

## UNEP/GPA Partnership on Wastewater Management in ACP Countries

### Review, Brainstorm and Strategic Planning of the Third Programme Phase

17 and 18 November 2009

#### MEETING REPORT

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#### A. Background

1. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) is a non-binding multilateral initiative created in 1995. One of the pollutant source categories addressed under the GPA is sewage, as the discharge of untreated wastewater threatens many coastal communities by negatively affecting human health, fisheries, recreation and tourism. Many of the world's oceans are sensitive to eutrophication, and wastewater, alongside agriculture, is one of the biggest anthropogenic sources of nutrients to the marine environment.
2. To assist governments in tackling these problems and to strengthen their efforts in achieving the Millennium Development Goal 7 and Johannesburg Plan of Implementation targets on Water and Sanitation, the UNEP/GPA Coordination Unit, jointly with the UNESCO-IHE Institute for Water Education and in collaboration with national and local government and academic institutions, has trained 1,800 experts from 67 countries, in wastewater management. The training focuses on objective oriented planning, innovative technologies and financial approaches and systematic stakeholder involvement. The programme is accredited by the UN/DOALOS Train-Sea-Coast programme and the current phase of multiple deliveries is largely funded by the UNDP/GEF and the EU ACP Water Facility.
3. August 2009 marked the end of the EU ACP Water Facility funding, and in the first half of 2010, the current UNDP-GEF funding for this programme will also be completed. It is now time to take stock and design the next phase of the programme to ensure donor efficiency, meeting the demand and creating measurable impact at the local and national level.
4. The subject meeting was convened with a view to developing a series of donor proposals for the next phase of the training programme. Specifically, the UNEP/GPA Coordination Unit brought experts from the implementing and managing institutions together with current and potential future partner institutions to:
  - analyse the impact the programme has made so far;
  - identify current institutional capacity building needs in selected countries;
  - compile lessons learned (best and worst practices);
  - develop a strategy how best to build on the network of alumni;
  - revisit the existing programme management structure;

- assess additional synergies with other partners within the UN system, i.e. UN-Habitat, UNESCO-IHE, UNITAR, UNIDO, World Bank, WHO and UNICEF; and
- assess the potential of collaborating with additional NGOs such as IOI, SEI and IWMI.

## **B. Introduction and Welcome**

5. Mr. Robert Bechtloff, Programme Officer, UNEP, invited participants to introduce themselves and their institutions prior to inviting Mr. Ibrahim Thiaw, Director of UNEP Department of Environmental Policy Implementation (DEPI) to provide some opening remarks.
6. Mr. Ibrahim Thiaw welcomed the participants and noted the challenge of addressing wastewater given that over 80% is discharged inadequately treated in developing countries. Mr. Thiaw informed the Meeting of the Rapid Assessment Report on waste water to be launched on World Water Day 22 March 2010 with the theme of Water Quality. This Rapid Assessment Report will highlight links with climate change and economic advantages of investing in wastewater management. He further stressed the links to biodiversity, and that the UN had designated 2010 the International Year of Biodiversity.
7. Dr. Andrew Hudson, Cluster Leader, Water Governance Programme and Principal Technical Advisor, International Waters, UNDP further stressed the challenges related to wastewater and welcomed the opportunity that this meeting provided to outline the way forward.

## **C. Adoption of Agenda**

8. The agenda was approved as outlined in Annex I. The meeting elected Dr. (Mrs.) Iyenemi Ibimina Kakulu, Head of Department of Estate Management, Rivers State University of Science and Technology (RSUST), Nigeria and Mr. Daniel Amlalo, Deputy Director, Ghana Environmental Protection Agency (EPA), to act as facilitators during the discussions.

## **D. Local, national and regional presentations**

### ***LASEPA, Nigeria – local perspective (municipal government)***

9. Mr. Adebodun Toplonu Sewanu, of Lagos State Environmental Protection Agency (LASEPA) presented "Lagos municipal needs and way forward", from a local perspective of a municipal government. He indicated that there is a need to improve sanitation and wastewater management in the city of Lagos in particular due to: visible deleterious changes occurring in the environment which affect the human welfare and diminish the availability of natural resources thus threatens the sustainability of the citizenry; surface water bodies and the Underground water are polluted resulting from direct dumping of fecal waste, debris and waste oil from depots and mechanic workshop.
10. LASEPA uses the following approach to meet these needs: Governance; Assessment, Definition and Resolution of Polluted – related problems through research; Pollution Prevention; Monitoring; Advocacy. The main lessons learned from 14 years of providing services (by LASEPA and other government agencies) are that the public is to a certain extent ignorant of Government responsibilities towards the environment,

and that there is a lack of coordination among the three tiers of government responsible for pollution control. All across Lagos State, the water distribution network is very inadequate at present; there is a high prevalence of water related diseases as most communities on the riverine and shoreline areas do not have appropriate toilet facilities.

11. The main lessons learned from LASEPA's involvement in the GPA training programme in Nigeria were: the need of the Agency to not only concentrated on industrial pollution but also other land based non point source pollutants such as abattoirs; that treatment and responsible disposal of waste in an environmentally sound manner is still a challenge; that in order to prevent and eliminate the pollution of the Lagos marine environment from Land-based and sea-based activities, trans-boundary movement has to be curtailed; and that consultation is the starting point for change.
12. LASEPA can bring the following approaches and experiences into the next programme phase: Monitoring and Protection of the Lagos Lagoon and the Coastal areas against Pollution/ Contamination; Provide technical assistance and training towards the Monitoring of the State's environment at the Local Government Level; Control of Electronic / Electrical waste disposal along the Marine Environment as their seepage also contributes to its pollution; Collaborate with other Government Agencies in the provision of Training; Create awareness in the use of the Ecological Sanitation toilet.
13. Identified capacity building needs include: Development of trans-boundary project for Lagoon and other creeks and creek lets for the nature of trans boundary nature and link with the Gulf of guinea programme; Strengthening of LASEPA and other related environmental Agencies specialized in Environmental Protection; and Training and equipping of environmental inspectors with specific monitoring tools and administrative authority.
14. Recommendations and expectations focused on the need for public awareness for informed decision for the sustainable environmental management; implementation of sustainable indicators, which are relevant to the health of the citizenry and that of the Lagos surface water ecosystem; set up of a GIS database on pollution, infrastructure facilities and human activities around the Lagos water ways; make the Training programmes residential in the advocacy to improve Municipal Waste water Management.

***RSUST, Nigeria – national perspective (tertiary education)***

15. Dr. Iyenemi Ibimina ("Ibby") Kakulu, Rivers State University of Science and Technology (RSUST), Port Harcourt, Nigeria presented on the "Nigerian experience and way forward". The RSUST mandate in relation to the training programme is to build capacity in land-use planning in relation to wastewater generation and management in Nigeria through a collaborative partnership with UNEP/GPA. Objectives are to identify and create awareness on land based sources of marine pollution in Nigeria through training, identify key stakeholders and their respective roles and responsibilities in the process of wastewater generation, management and treatment before discharge, and build capacity towards improved municipal wastewater management, policies and practices

