



**United Nations  
Environment  
Programme**

Distr.: General  
17 August 2004

Original: English



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**High-level Open-ended Intergovernmental Working Group  
on an Intergovernmental Strategic Plan for  
Technology Support and Capacity-building**  
Second session  
Nairobi, 2 – 4 September 2004

**Inventory of UNEP Capacity Building and Technology Support  
activities**

**Paper presented by the secretariat**

# Inventory of UNEP Capacity Building and Technology Support activities

## Section A

### Definition and Legislative Mandate for UNEP's Capacity Building and Technology Support activities

#### a) Definition of Capacity Building and Technology Support

##### i) Capacity Building

1. For the purpose of presenting the inventory of UNEP activities the term capacity building<sup>1</sup> refers, to strengthening abilities, relationships and values that enable organisations, groups and individuals to improve their performance and achieve their sustainable development objectives. It includes strengthening the institutions, processes, systems and rules that influence collective and individual behaviour and performance in all development endeavours. And it also means enhancing people's ability to make informed choices, and the willingness to play new developmental roles and adapt to new challenges.

##### ii) Technology Support

2. Technology-support<sup>2</sup> encompasses the diffusion of technologies, and technology co-operation across and within countries. Specifically, it comprises the process of learning to understand, utilise and replicate the technology, including the capacity to choose it and adapt it to local conditions, and integrate it with indigenous technologies. Technology-support activities involve various stakeholders: governments, private sector entities, financial institutions, non-governmental organisations (NGOs) and research/education institutions.
3. The distinction between capacity building and pure technology support activities is very thin as the later invariably comprises a large part of capacity building. In presenting the inventory of activities this paper addresses – jointly or separately, as relevant– aspects that are central to both areas. The inventory is not static. It is an ongoing process that is constantly being updated to add new projects/ activities, and refined to improve the quality and relevance of the information. The detailed information on each of the projects is available in an electronic database of the inventory.
4. This inventory is prepared pursuant to the decision of the eighth special session of the UNEP Governing Council in Jeju, in March 2004 (GC SS VIII/1) requesting the Executive Director “*to make available relevant reports, including an inventory of existing capacity-building and technology support activities of the United Nations Environment Programme and of other relevant international organizations, to assist the high-level working group, as necessary ...*”. The inventory reflects capacity building and technology support activities in all the UNEP Divisions, as well as those undertaken directly by the Regional Offices. The inventory builds upon previous biennial publications in which UNEP highlighted its capacity building profile.

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<sup>1</sup> As agreed at the Inter-Agency Consultative Meeting on Capacity Building in Geneva, 20 -22 November 2002, the terms *capacity building* and *capacity development* can be used interchangeably to mean the same thing.

<sup>2</sup> This document adopts the definition of “technology-transfer” by the Intergovernmental Panel on Climate Change in a much wider scope than climate change thus: Technology transfer is “*a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst different stakeholder*”

## **b) UNEP's Legislative mandate**

5. UNEP's legislative mandate on capacity building and indeed its leadership role as the environment conscience of the United Nations, flows from United Nations General Assembly (UNGA) resolution 2997 (XXVII) of 15 December 1972 establishing, among others, the UNEP Governing Council. The resolution mandates UNEP to promote international cooperation in the field of environment and to recommend as appropriate, policies to this end; and provide policy guidance for the coordination of environmental programmes in the UN system. In addition, UNEP is tasked with keeping under review the world environmental situation, and promote acquisition, assessment and exchange of environmental information.
6. A key aspect of the mandate was underscored by UNGA resolution 3436 (XXX) of 9 Dec 1975 providing for UNEP's leadership and assistance, on request, to developing countries and countries with economies in transition, in national and international environmental law, and support to implementation of Multilateral Environmental Agreements (MEA's).
7. Agenda 21 (Chapter 37) adopted at Rio in 1992 makes clear the nature and importance of capacity building. It is the key to the successful implementation of the Agenda. Without the necessary capacity, developing countries and countries with economies in transition will be unable to identify and solve their development problems.
8. Chapter 38 (International Institutional Arrangements) of Agenda 21 clearly identifies 13 key areas of priority for UNEP including environmental assessment and reporting, information dissemination and exchange, development and implementation of environmental law, impact assessment and use of economic instruments in environmental management, and environmental emergencies. UNEP is also required to facilitate information exchange on environmentally sound technologies and promoting sub regional and regional cooperation, including supporting relevant initiatives and programmes as well as playing a leading role in the regional environmental mechanisms.
9. In its five-year review of Agenda 21 in 1997 the UNEP Governing Council/ Global Ministerial Forum adopted the Nairobi Declaration reaffirming UNEP's leadership role and the core elements of its focused mandate. Subsequently the UNGA in resolution 53/187 of 15 Dec 1998 reaffirmed this role.
10. The Malmo Declaration of the UNEP Governing Council/ Global Ministerial Forum of 2000 and the UN Millennium Development Goals further put in place concrete environment related challenges that need to be addressed, and target goals to be met respectively. Also arising from various MEA's, specific roles and responsibilities have been entrusted upon UNEP through conventions and decisions of the Conference of Parties (CoP).
11. In February 2002 the UNEP Governing Council at its seventh special session at Cartagena, pursuant to the International Environmental Governance process, further reinforced UNEP's capacity building and technology support mandate with focus on increasing country-level delivery. Decision GC SS VII/1 laid emphasis on inter-agency collaboration especially with UNDP and the GEF among others in increasing country-level coordination and delivery of capacity building and technology support activities. Recognizing the need for an integrated approach the Governing Council/ GMEF special session also laid the foundations for the development of an intergovernmental strategic plan on capacity building and technology support.
12. The World Summit on Sustainable Development in the same year adopted the Johannesburg Plan of Implementation highlighting key issues underlying environmental degradation, as well as the required capacity building measures and the need for partnerships with governments, United Nations system, private sector, financial institutions and civil society.

## Section B

### UNEP's strategic approach to capacity building and technology support

#### a) Overall strategic approach and areas of focus

13. Over the past three decades the international community has endeavoured to identify and prioritise the capacity-building and technology-support needs of, in particular, developing countries and countries with economies in transition. The key issues include:
  - Ensure widespread access to scientific and technological information. Key challenges in this context include the need to protect intellectual property rights and to avoid neglecting environmentally-sound indigenous technologies, as well as the collection, analysis and dissemination of data and information.
  - Enhance access to environmentally-sound technologies. This includes, but is not limited to, supporting the commercial viability of new technologies by facilitating financing for these.
  - Support capacity-building activities. This includes a wide range of efforts, from human resources development to institutional and information capacity development. It further entails the longer-term integration of these efforts into national policies and plans.
  - Ensure effective linkages between technology-support and capacity-building in maximising the synergies between both interventions.
  
14. UNEP, as the voice for the environment within the United Nations system, is tasked to promote the incorporation of environmental protection into development planning at all levels. UNEP enhances environmental capacity in developing countries and countries with economies in transition in four principal ways:
  - a) Facilitating and supporting institution building at regional, sub-regional, and national levels through regional advisory services, technical and legal assistance, mentoring/ training of local experts, support to regional and sub-regional environmental initiatives such as NEPAD, etc
  - b) Developing and testing environmental management tools and instruments in collaboration with national governments, as well as regional and sub regional institutions, and other agencies;
  - c) Promoting public participation in environmental management and enhancing access to environmental information.
  - d) Support to MEA's
  
15. UNEP's responsibilities in capacity building and technology support include:
  - a) Environmental assessment and monitoring the state of the global environment, including identification of emerging issues, as well as the collection, analysis and dissemination of environmental data and information
  - b) Atmosphere and climate change encompassing ozone, air pollution, and climate change adaptation, etc
  - c) Biodiversity conservation and resource management
  - d) Chemicals and waste management
  - e) Economics, Trade and Environment issues
  - f) Energy issues related to policy, efficiency, alternatives, financing etc
  - g) Environmental law - development and implementation of international and national laws, compliance with and enforcement of MEA's, etc
  - h) Production and Consumption
  - i) Water
  - j) Technology support
  - k) Cross-cutting issues including environmental awareness, education and outreach.

### **b) Collaboration with UN agencies**

16. In line with its mandate to provide leadership on environment and in order to attain maximum impact in the environmental field, UNEP works in close collaboration and partnership with other UN agencies, the private sector, civil society and major groups, regional and national institutions, and other organizations in implementing its work including on capacity building.
17. Environmental coordination in the UN system was initially done through the Environmental Coordination Board (ECB) set up by the UNGA resolution 2997 (XXVII) of 15 Dec 1972, “*in order to provide for the most efficient coordination of the UN environment programmes*”. This was taken up by the ACC, currently the Chief Executives Board, and later by the Environmental Management Group (EMG) which replaced its precursor, the Inter-Agency Environment Management Group (IAEG).
18. Examples of interagency cooperation include the project on Partnership for the Development of Environmental Law and Institutions in Africa (PADELIA) which, since 1994, is jointly implemented with UNDP, FAO, the World Bank and the IUCN and several donor and beneficiary governments; and the UNEP capacity building in post-conflict countries, and for disaster management, undertaken in close collaboration with UN/OCHA, UNISDR, UNHCR and UNDP. Others include UNEP and UNDP with a range of other agencies in the implementation of GEF funded activities in the different GEF focal areas.
19. UNEP capacity building and technology support for chemicals MEA’s is provided in partnership with other agencies such as the Inter-Organisation Programme for the Sound Management of Chemicals (IOMC)—involving UNEP, WHO, ILO, FAO, UNIDO, UNITAR and the OECD countries. The Intergovernmental Forum on Chemical Safety (IFCS) provides a forum where government and non-government stakeholders can address such issues.

### **c) UNEP Collaborating Centres, and Partners**

20. UNEP centres and partner institutions provide key building blocks in capacity building and technology support at the regional and national levels. The centres include the International Environmental Technology Centre, UNEP Collaborating Centre on Water, UNEP Collaborating Centre on Energy and Environment (UNCCEE); centres collaborating with UNEP on the Global Environment Outlook (GEO) and partnering with UNEP on the Global International Waters Assessment (GIWA), and GRID-Arendal etc; centres partnering with UNEP and Kalmar on the Global International Waters Assessment (GIWA), etc. At the regional, sub-regional and national levels UNEP works with various partners, Government institutions, research institutions, and civil society organisations in furthering its capacity building and technology support activities to better respond to specific country needs and priorities.
21. Examples of such collaborations include UNEP’s sustainable energy activities, which are implemented through UNEP Collaborating Centres on Energy and Environment (UCCEE) by a group of international scientists, engineers and economists who provide technical and analytical support. UNEP also works with a network of cleaner production centres. Another example is the capacity building for integrated environmental assessment which involves GEO collaborating centres and partners around the world such as the International Institute for Sustainable Development (IISD) as well as global, regional and sub regional institutions, etc.
22. Pursuant to Governing Council decision 22/1-III on the UNEP- World Conservation Monitoring Centre, a network of collaborating centres in developing countries will be established to cooperate with the Centre and to assist them in undertaking relevant parts of their work

programme. UNEP, in collaboration with IUCN, is also strengthening the World Database on Protected Areas.

**d) Engaging the involvement of the Private sector**

23. The private sector plays a key role in capacity building, technology transfer and promoting the uptake of environmentally sound technologies (EST's) which are crucial in the quest for sustainable development. Technology support and transfer and the related capacity building activities thus necessitate UNEP to proactively engage and involve the private sector through innovative initiatives such as the Financing Initiatives for market driven uptake of EST's. Realizing the critical role of industry UNEP, from inception, set up an Industry Office and Division to spearhead focused interaction. Another example is UNEP's collaboration with Shell on developing future scenarios as part of the GEO process.

