual progress reports</p>	
<p>Component 3: Institutional Development deliver policy and strategic frameworks and Improved stakeholder participation for water policy formulation and implementation</p>				
Outcomes	Outputs	Objectively Verifiable Indicators	Sources of Verification	Assumptions
<p>3.1 Strengthened institutions to better deliver policy and strategic frameworks for water management</p>	<p>3.1.1 Framework for institutional rationalization and strategy development.</p> <p>3.1.2 Revised institutional structure.</p> <p>3.1.3 Establishment and</p>	<p>3.1.1.1 Number of countries with strategy for stakeholder participation completed.</p> <p>3.1.1.2 Number of institutions strengthened.</p>	<p>Progress report on institutional reforms.</p>	<p>Governments' willingness to carry out legislative and institutional reforms.</p>

<p>3.2 Improved stakeholder participation fully incorporated in water policy formulation and implementation</p>	<p>maintenance of institutional frameworks</p> <p>3.2.1 Tools for stakeholder participation including information management and awareness raising developed.</p>	<p>3.2.1.1 Number of institutions engaged in policy making and planning</p> <p>3.2.1.2 Number of institutions implementing water policy/strategy and enforcement</p> <p>3.2.1.3 Resources mobilized for stakeholder participation</p>	<p>Monitoring and bi-annual progress reports</p>	
<p>Component 4: Implementation of reviews, technical support and partnerships for national, regional, transboundary policy/strategy and IWRM Plans</p>				
Outcomes	Outputs	Objectively Verifiable Indicators	Sources of Verification	Assumptions
<p>4.1 Countries carry out water policy reviews to better inform decision makers on needed reforms</p> <p>4.2 Countries provided with technical support on environmental aspects of water policy and components of IWRM plans</p> <p>4.3 Improved partnerships are able to provide</p>	<p>4.1.1 Strategic outline of joint research, reviews, collaboration and exchange between participating institutions.</p> <p>4.1.2 Peer reviews of research findings, networks' functioning, training materials, etc.</p> <p>4.2.1 Countries given technical assistance in implementing environmental aspects of</p> <p>4.3.1 Issue-based partnership exchange agreements are formalized.</p>	<p>4.1.1.1 Number of institutions with capacity building experiences (as listed above).</p> <p>4.1.1.2 Number of institutions leading research/review initiatives.</p> <p>4.2.1.1 Number of policy research, national workshops, policy reports to senior decision makers.</p> <p>4.2.1.2 Number of countries given technical assistance</p> <p>4.2.1.3 Number of pilot projects in thematic areas identified</p> <p>4.3.1.1 Number of countries/institutions implementing cooperative agreements</p>	<p>Publications of research results developed and peer reviewed, and promoted through South-South Cooperation.</p> <p>Monitoring and bi-annual progress reports</p> <p>Reports of countries given technical assistance</p>	

<p>effective dialogue and coordination of mainstreaming environmental aspects in water policy/strategy</p>		<p>4.3.2.2 Number of researchers, post-graduate students, government officials (decision makers, water managers, and practitioners) involved in the programme</p> <p>4.3.2.3 Mechanisms for multiple dialogue for river basins organizations</p> <p>4.3.2.4 Reports on the coordination among national/regional or sectors/ministries</p>		
<p>Component 5: Programme management and coordination</p>				
<p>5.1 Effective and coherent coordination by UNEP and participating countries</p> <p>5.2 Resources mobilization for effective programme implementation</p>	<p>5.1.1 Establish organizational, administrative and UNEP in support of capacity building⁸ established. Ensuring government ownership of capacity building project</p> <p>5.1.2 Report on consultations on key issues and resource mobilisation⁹ with participating countries.</p>	<p>5.1.1.1 UNEP Core Programme team established</p> <p>5.1.1.2 UN-Water Consultation with governments completed</p> <p>5.1.1.3 Institutions leading existing initiatives identified and in place</p> <p>5.1.1.4 Institutions with capacity building experiences determined.</p> <p>5.1.1.5 Expertise, information and knowledge base and infrastructure in place</p> <p>5.1.2.1 Financial resources mobilized.</p> <p>5.2.2.2 Partnership exchange agreements formalized</p> <p>5.2.2.3 Number of donors supporting the programme.</p>	<p>Programme management reports.</p>	

⁸ Some ideas regarding administrative issues are discussed in Annex 5.

⁹ See Annex 4 for some ideas in resource mobilization.