16. Following the delivery of 10 training courses in Cameroon and Nigeria, the biggest needs to improve sanitation and wastewater management were identified as: an absence of functional sewage treatment plants in all 10 cities with no visible government policy in this regard; meat processing is a major source of marine pollution in all the cities visited; open defecation (a source of marine pollution through storm runoff) is quite common particularly in primary and secondary schools with inadequate or non-existent hygiene and sanitation facilities; river toilets and direct discharge of raw sewage into the marine environment; and a lack of budgetary allocation to wastewater management as a separate item in the Local Government budgets.
17. The main lessons learned from RSUST's involvement in the GPA training programme in Nigeria were: Participants indicated their preference for a residential course to allow sufficient time to develop the group case studies; The actual scope of target participants is more robust than those identified by UNESCO-IHE; Land based sources of marine pollution are not restricted to coastal environments alone but also to the hinterland and river catchment areas (Buea – Cameroon, Akure - Nigeria); Collaborating local partners and participants are an extremely useful resource in the identification of key stakeholders and field trip sites; and all the courses were over-subscribed and in some cases participants were turned down
18. Observed post training effects of the RSUST's - GPA training programme were noted to be: closure of an illegal sewage discharge site in Port Harcourt following a field trip; similarly a field trip resulted in the banning of the usual practice of using old car tyres as a source of fuel for burning animal hides (firewood is now used in its place); and there is a positive change in solid waste disposal in Port Harcourt city thus reducing marine pollution from leachate.
19. Indirect effects are that WWM Alumni from the projects unit of the Universal Basic Education Board in Rivers State are considering the introduction of ECOSAN options in primary and secondary schools; WWM Alumni from LASEPA are considering ECOSAN options for LGAs in Lagos State; WWM Alumnus from Imo State is considering replicating the TSC course in Imo State with part funding from the State government; and RSUST through the MESA initiative, is considering options for mainstreaming WWM into higher education and campus management as well as continuous professional development seminars on WWM
20. RSUST can bring the following approaches and experiences into the next programme phase: Organizing One-day workshops/professional seminars on Land use and Wastewater generation and Management; With support from UNEP and supervision from UNESCO-IHE, run the TSC course as a short certificate course in the Department of Estate Management, RSUST with outreach centers in LASEPA, UNICAL, and FUTA using local case studies; Create avenues for research and policy formulation in the area of site selection for abattoirs and sewage disposal sites in Nigeria; Promote opportunities for intervention through a thorough needs assessment in these two key areas.
21. Identified capacity building needs include: Additional awareness creation on WWM; Capacity building on innovative approaches to wastewater management; and Capacity building on sanitary options to address open defecation (e.g. ECOSAN). **Recommendations and expectations are:**
  - Pilot intervention projects such as ECOSAN and biogas generation from abattoir waste is necessary;
  - Scope of target participants should be expanded;

- A Consultancy sum for the course coordinator should be introduced;
- Abattoir waste should be regarded as a serious health hazard.

***EPA, Ghana – national perspective (national government)***

22. Mr. Daniel Amlalo from EPA Ghana presented on needs and way forward. EPA Ghana. Ghanaian needs relate to the state of distress that the lagoons are in and the need saved them from further degradation; addressing inadequate data in the country, and increasing capacity development. The following approaches are used to meet these needs:

- Adoption of non-conventional waste treatment systems such as KVIPs, septic tanks, biogas plants in schools, communities, industries etc.;
- Environmental assessment and inter-sectoral coordination of all new investments at all levels (national, state, city, community);
- Ghanaian government offers training in the inter-sectoral coordination approach to other African governments ;
- Research in waste management to collect and generate data

23. The main lessons learned from EPA Ghana’s involvement in the GPA training programme in Ghana, Nigeria and Trinidad and Tobago related to the similarity of the problems encountered; good team work (networking); building of Professional networks; Follow-up programmes for sustenance of lessons learnt; and encouraging and building capacity of local instructors by engaging them in subsequent trainings.

24. EPA Ghana can bring the following approaches and experiences into the next programme phase: Serve as regional centre of excellence for training (South-South cooperation); Akoben Public Rating and Disclosure; provide expertise in course delivery; project formulation and delivery; use of appropriate technology in waste management; networking and team building; and facilitate inter-sectoral relationships.

25. Identified capacity building needs: Organize workshop for politicians and decision makers and middle level professionals; Train local instructors; Introduce Pilot Ecosan toilet facility in deprived schools or communities; Improve quality of waste water for peri-urban agriculture; Promotion of appropriate technology in waste management.

26. UNEP and other partners support the EPA in coming out of with a project to save the Ghanaian lagoons “Save Our Lagoons”. If budget would allow future training programmes be made residential for effective participation and to help improve networking amongst the participants. A tailored course for policy makers should be considered; Yearly programme for waste management practitioners be run at the EPA Training School.

27. A few questions were asked to the presenter. Discussions included examples of successes with ecosan toilets and if it was possible to condense the course. A recommendation was made to offer two courses, one residential, to ensure timely arrival of participants in cities with traffic problems, and to stimulate more interaction outside the actual workshop, and a short (one or two day-long) course for decision makers.

Discussions touched upon the impact of wastewater management on the national economy or on specific sectors such as tourism and fisheries, and concluded with a recommendation to facilitate and thereby increase knowledge sharing for the alumni.

### ***CREPA, Burkina Faso - francophone West African perspective***

28. Dr. Simeon Kenfack of CREPA presented on the implementation of the courses in Francophone West Africa. CREPA aims to contribute at improving the living conditions of the underprivileged populations living in rural, peri-urban and slums areas by supporting their access to drinking water, basic sanitation and hygiene (WASH) services through research and pilot projects, training and capacity building, communication – Information and documentation, promotion of safe water vendors services and local hand washing. Some of CREPA's adapted technologies include solar water pumping systems and various designs of pit latrines. Within the GPA training programme CREPA recruited and coordinated a pool of francophone trainers; produced a French version of the training materials (e.g. powerpoint presentation, instructor's manual, participant's manual); and delivered 13 training courses in seven francophone countries and to co-animate one training session in Nigeria. Results include a pool of 9 francophone instructors, 13 sessions delivered in 7 countries, in 4 months (May-August 09) with 342 trainees. Mr. Kenfack noted that sanitation issues to be addressed are mainly the same in the visited countries, and that there is weak political good-will in regard to wastewater management in many countries.
29. Some of the direct observed post training effects of the CREPA - GPA training programme are: GPA course alumni pools are set up and functional in Cote d'Ivoire, Senegal, Mauritania and Cameroon; continuous request of French materials of the course (participant manual, guidelines; Three municipalities who hosted the course sent requests to CREPA for a support for designing WW management projects for them: Nouakchott (Mauritania), Douala II (Cameroon) and Matam (Senegal). Indirect effect noted are that within the CREPA network, some requests of the course have come from two land locked countries (Burkina Faso, Mali) and three from other coastal countries (Guinea, Bissau Guinea, Gabon); and that parts of the GPA course are adapted by some trainers in their academic courses at master level.
30. Identified capacity building needs should focus on the involvement of end users/stakeholders and the authorities so to increase the political good-will; strengthening technical and managerial skills on running appropriate waste treatment plants/disposals; and design and implement wastes prevention and controlling processes/projects. The multi-year financial planning (MYFP) component of the course is still highly relevant.
31. CREPA's recommendations and expectations highlighted the need to develop and provide a course on wastes management addressed to end users and also an advocacy strategy addressed to the authorities; provide the Multi Year Financial Planning (MYFP) component of the course. CREPA could play a role in: developing course for francophone African countries (where the sanitation management context is mainly similar); open the programme to non coastal countries linking the pollution of coastal water to that of inland waters: "Out of sight – out of mind or river solidarity"; include demonstration projects in the programme so to promote the "learning by practice approach"; support the designing and implementing

processes of innovative and adapted sanitation technologies and approaches for communities; keep and manage a pool of experienced francophone trainers; translate and produce the French version of the programme documents (including the website); contribute in developing the MYFP component of the course: focus on the context of francophone Africa countries; and coordinate the programme in the francophone Africa countries with a link to the West Africa English speaking partners

32. David Duncan of SOPAC indicated that they are keen to explore collaboration with francophone course implementers with regard to course delivery in French Polynesia. Dr. Karoli N. Njau (UDSM) highlighted the importance of involving youth as an often overlooked stakeholder.