**e) UNEP/ Multilateral Fund of the Montreal Protocol**

24. Since 1991, UNEP has been one of the four Implementing Agencies of the Multilateral Fund for the Implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer. Under the Multilateral Fund the UNEP OzonAction Programme provides capacity building and technology support activities to assist developing countries and countries with economies in transition to achieve compliance with the Montreal Protocol. The programme also receives additional funding from the Global Environment Facility (GEF) and bilateral contributions. All projects funded by the Multilateral Fund are tracked via the Multilateral Fund Secretariat's *Inventory of Approved Projects* database, including projects approved for UNEP.
25. The OzonAction Programme is implementing a work programme worth US\$ 83.44 million and comprising 768 project activities implemented in 143 countries (cumulative figures, as of December 2003). UNEP is the only Implementing Agency focused solely on "non-investment" activities under the Fund with all of OzonAction's activities focused on capacity building and technology support. To date, OzonAction has implemented 96 Institutional Strengthening projects specifically designed to enhance the human and institutional capacities of National Ozone Units (NOU's) in participating countries. OzonAction has also assisted 100 countries to date with the development of national strategies to comply with this MEA, and has prepared numerous publications of technical and policy nature for assisting all involved in this matter.
26. In addition to its Multilateral Fund role, UNEP is also an Implementing Agency of the GEF for ozone layer protection for countries with GNP per capita below US\$ 4,000 and which are not eligible for funding under the Multilateral Fund. In this role, OzonAction capacities building activities valued at US\$ 5.2 million (cumulative) is provided to 18 countries with economies in transition.

**f) UNEP-GEF**

27. Consistent with GEF practices for the past ten years, it is recognized that embedding capacity building components within projects is the most effective means for sustainable capacity development, and it is recommended that this approach continue to be the preferred pathway for capacity building. UNEP's projects within the framework of its GEF activities, in general, focus on:
  - a) the development, testing and demonstration of tools and methods for improved environmental management at the national and regional levels;
  - b) the carrying out of environmental analyses and assessments on specific thematic issues;
  - c) management of transboundary ecosystems;
  - d) transfer of technology and know-how.

28. As one of the implementing agencies of the Global Environment Facility (GEF), UNEP is implementing a work programme worth US\$ 806 million, including \$415 million in GEF resources and comprising 475 project activities implemented in 152 countries. Most UNEP/GEF projects contain a significant capacity building component. Many UNEP implemented GEF funded projects are designed to address sub-regional and transboundary issues, thus enhancing international cooperation in protecting the global environment. A significant share of the UNEP/GEF capacity building programme comprises enabling activities that aim to assist countries to implement their commitments under environmental conventions to which the GEF is a financial mechanism. UNEP is currently assisting 149 countries to implement GEF enabling activities.

**g) Support to Multilateral Environmental Agreements**

29. Central to UNEP work in the field of environmental law is the development and implementation of multilateral environmental agreements (MEA's). Internationally, the network of UNEP-sponsored environmental treaties and conventions is having an ever increasing effect, largely because UNEP capacity building and institutional strengthening activities have been building national-level expertise for effective enforcement of and compliance with MEA's. UNEP also provides support to MEA's through its work on inter-linkages and synergies, and the development and implementation of sub-regional environmental agreements, particularly on shared natural resources such as the Carpathian Mountains, the Caspian Sea and the Black Sea

**i) Ozone Convention**

30. The historic Montreal Protocol on ozone depleting substances negotiated under UNEP auspices in 1987 is one of the key areas in which UNEP assists developing countries. The programme has assisted 100 developing and countries with economies in transition in preparing their national strategies for complying with the Protocol and establishing their NOU's through Institutional Strengthening projects. Through its regionalised component called the Compliance Assistance Programme (CAP) based largely in UNEP's Regional Offices, and using innovative mechanisms such as the Regional Networks of NOU's and an international information clearinghouse, UNEP has strengthened the capacity of those countries so that most achieve or exceed their compliance commitments under this MEA (more information on the Multilateral Fund is covered above).

**ii) UNCCD**

31. UNEP as the Task Manager for Chapter 12 of Agenda 21 supports countries and their regional and sub regional organisations in the implementation of the UNCCD. UNEP supports African countries to report to the UNCCD through the framework of the African Ministerial Conference on Environment (AMCEN) and in collaboration with the UNCCD Secretariat, the UNDP Office for Combating Desertification and Drought and sub-regional organisations. Furthermore, UNEP assists in promoting awareness on the mobilisation of financial resources for the implementation of the UNCCD in the IGAD and SADC sub-regions of Africa.

**iii) Basel, Rotterdam and Stockholm Wastes and Chemicals conventions**

32. UNEP has successfully assisted developing countries and countries with economies in transition to participate in the negotiations of and in efforts to implement at national level the Basel international movement and disposal of hazardous wastes; the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, as well as the Stockholm Conventions on Persistent Organic Pollutants.

**iv) Biodiversity conventions**

33. UNEP is actively involved in the capacity building efforts in support of the implementation of the biodiversity related conventions and protocols, namely Convention on Biodiversity, Convention on Migratory Species, and the Convention on International Trade Endangered Species of Wild Fauna and Flora.

**v) UNFCCC**

34. UNEP paved the way for the United Nations Framework Convention on Climate Change and the resulting Kyoto Protocol. UNEP has successfully assisted countries to prepare national communications to the United Nations Framework on Convention Climate Change UNFCCC. In addition UNEP is assisting least developed countries to developed climate change National Adaptation Programmes of Action (NAPA). This Convention relies on science assessments from the IPCC, a mechanism established and supported by UNEP and WMO.

**vii) Regional Seas conventions**

35. The UNEP Regional Seas programmes involve more than 140 countries taking part in 13 of these programmes, each tailored to the specific needs of its Country and region participants. UNEP has been responsible for forging agreements to eight international conventions and fifteen protocols and agreements in addition to action plans on the protection of regional seas.

**viii) The GPA as an example of UNEP's CB and TS under "soft" MEA's**

36. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA)—an important soft law instrument for which UNEP provides the secretariat—has also gained significant momentum since its inception in 1995. It received unanimous support at the first Intergovernmental Review Meeting, in October 2001. A core element of the GPA is an information and data clearing-house to mobilise experience and expertise for effective scientific, technical and financial cooperation and capacity building. The clearing-house provides a rapid and direct referral system to relevant information and data so governments can receive appropriate and timely advice and assistance. Both the regional seas and the GPA are key UNEP mechanisms in implementing the United Nations Law of the Sea Convention, Part XII

**ix) Linking between MEA's and Trade Conventions**

37. The continuing expansion of international environmental and trade laws is increasing the need for policy coherence and co-ordination at all levels, and in particular between MEA's and the WTO. UNEP facilitated information exchange and coordination, and collaboration between the WTO and MEA Secretariats in order to enhance synergies between these institutions. Activities also include the development of policy response packages to realize the objectives of MEA's. Currently; UNEP assists MEA's to explore possibilities of the use of integrated assessment and economic instruments in furthering their implementation of the biodiversity-related -related MEA's (CITES, RAMSAR, CBD).



## Section C

### Inventory of UNEP CB and TS activities

#### 1. Assessment

Environmental assessment and early warning are central to UNEP's mandate. To support the assessment process UNEP works with national, sub-regional and global institutions, centres of excellence and other partners to facilitate its work. To better work with these centres and partners in developing countries UNEP has instituted an elaborate and comprehensive capacity building programme to strengthen them and harmonise data gathering and synthesis. In developing national assessment and networking capacity, UNEP follows four stages of programme implementation:

- Needs assessment: upon request from government or collaborating centre.
- Feasibility study and pilot activities resulting in medium and long-term capacity building proposal.
- Implementation using local and international expertise/consultants, in collaboration with partners.
- Operational network participation in national, regional and international environmental assessments and related activities.

Through its capacity building and technology support activities UNEP's attention in assessment is focus on achieving the following:

- Comprehensive capacity building to produce integrated environmental assessments (IEA's) at global, regional, sub-regional, national and city level using the GEO IEA methodology and approach;
- Strengthening capacity for data and information management and exchange to support national level integrated environmental assessment and reporting as well as regional processes;
- Establishing and/or strengthening environmental monitoring facilities and networks based on common methodologies and standards;
- Building capacities of developing countries in the use of remote sensing data and the application of earth observation technologies for environmental analysis.
- Technology support through the provision of satellite data for environmental and socio-economic planning and management.
- Promoting access to environmental and socio-economic data through the development of a global data portal and the development of capacity to produce regional data portals.
- Promoting best practices to increase the availability and accessibility to environmental data and information

38. The specific capacity building programmes include:

#### a) Global capacity building in integrated environmental assessment

This is a comprehensive capacity building programme for Integrated Environmental Assessment and reporting (IEA) for decision-making in support of the GEO process. A range of high quality integrated environmental assessments (global GEO, regional and sub-regional environment outlooks) are being prepared using sound, compatible and harmonized methodologies which can be used to underpin policy and decision-making at appropriate levels. The following have been undertaken:

- i. Strengthened Regional Networks of specialised partner institutions producing training and expertise for integrated environmental assessment and reporting at national, sub-regional and regional levels.
- ii. An updated integrated and harmonised capacity building package comprising:
- iii. Revised Integrated Environmental Assessment (IEA) and Reporting Training Manual and support materials (printed, CD ROM, web versions, and other language versions);

- iv. Specialised in-depth modules of the training package focusing on such areas as policy analysis, scenarios and modelling, data integration and analysis, indicators, awareness raising for decision-makers, and development of multi-media products;
- v. A training methodology to support the development of regional versions of the GEO Data Portal.
- vi. Train-the-trainers guide and course materials.
- vii. More than 15 training workshops have been carried out in Africa, Asia and the Pacific, LAC and West Asia, based on specific needs and demand.
- viii. Twinning of institutions and joint projects and programmes emanating from the twinning arrangements being addressed during 2004-05.

**b) Regional capacity building to strengthen national and sub-regional institutions in environmental assessment**

Regional components of the comprehensive capacity building for IEA programme (above) in the following regions have helped to standardise the GEO methodology, harmonise data collection and analysis, and strengthen national and sub-regional capacity resulting in production of sub-regional and national state of the environment (SoE) reports.

- i. Africa
- ii. East and Central Europe e.g. the Caspian Sea Region (in a transboundary context)
- iii. Latin America and the Caribbean
- iv. West Asia
- v. GEO for Cities

**c) The Millennium Ecosystem Assessment (MA)**

The Millennium Ecosystem Assessment (MA) is a process designed to improve the management of ecosystems and their contribution to human development by: a) helping to bring the best available information and knowledge on ecosystem goods and services to bear on policy and management decisions; and b) building capacity at all levels to undertake integrated ecosystem assessments and act on their findings.