5.3 Effective communication, monitoring and reviews	5.3.1 Methods, indicators, benchmarks for continuous monitoring and evaluation and reporting developed and used.	5.2.1.1 Sustainability issues in place 5.3.1.1 M&E system in place 5.3.1.2 Submission of regular reviews and reports to UNEP		
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9.3 Proposed activities

Programme component 1 Compilation and dissemination of policy information	Activities
Sub-component 1.1 Compile water policy information - situational analysis, gaps analysis and developing project partners and partnerships.	<ul style="list-style-type: none"> • Compile, publish, distribute and keep under review case studies, guidelines, modules in selected areas of country requests • Support policy and strategy assessment and analysis of participating countries • Inventorise and evaluate existing initiatives /programmes on policy formulation and implementation • Consult and cluster lead countries on specific identified issues with good practice according to representation from different geographic or UN groupings • Provide technical backstopping support to assist countries' development of guidelines, formats, etc for compiling water policy information • Convene meeting of experts on tools and methodologies, quarterly within UN regions, yearly at UNEP HQ. • Identify, build capacity and review networks for water policy information and experience exchange • Establish, review and support working/discussion groups compiling and assessing water policy issues and challenges.
Sub-component 1.2 Disseminate water policy/strategy information	<ul style="list-style-type: none"> • Support development of web-based Information System targeting water policy issues, experiences and solutions in countries of the South • Prepare and support distribution of publications for awareness raising on water policy and strategy information • Identify and suggest core curriculum adjustment for environmental/water academic programmes • Consolidate current linkages, determining their strengths and weaknesses • Support provision of technology support for identified technical areas of requests relating to ecosystem approaches in water management • Support, determine and/or review entry point for the programme in to "Clearing house" mechanism • Develop and up-date networks of experts/policy makers • Engage media (electronic, print, etc) on water and environment –related policy/strategy issues and challenges • Determine, assess and build capacity of existing/new information networks, discussion groups and media contacts

Component 2: Skills development for water policy formulation and implementation	<p style="text-align: center;">Activities</p>
	<ul style="list-style-type: none"> • Support compilation of existing networks of water policy experts, carrying out situational analysis and identification of gaps in water policy experts • Engage water policy experts to review, formulate and revise, as necessary, water policy curriculum courses for selected countries with a view to establishing centres of excellence • Prepare and organize thematic networks for Water policy reviews, analysis and share innovations between experts and practitioners • Identify and organise regional workshops for policy makers, professionals, etc With emphasis on ecosystem approaches in water management • Establish “Virtual” Learning Centres and mobilize, review and build capacity through “virtual” teams and partnerships • Support capacity building through training courses/workshops targeting management instruments and tools including operational instruments for effective planning, regulation, implementation, monitoring and enforcement of water-related challenges • Organize regional workshops, high level-targeted events such as panel discussions, etc to share, review and monitor progress on identified topical water policy issues • Determine and facilitate and/or establish formalized partnerships, exchange agreements at the right level or expertise based on the experience in the existing regional structures /institutions • Organise exchange visits, study tours, etc, and twining based on selected issues/themes • Compile and keep under review roster of water policy experts from the South
Component 3: Institutional development to deliver policy and strategic frameworks and improved stakeholder participation for water policy formulation and implementation	<p style="text-align: center;">Activities</p>
	<ul style="list-style-type: none"> • Carry out and review the national policy environment for water- and environment –related institutions, assessing institutional architecture, critical institutional gaps and conflicts • Provide analytical review of national legislative framework for water- and environment –related institutions including lessons learnt and recommendations for enhancing ecosystems approaches in water management • Establish country needs and build capacity of institutions for policy making, planning and implementation for water- and environment –related institutions • Determine resource requirements to ensure adequate consideration of ecosystem approaches in water policy • Support streamlining of institutional roles and functions to enhance policy making and implementation • Prepare, review and up-date stakeholders’ profiles in participating countries to provide a clear case for advantages and realistic costs for stakeholder participation • Develop, review and publish strategy for stakeholder participation within the context of an ecosystem approaches and SSC mechanisms • Establish modalities, strengthen and keep under review information management and awareness raising