### ***University of Dar es Salaam and UNEP GEF WIO-LaB project office– East African perspective***

33. Dr. Karoli N. Njau presented the “East African experience and way forward” on behalf of the University of Dar es Salaam and Dr. Peter Scheren of the WIO-LaB project office (UNEP). The Wio-LaB project is implemented in 8 countries and has three demonstration projects on MWW Management in Kenya, Seychelles and Tanzania.
34. Needs as seen in regional assessments and the wastewater taskforce were: Strengthening of policy, legal and institutional frameworks; Establishment and regional harmonization of effluent and water quality standards; Financial resources for investment, as well as mechanisms for cost recovery; Best-practice guidelines for appropriate technology; Pilot projects demonstrating appropriate wastewater management approaches; and Increase awareness among policy makers, industries and civil society regarding the need for pollution control.
35. The main lessons learned from the WIO-LaB’s programme and from 11 GPA training courses: Good policies and laws can only be effective if they are backed by appropriate mechanisms and political goodwill to enforce them; Many of the existing good policies and laws are highly sectoral sometimes conflicting and contradicting; There is lack of strong institutional frameworks and a single coordinating body to provide direction and guidance. It was also emphasized that lack of effective stakeholder participation has led to failure of water and sanitation projects with the pit latrine being the most common technology used in WIO countries and only a small fraction of generated wastewater is adequately treated and disposed off. A change of mindset among planners, policy makers and engineers is needed mainly from conventional to non conventional systems, and centralised to non decentralised systems. A wide adoption of the GPA guidelines and principles in the WIO countries would lead to significant improvement. However, generally there is a low technical knowhow in the region. The Demo projects have been a good way of disseminating local solutions and the GPA training has proved to be very well structured and effective.
36. WIO-LaB can bring the following approaches and experiences into the next programme phase: Work closely with policy makers to create the political goodwill and mechanism for enforcement of existing policies and laws; Encourage non-conventional, decentralised systems; Encourage treatment for energy/nutrients recovery; Encourage recycling and reuse; provide a wider dissemination of the GPA guidelines through demonstration projects; and training for environmental management. The GPA training should be directed to young people who would be future environmental managers.

37. Identified capacity building needs include training in environmental management, monitoring, Environmental Planning and Use of planning tools, strengthening laboratories for water quality monitoring, development of financial mechanisms for investments and operations, and Best Practice Models.

***CEHI, St. Lucia - Caribbean perspective***

38. Dr. Christopher Cox, Programme Director, Caribbean Environmental Health Institute (CEHI) presented "Perspectives on the Caribbean experience and way forward". CEHI was established by the Governments of the Caribbean Community (CARICOM) 1989 to respond to the Environmental Health and Management concerns of its Member States and is, through the CARICOM Protocols, it is an Institution of the Community based in Saint Lucia. It has 16 Member States including all OECS countries. CEHI is supporting governments in a variety of ways in their efforts to address the discharge of wastewater. The following programmes and processes aim at improving sanitation and wastewater management in the Caribbean: PAHO-CEHI study on STP Operations in hotels in 1991 (Update needed); Training of Environmental Health Officers (EHO's) in Health Ministries in Water Quality (WQ) monitoring; joint PAHO CEHI programme for OECS; Development of standards and guidelines for recreational coastal waters; Assistance to countries to establish WQ monitoring regimes; Lab capacity strengthening; National Programmes of Action (NPA) links with freshwater resource management (water supply under Water Safety Planning) approaches; Development of Caribbean Directory of Environmental Sustainable Technologies including wastewater - used as a teaching tool in colleagues in universities (prepared by CEHI).

39. Gaps in sanitation and wastewater management include: Lack of policies/legislation and a coherent institutional approach in countries (e.g. between health and water sectors); Lack of human resources capacity/capability; Need for strengthening of regional capacity (CEHI) to assist countries; Need for knowledge contributions in appropriate solutions; enhancement of access to knowledge (guidelines, manuals); Need for continued process of integration into relevant engineering curricula at technical colleges and universities; Lack of understanding among policy and decision makers about WWM issues and impact on economic development – strengthening of public awareness and educational programmes.

40. CEHI's involvement in the GPA training programme involved partners such as UNEP Caribbean Regional Coordinating Unit (UNEP-CAR/RCU), PAHO/WHO, training 220 trainees in 9 courses. Their findings of the training programme were that the training was generally well-received, that there is a great need for capacity building and that participants were often not involved in direct project design or implementation of wastewater projects. Most interesting and well-received aspects of the training related to:

- Problem Analysis: participants able to understand how to do thorough problem analysis which takes root causes into consideration;
- Stakeholder Analysis: participants able to understand who the stakeholders were and how important it was to involve them in all aspects of the planning process.
- Discussions on participation strategies for stakeholders well-received but there is a critical gap in the planning processes



41. In six of the eight workshops, field visits were conducted providing an opportunity to review local wastewater problems and barriers. Interaction with stakeholders was an important part of the training, both in their communities as well as in the workshop, in many cases participants were not aware of the problems encountered and there was a lack of awareness of specific efforts to address these problems. Challenges related to technical expertise as persons involved in wastewater management were not familiar with all the technologies that could be applicable to the region. There is a need for more technical training for these persons thereby enhancing contribution to decision making for appropriate technologies (case in point vendor-driven technology selection which may not be best-suited). Lack of funding opportunities (from state budgets) was viewed as major deterrent to initiating planning processes. Emerging possibility in the Caribbean is the Caribbean Regional Fund for Wastewater (CReW).
42. With regard to stakeholder involvement there is a general lack of engagement to develop appropriate solutions for community and CEHI felt that the importance of this input is under-valued. Many countries have outdated legislation with respect to wastewater management and with the exception of septic tank design; there are generally no guidelines and/or standards for wastewater design and construction or for monitoring of effluent from wastewater systems, effluent discharges as well as coastal water quality.
43. Some of the observed post training effects of the CEHI - GPA training programme are: Contribution to the increase in numbers of trained persons; Increase in public awareness (press releases, media coverage, attendance by Ministers and high level officials; esp. Barbados, Bahamas, St. Kitts & Nevis); Raised national-level synergies among sectors and awareness of the need for joint sectoral approaches (health, environment, water utilities); and awareness-raising for the wastewater fund (CreW) approach (investment aspects).
44. Indirect outcomes relate to: consideration of ratification of the Cartagena Convention Land-Based Sources of Marine Pollution (LBS) Protocol – compliance enhancement; Synergies with the GEF-funded WCAM Project (Integrating Watershed and Coastal Areas Management Project); Enhancing policy and institutional environments for improved water resources management; on-site demonstration of best practices ([www.iwcam.org](http://www.iwcam.org)); and Wastewater integrated into the regional water agenda through a CARICOM Consortium: to be promoted politically at the Council for Trade and Economic Development (COTED) and at the Heads of Government level.
45. Main lessons and recommendations advanced from CEHI's involvement in the GPA training programme: Planning approach important but added efforts need to be placed on technical training on wastewater treatment; Private sector interest must be encouraged/promoted; particularly from the hotel and manufacturing sectors; On-going, sustained (instead of ad hoc) training programme is needed (fully integrated within CEHI's core programme); Broadening of certification of sewerage treatment plant (STP) operators is needed (in partnership with the Caribbean Basin Water Management Programme); Appropriate technology options for SIDS need to be continually evaluated and promoted; Regional "driver" (such as CEHI) is needed to sustain the process as well as additional capacity building at CEHI and the development of a Clearinghouse for documentation and information.

46. Further, technical personnel should be exposed to relevant courses offered by institutes such as UNESCO-IHE as well as on-site learning, technical exchange, and on-line options. In relation to the CReW Facility, when operational, there should be concerted effort to advertise availability of funds (including criteria) and the GPA training should enhance capacity of national stakeholders to develop sound proposals for funding. CEHI has shared experiences on monitoring programmes through a series of Regional Workshops focussing on: Developing Guidelines and/or Standards for Effluent Discharges; Developing Guidelines and/or Standards for Recreational Water Quality; Implementation and compliance with the LBS Protocol; Development of M&E programmes through study of best practice; and Identification of further training needs.
47. Approaches and experiences that CEHI can bring into the next programme phase include: Broker technical exchanges with regional and international resource centres; Develop further courses; execute training; Advocacy for improved wastewater management; Technical needs assessments (e.g. Financial requirements for WW study under CReW); Demonstrations: St. Lucia Rodney Bay Coastal WQ initiative; Test-case for LBS Protocol compliance/implementation; STP Operators Training needed in all the countries particularly linked to tourism sector; Cleaner Production in SMMEs and Community-focused local actions for sewage treatment (appropriate alternative technologies).