**d) Global International Waters Assessment (GIWA)**

Through GIWA, UNEP has assisted national and sub-regional institutions in 66 sub-regions around the world since 1999. Teams of local experts have been trained in the GIWA protocol

**e) Environmental information management and exchange**

- i. The Africa Environment Information Network (AEIN) project provides a framework for strengthening data/information management and sharing at the national level to support integrated environment assessment and reporting (SOER) as well as providing input into the regional reporting processes to produce the Africa Environment Outlook (AEO) report. The following 13 countries received direct assistance: Ethiopia, Egypt, Ghana, Burkina Faso, Senegal, Gabon, Tunisia, Cameroon, Uganda, Lesotho, Zambia, Mauritius, Seychelles
- ii. Asia Pacific Sub regional Environment Management and Information Systems (SEMIS) covering five countries namely, Cambodia, China, Lao People's Democratic Republic, Myanmar, Thailand, and Viet Nam
- iii. Capacity Building for GEO 'formerly ENRIN in CEE&NIS' and Aarhus Service in Central and Eastern Europe, Caucasus, and Central Asia covering 24 countries
- iv. INFOTERRA aims to improve access to environmental information at the national level through a mix of electronic and non-electronic mechanisms (in response to UNEP GC 20/5) by involving focal points in 177 countries spread in Asia-Pacific, Europe, Latin America & the Caribbean West Asia

**f) Land assessments**

- i. GEF-UNEP-FAO Land Degradation Assessment in Drylands (LADA) has led to an improved needs-based and process-driven approach to dryland degradation assessment developed, tested and disseminated
- ii. The FAO-UNEP Global Land Cover Network (GLCN) is based on the recommendations of the UNCED/Agenda 21 and re-endorsed by WSSD. It uses remote sensing and ground truthing together with geographical information system (GIS) technologies for coordinated, systematic and harmonized collection and assessment of data on land cover and environmental conditions, and especially for monitoring degradation. GLCN involves 26 countries in **Africa** (Benin, Burkina Faso, Cameroon, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Mali, Mauritania, Niger, Nigeria, Senegal, Togo), **Asia** (Bangladesh, Bhutan, China, India, Indonesia, Laos, Mongolia, Nepal, Philippines, Sri Lanka, Thailand, Viet Nam) and the Middle East (Iran)
- iii. Network Survey and Evaluation of existing networks and bodies relevant to implementation of the UN Conventions to Combat Desertification supports Africa's SADC Anglo-phone countries to undertake a pilot evaluation of CCD-implementation capacities of the potential partners
- iv. People, Land Management and Environmental Change (PLC) is a multi-country programme in covering over 12 countries in Africa, Latin America & the Caribbean, and Asia-Pacific regions. PLC's objective was to develop sustainable and participatory approaches to biodiversity management and conservation.
- v. Desert Margins Programme (DMP) involves eight countries in Africa namely Botswana, Kenya, Mali, Namibia, Niger, Senegal, South Africa, and Zimbabwe to assess dryland management practices, including traditional small-holder knowledge; improve understanding of causes, extent, severity, and processes of soil and ecosystem degradation; and will develop natural resource management strategies

## 2. Atmosphere and Climate Change

The success of UNEP capacity building and technology support in atmosphere and climate change is hinged on the following three main interventions:

- i. Information exchange: Developing, maintaining and disseminating current and relevant awareness raising material, training tools and technical documents supported by scientific and technical panels of experts.
- ii. Country programmes and institutional strengthening: Providing technical assistance, advisory services and resource mobilisation to assist countries in formulating their country programmes, national communications, action plans, etc.; and to strengthen capacities of national institutions.
- iii. Training and regional networking: Training and regional networking promotes south-south technical cooperation, as well as increasing in-country expertise to further implement national programmes.

### a) Ozone

Capacity building and technology support activities are implemented under the GEF, the Multilateral Fund Montreal Protocol on Substances that Deplete the Ozone layer, and bilateral funding from donor countries. The activities include:

- i. The OzonAction Programme Direct Assistance to Countries under Regionalised Compliance Assistance Programme (CAP) is a global programme with regional approach aimed at assisting countries to achieve compliance with obligations and commitments towards Montreal Protocol & its amendments in due time and with respect to control measures scheduled in 2005, 2007 & 2010. Examples of regional programmes include:
  - Capacity building and Training projects in 11 countries of the Middle East namely, Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates, Yemen.

- Country Programmes for Phasing out Ozone Depleting Substances in Latvia and Azerbaijan
  - Programme for Phasing out Ozone Depleting Substances in, Armenia, Azerbaijan, Estonia, Latvia, Lithuania, Tajikistan Turkmenistan, and Uzbekistan
- ii. The OzonAction Programme under the Multilateral Fund: Information Clearinghouse is a global programme with emphasis on developing countries that operate under Article 5 of the Montreal Protocol. Over 100 guidebooks, manuals, videos, posters, CD-ROMs and provides e-news and web services and Business-to-Business web portal to facilitate the trade of the controlled substances to avoid new production of hazardous chemicals
  - iii. Promoting interlinkages in cost-effective implementation of MEA's related to chemical and atmospheric clusters (OzonAction Programme) is a global programme being undertaken to build the capacity of governments and industry through activities such as Green Customs or the best practices in emission reduction of Greenhouse Gases, etc.
  - iv. Initiating Early Phase-out of Methyl Bromide through Awareness Raising, Policy Development and Demonstration/Training Activities in 11 countries in Europe namely, Bulgaria, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Moldova, Poland, Slovenia, Uzbekistan.
  - v. Refrigerant Management Plans in 10 Asia Pacific countries namely, Bangladesh, Cambodia, Fiji, Korea, Lao People's Democratic Republic, Maldives, Mongolia, Nepal, Sri Lanka, and Viet Nam targets to develop the capacity of refrigeration technicians to reduce emissions of ODS with good practice in refrigeration servicing To train the customs officers to effectively control the ODS trade

**(b) Air Pollution**

- i. Partnership for Clean Fuels and Vehicles is a global programme that focuses initially on two priority areas: (a) The elimination of lead in gasoline and the phase down of sulphur in diesel and gasoline fuels, concurrent with, (b) the adoption of cleaner vehicle technologies.
- ii. UNEP is providing assistance to enhance national capacity and to address the increasing threat of transboundary air pollution in support to Malé Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for nine (9) countries in South Asia namely, Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, and Sri Lanka.
- iii. The project on Prevention and Control of Dust and Sand Storms in Northeast Asia with focus on China and Mongolia aims to facilitate cooperation and coordination of interventions by the major stakeholders in northeast Asia to address the transboundary environmental problem of dust and sandstorm (DSS).
- iv. Legal advisory services to the Association of South East Asia Nations (ASEAN) for the negotiation and adoption of the ASEAN Transboundary Haze Pollution Agreement. The following 10 countries were supported Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Myanmar, Malaysia, Philippines, Singapore, Thailand, Viet Nam

**(c) Climate Change**

- i. Greenhouse Gas Emission Reduction from Industry in Asia and the Pacific (GERIAP) involved 9 countries in addressing climate change by becoming more energy efficient, and thereby reducing greenhouse gas emissions and costs: Bangladesh, China, India, Indonesia, Mongolia, Philippines, Sri Lanka, Thailand, and Viet Nam.
- ii. Sustainable Building and Construction is a global programme aimed at enabling the building and construction sector to move towards sustainable development. Also related is the Online e-Course on Sustainable Building and Construction developed to generate awareness of the environmental impacts of building and construction activities and actions and to explain the importance of sustainability in everyday decisions and actions of local stakeholders

Under GEF funding for climate change UNEP is assisting 24 countries to prepare National Communications to the United Nations Framework Convention on Climate Change (UNFCCC) in accordance with article 12.1 of the Convention. UNEP will be supporting these and 12 other countries to

prepare Second National Communications to the UNFCCC, through a global UNEP/UNDP/GEF project, approved in November 2003.

In addition, UNEP is assisting 15 least developed countries develop climate change National Adaptation Programmes of Action (NAPA), in accordance with the decisions adopted by the 7<sup>th</sup> meeting of the COP of UNFCCC.

- i. Assessment of Impacts of and Adaptation to Climate Change in Multiple Regions and Sectors (AIACC) project aims to develop capacity of to address assessment gaps through training, technology transfer, and interaction with international assessment teams. So far 24 selected research projects were finalised, and studies commenced, and more than 100 scientists from 45 developing countries involved
- ii. Capacity Building and Infrastructure: Participation in the Assessment, Methodology Development, and other Activities of the Intergovernmental Panel on Climate Change (IPCC). This is a global capacity building programme that aims to enhance and strengthen scientific and technical capacity of developing countries and countries with economies in transition through their experts' participation in IPCC activities
- iii. Country Case Studies on Climate Change Impacts and Adaptations Assessment in support to 5 countries (Cameroon, Estonia, Pakistan, Antigua and Barbuda) to test and improve methodologies and guidelines through a series of country studies for assessing climate change impacts and adaptation; and support stage I adaptations measures as approved by COP-1 of the UNFCCC
- iv. Country Case Studies on Sources and Sinks of Greenhouse Gases in Gambia, Mexico, Poland, Senegal, Tanzania, Uganda, Venezuela, Costa Rica
- v. Phase I of the Economics of GHG Limitation programme in the following 8 countries: Ecuador, Estonia, Hungary, India, Mauritius, Senegal, Viet Nam, Argentina
- vi. Over 22 projects on climate change enabling activities for the preparation of initial communication related to the UNFCCC have been carried out in **Africa** (e.g. Cameroon, Comoros, Cote d'Ivoire, Djibouti, Kenya, Lesotho, Libya, Mauritius, Rwanda, South Africa, Tanzania, Zambia, ), **Eastern and Central Europe** (e.g. Czech Republic, Estonia, Georgia, Hungary, Kyrgyzstan, Latvia, Lithuania, Mauritania, Moldova, Poland, Slovenia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan), **Latin America and Caribbean** (e.g. Cayman Islands, Costa Rica, El Salvador, Haiti, Honduras, Guatemala, Mexico, Nicaragua, Panama, ) **Asia and the pacific** (e.g. Bangladesh, Mongolia, Nepal, Niue, Pakistan, Philippines, Vietnam, ) and the **Middle East** (e.g. Bahrain)
- vii. National Communications Programme for Climate Change is a global programme that provides capacity building and financial assistance for up to 130 countries to prepare Second National Communications to the UNFCCC in which UNEP's assumed implementation supports to 30 countries to promote integration of climate change policy into national development priorities.
- viii. Over 13 projects on Expedited Financing of Climate Change Enabling Activity enabling activities also entail capacity building. UNEP has undertaken activities in **Africa** (Comoros, Cote d'Ivoire, Kenya, Lesotho, Mauritania, Mauritius, Tanzania, Zambia, Zimbabwe), **Asia and Pacific** (China, Nepal, Niue, Viet Nam), Europe (Kazakhstan, Russian Federation), **Middle East** (Iran)
- ix. Redirecting Commercial Investment Decisions to Cleaner Technologies - A Technology Transfer Clearinghouse is a global programme that facilitates the mitigation of up to one million tons of carbon emissions by redirecting pending commercial investment decisions towards cleaner technologies

### 3. Biodiversity

UNEP's capacity building and technology support activities in the area of biodiversity can be grouped under three categories as follows:

- Institution strengthening in integrated policy design and implementation, information management, assessment and planning

- Research, training and education of scientific, technical and managerial personnel.
- Technology support and facilitating transfer of technologies.

The following listing provides examples of the key capacity building and technology support in relation to biodiversity.