	<p>strategies for stakeholders</p> <ul style="list-style-type: none"> • Support implementation of strategy for stakeholder participation in policy planning, development and implementation to build a strong case for civil society involvement, taking into account country-specific governance structure • Determine number of and support for formalized partnerships and exchange agreements (right level or expertise) required to adequately share information on functioning institutions • Support selection, building capacity and keeping under review agreed “Centres of Excellence” • Develop and up-date optimal strategy to mobilise investment for water- and environment –related institutions
Component 4: Implementation of reviews, technical support and partnerships for national, regional, transboundary policy/strategy and IWRM Plans	Activities
	<ul style="list-style-type: none"> • Determine, provide and keep under review technical support at national level • Formulate and implement national, regional, transboundary Policy/Strategy and IWRM Plans • Joint programming and pilot project development, build capacity of government representative in the relevant ministry, equip with basic office equipment, short-term training one per participating country • Develop and implement MOUs and formal agreements with participating countries, regional organizations and established/existing networks • Support high-level staff attachments, for brief periods of time, to relevant institutions for practical learning • Support implementation of country's priorities, making short-term tactical action plans rather than master plans while keeping in mind the long-term SSC modalities • Compile, verify and up-date a Compendium of water policy experiences relevant for mainstreaming environmental aspects on water policy/strategy • Determine and keep under review countries' priorities, especially review the EIA process and replace it with environmental flows approaches
Component 5: Programme coordination and management	Activities
	<ul style="list-style-type: none"> • Participate in and engage with participating countries on discussing a proposed structure for programme implementation and coordination • Engage countries of the South, existing networks, development partners, Centres of Excellence, etc to determine scale of cooperation whether across UN regions or within regions • Ensure government support through workshops, continuous high-level consultations, government officials in the relevant ministry, and equip with basic office equipment, short-term training one per participating country • Develop and agree on criteria for identifying and selecting participating countries for this programme • Consult, establish and support programme management units and national coordinators • Appoint and build capacity of national focal points, government official in the relevant ministry, equip with basic office equipment, short-term training in each participating country

	<ul style="list-style-type: none">• Convene and constantly ensure South-South-Donor collaboration through high-level contacts, meetings, newsletter, etc• Consult, review and, if necessary establish new networks that are able to promote ecosystem approach in water management• Provide strategy for resource mobilization including complementary financial support through collective resources of the relevant institutions in the participating countries.• Establish and maintain long-term strategic partnerships with South-South Cooperation initiatives and related regional cooperation arrangements• Determine and keep under review role of UNEP headquarters, UNEP regional offices, UNDP and other partners as well as national institutions• Support preparation and establishment of an M&E protocol, Consultant, 2 man-months spread over 1 year.
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9.4 Projected Workplan

Component 1: Compilation and dissemination of water policy information

<i>Sub-component 1.1: Activities concerning policy information compiled</i>	<i>Estimated Cost US\$</i>	<i>Workplan</i>		
		<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>
1.1.1 Compile, publish, distribute and keep under review case studies, guidelines, modules in selected areas of challenges		██████████	██████████	██████████
1.1.2 Carry out policy and strategy assessment and analysis of participating countries		██████████	██████████	██████████
1.1.3 Inventorise and evaluate existing initiatives /programmes on policy formulation and implementation		██████████	██████████	██████████
1.1.4. Develop and up-date networking of experts/policy makers	t/d			
1.1.5. Convene meeting of experts on tools and methodologies, quarterly within UN regions, yearly at UNEP HQ.			██████████	██████████
1.1.6 Develop build capacity and review networks for water policy information and experience exchange			██████████	██████████
1.1.7 Establish, review and support working/discussion groups	t/d			

<i>Sub-component 1.2: Activities concerning policy information dissemination</i>	<i>Estimated Cost US\$</i>	<i>Phase 1</i>	<i>Phase 2</i>	<i>Phase 3</i>
		1.2.1 Develop, and review "Clearing house" mechanism		██████████
1.2.2 Determine, assess and build capacity of existing/new info networks		██████████	██████████	██████████
1.2.3 Select, build capacity and keep under review agreed "Centres of Excellence"		██████████	██████████	██████████
1.2.4 Compile, verify and up-date a Compendium of water policy experiences, Coordinator for 5 months/yr spread over 3 years.		██████████	██████████	██████████
1.2.5 Organise training, workshops, discussion/working groups, etc		██████████	██████████	██████████
1.2.6 Develop, build capacity and review networks for water policy information and experience exchange		██████████	██████████	██████████
1.2.7 Establish, review and support working/discussion groups		██████████	██████████	██████████