#### ***SOPAC, Fiji - Pacific perspective***

48. Mr. David Duncan presented on the Pacific SIDS experience and way forward. He indicated that SOPAC is supporting governments in improving sanitation in the following ways: Ecosanitation training; GPA Training; Environmental sustainable technologies for managing waste and wastewater; Wastewater policy development using the regional framework; Water and sanitation hygiene monitoring and awareness raising; In-country demonstration projects.
49. Achieving the sanitation target in 2015 in the Pacific island countries will require an annual level of effort nearly five times higher over 2006 – 2015 than that over 1990 – 2006. The Pacific island countries present an incidence rate of diarrhoeal diseases 20% greater than the world average and over four times higher than developed countries such as Australia and New Zealand. The number of deaths due to diarrhoeal diseases in the Pacific island countries in 2002, most of them children under five, is equivalent to the crash and death of the passengers of nine jumbo jets a year.
50. The main lessons learned from SOPAC programmes and from 7 GPA training courses are that: The course needs to be adapted to local settings and circumstances for each country. Links have to be made to local wastewater management initiatives (past, present and future) for course practicality and success, and to future sanitation interventions (example in Cook Islands) as it could be useful to strengthening success of the project. Local background paper or case studies prepared for use during the course are very helpful, and it proved useful to involve all relevant stakeholders with wastewater management roles and responsibilities, as well as including NGOs. The promotion of inter-agency cooperation is positive for sustainability of skills developed through the wastewater training. SOPAC took the global package and modeled this to what the Pacific needed.

51. SOPAC can bring the following approaches and experiences into the next programme phase: Experience of delivering global packages in countries and adapted to the Pacific region; Regional institutional capacity to deliver training with partner agencies; Linking training to national and regional policy development; and linking training to integrated approaches to IWRM and related interventions.
52. Identified capacity building needs relate to awareness and participation; identify ways of publicizing the dangers of poor sanitation and the benefits of proper sanitation for human and environmental well being (media campaigns and the like); and increase the practical skills of the community to understand and look after their water and sanitation systems. There is also a need to address lack of skilled workers, consider developing in-country competency-based training modules; facilitating “learning on the job” which is particularly important i.e. hands-on training. A mentoring/partnering/buddy system could be encouraged between the private sector and government
53. Recommendations and expectations focused on: Possible delivery of in-country UNEP-GPA wastewater training course in Tuvalu; Provide specific and targeted support as follow up to in-country wastewater trainings provided (Kiribati, Tonga, Cook Islands); Idea to have a Pacific Consortium for Sanitation (which can analyse Pacific sanitation situation, increase capacity in sanitation, coordinate strategic planning and policy, and develop and share best practices in sanitation in the Pacific)
54. Institutional Arrangements, Policy & Regulations aim for separation of responsibility for policy, structure, planning and budgeting (legally mandated body), from the responsibility for implementation (a steering committee); Infrastructure, Technology & Information - Western technology is too expensive, and proven solutions need to be tailored to the local environment. Possible list of actions could include: setting up regional information clearing house and development of a training centre for ecological sanitation
55. Monitoring presents challenges with MDGs and there is a need for other locally relevant drivers that reflect aspects including enabling environment. SOPAC is currently working with UNEP and GEF IWRM to pilot and deliver these.

**WORKING GROUPS: “LEARNING FROM THE PAST”**

56. Following working group discussions, the following list was prepared in plenary on “Analysing the impact the programme had so far”:

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| <ul style="list-style-type: none"> <li>• Impact has been increased most, whenever decision-makers have been involved</li> <li>• Strengthened professional networks</li> <li>• Raised awareness beyond participants</li> <li>• More specific capacity building needs, target audiences and channels have been identified</li> <li>• A variety of catalytic impacts have been observed</li> <li>• Best and worst practices have been shared through South-South knowledge exchange</li> <li>• Systematic involvement of stakeholders and other paradigm shifts have been initiated</li> <li>• An international delivering mechanism has been created (instructors, institutions, multi-lingual course material</li> <li>• Discussions have been started to change governance/policy</li> </ul> |
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- Institutions, such as universities, IGOs or departments within sector ministries have been strengthened
- Impact was increased where tailored approach have been promoted and local cases have been presented
- The programme opened doors to reach other partners for new proposals and programmes
- Contributed to mainstreaming of environmental considerations (in WWMT) at all levels, example Ghana: for all new investments
- Promotion of linking water supply and sanitation during decentralization processes, with the benefit of increased capacity and potential for local resource mobilization
- Capacity for integrated planning increased
- The link between wastewater, health and climate change adaptation has been established
- Closer networking of CEOs and EPAs has been catalysed.

57. Following working group discussions, the following list was prepared in plenary on “Compiling lessons learned (best and worst practices)”

Good practices	Mix	Worst
<ul style="list-style-type: none"> <li>• Involvement of NGOs /Academia brings positive results</li> <li>• South-South collaboration beneficial</li> <li>• Multi-sectoral partnerships bring positive results</li> <li>• The programme creates informal groups of experts/colleagues to work/communicate with</li> <li>• Replication of the course or absorption of elements of the programme into local university and training institution curricula</li> <li>• Increased willingness to effect change</li> <li>• Alumni tend to integrate new knowledge in their work environment</li> <li>• Need for global Alumni Networking (Forum)</li> </ul>	<ul style="list-style-type: none"> <li>• In some cities, the target group not as robust as intended (interdisciplinary as well as specific)</li> <li>• Pollution not limited to land</li> <li>• SIDS – adapt courses to local conditions</li> <li>• Should the course be residential or non-residential?</li> <li>• Questioning sustainability of the Ecosan technology due to lack of ownership</li> <li>• Limitations about networking in the regional partnership</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of political will</li> <li>• Lack of involvement local district managers</li> <li>• Focus on industry (Lagos) Waste – transboundary/catchment</li> <li>• People had to be turned down</li> <li>• Lack of institutional framework for wastewater management / enforcement</li> <li>• Lack of legislation and good political will</li> </ul>

58. In general, the training had impact by either supporting ongoing reform processes, or as a starting point for change through consultations and the networking of professionals, source of funding interest free

**GTZ presentation by Mr. Roland Werchota.**

59. Mr. Werchota of the GTZ begun his presentation by outlining some key facts related to sanitation. Sanitation coverage for MDG Goal is 88%; KIHBS 2000:83%; 2006: 84% have access to adequate human waste disposal facilities! The link sanitation/health is recognized but generally the link sanitation/environment is ignored. Shallow latrines: 49% urban, 41% rural; in low income settlements 89% - 0.5 million in urban additional/year leads to a widespread and increasing pollution. 95% of excreta and effluent released to the environment is only partly or not at all treated and of 43 sewerage facilities assessed, treatment efficiency was 20%. While most facilities were still in good shape, there was insufficient waste water management. There exists some experience with reuse of effluent, but it is very limited. Facilities for biogas exist but not in operation.
60. Alignment to national policy / strategy is done through efforts by MWI and sector institutions elaborating NWRMS, NWSS, sector sanitation concept WSSC, linking WRM with WSS, involving Sector Institutions in promoting sanitation, promoting the EcoSan approach – clean technology and brings development partners on board. Support through GTZ sector reform program focuses on: technical input for the elaboration of policy/ strategies and conducting studies; Capacity building at WSPs and WSBs for pilots on onsite sanitation; technical input for elaboration of sanitation concept at WSTF – UPC; piloting EcoSan with funds EU; SIDA/DANIDA; make sanitation an issue in dialogue platforms; and engage in HR to water and sanitation
61. Experience of GTZ in Eco San approach has a high acceptance in rural areas – use for fertilizer, need for higher subsidies, and that facilities in urban settings are more sustainable with involvement of sector institutions such as WSP than operation by municipalities/NGOs/communities. There is a need to involve professionals for onsite facilities. Design and management concept is very important and biogas is strong incentive, > 70% treatment efficiency.
62. Lessons learned in Kenya in relation to sanitation: Sanitation / waste water management is higher on the agenda – use momentum of sector reform; give sanitation a higher prominence within SWAP process; Sensitize development partners for higher involvement in sanitation – but harmonize their contribution with national strategies (e.g. no drop and store facilities / latrines in densely populated urban settlements); Need to concentrate more on ecologically sound onsite sanitation – promote onsite treatment and reuse of effluent; Bring sewerage systems closer to informal settlements and link with facilities for the urban poor like water (e.g. kiosks); For rapid up-scaling of access to facilities subsidies are needed (SA; Burkina Faso); Improved supervision of Utilities for effluent treatment is needed by WSBs and WASREB.
63. Way forward MWI – Sanitation concept for water sector (WSSC – IPS 09) include: upscaling access with help of sector players which would be implemented by involving WSP in promoting hygiene and sanitation (Burkina Model) – pilot, WSTF to promote public and institutional facilities, and concentration on low income urban; and settlements (V 2030) – pilots with ablution blocks onside or on edge of slums connected to sewerage system. Improved treatment efficiency of installations that would be achieved through selection of treatment plants for piloting reuse technology, Capacity building at WSPs and WSBs – operation of plants and WASREB on regulation, and promotion of onsite facilities with treatment through WSTF.