- (a) An Ecosystem Approach to Restoring West African Drylands and Improving Rural Livelihood through Agro-forestry-based Land Management Interventions in 5 countries Burkina Faso, Mali, Mauritania, Niger, Senegal
- (b) Renewable Energy Resources and Conservation of Flora Species in the Drylands of Mega- Chad Sub-Region covering 4 countries Nigeria, Chad, Niger, Cameroon
- (c) The Impact of Desertification on Food Security in Southern Africa in a case study for Zimbabwe" (UNEP-ISRIC-Government of Zimbabwe project)
- (d) Feasibility study on the establishment of a Gene Bank for Plant Genetic Resources which strengthened the capacity of 20 Arab World countries thus: **Middle East** (Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen) **Africa** (Algeria, Comoros, Djibouti, Egypt, Libyan, Mauritania, Morocco, Sudan, Tunisia)
- (e) The project on land degradation control to ensure sustainable use of Yemen's natural resources provided technical support to Yemen in control of land degradation to ensure sustainable use of Yemen's natural resources
- (f) Study and Regional Database on Sustainable Water Resources and Vegetation Cover Management in West Asia focusing on 11 countries namely, Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates, Yemen.
- (g) Integrated Natural Resource Management- Implementation of Start-up Activities to establish the institutional and community arrangements on integrated natural resource management in 4 countries in the Middle East: Jordan, Lebanon, Yemen, and Syria
- (h) Service for Implementing National Biodiversity Strategies and Action Plans (Biodiversity Service) in 24 Countries of Central and Eastern Europe, Caucasus and Central Asia (CEECCA)
- (i) Regional Strategy for Biodiversity and Protocols: Establishment of Protected Areas in the ROPME and PERSGA regions is a multi-country project in 11 countries: Djibouti, Egypt, Eritrea, Jordan, Saudi Arabia, Somalia, Sudan, Yemen, Iran, Kuwait, Oman
- (j) Supporting the Implementation of the Pan-European Biological and Landscape Diversity Strategy (PEBLDS) in the 53 member countries of the United Nations Economic Commission for Europe (UN-ECE)
- (k) The implementation of Biodiversity Conventions, National Action Plans, and preparation for COP7 and MOP1 in 21 countries in the **Middle East** (Lebanon, Bahrain, Iraq, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates, Yemen), and **Africa** (Algeria, Comoros, Djibouti, Egypt, Libyan, Mauritania, Morocco, Sudan, Tunisia)
- (l) The Implication of International Conventions on the Development of National Policies and Legislations Related to Biodiversity Conventions in the Middle East (Bahrain, Iraq, Kazakhstan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia), and Africa (Algeria, Comoros, Djibouti, Egypt, Libyan Arab Jamahiriya, Mauritania, Morocco, Sudan, Tunisia)
- (m) Third Round of country projects: Integrated Assessment of trade liberalization in the agricultural sector (with focus on the rice sector) is a multi-country project that involved 7 countries in Asia and Africa thus: Asia - China, Colombia, Indonesia, and Viet Nam; Africa -Nigeria, Ivory Coast, and Senegal
- (b) Training courses on marine turtle conservation carried out in the framework of the implementation of the Action Plan for the protection of marine turtles for 6 countries: Tunisia, Syria, Egypt, Cyprus, Lebanon, Israel

Under GEF funding for biodiversity UNEP's capacity building and technology support activities include the following:

**a) Biosafety:**

To build capacity to implement the Cartagena Protocol on Biosafety, UNEP, with funding from the GEF, is implementing a global programme of national projects in 123 countries to develop National Biosafety Frameworks (NBF). As pilot projects, UNEP/GEF is also supporting eight countries to implement their NBF developed in an earlier phase of the programme. In addition UNEP is supporting 50 countries to access the Biosafety Clearing House.

**b) Biodiversity Strategies, Enabling activities, and clearing house mechanism**

- i. Through biodiversity enabling activities, UNEP is assisting 28 eligible countries to prepare: (a) National Biodiversity Strategies and Action Plans in accordance with Article 6 of the Convention on Biological Diversity (CBD); (b) National Reports to the Conference of Parties (COP) in accordance with Article 26 of the CBD; and (c) Access the Biodiversity Clearing House Mechanism.
- ii. Through AMCENUNEP is also supporting African countries through the Capacity-building Programme for the Development of Sub-Regional Environmental Action Plans of the New Partnership for Africa's Development (NEPAD)
- iii. Support to the National Plan of Action for the Protection of the Arctic Marine Environment from Anthropogenic Pollution in the Russian Federation

**c) Needs Assessments**

As the first step in implementing the GEF Strategic Approach to Enhance Capacity Building, the GEF and its three implementing agencies have launched the National Capacity Needs Self-Assessment (NCSA) for global environment management, in which countries identify national needs and priorities for capacity building to implement the Rio Conventions. Examples include:

- i. Assessment of Capacity Building Needs and Country Specific Priorities in the Conservation of Biodiversity (Article 8j) and preparation of a Second National Report to the CBD for Colombia
- ii. Assessment of Capacity Building Needs in Country Specific Priorities in Biodiversity Management and Conservation in Egypt
- iii. Over 26 Biodiversity Enabling Activity: Additional Clearing House Mechanism (CHM) Module
- iv. Biodiversity Enabling Activity: Additional Funding for Assessment of Capacity-building Needs for Biodiversity, Participation in the CHM and Preparation of a Second National Report
- v. China: Capacity Building of Clearing House Mechanism (CHM) and Preparation of a Second National Report to the CoP

**d) Drylands and Land Degradation**

- i. A Strategy for the Integrated Conservation of Dryland Biodiversity through Land Rehabilitation in the Arid and Semi-Arid Regions of Mozambique, Zambia and Zimbabwe
- ii. An Indicator model for Dryland Ecosystems in Latin America (Brazil, Chile, Mexico) to provide a modelling tool for identifying vulnerable dryland ecosystems and communities, develop appropriate management plans, and monitor change following implementation of these plans
- iii. Building Scientific and Technical Capacity for Effective Management and Sustainable Use of Dryland Biodiversity in West African Biosphere Reserves in Benin, Burkina Faso, Cote d'Ivoire, Mali, Niger, and Senegal.
- iv. Promoting Best Practices for Conservation and Sustainable Use of Biodiversity in Global Significance in Arid & Semi-Arid Zones in **Africa** (Burkina Faso, Mali Morocco Nigeria Senegal Tunisia) **Latin America** (Brazil Jamaica, Mexico); **Middle East** (Jordan, Kuwait, Syria); and **Asia** (Mongolia, Pakistan)
- v. Management of Indigenous Vegetation for the Rehabilitation of Degraded Rangelands in the Arid & Semi-Arid Zone in Kenya, Mali, and Botswana.
- vi. Biodiversity Conservation through Participatory Rehabilitation of Degraded Lands of Arid & Semi-Arid Transboundary Areas of Mauritania & Senegal
- vii. Global support to facilitate the early development and implementation of land degradation programs and projects under the GEF Operational Programme no. 15

#### **e) Data and information management**

- i. Biodiversity Country Studies to gather and analyze the data required to drive forward the process of developing national strategies, plans, or programs for the conservation and sustainable use of biological diversity in 22 countries in **Africa** (for Burkina Faso, DR Congo, Ghana, Guinea, Madagascar Morocco, Mozambique, Namibia, Nigeria, Tanzania Tunisia); **Asia and Pacific** (China, Colombia, Malaysia, Papua New Guinea, Philippines); **Middle East** (Jordan, Lebanon, Syria) and the Caribbean (Bahamas, Cuba, Peru); and **Europe** (Estonia, Georgia)
- ii. Biodiversity Conservation and Integration of Traditional Knowledge on Medicinal Plants in National Primary Health Care Policy in Central America and the Caribbean in Nicaragua, Panama, Dominican Republic, Honduras
- iii. Biodiversity Data Management Capacitation in Developing Countries and Networking Biodiversity Information to enhance the capacity of developing countries in data and biodiversity information management to support the implementation of the CBD in **Africa** (Egypt, Ghana, Kenya); **Latin America and Caribbean** (Bahamas, Chile, Costa Rica); **Asia and Pacific** (Papua New Guinea, Thailand); Europe (Poland)
- iv. Biodiversity Indicators for National Use aims at improving the information on which decisions are based in 4 countries: Ecuador, Philippines, Ukraine, and Kenya
- v. Biodiversity Planning Support Programme is global programme that draws on the full range of national and global experience to develop and provide the information, tools, training, and communication needed to develop and implement comprehensive, multi-sectoral, and timely action plans, and to ensure a smooth transition between the development and implementation stages
- vi. Coral reef data acquisition & monitoring (in collaboration with ICRAN)
- vii. The Coral Reef Road Show: Coral Reef Communication training pack

#### **f) Resource management**

- i. Catalyzing Conservation Action in Latin America: Identifying Priority Sites and Best Management Alternatives in Five Globally Significant Ecoregions
- ii. China: Lop Nur Nature Sanctuary Biodiversity Conservation
- iii. Conservation and Sustainable Management of Below-Ground Biodiversity (Phase 1)
- iv. Conservation of Graminae and Associated Arthropods for Sustainable Agricultural Development in Africa
- v. Development of a Wetland Site and Flyway Network for Conservation of the Siberian Crane and other Migratory Water birds in Asia
- vi. Sustainable Conservation of Globally Important Caribbean Bird Habitats: Strengthening a Regional Network for a Shared Resource
- vii. Enhancing Conservation of the Critical Network of Wetlands Required by Migratory Water Birds on the African-Eurasian Flyways
- viii. Integrated Ecosystem Approach through Collaborative Management to Conserve Biodiversity and Minimize Habitat Fragmentation in Three Selected Model Areas in the Russian Arctic
- ix. Development of the Econet for Long-term Conservation of Biodiversity in the Central Asia Ecoregions
- x. Establishment of a Programme for the Consolidation of the Meso-American Biological Development of Best Practices and Dissemination of Lessons Learned for dealing with the Global Problems of Alien Species that Threaten Biological Diversity
- xi. Ecosystems, Protected Areas, and People, a global programme to enable organizations responsible for protected area policy and management to share the lessons in coping with global change factors
- xii. Integrated Management of Cedar Forests in Lebanon in Cooperation with other Mediterranean Countries



- xiii. In-situ Conservation of Wild Crop Relatives through Enhanced Information Management and Field Application
- xiv. Lake Baringo (Kenya) Community -based Integrated Land and Water Management Project
- xv. Nature Conservation and Flood Control in the Yangzte River Basin (China)
- xvi. Arun Valley Sustainable Resource Use and Management Pilot Demonstration Project in Nepal
- xvii. Reduction of Environmental Impact from Tropical Shrimp Trawling through the Introduction of By-catch Reduction Technologies and Change of Management
- xviii. Emergency Response to Combat Forest Fires in Indonesia to Prevent Haze in South East Asia
- xix. Measures for CBD Implementation (Assessment of Capacity-building Needs: Access to Genetic Resources and Benefit-sharing, Conservation and Sustainable Use of Biodiversity Important for Agriculture, Forestry and Research)
- xx. Community Based Management of On-Farm Plant Genetic Resources in Arid and Semi-Arid Areas of Sub-Saharan Africa
- xxi. Promoting Ecosystem-based Approaches to Fisheries Conservation and LMEs. This project is supporting capacity building in developing countries and countries with economies in transition through the transfer of advanced methods, practices and tools for ecosystem-based fisheries management
- xxii. Combating Coastal Area Degradation and Living Resources Depletion in the Guinea Current LME through Regional Actions project focuses on priority problems identified by the 16 GCLME countries that have led to unsustainable use of marine resources, including fisheries, and degradation of marine and coastal ecosystems. The following 14 African countries are involved in the project: Benin, Cameroon, DR Congo, Cote d'Ivoire, Gabon, Ghana, Equatorial Guinea, Guinea-Bissau, Liberia, Nigeria, Sao Tome and Principe, Sierra Leone, Togo, Angola
- xxiii. ICRAN: Joint Monitoring expedition - Singapore and Thailand
- xxiv. A workshop in Indonesia to train stakeholders in implementing co-management for Gilli Islands Marine Recreation Park Outcome: Engagement of stakeholders in managing their resources
- xxv. Implementation of the Action Plan for the protection of; cetaceans, marine vegetation, and the Monk Seal
- xxvi. Komodo National Park ICRAN project on coral reefs and marine management
- xxvii. Marine Park Management (Coral Reefs) course in Ninh Thuan Province, Vite Nam
- xxviii. Development and implementation of a sustainable resource management plan for Marsabit (Kenya) mountain and its associated watersheds

#### **4. Chemicals and Waste**

UNEP's capacity building and technology support program cycle In the field of chemicals, starts with the awareness raising, making governments aware of the issue and its inter-relationships with broader issues of environment, health and sustainable development tool development. Where the negotiation of an MEA is pending, attention is given to the issue that will be of particular relevance in the negotiation. UNEP provides technical and policy support to governments in the negotiation of, and in implementing, MEA's. General principles followed include integrated implementation and use of MEA's, intra-government coordination, and stakeholder involvement and ownership. UNEP is also promoting interlinkages in cost-effective implementation of MEA's related to Chemical and atmospheric clusters (OzonAction Programme)

##### **a) POP's**

- i. PCB Inventories and National action Plans is a Multi-country project in Africa, East and Central Europe and Latin America and the Caribbean regions whose objective is to develop inventories of polychlorinated biphenyls PCBs (Stockholm Convention) to be managed and disposed of