Component 2: Skills development in water policy

<i>Activities of policy dialogue, skills training and know how</i>	<i>Estimated Cost</i>	<i>Workplan</i>		
		Phase 1	Phase 2	Phase3
<i>Activities for skills development</i>				
2.1 Mobilize, review and build capacity through “virtual” teams and partnerships		■	■	■
2.2 Experts engaged to review, formulate and revise as necessary water policy curriculum in selected countries		■	■	■
2.3 Regional workshops to share, review and monitor progress on identified topical water policy issues		■	■	■
2.4. Policy reviews, analysis and innovations shared between experts			■	■
2.5 Development of curriculum and training courses in selected priority areas of ecosystem approaches in water policy formulation and implementation			■	■
2.6 Establishment of “Virtual” Learning Centres based on an agreed curriculum emphasizing ecosystem approaches in water policy				■
2.7 Organise high-level panel discussions, working group meetings, high-level discussion foras, etc		■	■	■

Component 3: Institutional Development for water- and environment –related institutions

Activities to review, reform and strengthen water- and environment –related institutions	Estimated Cost	Workplan		
		Phase 1	Phase 2	Phase3
3.1 Review of national policy environment for water- and environment –related institutions, assessing institutional architecture, critical institutional gaps and conflicts		██████████	██████████	██████████
3.2 Review of national legislative framework for water- and environment –related institutions		██████████	██████████	██████████
3.3. Compilation of Lessons learnt from similar reviews in the south		██████████	██████████	██████████
3.4. Building capacity of institutions for policy making and planning for water- and environment –related institutions		██████████	██████████	██████████
3.5 Establish country needs and build capacity of institutions for policy making, planning and implementation for water- and environment –related institutions		██████████	██████████	██████████
3.6 Determine resource requirements to ensure adequate consideration of ecosystem approaches in water policy		██████████	██████████	██████████
3.7 Support streamlining of institutional roles and functions to enhance policy making and implementation		██████████	██████████	██████████
3.8 Prepare, review and up-date stakeholders’ profiles in participating countries to provide a clear case for advantages and realistic costs for stakeholder participation		██████████	██████████	██████████
3.9 Develop, review and publish strategy for stakeholder participation within the context of an ecosystem approaches and SSC mechanisms		██████████	██████████	██████████
Stakeholder participation				
3.10 Establish modalities, strengthen and keep under review information management and awareness raising strategies		██████████	██████████	██████████
3.11 Support implementation of strategy for stakeholder participation in policy planning, development and implementation to build a strong case for civil society involvement, taking into account country-specific governance structure		██████████	██████████	██████████

3.12 Prepare, review and up-date stakeholders' profiles in participating countries	18,000	████████	██████████	██████████
3.13 Determine number of and support for formalized partnerships and exchange agreements (right level or expertise) required to adequately share information on functioning institutions		████████	██████████	██████████
<i>Strengthening institutions</i>				
3.1.4 Establish, strengthen and review performance of water- and environment –related institutions.		████	██████████	██████████
3.1.5 Develop and up-date optimal strategy to mobilise investment for water- and environment –related institutions		████	██████████	██████████
3.16 Select, build capacity and keep under review agreed "Centres of Excellence"			██████████	██████████

Component 4: Implementation of national, regional, transboundary policy/strategy and IWRM Plans

Strategic research and collaboration	Costs	Phase 1	Phase 2	Phase 3
4.1 Encourage non-traditional funding sources, government funding to demonstrate its commitment, payment of ecosystems services, selective ODA, harmonized engagement of international financing institutions, and increased cost recovery				
4.2 Determine, provide and keep under review Technical support at national level	t/d	██████████	██████████	██████████
4.3 Joint programming and pilot project development, government representative in the relevant ministry, paid top-up for additional tasks, equip with basic office equipment, short-term training; per participating country.			██████████	██████████
Countries given technical assistance in policy implementation				
4.4 Determine and keep under review countries' priorities, especially review the EIA process and replace it with environmental flows.		██████	██████	██████
4.5 Implementation of country's priorities – make short-term tactical action plans rather than master plans				██████████
Partnership exchange agreements on national, regional and transboundary policy/strategy				
4.6 High-level staff attachments, visits, etc			██████████	
4.7 Technology support for identified high priority technical areas relating ecosystem valuation, environmental flows, etc				██████████
4.8 Support development and implementation of a M&E Protocol	t/d		██████████	██████████