### ***GEF IW:LEARN – networking practitioners via moderated e-fora***

64. Mr. Sean Khan of GEF-IW:LEARN presented on “Networking and Information Exchange A moderated IW:LEARN e-forum for Alumni”. IW:LEARN’s global development objective is: To strengthen Transboundary Waters Management (TWM) by facilitating learning and information sharing among GEF stakeholders. Currently an e-networking platform is developed and could present an opportunity for the GPA training programme alumni networking.
65. GEF: IW:LEARN can offer: Access to information and knowledge generated by the GEF IW activities (e.g. technical reports, case studies, etc); A community platform that encourages people to people interaction; Website toolkit and a suite of associated online tools to enable information exchange.
66. Mr. Khan highlighted experiences from operating learning exchange networks: Must be backstopped/moderated; Balance of ICT against user needs; Time bound and purpose bound; and used a one summary statement: Its paramount to “know” your audience and for them to know you.
67. In order to make an IW:LEARN platform operational for training alumni in different parts of the world, and in different languages, we should : Identify the user needs and environment (language, bandwidth, etc); Appoint a moderator (s); Identify and engage “champions” to stimulate networking; Communicate the benefits of “One community”; and Pilot an e-forum in one or two areas initially.

### ***UNEP/GPA post training evaluation: methods and results***

68. Mr. Kizito Masinde, UNEP, presented the results of the Post-training evaluation 2007-2009. Findings from the evaluation, which had a questionnaire return rate of about 16%, showed that captured achievements of the course included: Policy guidelines/regulations (developed in 5 reported cases); Courses on wastewater management initiated and conducted by trainees after participating at the GPA wastewater management course (developed in 10 reported cases); Wastewater management activities initiated/collaborated/influenced due to the knowledge obtained from the training (developed in 18 reported cases). Prime issues prominently sited to be considered for action: Farming activities; Farmers and activities related to farming e.g. wastewater due to lack of drainage facilities, wastewater from aquaculture farms, nutrient pollution from pesticides; and Wastewater treatment: To research on and ensure wise choices on (with special regard to informal settlements) on: Water treatment solutions; Location of water treatment plants; financing and maintenance costs of treatment plants.
69. Participants identified some of the obstacles they are likely to face when implementing the ideas they have: Slow/lack of acceptability of the idea by target communities; Difficulty/lack of monitoring and enforcement of ideas implemented; Lack of funding resources to enable implementation of the ideas and acquisition of necessary facilities; Lack of support or change in government/leadership which may jeopardise the continuity of the project; Lack of relevant information and guidance.
70. The course evaluation shows that the modules provided participants with knowledge and skills that they were able to apply in their work. There is a need for tailored versions of the wastewater management

course targeting: Senior management in target organisations; Top policy makers concerned with wastewater management; Stakeholders on the ground (i.e. local communities).

71. Among weaknesses of the course, participants pointed out that it was devoid of sufficient practical examples and data on wastewater management solutions that have been implemented before under the guidance of the course materials. It was proposed that UNEP/GPA and its partners embark on a new phase of the course where it will support practical implementation of wastewater management projects. The practical implementation of the projects should go along with documentation of best practices of implemented projects, not forgetting challenges faced in the process.

### **WORKING GROUPS: "WAY FORWARD"**

72. Discussions on the topics "Identifying institutional capacity building needs in countries" and "Developing a strategy to build on the network of alumni" ensued, followed by a plenary session where the outcomes of the discussions were presented.

73. "Identifying institutional capacity building needs in countries"

### THEMES

- 1) Knowledge nodes: Developing new tools, e.g. financing, technologies, strengthening networking
- 2) Subject/Content: Wastewater/human excreta safe use; Adaptation to climate change → salinity, NO<sub>2</sub> control through waste management; Lifecycle assessment/IWRM; Open sanitation planning – land use; Financing --- tools to analyze potential instruments; Economic & financial instruments; Incentives; Making more effective advocates; Holistic nutrient management; Operation & Maintenance; Links to Industrial Environmental Management Systems (Cleaner Production); Beyond domestic wastewater management; Health risk assessment; Systems approaches → entire life cycle.
- 3) Training Infrastructure; Virtual libraries, e-learning; Training facilities → enhancement; Trainers expanding the pool, use of non-UN entities; Alliances → strengthening South-South co-op
- 4) Practical Applications; Localization; appropriate solutions: adaptive management, cultural/geophysical context; Best Practice; Mainstreaming info, local processes → demo cases.
- 5) Awareness raising; Expanding ability to communicate; Effective tools; Social marketing techniques; Educational curricula; and Enhancement → all levels

CATEGORIES: Personal knowledge; Changes in practices at the institutional level; Other changes in practices + community, private sector; Policy changes; Regional capacity; Personal knowledge gain: High level of interest and participation, Turn around feedback after the course; Other decision-making contexts, ability to better develop proposals for wastewater management financing; Changes in practices at the institutional level

Challenges: Many additional factors will influence the application of knowledge gained; Non-involvement

Abattoir case in Nigeria, Sewage disposal case in Nigeria, Cook Islands – inter-sectoral co-ordination and communication

3) Other changes and practices, plus private sector mindset change, plus general stakeholder involvement

4) commitment to initiate policy change by participants, positive policy changes initiated by participants

5) Regional capacity: West African region – 26 courses in 1 yr, Strong alumni networks – Nigeria; Capacity building burst within organizations; Capacity to adopt global

74. “Developing a strategy to build on the network of alumni”. Options were:

- Offer incentives: Recognition through e.g. Slot in a paper/journal, prizes, Accessibility to funds, Utilization of capacity to develop projects; or Career development opportunities such as Scholarships or Publications;
- Build upon existing networks (local, regional and global) and make distinction between local (face – face) and larger networks;
- Apply electronic discussions only where necessary and where there is clear value added;
- Design problem specific courses;
- Encourage exchange of experience;
- Manage profiles of the Alumni and create groups and sub groups based on common interest;
- Develop indicators for the network (e.g. to measure the strength, sustainability , growth )

## **BLOCK B THE RESPONSE OF THE INTERNATIONAL COMMUNITY**

### **E. APPROACHES OF GLOBAL NGOs**

#### ***IOI Malta and Cyprus University of Technology - global perspective***

75. Dr. Nicholas Kathijotes of the International Ocean Institute (IOI) introduced “Training, capacity building, and ocean governance – IOI and Cyprus University of Technology”. The mission of IOI is to promote education, training and research to enhance the peaceful uses of ocean space and its resources, their management and regulations as well as the protection and conservation of the marine environment, guided by the principle of the Common Heritage of Mankind. Objectives with regard to wastewater: Advocate treated wastewater reuse in agriculture, aimed at protecting the ocean environment and at conservation of water resources; Support wastewater sludge treatment and sustainable use, conserving nutrients and protecting the environment, health and safety; Support Integrated Coastal Wastewater Management; and Combating nutrient over-enrichment from wastewater discharges. IOI is working in training, capacity building, ocean governance and advisory services. The main approaches and targets are: Eradicate extreme poverty, and hunger; Ensure environmental sustainability; Gender equality, supporting women, and youth; Participation of women and youth in coastal and ocean affairs, with emphasis on



developing countries; Ocean governance through training; Capacity development through empowerment; Scholarships and awards; and Develop a global partnership, promotion of research , and others.