- ii. The global programme on Monitoring and Assessment of POP's collects information necessary to monitor the presence of POP's in the environment in a harmonized manner and provide assistance to countries in developing and maintaining monitoring networks,
- iii. POP's Alternatives programme assists 50 countries around the world in moving away from POP's and other pesticide use, and developing an integrated health and agriculture approach in seeking alternatives and assists countries in meeting their obligations under the Stockholm Convention
- iv. Training in the use of Dioxin/Furan Inventories toolkit assists developing countries globally in using the dioxin/furan toolkit to develop and harmonize inventories
- v. Dioxin/Furan Inventories in Asia and Latin America is a project for managing dioxin/furan releases to the environment which covers a total of 8 Countries namely Viet Nam, Philippines, Lebanon, Jordan, Brunei Darussalam, Cuba, Paraguay, Argentina Stockholm Convention Awareness Raising
- vi. Stockholm Convention National Implementation Plans (NIPs)

Under GEF funding to support implementation of the Stockholm Convention on Persistent Organic Pollutants (POP's), UNEP is currently assisting 52 countries to prepare National Implementation Plans for POP's in accordance with Article 7 of the Convention. Specific capacity building and technology support activities include:

- i. Assessment of existing capacity and capacity building needs to analyse POP's in developing countries is a global project whose aim is to assess the convention-driven country needs for laboratory analysis and conduct feasibility of establishing a fully equipped laboratory in a developing country that may be able to analyze all twelve POP's, including dioxins and furans
- ii. Development of a National Plan for the Implementation of the Stockholm Convention on POP's) is a multi-country programme that aims to strengthen national capacity to manage POP's and assist countries meet their obligations under the Stockholm Convention in 11 countries namely, Bulgaria, Chile, Ecuador, Guinea, Lebanon, Mali, Micronesia, Papua, New Guinea, Slovenia, Zambia, Belarus
- iii. Enabling activities for the Stockholm Convention on Persistent Organic Pollutants (POP's): National Implementation Plan for **Africa** (Benin, Cameroon, Côte d'Ivoire, Gambia, Madagascar, Mauritania, Mozambique, Kenya, Senegal, South Africa, and Zimbabwe); **Asia and Pacific** (Kiribati, Marshall Islands, Nauru, Palau, Sri Lanka, Thailand, Tonga, and Vanuatu); **Eastern and Central Europe** (Kyrgyz, Paraguay, Tajikistan, Ukraine Uruguay, Yugoslavia, Serbia and Montenegro); **Latin America and Caribbean** (Antigua and Barbuda, Argentina, Cambodia, Cuba, Fiji, Haiti, Peru, and Saint Lucia); **Middle East** (Jordan, Oman, Syria, and Yemen)
- iv. Regional Program of Action and Demonstration of Sustainable Alternatives to DDT for Malaria Vector Control is a project that aims at strengthening national and local institutional capacity to control malaria without use of DDT; and elimination of DDT stockpiles in the 8 participating countries in Latin America (Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Belize)
- v. Persistent Toxic Substances (PTS), Food Security and Indigenous Peoples of the Russian North, and the global programme Regional- Based Assessment (RBA) of Persistent Toxic Substances to Support countries efforts to assess threats from PTS' and prioritize possible future interventions

#### **b) Management of chemicals and hazardous wastes**

- i. Regional capacity-building and training on industrial waste management is a global programme to improve the capacity of national officials and trainers to undertake national-level training (train the trainers) and to give national officials insight into policy and technical options for prevention and management of waste
- ii. Mercury Risk reduction Programme covers a total of 140 countries globally providing technical assistance, training and awareness raising to reduce risks from mercury poisoning
- iii. A Directory of Environmentally Sound Technologies for the Integrated Management of Solid, Liquids and Hazardous Wastes in the Caribbean

- iv. Regional Capacity Building in Chemicals Management in 10 Middle East countries namely, Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Syria, United Arab Emirates, and Yemen
- v. Regional Capacity Building in Waste Management advances the transfer, adoption and use of environmentally sound technologies (EST's) through capacity building and information exchange in 11 Middle East countries namely, Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates, Yemen
- vi. Clearinghouse on sound management of chemicals is a global programme to assist countries improve their in the sound management of chemicals
- vii. Institutional Strengthening Projects in 21 countries of Asia pacific (Brunei Darussalam, Cambodia, Fiji, Kiribati, Korea DPR, Lao People's Democratic Republic, Maldives, Marshall Islands, Micronesia, Mongolia, Myanmar, Nepal, Palau, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu, Viet Nam)
- viii. Obsolete Pesticides; clean up project - South Pacific, and disposal of the Caribbean, and Africa Stockpile
- ix. Regional Workshop on Sewage Sludge Reuse and Disposal aimed at enabling countries in the wider Caribbean to know common techniques, and the alternative or new techniques of sewage sludge treatment. A total of 19 countries were involved: Anguilla, Aruba, Bahamas, Barbados, Belize, Costa Rica, Cuba, Dominica, Grenada, Guyana, Haiti, Honduras, Jamaica, Netherlands Antilles, Nicaragua, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago
- x. Rotterdam Convention Support for Implementation assists 100 countries globally to Improve convention implementation, enhance risk reduction and implement/ ratify the convention
- xi. Technical guidance on management of chemicals
- xii. Training courses on the analysis of organic and inorganic contaminants build capacity for the implementation of national monitoring programmes in Mediterranean countries
- xiii. Training on Municipal Wastewater Management aimed to enable municipal managers in a growing number of countries to improve the management of wastewater collection and treatment facilities. It covered the following countries: Tanzania, Kenya, South Africa, Mozambique, Brazil, Bonaire, Sri Lanka, Philippines, and Turkey.
- xiv. Reducing Pesticide Runoff to the Caribbean Sea focus on 3 countries Costa Rica, Nicaragua, and Colombia

## **5. Economics and Trade**

UNEP aims to enhance the capacities of countries to analyze inter-linkages between trade, environment and economic policies and design and implement policies, which maximize sustainable development gains. The four areas of focus are:

- a) Integrated Assessment and Planning,
- b) Economic Incentives,
- c) Sustainable Trade,
- d) Supporting MEA implementation.

UNEP supported capacity building on environmental impact assessment, integrated assessment of plans, programmes and policies and economic instruments through the provision of reference and training resource manuals, regional training activities and country projects at national level. It has assisted countries in assessing the economic, social and environmental implications of policies, including trade policies, through three rounds of country-led case studies. These studies have supported the development of detailed methodologies on integrated assessments, and strengthened capacities with respect to participatory processes, inter-ministerial coordination and policy design and implementation.

UNEP also supports countries in the design and implementation of economic instruments to promote the sustainable management of natural resources, including forestry, fisheries and agricultural products. Aiming to address the poverty-trade-environment linkage, UNEP is currently assisting nine governments to integrate economic, social and environmental considerations into planning processes, with a focus on poverty reduction and sustainable trade promotion.

Specific examples of the main activities include the following:

**a) UNEP/UNCTAD Capacity Building Task Force:**

- i. The UNEP-UNCTAD Capacity Building Task Force (CBTF) launched in 2000 combines the expertise of UNEP and UNCTAD to provide stronger support for a wider range of capacity building activities related to environment, trade and sustainable development. The CBTF aims to assist developing countries to better understand trade, environment and development interlinkages and participate effectively in related negotiations and discussions. In the first three years, the CBTF carried out a wide range of capacity building activities in different regions, including thematic research, country projects, regional training seminars, development and dissemination of training materials. The CBTF programme for the period 2004-2006 will continue these activities and address needs identified in the first phase.

**b) Trainings and workshops**

- ii. Multi-stakeholder forum on capacity building on policy and legal aspects of trade and environment covering 50 countries globally
- iii. Regional Capacity Building in Trade, Environment & Development project to develop and improve the capacities of countries in the application of assessment methodologies and incentive tools in 9 Middle East countries: Bahrain, Iraq, Jordan, Kuwait, Lesotho, Oman, Qatar, Syrian Arab Republic, United Arab Emirates, and Yemen
- iv. Training on environmental impact assessment in the Mediterranean countries
- v. A workshop on impact of free trade on small and medium-sized textile firms in the Mediterranean countries
- vi. Application and Use of Economic Instruments for Sustainable Development for the African region covering 10 countries namely, Egypt, Ethiopia, Ghana, Kenya, Nigeria, Senegal, South Africa, Tanzania, Uganda
- vii. UNEP Workshops on Environment, Trade and Sustainable Development

**b) Reference Materials, Manuals, and Guidelines**

- i. Development of a Reference Manual on Integrated assessment of trade-related policies as a global project
- ii. Development of Reference material and country projects on the impact of fishery subsidies on the environment involving Argentina, Bangladesh, Mauritania, Senegal, Uganda
- iii. Development of Reference material on Energy Subsidies in 10 countries Czech Republic, Slovakia, Russian Federation, India, Indonesia, Korea, Iran, Senegal, Chile.
- iv. Development of Training Module: Introduction into Capacity Building on Trade, Environment and Sustainable Development as a global project
- v. Dissemination of the UNEP Environmental Impact Assessment (EIA) Training Resource Manual globally
- vi. Reference Material on the use of Economic Instruments for environmental policy making
- vii. Second Phase Country Projects: Implementation of Policy Response Packages to assist countries in choosing and designing policy instruments, especially economic instruments, in specific sectors and effectively implement them (involved Argentina, Senegal, China)

## **6. Energy**

The goal of UNEP's Energy Programme is to promote a longer term, environmental dimension into energy sector decisions. The emphasis is on building human capacities and increasing opportunities for development while contributing towards significant reductions in the harmful effects of energy production and use. Working with a wide range of partners, UNEP helps develop and implement approaches for analysing various energy policies, climate change mitigation options, energy sector reform, industrial energy efficiency, and the environmental implications of transport choices. Capacity building and technology support activities on energy cover the following areas: Renewable Energy, Energy Efficiency, Energy Policy, Energy Finance, and Transport.

### **a) Renewable Energy**

- i. The Rural Energy Enterprise Development Initiatives (REED) are enabling the private sector to deliver affordable energy services based on clean and renewable energy technologies. REED programmes are currently running in 5 African countries, in Brazil and in China.
- ii. UNEP has helped Natural Resources Canada to enhance the performance of the RETScreen™ renewable energy pre-feasibility analysis software by adding a GHG emissions 'calculator' and developing renewable energy training programme.
- iii. Solar and Wind Energy Resource Assessment (SWERA) demonstrates the use of solar and wind resource data and geographic information assessment tools in investment and policy decision making, and builds local capacities for their continuous use. 13 countries develop solar and wind energy plans.
- iv. Global Programme on Women and Uptake of Renewable Energy Technologies covered 30 countries globally, with additional follow up activities in 17 countries in Africa. The objective was to raise awareness, knowledge and skills of women leaders in making energy choices and participating in decision making on projects related to renewable energy
- v. Joint Geophysical Imaging (JGI) Methodology for Geothermal Reservoir Assessment is a project in Kenya aimed at reducing the cost and impacts of geothermal power below those of fossil fuel plants by locating high-production geothermal wells
- vi. Generation and Delivery of Renewable Energy Based Modern Energy Services in Cuba: the Case of Isla de la Juventud
- vii. Development of a Strategic Market Intervention Approach for Grid-Connected Solar Energy Technologies (EMPower)
- viii. Renewable Energy Based Electricity Generation for Isolated Minigrids in Zambia

### **b) Energy Efficiency**

- i. Promoting Industrial Energy Efficiency through a Cleaner Production/Environmental Management System Framework in the following 6 countries: China, India, Viet Nam, Czech Republic, Hungary, and Slovakia
- ii. Energy Management and Performance Related Energy Savings Scheme (EMPRESS) for the Czech Republic and Slovakia. The project is helping establish specialised energy service companies (ESCOs) that provide services to industrial and commercial clients in CEE countries.
- iii. UNEP is investigating ways to overcome financial sector barriers to lending for energy efficiency projects in Brazil, China, and India.
- iv. Capacity building for integration of cleaner production and energy efficiency in Slovakia, Czech Republic, Hungary, China, India, Viet Nam. This GEF-funded project is helping national cleaner production centres integrate energy efficiency in their mainstream production and consumption programmes.
- v. Energy Savings in Cities is a global project aimed at raising awareness among decision makers on the importance and technologies of energy saving at the country level

### **c) Energy Policy**

- i. UNEP has underway efforts aimed at helping governments in Sub-Saharan Africa with power sector reform, energy sector finance, energy subsidy reform, and climate change policy.
- ii. Global Network on Energy for Sustainable Development (GNESD) which promotes sustainable energy approaches through co-ordinated programmes of policy analysis, practical advice, targeted research and investment promotion.
- iii. UNEP conducted a series of regional workshops on environmental, social and economic impacts of energy subsidies and their reform.