Component 5: Programme management

Activities to manage and finance the programme	Cost	Workplan		
5.1 Ensure government support through workshops, high-level consultations, government official in the relevant ministry, paid top-up for additional tasks, equip with basic office equipment, short-term training; per participating country.		██████████	██████████	██████████
5.2 Appoint and build capacity of national focal point, government official in the relevant ministry, paid top-up for additional tasks, equip with basic office equipment, short-term training; per participating country.	7,000	██████████	██████████	██████████
5.3 Establish, build capacity of national/regional coordinators, government official in the relevant ministry, paid top-up for additional tasks, equip with basic office equipment, short-term training; per participating country.		██████████	██████████	██████████
Stakeholder consultations				
5.4 Countries of south, existing networks, development partners, Centres of Excellence, etc to determine scale of cooperation: across UN regions or within regions	68,000	██████████	██████████	
Establishing organizational, administrative and financial arrangements				
5.5 Determine and keep under review roles of UNEP headquarters, UNEP regional offices, UNDP and other partners as well as national institutions	t/d	██████████	██████████	██████████
5.6 Establish and support Programme Steering Committee, programme management units and national coordinators	t/d	██████████	██████████	██████████
5.7 Develop and implement MOUs and partnership agreements		██████████	██████████	██████████
Mobilisation of resources				
5.8 Convene and constantly ensure South-South-Donor collaboration mechanisms such as twining, Triangular arrangements, etc through meeting, newsletter, etc	t/d	██████████	██████████	██████████
5.9 Catalyse complementary financial support including collective resources of the relevant institutions in the participating countries.	t/d	██████████	██████████	
5.10 Establish and maintain long-term strategic partnerships with South-South Cooperation initiatives and related regional cooperation arrangements.		██████████		
5.11 Preparing and establishing an M&E protocol, Consultant, 2 man-months spread over 1 year.	27,000		██████████	

ANNEX 1. THE SCOOPING WORKSHOP REPORT

ANNEX 2: THE WORKSHOP REPORT

ANNEX 3: SUMMARY OF COUNTRY-WISE IDENTIFICATION OF CHALLENGES

Quality

Issue	Policy	Implementation	country cc
Pollution heavy	1	0	1
Pollution (polluter pays)	1	0	2
Pollution (Polluter pays principle)	0	0	13
Pollution (Polluter pays principle)	1	0	14
pollution	1	progress	4
Pollution	1	progress	6
pollution	0	0	10
pollution (industrial)	1	0	9
land use	1	progress	2
land use	1	progress	7
land use	1	0	9
land cover change	progress	0	3
Waste water disposal & treatment	1	progress	7
waste water	progress	progress	1
waste water	1	progress	2
Monitoring (data collection)	0	progress	4
Monitoring	0	0	12
lack of protection zones	1	progress	7
Lack of projection zones	1	0	5
Industrial accidents	1	progress	1
Health hazards ?	0	0	12
Water shed degradation	0	0	12
Water safety planning	1	progress ?	6
Water safety (pricing ?)			5
water borne deseases ?	?	0	10
Transboundary (Exchange of information)	1	progress	5
storage	1	0	9

Quantity

Issue	Policy	Implementation	country code
Demand/Supply(Leakages & loss)	1	0	9
Demand/supply Limited Quantity	0	0	12
Demand/supply	0	0	1
Demand/supply	0	0	8
Demand/supply	progress	0	10
Monitoring (data Collection)	0	0	4
Monitoring (data Collection and analysis)	1	0	7
Monitoring	0	1	5
Monitoring	0	0	13
Land zoning for source protection	0	0	6
Land use changes	0	0	6
Land use	1	0	9
Land use	progress	0	14
Water shed managemnet	progress	0	12
Water Shed Management	1	0	7
Water Shed Management	1	0	10
Water reuse/recycling	0	0	7
Uneven flow	progress	0	14
Transboundary	progress	1	5
Transboundary	0	0	8
Surface/Groundwater recharge	0	0	14
Surface/Groundwater interaction	0	0	12
Riparian Zone det	1	1	2
Overabstraction	0	0	1
Overabstraction	progress	0	14
Insufficiient Infrastructure	0	0	6
Infrastructure	0		5 to be checked
Illegal abstraction	1	0	9
Floods	1	1	8
Environment (?)	0	0	10
Env. Flow	1	1	2
(Lack of) IWRM	progress	1	3