76. IOI has some achievements, with a focus on land-based sources of marine pollution, particularly from discharge of untreated wastewater. Together with reviews of relevant projects, some lessons learned are expressed below:

- Treated or untreated wastewater effluents, agriculture and aquaculture are the major sources of eutrophication with the Cladofora macroalga causing nuisance to the shoreline.
- The occurrence of endangered species and the presence of well preserve habitats in coastal waters are evidence that a marine environment is still in good state.
- Sludge collection, hauling and treatment are top management issues in developing countries
- In the absence of governmental support, initiative and policy, moving in of small enterprises and NGO's set up satisfactory sludge management
- Municipalities in development countries should take a responsible role in the overall planning implementation and enforcement of sludge management regulations.
- Sewerage systems offer tremendous improvements to sea eutrophication.
- Strict regulations as to wastewater management including all other effluent disposals around the coastal zone are necessary and should be enforced.

77. Identified capacity building needs include: Wastewater Re-use (potential, acceptance); Qualities, Characteristics, Sampling and Analysis of Sludge or FS; Design of Inexpensive Treatment Facilities-Design know-how; Training of Unskilled Operators; Basic Strategic Solutions for Improved Sludge Management for Decision Makers; and Institutional Infrastructure Organization, etc.

78. Recommendations are: Adaptive management; Preparation of Best Practice Guides; Training in on site sanitation and Sludge Management in appropriate Institutions and at all professional levels. IOI can bring the following approaches and experiences into the next programme phase: Constructed wetland models and partners who can assist UNEP trained personnel for effective design , operation and implementation of these wetlands; Provide Capacity Building and on-site actual training and tailor made projects on wastewater and sludge treatment and applications (Larnaca and Lemesos Sewage Boards) ; Research and Consultation on Wastewater Reuse as Related to Coastal Protection – Nutrient Control (Cyprus Univ. of Technology); Strategic Planning for stakeholders consultation approach, community based participatory approach and knowledge based capacity building for governmental function levels on learning by doing basis (adaptive management); Adaptive management to meet public consensus and agreement, through scientific advice from national experts; and OceanLearn : Capacity Building and Training: Opportunities through IOI's partnerships and International Cooperation, WMO,IMO, IOC, UN University, etc; The Expertise and Support of our World Network.

### ***IWMI Sri Lanka – global perspective***

79. Dr. Liqa Raschid-Sally, International Water Management Institute, presented on their activities. Their aim is to improve the management of land and water resources for food livelihoods and the environment. Objective: Making and asset out of wastewater (and other waste products) for agriculture; Urbanisation impact on water quantity and quality for agriculture; Reducing health risks to farmers and consumers (testing multiple barrier approach of WHO 2006); Nutrient recovery through agriculture to minimise pollution; Enhancing agricultural uptake/cleaning processes; Best practices for directing wastewater towards agricultural use – making it affordable; Governance for agricultural use.
80. Identified capacity building needs: Wastewater Re-use (potential, acceptance, nutrient recovery); Integrated approaches linking water supply, sanitation and wastewater recycling in agriculture; Making re-use safe. Recommendations include; Planning for re-use: design for service approaches that incorporate economic recovery; Decentralised service provision which supports re-use
81. IWMI can bring the following approaches and experiences into the next programme phase: Training/capacity building inputs based on our experiences - materials for safe use in UPA; Health risk assessments; Water –sanitation –agriculture nexus; Pollution reduction through nutrient recycling; Design for re-use with the potential for generating economic benefits in decentralised situations.

### ***SEI Sweden – global perspective***

82. Ms. Madeleine Fogde and Stacey Noel from the Stockholm Environment Institute presented on "*Bridging Science and Policy on Environment*". SEI is an independent, international research institute specializing in sustainable development and environment issues. It works at local, national, regional and global policy levels. The EcoSanRes 2 Programme aims to develop and promote sustainable sanitation in the developing world, through capacity development and knowledge management, as a contribution to health, equity, poverty alleviation and improved environmental quality. Ecological sanitation systems **safely recycle** excreta and other organic waste products (plant nutrients and organic matter) to crop production in such a way that **the use of non-renewable resources is minimised. Some projects included:** 1990's – 2010: Peter Morgan is developing different kinds of low-cost sanitation alternatives allowing for reuse of nutrients 2002 - 2010: SEI is supporting CREPA research and dissemination programs on ecological sanitation 10 West African Countries 2009: Collaboration IFAD, CREPA and SEI: "Testing a nutrient recycling system (Productive Sanitation Systems) in Niger with a view to measuring its potential for improving agricultural productivity"; and in 2009: Productive sanitation is used to boost agro business in Côte d'Ivoire, a spin-off from CREPA research
83. ESR 2 2006 – 2010 has a focus on regional node development and capacity development, communications and networking, knowledge management and development, global training programme, and dissemination of best practices in 10 regions Central America & Caribbean, South America, West Africa, East Africa, Southern Africa, MENA, EECCA, South Asia, South-East Asia, East Asia. EcoSan Res knowledge nodes are the main focus of the program. Regional Nodes are created for awareness raising, networking, capacity building and training, demonstration projects, policy-making, standards, collaboration. To date 8 nodes are

established and hosted in recognized knowledge and capacity development organisation around the world. In collaboration with ESR the nodes address regional knowledge gaps on sustainable sanitation. Support to developing policy, legislation and regulation

84. Capacity building efforts include social marketing of sanitation, international publications series and fact sheets, global projects database, website and discussion group, and media outreach. Urine Diversion Dry Toilets (UDDT) is since 2008 the Technology of Choice in South Africa for non-connected settlements. **Support to Academic Networks Objective:** Enhance the ability of academics across the disciplines to contribute to the mainstreaming and up-scaling of sustainable sanitation to meet the MDG's in Sub-Saharan Africa. Demand based capacity development, Demand based capacity development. **The Human Element** – the consultation, education of ,and communication with end users and stakeholders within a participatory process is crucial for the sustainability of the systems

## **F. UN EXPERIENCES**

### ***UNIDO – Guinea Current Large Marine Ecosystem project – West and Central African Perspective***

85. The Guinea Current Large Marine Ecosystem Project, which is operational in 16 coastal countries, was introduced by Dr. Stephen Max Donkor, Executive Secretary/Regional Coordinator of the Interim Guinea Current Commission. Dr. Donkor presented and gave a background on the GCLME project and the countries involved. Among the long term development goals of the GCLME Project is the recovery and restoration of depleted fisheries, to which improved wastewater management can contribute. Areas of collaboration were identified as: Development of the National Action Plans; Joint Training activities on Pollution and Waste Water Discharges; Joint Monitoring of Ecosystem trends in the Coastal Areas; Coordinated Technical Assistance for Strengthening the National Institutions; Specific Investigations utilizing the Capacities of the Regional Activity Centres.

### ***UNITAR – the local development programme***

86. UNITAR's Local Development Programme was presented by Léontine Tollo Kanziemo. The mission of the Local Development Programme of UNITAR is to provide training to local authorities, reinforce their capacity to develop and implement activities that contribute to achieve the MDGs, and to enhance their capacity to implement international conventions and agreements on environment and sustainable development
87. UNITAR LDP Experience with sanitation training began in 2003 with the Overall objective to contribute to the MDG of reducing the proportion of people without sustainable access to safe drinking water and basic sanitation. Specific objectives: Build capacity of local governments officials in order to contribute to: strengthening governance mechanisms, by helping improve practices at all levels of government responsible for managing WSS and developing skills for project formulation, implementation and monitoring. Specific areas of training were: Pricing and Financing of the sanitation sector; Financing Urban Services – the creditworthiness challenges of municipalities; Institutional aspects of water and sanitation; Contractualization of water and sanitation services; PPP; Sanitation and poverty. Target group was Senior management from municipalities: Local officials, technical staff