### **d) Energy Finance**

- i. By working with various types of financial institutions, insurance companies and Export Credit Agencies, UNEP is exploring ways to direct finance and investment flows to sustainable energy projects, particularly in developing countries.
- ii. UNEP is working with rural Indian finance institutions to develop a credit facility for solar system purchases that uses UN Foundation resources to buy down the initial risks of lending to this sector.
- iii. Sustainable Energy Finance Initiative (SEFI) is being undertaken jointly with UNEP FI and the Basel Agency for Sustainable Energy to strengthen the understanding of financial institutions of the characteristics of renewable energy projects so that more financing can flow to these non-conventional alternatives.

### **e) Transport**

- i. UNEP manages a Mobility Forum for discussion and joint activities involving representatives of major automotive manufacturers. Also, a campaign on environmentally friendly driving behaviours is being designed.
- ii. Partnership for Clean Fuels and Vehicles is a global programme to assist developing countries to reduce vehicular air pollution by: providing technical assistance; encouraging exchange of experiences and successful practices
- iii. The UNEP/OECD publication Phasing Lead out of Gasoline – An Examination of Policy Approaches in Different Countries describes successful programmes to eliminate the use of lead in gasoline.

## **7. Environmental Law**

Partnerships with global, regional and national institutions engaged in environmental law are vital for UNEP's programme for the development and implementation of environmental law in developing countries. Among the institutions that have come into a mutually beneficial partnership with UNEP in this field are the Hans Seidel Foundation, Commonwealth Secretariat, the Universities of Pretoria and Auckland, Ford Foundation, the United Nations University and the United Nations Institute for Training and Research.

Assistance in the development of relevant sectoral legislation has also been rendered by several UN agencies such as FAO, WHO, UNESCO, etc. International organizations such as IUCN have also made a significant contribution in the development of national environmental legislation in several developing countries. The World Bank and Regional Development Banks have also assisted in development of sectoral legislation related to their loan agreements.

Pursuant to its mandate to build capacity of developing countries and countries with economies in transition on environmental law UNEP has provided assistance to more than 75 developing

countries, at their request, to develop national environmental legislation and related institutions. Such assistance includes review of existing national legislation and related institutions, drafting of general and sectoral environmental legislation and/or elements for use in drafting legislation, preparation of legal components of national environmental and conservation strategies and legal advice on appropriate legislation and institutions for environmental management. The capacity building activities focus on the following key aspects:

- (a) Providing technical support and advisory services to enhance the participation of representatives, including civil society, in international meetings and negotiations related to environmental policy and law.
- (b) Assisting countries to adopt, implement, comply with and enforce MEA's; and strengthening regulatory and institutional capacity at the national level.
- (c) Providing training in integrated policy design and implementation, promoting education and training in environmental law, including developing and disseminating capacity building tools and materials particularly on comparative environmental legislation.

Specific examples of UNEP's key capacity building activities in environmental policy and law include the follow:

#### **a) Symposia for Judges**

Symposia for judges have the following overall goals: To provide a global perspective on the importance of the judiciary in promoting sustainable development through the Rule of Law at national level; to lay a foundation for a well structured, coordinated and sustained programme of support for capacity strengthening of national judiciaries around the world, in the area of environmental law; and to enhance the profile and the level of understanding of approaches taken by the judiciary in the implementation of environmental law. The following symposia have been held so far involving more than 70 countries globally

- i. Global Judges Symposium on Sustainable Development and the Role of Law with participation of 58 countries: Africa – 18; Asia Pacific – 12; Europe – 9; Latin America and Caribbean – 7; Middle East – 9; North America - 2
- ii. Judges Ad Hoc Meeting for the Development of a Plan of Work as a Follow-Up to the Global Judges Symposium Relating to Capacity Building of Judges, Prosecutors, and Other Legal Stakeholders involved the following 19 countries: **Africa** (Egypt, Kenya, Senegal, South Africa, Tanzania) **Asia and Pacific** (Australia, Philippines); **Europe** (Belgium, France, Greece, Italy, Romania, United Kingdom); **Latin America and Caribbean** (Brazil, Mexico, Saint Lucia); **North America** (Canada, United States of America); **Middle East** (Jordan)
- iii. Chief justices and Senior Judges Sub-Regional Needs Assessment and Planning; Meetings were held in the following regions:
  - Eastern and Central Europe,
  - English Speaking Caribbean countries,
  - Latin America,
  - Mekong countries, and the
  - Pacific Islands
- iv. Pacific Judges Symposium on Environmental Law and Sustainable Development
- v. Rome Judges Meeting sensitise Judges on the role of the judiciary for the promotion of sustainable development in Europe
- vi. Conference on the Role of Judiciary in the Development of Environmental Law in The Arab Region involved 11 countries namely, Bahrain, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, United Arab Emirates, Yemen.

#### **b) Development and implementation of environmental law**

- i. Compliance with and Enforcement of MEA's is a global programme that aims to enhance capacities of enforcement officers for implementation and enforcement of MEA's at national level taking into account poverty alleviation strategies
- ii. Partnership for the Development of Environmental Laws and Institutions in Africa (PADELIA) project aims to support and promote enhancement of capacities of African countries for the development and strengthening of environmental law and corresponding national and regional institutions to ensure effective enforcement of laws. A total of 13 countries receive direct assistance: Burkina Faso, Malawi, Mozambique, Sao Tome and Principe, Botswana, Lesotho, Swaziland, Mali, Niger, Senegal, Kenya, Tanzania, and Uganda
- iii. A Participatory Approach to Managing the Environment: An input to the Inter-American Strategy for Participation (ISP). This is a GEF funded project which aims to build capacity within the countries of the Americas for the successful incorporation of public participation practices in sustainable development policy formulation and decision-making; to design mechanisms to improve communication and promote partnership. The following 30 countries were involved: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Saint Vincent and the Grenadines, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Lucia, Trinidad and Tobago, Uruguay, Venezuela, Saint Kitts and Nevis.
- iv. Promoting Compliance with the Trade & Licensing Provisions of the Montreal Protocol in Countries with Economies in Transition initiative involves development and translation of a training module and other information, and four regional training workshops on the establishment of import and export licensing systems for monitoring and control of ODS's
- v. Addressing Transboundary Environmental Issues in the Caspian Environment Programme (CEP) aims to develop the Caspian Framework Convention as an overarching legal instrument for environmental cooperation in the Caspian region; and to strengthen legal, regulatory and economic frameworks in 5 Caspian Littoral States
- vi. UNEP provides support to Czech Republic, Hungary, Poland, Slovakia, Romania, Ukraine, Serbia and Montenegro to strengthen the Cooperation for the Protection and Sustainable Management of the Carpathians and provide a legal framework and institutional capabilities, through the development and implementation of a Convention
- vii. African experts meeting on Rio principle 10 brought together 46 Government representatives from 20 African Countries on the application of Rio Principle 10 in strengthening the legal and institutional framework of environmental law
- viii. ESCAP/UNEP Training Workshop on Multilateral Environmental Agreements (MEA's) on Biodiversity and Natural Resources aimed at training government officers and other experts to enhance the implementation of MEA's in their respective countries. A total of 24 countries in Asia and the Pacific participated: Afghanistan, Bangladesh, Bhutan, Cambodia, China, Fiji, Indonesia, Iran, Kazakhstan, Lao People's Democratic Republic, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Samoa, Sri Lanka, Thailand, Turkmenistan, Uzbekistan, Viet Nam

**c) Providing technical assistance and legal advisory service**

- i. Legal advisory services to the Association of South East Asia Nations(ASEAN) for the negotiation and adoption of the ASEAN Transboundary Haze Pollution Agreement involved 11 countries namely, Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Myanmar, Malaysia, Philippines, Singapore, Thailand, and Viet Nam
- ii. Legal advisory services to the parties to the Abidjan and the Nairobi Conventions to enhance the ability of the Parties to the Nairobi and Abidjan Conventions to effectively negotiate and ensure that national policies are in accordance with international environmental law as well as being in line with recent legal developments
- iii. Legal technical assistance to support Governments of the following 19 developing countries and economies in transition with the development of their national environmental legislation and strengthen their capacity to devise and implement this legislation: Africa (Burundi, Central African Republic, Djibouti, Congo, Gabon, Rwanda, Seychelles, Zambia) Asia and Pacific (China,



- Myanmar, Indonesia, Lao People's Democratic Republic, Cambodia, Mongolia, Papua New Guinea), Caribbean (Brunei Darussalam, Antigua and Barbuda, Suriname, Belize)
- iv. Servicing and implementing of Multilateral Environmental Agreements (MEA's) strengthen the capacities of national experts and authorities, as well as interest groups in the ratification, implementation and enforcement of selected MEA's. The project involved the following 24 countries in **Europe** (Albania, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kyrgyzstan, Kazakhstan, Latvia, Lithuania, Moldova, Poland, Russian Federation, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan)
  - v. Global Training Programme (GTP) on environmental policy analysis and law a biennial capacity building programme with the participation of about 50 countries.

#### **d) Environmental law information**

- i. Register of International Treaties and other Agreements in the field of Environment
- ii. UNEP's Environmental Law Training Manual, and other training materials
- iii. Dissemination of Capacity Building Information on Environmental Law
- iv. Environmental law information materials in print and distributed through ECOLEX website and CD-ROM
- v. Various publications including Compendia, Manuals, Guidelines, Bulletins, Country case studies/ reports, Newsletters, etc

## **8. Production and Consumption**

UNEP has over the last 15 years developed comprehensive series of capacity-building initiatives in the fields of cleaner production and sustainable consumption. These initiatives have as principal aim to improve the use of sustainable technologies and management tools (including regulation and policy) at national level, and within industry. The rationale is to build and strengthen capacity of national level institutions and individuals to be able in turn to take the UNEP information and methodologies to a much wider audience in their country or constituency – notably, in the case of the train-the-trainers activities. These programmes have at various times targeted the following sectors and audiences:

- Cleaner production: UNEP in collaboration with UNIDO has created a network of National Cleaner Production Centres (NCPC's) to carry out the above functions
- Industry issues: Waste management tourism; sustainable mining; accident prevention industrial estate management, industrial ecology
- Technology assessment; information exchange and training
- Engineering education; and business school curricula; and youth outreach activities
- Global compact

Specific capacity building and technology support activities include the following:

#### **a) Capacity building activities**

- i. UNEP-InWENT programme to strengthen the ability of National Cleaner Production Centres to provide 'prevention-oriented services to national focal points, Basel regional centres and Convention secretariats. Main focus has been on UNFCCC, Basel and Stockholm Conventions to date. The programme consists of a series of international workshops, followed by national workshops on subjects identified by the National Cleaner Production Centres themselves.
- ii. Cleaner Production & Sustainable Consumption Programme in West Asia involved 11 countries as follows: Iraq, Jordan, Kuwait, Lebanon, Bahrain, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates, Yemen
- iii. Institutionalizing the African Roundtable on Sustainable Consumption and Production
- iv. An expert meeting on pollution prevention in the textile industry