ANNEX 4: IDENTIFICATION OF WATER ALLOCATION ISSUES AND CHALLENGES

ALLOCATION

Issue	Policy	Implementation	Country Code
Allocation/Policy	0	0	12
Allocation/Corruption	0	0	10
Allocation reform	in progress	limited	2
Allocation enforcement	1	0	9
Allocation Conflict	1	limited	4
Allocation Conflict	0	0	7
Allocation Conflict	0	progress	14
Too much allocation for irrigation	0	0	12
Too much allocation for agri/urban/long dist	0	0	1
Water sources conservation	1	0	9
Water conservation			14
Transboundary restrictions	1	1	12
Poor planning (limited ressource assessment)	0	0	6
Infrastructure	0	0	10
Environmental flow	1	0	9
Economic/social feasibility	0	0	7
Build on local knowlegde			7
to be checked			5

ANNEX 5: IDENTIFIED ISSUES AND CHALLENGES RESULTING FROM CLIMATE CHANGE AND CLIMATE VARIABILITY

CLIMATE CHANGE

Issue	Policy	Implementation	Country Code
Less water (drought)	1	progress	7
Less water - reduced water supply	0	0	6
Less water - more flood - less prediction	0	0	1
Less water - more flood	1	progress	9
Less water	0	0	10
Desertification	0	0	10
deforestation	1	progress	7
Deforestation	0	0	10
Adaptation (need for)	0	0	3
Adaptation			14
Ecosystem vulnerability	0	0	5
Rainwater harvesting	1	progress	9
Rainwater harvesting			14
data collection and analysis	0	0	5
data collection and analysis	1	progress	9
Mitigation measures			14
Water use efficiency	1	progress	7
Land loss	0	0	4
Increased storm damage	0	0	6
Flood - tide rising	0	0	4
Drought management	0	0	12
CC preparedness	0	0	12
CC modelling	0	0	5
Capacity to assess CC	0	0	12

ANNEX 6: IDENTIFIED ISSUES AND CHALLENGES RESULTING FROM BIODIVERSITY DEGRADATION

BIODIVERSITY

Issue	Policy	Implementation	Country Code
loss of species	0	progress	6
loss of species	?	?	10
loss of endemic species & special ecosystems	0	0	3
Loss of Coastal Ecosystems			6
Loss of biodiversity area (protected areas)	1	progress	10
Loss of Biodiversity	1	progress	4
Less ecological function of rivers	1	progress	1
Land use change	1		1
land degradation	1	0	2
Invasive weeds	?		9
Invasive species	0	0	1
Food security			5
Food security			14
Eco-regions	1	0	7
Degradation of Biodiversity	1	progress	4
Decrease in species diversity	1	0	2
Change in forest cover			14
Assessment and monitoring	0	0	13
Wetlands	?		9
unsustainable utilisation	0	0	10
Riparian Area			14
Pollution	1	progress	5
Overexploitation			5
Over exploitation of biodiversity	?		9

OTHERS

Issue	Policy	Implementation	Country Code
Capacity for CSO			9
Capacity building for IWRM			6
Capacity Building			14
knowlegde Managemnet			5
Knowlegde management (Lack of dissimination of reseach findings)			10
Water/Environmnet versus Economic Policies			13
Role sharing			14
Policy implementation			13
Payment for water shed services			14
Linking in wider development			6
Legal challenges			10
Institutional Reforms			5
Impact of human activities	0	0	5
Ecological recovery	0	0	1
Deforestation	1	progress	4
Compensation			9
Benefit Sharing			9
"Meritocracy"			10

Country Codes

1. China
2. South Africa
3. Panama
4. Vietnam
5. Algeria
6. Caribbean Region
7. Brazil
8. Bangladesh
9. Tanzania
10. Kenya
11. Sudan
12. Lesotho
13. Indonesia
14. SADC Secretariat

ANNEX 7: SUMMARY OF COUNTRY-WISE IDENTIFICATION OF STRENGTHS

Quantity - Strengths

Issue	Policy	Implementation	Country
Data Collection	1	progress	Tanzania
Monitoring	partly	1	Caribbean Region
Monitoring	1	in progress	SADC
Monitoring (data collection)	1	1	Bangladesh
Assessment and Exploitation of resources			Sudan
Enviromental Flows Determinaton	1	1	South Africa
Groundwater Assessment	1	1	SADC
Groundwater Assessment & Development Methods	1	1	Egypt
Water Catchment	progress	progress	Kenya
Water Shet Management	1	partky	Brazil
Water Shet Management / land use changes	1	1	Caribbean Region
Reservoir operation (storage)			Egypt
Recycling / Reuse	1	1	China
reuse of agri drainage water / Drip irrigation			Egypt
Reuse/Recycle	1	1	Algeria
Technology for Transfer of Water	1	1	South Africa
Rainwater Collection	1	1	China
Flood Control		1	Viet Nam
Flood Control	1	1	Bangladesh
Drought management		in progress	Sudan
Forestation	1	1	China
Land Use	1	progress	Tanzania
Demand/supply	1	progress	Tanzania
Demand/supply	progress		Kenya
Transboundary Coperation	1	limited	Bangladesh
Regional Protocols	1	in progress	SADC
Policy formulation related to "Quantity"	1		Lesotho
Pollution ->less quantity	1	1	Algeria
Technology Transfer	1	1	Algeria