88. Network of training centres and PHPO and interactive training approaches with Field visits and City to city cooperation and valorization was the approach used. Key points to consider in order to increase the impact of the capacity building programmes in sanitation sector included advocacy and awareness by the involvement of senior management and local communities; collaboration between actors of the sector: water & sanitation utilities, private sector (industries), local governments, community; anchorage at local level to support project and infrastructures development; Geographical or thematic focus in linking sanitation to environmental and social aspects.
89. Identified capacity building needs include: Make local /country institutions sustainable (institutional arrangements); Develop skills for project formulation; Develop skills for project implementation and monitoring; Train on funding strategies for sanitation sector: sources of funding (especially domestic funds and how to access them); Make available innovative sanitation technologies; Raise awareness among local authorities and communities;
90. Recommendations: Support country initiatives (countries with undergoing reforms or actions in the sanitation sector) by developing skills of individuals and build capacities of institutions for more sustainability and appropriateness; strengthen knowledge exchange and cooperation among cities; make best practices and experiences available; assist municipalities with resource mobilization strategies; advocate and raise awareness to ensure that local authorities through their national, regional and international associations include municipal wastewater management in their local development strategies and agenda.
91. UNITAR can bring approaches and experiences in working at local / municipal level into the next programme phase: Experience in working with senior management of municipalities; Experience in fostering south - south cooperation to support project implementation; Make available its network of local practitioners; Make available different practices in the sanitation sector and other training material ( including material on financing sanitation); Experience in working with private sector; Training and networking platforms : the training centres of UNITAR
92. What UNITAR brings in to the next phase are additional networks: National network of local Authorities; Regional Network of local authorities; Knowledge of Specific (municipal or national) governments currently undergoing sanitation sector reforms

***UN-Habitat – the Managing Water for African Cities Programme***

93. Dr. Eric Moukoro presented “Water for African Cities Programme Training/Capacity building experience”. The Water for African Cities Programme is a Regional Training and Capacity Building programme launched in 1999 with the goal of strengthening the capacity of cities to respond to the urban water and sanitation crisis. The programme focused on the key themes of Water Demand Management, Pollution Prevention and Control, and Public Awareness. In 2002, an external review of the WAC programme evaluated it as a highly relevant and powerful tool for improving urban water management, and recommended an extension of the programme with greater focus on service delivery to the poor, sanitation, and leveraging of finances. These recommendations resulted in a second phase of the Water for African Cities programme. The second

phase of the programme is currently being implemented. In this phase the focus has been on pro-poor water and sanitation governance, water and sanitation for the urban poor, urban catchments management, water demand management, water education, training and awareness-raising and information exchange.

94. The WAC programme operates along two complementary tracks: (a) city demonstrations in the 17 participating cities, and (b) region-wide activities to share information and build capacity between cities within the region. The objective of the city level activities is to pilot initiatives that deliver access to water and sanitation services for the urban poor to demonstrate examples of effective practice which can be adopted and scaled up by communities, governments and financial institutions: Support the capacity development of key water and sanitation actors in the WAC II cities in the themes of the WAC programme; Support regional exchange between the cities of the WAC programme; Support the scaling-up of good practices in the WAC themes; Act as a demonstration activity in itself, whereby innovative and high quality training can serve as a model for future capacity building activities.
95. Capacity building should take stoke of the following: Capacity building goes beyond one-off training but is long-term active process that involves change; It goes beyond individual, human resource building, to contribute to organisational and institutional development; The integrated nature of capacity building demands the involvement of a broad array of stakeholders; The limited time frames, budgets and scope of engagement implicit to externally funded capacity building and training programmes.
96. The Regional TCB programme is designed to: Build on WAC demonstration activities; address local and regional demand; Create meaningful exchange between WATSAN actors in the region; Be modular and adaptable in order to fit to local contexts; Instigate real action and change; Leverage local resources to support action plan development and continued capacity building activities; Be gender-equity oriented, taking into account the specific concerns of women and girls where appropriate in its teaching methodology, and striving for a more balanced gender ratio of participants; Use high quality, disseminable and reusable tools and training materials, rather than materials that serve an isolated, one-time programme; Make (and measure) impact ; be cost-effective (low-cost per participant) to enable up-scaling and sustainability; Respect and build on resident capacity in the region; apply innovative teaching methodology; and Complement ongoing reforms, activities and opportunities in the region. In addition to creative elements, the WAC TCB Programme considers the following elements: Assessment of needs; training/teaching/ new learning; action component to apply new concepts; Evaluation/monitoring of impact; Materials/tools (print, electronic, other) development/assembly for reuse; and Sharing of experience.
97. The WAC Training and Capacity Building Programme contributes to the capacity development of key individuals and institutions in the WATSAN sector in each of the 17 Water for African Cities. Those organizations already involved in city-level demonstration activities are the first targeted by the training and capacity building component. However as a regional activity, it also addresses higher-level decision makers who stand to influence policy at a national level. For minimum impact, 20-30 individuals per country are targeted. WAC City Managers and National Programme Officers play a central role in the identification of participants. All WAC II country programme activities and pilots are based on six thematic areas. Only three core themes are addressed by the training: Sanitation for the Urban Poor; Water

Demand Management; and Urban Catchments Management. Pro-poor Governance and Advocacy and Awareness Raising are fundamental to all three core themes and are treated as cross-cutting topics. Gender is also a fundamental topic actively mainstreamed throughout

98. In the first cycle, action plans were defined and developed for implementation during the period between the two cycles. In the second cycle of training evaluation of the progress made in the implementation of the action plans were made and recommendation were suggested on experience learnt from the actions. During the training process discussions and recommendation from the lower level were used as input and learning points for the higher level training. The training strategy was important to create a more conducive environment for the lower and higher management levels to interact and discuss openly the important issues of water and sanitation. The course contents were designed to give the participants a holistic approach and integrated water and sanitation. During the training of trainers (ToT), a team of 22 professionals was trained from the participating cities that carried forward the process at the local level. These professionals contributed to the training of about 130 managers (MLM, SLM, TLM).
99. Action plans were developed after discussions in the various levels and at different periods of the training. The action plans resulted in measurable achievements e.g. in the field of reduction in unaccounted-for-water, environmental protection and public awareness campaigns. Moreover, training materials and training reports were prepared for each training activity that would be used for further reference.
100. The cascade model for training was identified as a good model for training development by the participants. Nevertheless it became obvious during the training that strong communication was needed for such a model to give optimal results.
101. The main comment expressed by the participants was that when they had communicated with the higher hierarchical level, timely feedback should have been provided (on MLM training and plans by the SLM, and on SLM training and plans by the TLM). Moreover, the lower levels indicated that they were not well informed by the higher levels.
102. Lateral communication between organisations at one given level (MLM) and between cities (SLM and/or TLM) has also been improved through the training, giving the participants the opportunity to reflect on other experiences and ways of acting. The groups of trainees at MLM, SLM and TLM level can be considered as informal knowledge networks
103. An important lack of communication between hierarchical levels, intra- and internationally was put in light and the second cycle of training gave a clear focus on this issue, giving tools for improving communication and dialogue between MLM, SLM, and TLM for organising and developing communication systems to remove communication gap. Each participant was encouraged to identify the most suitable skills to be used within his/her organisation and culture.
104. The timing of the training was a very important factor. The initial approach was to have some pilot studies already running to serve as material for the training. During the process and due to delays, it happens that in most cases the training was carried out after the pilot was completed. It is much better for the learning approach to have the action plans developed when the pilot is starting to combine both WAC

activities and create synergies. Exchanges between cities should be organized (e.g. study tours) to improve dissemination of knowledge

105. Pilot studies (of WAC programme and others) should be used for taking better advantage of what has been done. In the same way, some experiences from others who have already implemented the programme could be added. Gender balance needs improvement. Overall, the participants evaluated the programme as successful; however, there were some limitations and challenges with respect to roles and responsibilities of the different partners and actors, as well as to the budget. The lessons learnt from WAC programme can provide strong platform for future training and capacity building programmes in the region.