- v. Sustainable Consumption Opportunities raise awareness and to support the development of multi-stakeholder partnerships for the promotion of sustainable consumption in the pan-European region, with particular emphasis on transition countries for 5 countries in Europe Estonia, Hungary, Bulgaria, Serbia, Czech Republic
- vi. Programme to Improve the Participation in Certified Environmental Management Systems and Build Capacity for their Implementation throughout the West Asia Region

#### **b) Training/ Information Toolkits**

- i. Development and publication of UN Guidelines on consumer Protection to provide recommendations to public authorities on the best ways to help change citizens/consumers' behaviour through adapted communication strategies
- ii. Capacity Building for Local Government for Promoting Sustainable Production and Consumption Patterns in Guiyang, China
- iii. Cleaner Production Financing to facilitate the financing of Cleaner Production investments in developing countries. The project was done in Tanzania, and Zimbabwe
- iv. Urban Environment Management: Environmental Management System Training Resource Kit
- v. UNEP / IAPSO sustainable procurement modular training package to raise awareness of the need to include sustainable development considerations in procurement. The package is modular and includes: a training guide; training slides, case studies and indications of specific resources
- vi. UNEP / UNESCO "Youthxchange" training kit for sustainable lifestyles
- vii. UNEP Communication Guide for Public Authorities
- viii. Life Cycle Initiative - Information system for Life Cycle Assessment (LCA) is a tool for the systematic evaluation of the environmental aspects of a product or service system through all stages of its life cycle. LCA provides an adequate instrument for environmental decision support
- ix. Life Cycle Initiative: Capacity building on Life Cycle Approaches. The Life Cycle Initiative aims to develop and disseminate practical tools for evaluating the opportunities, risks, and trade-offs associated with products and services over their entire life cycle to achieve sustainable development
- x. Training module for Sustainable Building and Construction: Looking at the Life Cycle of Buildings
- xi. Sowing the seeds of change - an environmental teaching pack for the hospitality industry
- xii. Project ACORN EPICENTRE build capacity of countries in environmental management in small and medium size enterprises in the Mediterranean
- xiii. National experts and authorities were assisted technically and financially for the preparation of National Diagnostic Analysis and Baseline Budget of releases and emissions as a basis for the achievement of pollution reduction
- xiv. International Management Code for Safety in Cyanide Use at Mine sites
- xv. Capacity-building and training on environmental management of mining operations
- xvi. Capacity-building and training on environmental management of oil and gas exploration operation

#### **c) Environmentally Sound Technologies**

- i. Following the publication of the EnTA (Environmental Technology Assessment) Handbook and manual in the early 1990s, UNEP has undertaken a series of workshops to assess how the technique can be promoted in all countries
- ii. Environmentally Sound Technologies Information System (ESTIS) seeks to equip decision makers, planners, and engineers in the Asia-Pacific region with means information and tools to make comparative analyses and choices from among available environmentally sound technologies
- iii. Environmentally Sound Technologies Information System (ESTIS) and e-learning ESTIS is an innovative information and knowledge management system that improves the transfer of environmentally sound technologies. It allows a user to build, share, search and network on EST's via the Internet. ESTIS is freely available online. It is locally driven, and allows users to build content in their language, It facilitates community building and networking
- iv. The goal of the e-learning and Knowledge Management (KMS) is to develop an internationally recognised e-learning platform comprising compatible modules of UNEP's EST's programmes as

- well as those of its partners where training materials and other information can be converted and added, to create a portfolio of e-training packages to augment skills of decision-makers
- v. maESTro is an electronic information tool for equipping decisions makers, planners, and engineers with means information and tools to make comparative analyses and choices from among available environmentally sound technologies
  - vi. The goal of UNEP's Technology Transfer Networks is to connect key public and private sector stakeholder groups who influence technology transfer within, between and to recipient countries with the view to foster increased market uptake of sustainable alternatives that help to protect the global environment. The project aims to facilitate identification of environmental synergy and implementation of integrated "win/win" solutions by encouraging thorough assessment of cleaner technology options
  - vii. Joint Geophysical Imaging (JGI) Methodology for Geothermal Reservoir Assessment is aimed toward locating and reducing the cost of renewable, nearly CO<sub>2</sub>-free geothermal power in Kenya and East Africa through the transfer of an improved geophysical data interpretation methodology
  - viii. Use and application of phytotechnologies as a means to understanding hydrological and biogeochemical processes within water basins, including control and regulation of nutrients

## 9) Water

In order to enhance knowledge, understanding and application of the integrated systems approach to water management UNEP capacity building and technology support activities on water aim to reconcile the conflicting interests of natural resources exploitation, social development, and environmental protection. The following approach has been undertaken:

- Undertaking regular worldwide assessments of the state of the world water systems and providing timely information at various levels – policy, practice, public etc. Related activities are presented in the early part of this section above under Assessment
- Assisting governments to develop approve and implement environmentally sound practices for management of water systems, and to use successful cases for demonstrations elsewhere e.g. vital water graphics (UNEP 2002).
- Strengthening the capacity of local experts and national and regional institutions, and preparing manuals of principles and guidelines for integrated water system management.

### a) Global / Multi – region activities

- i. Strengthening Global Capacity to Sustain Transboundary Waters: the International Waters Learning Exchange and Resource Network (IW:LEARN). This project seeks to strengthen Transboundary Waters Management by facilitating learning and information sharing among GEF International Waters stakeholders. IW:LEARN will improve GEF IW projects' information base, replication efficiency, transparency, stakeholder ownership and sustainability of benefits through five project components. (1) Facilitating access to information on transboundary water resources among GEF IW projects. (2) Structured learning among IW projects and cooperating partners. (3) Biennial international waters conferences. (4) Testing innovative approaches to strengthen implementation of the iw portfolio. (5) Fostering partnerships to sustain benefits of IW:LEARN and associated technical support
- ii. Integrated coastal area and river basin management (ICARM) in Latin America, West Asia, Southern Africa, Southeast Asia, and Mediterranean.
- iii. Dams and development project which was established in 2001 to promote dialogue on improving decision making on the planning and management of dams and their alternatives based on the World Commission on Dams (WCD) core values and strategic priorities. Several national and regional/sub-regional/multi-stakeholder initiatives have been undertaken including 13 country processes in Argentina, Indonesia, Kenya, Malawi, Myanmar, Namibia, Nepal, Philippines, Sri Lanka, South Africa, Thailand, Viet Nam, Zambia

- iv. The development of decision-makers guide on water and wastewater re-use. Upon completion, global Environment Centre (GEC) Foundation and UNEP plan to utilize this document in training sessions for decision-makers
- v. Developing integrated training packages aimed at promoting use of environmentally sound technologies in urban water management
- vi. UNEP-GEF global project on the Role of the Coastal Ocean in the Disturbed and Undisturbed Nutrient and Carbon Cycles seeks enhance understanding of the role of coastal seas in the carbon cycle and the impact of eutrophication in carbon sequestration
- vii. The Urban Water Management Training Package Series is set of integrated training packages aimed at promoting use of environmentally sound technologies in urban water management
- viii. Training on Municipal Wastewater Management for the following 9 countries Tanzania, Kenya, South Africa, Mozambique, Brazil, Bonaire, Sri Lanka, Philippines, Turkey
- ix. The Regional Integrated Waste Management Strategy (RIWMS) is a framework for technology co-operation among countries in Asia-Pacific to sensitize governments to adopt sustainable, integrated waste management policies

#### **b) Africa**

- i. Addressing Transboundary Concerns in the Volta River Basin and its Downstream Coastal Area (Benin, Burkina Faso, Cote D'Ivoire, Ghana, Mali, Togo)
- ii. Sustainable Land Use Planning for Integrated Land and Water Management for Disaster Preparedness and Vulnerability Reduction in the Lower Limpopo Basin (Zimbabwe, Mozambique and South Africa). Started in 2000 in response to request by the Government of Mozambique the project emphasises on coordination, complementarity and synergies in sub-regional integrated management of land and water resources.
- iii. Nairobi River Project – Kenya: Started in 1999 the project addresses pollution, waste management, urban greening, etc.
- iv. Empowering Women in Rainwater Harvesting in Kenya
- v. Addressing land-based activities in the Western Indian Ocean Kenya, Mauritius, Madagascar, Mozambique, French Overseas Territories, Seychelles, Somalia, South Africa, Tanzania, Comoros
- vi. UNEP-GEF project on Managing Hydro geological Risk in the Iullemeden Aquifer System involving 3 countries namely, Niger, Nigeria, Mali
- vii. UNEP-GEF project on Protection of the North West Sahara Aquifer System (NWSAS) and related humid zones and ecosystems involving the following 3 countries: Libya, Tunisia, Algeria

#### **b) Asia and the Pacific**

- i. Empowering Women in Rainwater Harvesting in Tonga
- ii. Women in Water and Energy Management in Rural South Asia: Himalayas
- iii. UNEP-GEF project on Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand

#### **c) Latin America**

- i. UNEP-GEF project on Integrating Watershed and Coastal Area Management in Small Island Developing States of the Caribbean incorporating the following 12 countries: Bahamas, Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Trinidad and Tobago, Antigua and Barbuda
- ii. Integrated water resources management (Latin America) in the Binational basin of the Bermejo River is a collaborative project between GEF and Organisation of American States, to provide institutional, legal and informational basis for restoring the environmental functioning of the system, and protecting endemic species in the component ecosystems.
- iii. UNEP-GEF project on Integrated Management of Land Based Activities in the Sao Francisco Basin–Brazil.
- iv. UNEP-GEF project on Implementation of Integrated Watershed Management Practices for the Pantanal and Upper Paraguay River Basin– Brazil.

- v. UNEP-GEF project on Formulation of a Strategic Action Programme for the Integrated Management of the San Juan River Basin and its Coastal Zone – Costa Rica, Nicaragua.
- vi. Training of Trainers (TOT) Course in Marine Protected Area Management in Latin America and the Caribbean involving the following 18 countries: Anguilla, Antigua and Barbuda, Barbados, Belize, Dominica, Jamaica, Saint Lucia, Colombia, Costa Rica, Cuba, Guatemala, Honduras, Mexico, Nicaragua, Dominican Republic, Venezuela, Puerto Rico, Panama.
- vii. Regional Training Workshop on Nutrient Removal Technologies and Wastewater Management, Port of Spain, Trinidad December 9-13 2002
- viii. Development of National Programmes of Action for the Protection of the Marine Environment from Land-based Activities (NPA) in 7 countries namely, Jamaica, Saint Lucia, Trinidad and Tobago, Vanuatu, Tonga, Kiribati, Solomon Islands
- ix. White Water to Blue Water (WW2BW) Initiative Capacity Building Barbados, Haiti, Trinidad and Tobago, United States of America
- x. Regional Workshop on Sewage Sludge Reuse and Disposal Anguilla, Aruba, Bahamas, Barbados, Belize, Costa Rica, Cuba, Dominica, Grenada, Guyana, Haiti, Honduras, Jamaica, Netherlands Antilles, Nicaragua, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago
- xi. UNEP-GEF project on Demonstrations of Innovative Approaches to the Rehabilitation of Heavily Contaminated Bays in the Wider Caribbean covering Jamaica, and Cuba
- xii. UNEP-GEF project on Development and Implementation of Mechanisms to Disseminate Lessons Learned and Best Practices in Integrated Transboundary Water Resources Management in Latin America and the Caribbean

#### **d) Mediterranean**

- i. MEDSTAT in the framework of the Euro Mediterranean Partnership
- ii. Regional and national training courses on wastewater management
- iii. Training courses on Reporting System for national officials in Ankara took place as well as two additional meetings of the Working Group on the Reporting System the following 6 countries: Turkey, Algeria, Croatia, Monaco, Spain, Tunisia.