ANNEX 8: EXAMPLES OF INSTITUTIONS AND NETWORKS

Component 1: Policy Assessment, dissemination and information sharing

- Governments
- UN-Water
- Nile IWRM – Net
- CBD Secretariat
- Donors
- Global Water Partnership (Regional Secretariats)
- CEDARE (Arab Region)
- ARAB Water Council
- Nile Basin Initiative
- INA Water Partnership
- SEARNET (Southern and Eastern African RWH network)
- CEHI (Caribbean)
- NBCBN-RE
- SADC –Water Division
- UN Economic and Social Commission for Western Asia,
- UN Economic and Social Commission for Asia and the Pacific (UNESCAP),
- Arab Water Council
- Economic Community of West African States
- Water Development Office of Martinique.

Component 2: Human resources development

- Governments
- UN-Water
- CBD Secretariat
- Nile IWRM – Net
- Donors
- Global Water Partnership (Regional Secretariats)
- CEDARE (Arab Region)
- ARAB Water Council
- Nile Basin Initiative
- INA Water Partnership
- SEARNET (Southern and Eastern African
- RWH network)
- CEHI (Caribbean)
- NBCBN-RE
- SADC –Water Division
- MESA

Component 3: Formulation and implementation of national, regional, transboundary Policy/Strategy and IWRM plans

UN-Water
Water Utilities
CEDARE (Arab Region)
ARAB Water Council
Global/Local NGO's
Development Partners
Nile Basin Initiative
Niger Basin Authority
African Network of Basin Organizations (ANBO)

Policy implementation (research technical support, partnerships).

UN-Water
Governments
CEDARE (Arab Region)
ARAB Water Council
Global and Local NGO's e.g. Indonesia Perusahaan Jasa Tirta I and II (Payment for Environmental Mechanism and Operation maintenance)
Development Partners

Component 4: Institutional Development

- Assessment of existing institutional systems – roles, functions, accountability, reporting.
- Conflicting laws, duplication or lack of clarity of mandates for different organizations and jurisdiction of different tiers of authority—local, sub-regional, national and, increasingly, international.
- Determining what to reform and the sequence that reforms.

ANNEX 9: RESOURCE MOBILIZATION

Self financing by participation developing countries

It is crucial that the developing countries show their commitment to their development goals by partially funding the programmes for which they seek donor assistances. The SSC programme shall require developing countries to demonstrate their commitment by budgeting from their own resources for the requested programme

Individual bilateral cooperation initiatives

The South-South Cooperation is now recognized as a primary mechanism for the effective delivery of technology support and capacity building in the Bali Strategic Plan (BSP); the latter being a cornerstone of UNEP's work. In addition, South-South Cooperation as a key mechanism for the development agenda of the countries of the south and enjoys broad-based support from both the donor community and developing countries. Some countries of the South such as India, China, Brazil and South Africa have committed funds to South-South Cooperation before¹⁰. There will be need to encourage others to do the same for this programme.

Collective resources

Some of the countries in the South have become sources of sophisticated goods and services. The programme will mobilize collective resources in two broad ways. The first method will involve collective resources of the relevant institutions in the participating countries including the identification of available and potential resources in form of expertise, information and knowledge base, infrastructure as well as financial resources to support the implementation of the proposed activities. The UNDAF-supported project to strengthen a South-South Network of GEO collaborating centres could serve as a useful model for harnessing the potential of national and regional institutions in the South.

“Triangular cooperation” approaches

The “Triangular Cooperation” is a significant complement to ODA, involving the participation of developed countries in the SSC process. It has the potential to provide significant resources to SSC programme. The donor countries provide third party resources to utilize the services of developing countries with the requisite capacity to deliver a technical cooperation input to another developing country on a cost-effective basis. This SSC programme may emulate the ongoing DEWA project on Fredskorpset Norway Exchange Programme on strengthening institutional capacities for integrated environmental assessment and reporting in Africa. UNEP and United Nations Development Programme (UNDP) initiated their global partnership, the Poverty and Environment Initiative¹¹ (PEI), in 2005 to seek to mobilize global, regional and national coalitions to enable countries to more effectively integrate environment into their national poverty reduction strategies and investment programmes. The UNDP-UNEP PEI includes joint programming, resource mobilization, and in some countries, joint projects.

The second approach will be used to establish and maintain strategic partnerships with South-South Cooperation initiatives and related regional cooperation arrangements including but not limited to China-Africa Cooperation Forum, New Asian-Africa Strategic Partnership, etc. and support from UNEP Regional Offices.

Private sector engagement and Partnerships

The programme will attempt to seek private sector support especially those of regional institutions and supporting organization such as regional development banks. The participating countries and institutions will lay a strong foundation of medium to long-term broad partnerships, exchange networks and related support mechanisms. The form of partnerships may take several trajectories such as one in which the participants join an already existing network that is able to modify its agenda in water policy and strategy by introducing ecosystem management approaches; and the other in which countries and institutions may initiate their own “peer group” to support one another in a given area of identified common interest.

¹⁰ UN South-South Cooperation for development, NY, 29th May-1st June, 2007. South-South cooperation mobilized funds from Japan, amounting to \$3.1 million for new programmes in the period from 2005 to 2007; China provided \$1.7 million to the Special Unit for SSC. Cost-sharing contributions came from Japan (\$3.101 million) and South Africa (\$945,000). 57. The Heads of State of Brazil, India and South Africa each committed \$1 million a year to the Facility at the Summit.

¹¹ Supported by Belgium, Ireland, Norway, Sweden, DFID, European Commission, Millennium Ecosystem Assessment and Poverty Environment Partnership

ANNEX 10: PROGRAMME MANAGEMENT

Organizational, administrative and financial arrangements

Capacity building is a three-year programme. A Programme Steering Committee consisting of representatives of the participating countries will be established. The representation will be determined according to the UN Regions and proportional to the participating countries in that region.

The organizational, administrative and financial arrangements of the UNEP in support of capacity building within the framework of South-South cooperation will use the available resources and existing institutions. The overall UNEP support will be according to UNEP guidelines for promoting South-South Cooperation. UNEP will be in charge of the overall organization and coordination of the programme and establish operational arrangements covering potential roles and inputs of the key actors such as UNEP headquarters, UNEP regional offices, UNDP and other partners as well as national institutions. Participating countries will be grouped according to their specific needs across the south to determine trend and structure of the needs. The second level of grouping will be according to UNEP Regional Offices from which coordination and facilitation of this programme may be done. Countries sharing a common trait, support from a specific donor or of an economic community may be grouped in to a sub-region.

UNEP SSC Coordination Unit shall be responsible for facilitating the identification of Centres of Excellence and systematic development of networks and related resources; identification, development and implementation of triangular cooperation activities; UNEP Regional Offices will assist in the identification of opportunities for the required partnerships and linkages and facilitating the necessary consultations and dialogue for establishing the envisaged partnerships.

Monitoring, assessments and evaluation

Previous programmes and engagement in the SSC has been *ad hoc* and bilateral in nature or confined to a few countries/departments. The programme will monitor and evaluate progress of mainstreaming environmental aspects in to national water policy and strategy and in IWRM plans. Defining indicators, establishing benchmarks, and setting up mechanisms to ensure ongoing monitoring and evaluation are all key activities in any successful implementation plan. Three types of indicators are formulated to measure, first, progress of the implementation process (output indicators), second, direct outcomes of interventions, and third, longer-term impacts. Output and outcome indicators are short-term and measurable. However determining indicators to measure the extent to which planned actions are contributing to national economic, social and environmental goals may take some extra thought given the many factors involved, but it is well worth the effort.

The programme will have regular semi-annual reviews and reports submitted to the UNEP Regional Centres. Specific reviews may be directed at unblocking implementation bottlenecks. UNEP plans to carry out reviews with within the context of Agenda 18 and UNEP Water Policy and Strategy.

Evaluation will take place at different levels, from a simple project progress to impact on national socio-economic and environmental aggregate indicators. The higher the level of evaluation, the greater the methodological challenges arise and the more difficult it becomes to find descriptive ascertaining impact indicators. It is imperative to start the process by setting out goals and levels of accuracy required. A generic evaluation model will have the following elements that shall be adopted including efficiency, effectiveness, impact, relevance, and sustainability.