#### **e) Middle East**

- i. Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) - West Asia
- ii. Global International Waters Assessment (GIWA) - West Asia
- iii. Study and Regional Database on Sustainable Water Resources and Vegetation Cover Management in West Asia (SRAP/WA/UNCCD)
- iv. UNEP-GEF project on Implementation of the Strategic Action Programme (SAP) for the Red Sea and Gulf of Aden

### **10) Cross-Cutting issues, Outreach and Environmental Education**

- i. The Regional advisory services (RAS) programme was specifically aimed at developing countries since the inception of the program in 1975. The objectives of the programme revolved around two types of assistance -- providing assistance toward short-term training for individuals on request ("fellowships"), and providing specific technical services to Governments on request such as visits by regional office staff to countries to assess their needs and give advice. The programme was administered through the six UNEP Regional Offices which have been in existence since 1973.
- ii. The UNEP Capacity Building Programme for Afghanistan has been developed based on the most urgent needs as identified by the Ministry of Irrigation, Water Resources and Environment (MIWRE). The overall objective is to provide an integrated package of capacity building activities that will contribute to the development of a stand-alone and self-sufficient Department of

- Environment, with the required technical capacity to implement the environmental mandate of the Ministry of Irrigation, Water Resources and Environment. (MIWRE).
- iii. Capacity Development of Southern Civil Society Organizations (CSO's) on technical and policy matters in environmental field aims to raise public awareness on technical or emerging issues at regional level, ensuring the development of regional CSO networks on these matters and to promote information exchange between CSO's. The project will promote Information exchange among southern CSO's to enable the transfer of practices as well as capacity building among southern CSO's on policy and technical issues
  - iv. Environmental Action Learning Programme provides a regional framework for support of good practices of environmental learning processes that address the levels of poverty and environmental degradation in Africa. The frame work caters for both formal and non-formal levels, extending to community learning, colleges, universities, private sector and governmental sectors. Over 17 countries in Africa participate. The programme is also linked to similar ones in China, and Europe.
  - v. The goal of the Environmental Education, Awareness and Training in Asia and the Pacific (EEATAP) is to implement 6 best practices related to environmental education in the region, involving youth, civil society, private sector, and disseminate them across the region; enhance environmental awareness in the region
  - vi. Network for Environmental Training at Tertiary Level in Asia and the Pacific (NETTLAP) programme
  - vii. The Leadership Training Programmes on Sustainable Development in Asia pacific region aims to develop in future leaders positive sustainable development lifestyles with integrated outlook and perspectives. As one of the outcomes the experiences gained from the programme will be used to develop a regional masters degree programme on sustainable development in 2005
  - viii. The Environmental Training Network for Latin America and the Caribbean (ETN) supports postgraduate courses on environment and sustainable development; train teachers in the formal educational system; undertake community training; publish basic texts and manuals for environmental education and training; and carry out training on trade, environment and sustainable development.
  - ix. Training of African Journalists on Environmental Reporting to improve environmental reporting in Africa in both electronic and print media; and to promote and encourage networking among journalists
  - x. Workshop for Mediterranean Communication Professionals on Environment and Sustainable Development: the Role of the MAP
  - xi. The UNEP/ UNESCO International Environmental Education Programme (IEEP) (1975 – 1995) saw the mainstreaming of environmental education into formal (primary thru university) and non-formal education (professional and community). Activities involved over 140 countries globally. Several guidelines and manuals were developed.
  - xii. Environmental Management Seminars were design and organised for experts and faculty in the different fields of engineering. The course equipped practitioners with apt skills and knowledge of integrating environmental considerations in industries and curricula.
  - xiii. Workshop raise awareness on the MAP and its related activities for Mediterranean Communication Professionals on Environment and Sustainable Development: the Role of the MAP
  - xiv. Children and Youth/Sport and the Environment? Tunza programme is meant to increase participation of young people in environmental issues, and to promote the integration of environmental consideration in sports
  - xv. The Post-graduate studies programme in environmental management for developing countries and counties with economies in transition is currently in its 27<sup>th</sup> year with a record of over 1,500 middle-level decision makers trained from over 115 countries.

## Section D:

### Opportunities for the future

The analysis of the capacity building and technology support activities presented in the inventory indicates key areas in which UNEP has a long experience with capacity building and technology transfer. Areas where UNEP has a comparative advantage to support governments and institutions in strengthening their environmental management capacity are environmental assessment, environmental law, biodiversity, water, capacity building in post conflict countries and for disaster management, support to implementation of MEA's, and technology support especially on environmental sound technologies (EST's) and the use of Geographical Information Systems (GIS) for assessment and analysis. Other areas where UNEP has shown strength and which pose further scope for increased capacity building and technology support activities include cross cutting issues such as environmental information, environmental education and training, etc.

In designing future capacity building and technology support activities UNEP will be guided by the needs and priorities of the countries; responding to requests from Governments as well as internationally agreed goals and objectives, and aimed at supporting regional and national environmental agenda/initiatives. Specific attention will also be given to strengthening of regional and national institutions in aspects of integrating environment into their plans to pursue sustainable development; and on integrated implementation of MEA's. The following needs will further refine the design of integrated activities at the country level:

- Need to facilitate strengthening of national institutions in policy implementation, data collection, analysis and monitoring of the environmental trends, etc
- Need to develop a coherent, systematic and shared process of needs assessment that has national ownership;
- Need to internalize environmental and sustainable development objectives and capacity-building needs in national policy frameworks, in particular poverty reduction strategy papers and the Common Country Assessment (CCA) and United Nations Development Assistance Framework (UNDAF);
- Need to enhance the flow of relevant and targeted information and exchange of best practices, in particular, utilizing growing information and communication technology capacities in developing countries;
- Need to develop a coherent approach to enhancing the capacity of existing centres of excellence and to establish new centres of excellence on an assessment of needs and gaps;
- Need for developing countries to establish an enabling environment for capacity-building and technological adaptation and innovation;
- Need for donor countries to enhance targeted support to the efforts and identified priorities of developing countries; and
- Need to ensure enhanced education and training to support the sustainability of these efforts.

The following sub-sections present more specific areas where UNEP future focus could be.

#### **a) Assessment and early warning**

Following the synthesis of capacity building needs emanating from UNEP's Science Initiative the following areas were identified:

- Environmental research
- Data collection and analysis,
- Monitoring and Integrated Environmental Assessment (IEA);
- Use of satellite information

In addressing these areas of need the Scientific Initiative further suggested the following type of specific capacity building interventions that UNEP should to pay attention to:

- i) Research and training involving, scientific exchanges, and greater involvement of developing country scientists and research institutions in IEA and strengthening the scientific credibility of GEO process and other assessment and monitoring structures
- ii) Transfer of appropriate and adaptable technologies and methodologies, and
- iii) Regional sub-regional and national level collaboration and networking
  - Strengthening UNEP's regional and sub-regional presence;
  - Strengthened cooperation with and support to national, sub-regional and regional institutions, including within the context of regional/ sub-regional initiatives such as NEPAD;
  - Establishing environmental and inter-disciplinary information networks;
  - Extended collaboration in assessment including collaborating centres at all levels;
  - Support for assessment of environmental issues of regional and sub-regional importance, including through collaborating centres;
  - Promotion of a coherent partnership approach to capacity building and mobilization of resources for the development of methodologies, training and institutional training arrangements.

#### **b) Biodiversity**

The focus will move from needs assessments, and enabling activities to focus on implementation of biodiversity initiatives at the country level. Capacity building in response to WSSD Joint Plan of Implementation will be put into high gear in areas such as addressing the linkage between poverty and environment, the linkage between cultural diversity and biodiversity, building national capacity on biosafety issues through the biosafety frameworks that UNEP has successfully established. Further focus will be paid to the various CoP decisions directed at UNEP.

#### **c) Environmental law:**

Pursuant to UNGA resolution 3436 (XXX) of 9 Dec 1975 UNEP has continued to implement the Montevideo programme which adopts a future looking perspective in addressing the new and emerging environmental challenges by strengthening the policy and legislative capacity of countries to tackle these challenges. Further more the post WSSD era marks the renewed focus for the implementation of MEA's that at the country level through integrated policy design and implementation.

The principal strategic elements of the future programme are:

- An integrated and coordinated approach
- Needs-responsive and result-oriented programme design,
- Ensuring national ownership of the process and product,
- Partnership with UN and other agencies, and regional delivery

The following needs-driven capacity building requirements have been identified:

- Capacity building for development and implementation of international and national legislative regimes
- Legal technical assistance and advisory services in key areas of integrated policy design and implementation
- Providing support at the country level for harmonised and synergetic implementation of MEA's, including supporting national governments in compliance with and enforcement of environmental law
- Strengthening and promoting the teaching of environmental law including mainstreaming the environment into university education
- Development and dissemination of needs-based information manuals, guidelines, compendia, etc
- Promoting Principle 10 of Rio, enhancing access to environmental justice strengthening the role of the judiciary



#### **d) Support to MEA's**

Activities aimed at supporting MEA's will need to refocus from awareness creation and development of MEA's to implementation activities. Attention will be given to creating synergies among related agreements and harmonising national reporting mechanisms to ease the growing burden on parties are two growing UNEP priorities. In this regard UNEP capacity building work will increasingly focus on the ability of parties, especially the least developed countries, to follow through on their commitments and obligations under MEA's. It will also address the issue of the burdens these agreements impose on compliance and enforcement. As regards trade and environment, future work may also include the chemicals-related conventions, the use and application of economic instruments in environmental management, and stronger linkage between environment and trade issues.

#### **e) Water**

As the designate UN agency on water and in line with its Water Policy and Strategy UNEP will continue to provide technical assistance and advisory services to developing countries and countries with economies in transition in key areas of institution building and capacity development in addressing management of water resources to improve access to drinking water and safe sanitation. The future focus will be on integrated water resource management (IWRM) as articulated in the Jeju Initiative. To enhance ownership specific attention needs to be put on partnerships and to promote stakeholder participation in national policy design and implementation

#### **f) Capacity building in post-conflict countries, and for disaster management**

The increasing impact of conflict on environment plus the attendant additional impact caused by refugees poses an immense challenge to the world today. UNEP's future focus on post conflict capacity building will benefit from lessons and experiences gained from post conflict countries such as Afghanistan, Iraq and Liberia where UNEP has been at the forefront of environmental reconstruction. Through AMCEN, the new activities will be expanded to cover Africa in support to the environment programmes of the African Union and the NEPAD. Other regional programmes will be developed incorporating technology support in post-conflict countries and areas.

Similarly, pursuant to the Governing Council decision UNEP will further increase its capacity building and technology support activities aimed at strengthening developing countries and countries with economies in transition to prepare for, respond to and mitigate against environmental consequences of disasters and emergencies. Regional programmes will be developed and existing initiatives support/revamped in collaboration with UNISDR, UN-OCHA and UNDP including regional information centres, and disaster management and monitoring centres.

#### **g) Technology support**

The following are the broad areas in which future activities could focus on:

- **Support national and local development policies:** UNEP can use its global knowledge-base and facilitative network to ensure that relevant goals of MEA's, trade and finance agreements are incorporated into national-level initiatives to build capacity and disseminate appropriate technologies.
- **Advance the engagement of the private sector in public-private partnerships:** UNEP can advance the engagement of the private sector by facilitating a more targeted involvement of companies and industry associations in co-operation initiatives with public authorities and stakeholder organisations.
- **Strengthen regional delivery of programmes:** As part of its effort to advance capacity building, joint research, development and sharing of technology, UNEP can develop new and strengthen existing delivery mechanisms to the regional level.

Specific technology support activities would focus on Integrated capacity building training for customs officers in MEA's; Compilation and updating information on existing environmentally sound technologies; Developing additional sectoral initiatives with industries; Strengthening Economics and environment Trade and environment Capacity building towards local authorities; revamping the programme on Awareness, Preparedness and Response to Environmental Disasters; Supporting the tourism industry; and further strengthening and up scaling the National Cleaner Production Centres Energy and sustainable development.