### ***UNESCO-IHE - capacity building in wastewater management***

106. UNESCO-IHE Experiences and Way Forward was presented upon by Dr. Erik de Ruyter van Steveninck. Mission of the Institute is to contribute to the education and training of professionals and to build the capacity of sector organisations and knowledge centres in the fields of water, the environment and infrastructure, in developing countries and countries in transition. After 50 years of training > 13.000 experts/mid-career water professionals > 160 countries. Main approaches : MEng/MSc programmes; Modules offered as Short courses; On-line courses; Tailor-made courses; PhD programme
107. Lessons learned : High demand for quality education: critical attitude; Capacity building is more than education; Increased need for flexibilization (life-long learning); Double/joint degree programmes with partner institutes from global network; Link 'technical' education with 'governance'
108. UNESCO-IHE has been an implementation partner of the GPA training programme since 2003. The main lessons learned from about 25 GPA training courses, with UNESCO-IHE instructors are: Objective Oriented Planning, including stakeholders: an eye opener; Strong interaction between participants > free debate; Need to bring sectors together; Awareness raised; One week training insufficient for follow-up activities.
109. Identified capacity building needs: Dialogue between sectors/institutions/agencies; Logical framework for proposal writing; Professionals (technological, managerial)
110. Recommendations include: Inter-sectoral workshops to identify problems and solutions; Support in proposal writing up to submission; Professional training and job opportunities
111. UNESCO-IHE can bring the following approaches and experiences into the next programme phase: Training of trainers/developing materials; Institutional capacity building; Accreditation; Knowledge and experience: to support solutions, to help formulating proposals; and Prof. Dr. Eng. Acorn.

WORKING GROUPS: "CONCRETE STEPS"

112. Discussions on the topics “Assessing additional synergies with other UN partners” and “Assessing the potential of collaborating with NGO” ensued, followed by a plenary session where the outcomes of the discussions were presented.
113. Assessing additional synergies with other UN partners: Opportunities exists to make use of each others alumni, to share knowledge, experiences, and processes, use each others networks and work with partner institutions of other agencies. Joint fund-raising has been considered as one way to address financial issues pertaining to collaborative efforts.
114. Assessing the potential of collaborating with NGOs: The discussions revolved around the value of engaging local universities and institutions (CBOs, local NGOs) to ensure sustainability and appropriateness, the importance of demonstration projects as part of training was emphasized, a need to further learn from the experiences of institutions in other countries (regions) was identified, and a general recommendation made to concentrate effort of fewer countries or cities, but to go deeper in these selected locations and develop them as pilot projects, including institutional capacity building..

PLENARY DISCUSSION: *THE THIRD PHASE OF THE PROGRAMME*

115. Listing objectives, outcomes, activities, assumptions and risks. The format was changed from developing a logframe in plenary to providing more opportunity to discuss and add aspects not yet captured. The workshop brought together experts from implementing and managing institutions together with current and potential future partner institutions with the following objectives:
1. analyse the impact the programme has made so far;
  2. identify current institutional capacity building needs in selected countries;
  3. compile lessons learned (best and worst practices);
  4. develop a strategy how best to build on the network of alumni;
  5. revisit the existing programme management structure;
  6. assess additional synergies with other partners within the UN system, i.e. UN-Habitat, UNESCO-IHE, UNITAR, UNIDO, World Bank, WHO and UNICEF; and
  7. assess the potential of collaborating with additional NGOs such as IOI, SEI and IWMI.

The results from the discussions on the objectives were as follows. The numbering corresponds with the objectives above:-

1. **Analysing the impact:** The project has had a variety of direct and catalytic impacts, which have been evaluated with post training questionnaires, but also reflected by representatives from the various countries and regions. There are many catalytic impacts, which are more difficult to assess. These impacts are also listed in the post-training evaluation report made available to the participants of this brainstorm meeting, and in the Project Implementation Reviews (PIR) of the GEF, which are available upon request. For a third phase, due consideration should be given to establishing SMART indicators and their baseline in order to allow evaluation of the impact and change that has been effected. In Nigeria, the project has created awareness. In the Caribbean, the project is well received; with need on



how to translate this to policy. In East Africa, awareness and planning knowledge and the interaction between the participants was useful. In the Pacific, awareness was created with a positive change in attitude. The training created need for more training. In all regions, the project has strengthened institutions, including cooperating universities. A mechanism for course delivery, including course instructors, has been created.

2. **Capacity building needs:** In Ghana, there is need for capacity building, and efforts will now focus on the district level to mainstream environmentally sound sanitation planning into development processes as well as increase the scope of the current programme to include more cities. In the Pacific, there is a need to consider providing support to managing sanitation issues in the upper catchment areas wherever these effect the downstream coastal environment and incorporate this in the training approach. This would include considering programmes that address land-based sources of pollution and not only direct coastal degradation (by means of habitat destruction etc.). In the Caribbean, the tourism sector has some interesting best practices and even certification for wastewater management. These should be shared with experts from other islands. In addition, it is important to assist planning agencies to plan for WWM making the case for further institutional capacity in planning (environmental economics: comparing the cost of action versus the cost of non-action). It is also necessary to build capacity of local institutions to make the programme sustainable.

3. **Lessons learned:**

**Best Practice**

- a. The course can be further reviewed to have an exchange of learning with those who are in the field all the times, and incorporate this learning into the course.
- b. The course should remain fun so that it does not become too onerous to the participants.
- c. Accreditation is good but there are many people that collect diplomas and experience challenges in implementation. This can be overcome with follow up and planning.

**Worst Practice**

- d. The Objective Oriented Planning process was not familiar to most participants.
- e. The time allocated for the training was insufficient.
- f. The lack of maintenance and financing made implementation of the skills learnt during the training difficult.
- g. From the presentations, most of the countries are in the same level as far as WWM goes and technology support is not the only limitation
- h. The course is not structured in a way to reach and change the attitudes of the communities.

**Recommendations**

- i. It was recommended that an overview is made from the case studies and produce a book on best practices from the courses.
- j. In addition, the courses should be tailored to individual local circumstance with an exchange mechanism across all the regions to benefit from the experiences.
- k. Participants to the training were unanimous in the strong need for follow up to the training.

- l. The field trip should come after the course so that the participants have more information on the trip.
  - m. TOT sessions should always be supervised by the lead agency for the training to ensure highest quality of instruction and increase potential impact of the training courses.
  - n. To ensure that the course is not watered down, a firm commitment and resources are required. It would be nice to select a municipality that is willing to work as a model in terms of consultation and implementation and tie the training to their real and concrete day-to-day work (challenges and solutions), and the knowledge gained from this exercise can feed back into the training.
  - o. The course could be conducted in phases, for example a three day introduction, than a period of supervised on-the-job assignments, followed by another two or three day workshop to jointly analyse the progress made since the first workshop. While this would be more expensive, the embedding in concrete cases would increase the learning effect and ensure applicability and application of the approaches taught.
  - p. Municipal waste managers have been identified as a weak link in WWM, but it is also equally important to ensure political buy-in at a higher level, which could be done via short courses tailored for decision makers.
  - q. In the next phase, there should be a more consistent way to building institutional capacity that should be linked to the course.
  - r. The training needs to be sensitive to cultural differences and the course tailored appropriately, including the preparation and use of local case studies. Capacity building is an ongoing process not a one-off awareness programme. Ideally, the training should be incorporated into local training institutes.
4. **Strategy for a network of alumni:** Alumni from the training should also be retrained after identification of their real needs and the training designed appropriately. The alumni can also be instrumental in determining what and where the pilot projects would be. Coordinating alumni across the globe with some in remote places might present a challenge but online collaboration is a possibility. An annual conference on waste water management was touted as a sure way to capture the expertise from the alumni.
5. **Management structure:** While the management structure has worked very efficiently and smoothly, it has been recommended for the next phase to allow for more involvement of the local partners from an earlier stage onwards, specifically with regard to developing the workplan, to allow adequate time to plan staff and resources and to liaise with the various actors and institutions involved.
6. **Synergies with other UN-system agencies:** Many areas of potential collaboration have been identified already in the presentations. The lead agency of the training should explore opportunities for additional synergies with partners within the UN by identifying specific areas for collaboration.
7. **Synergies with NGOs:** Similarly, as shown in the presentations, many opportunities and interests exist, in developing the next phase, specific areas should be selected based on the preferences and institutional strengths expressed. This can be done bilaterally.

The potential of collaborating with additional NGOs such as IOI, SEI and IWMI was as presented on the sheets.

OUTCOME: a draft project logframe – *will be developed once all comments have been incorporated in this report*

116. Ensuing discussions highlighted the need uptake by countries and that Training of trainers could be an approach. With regards to bringing together alumni again, SOPAC indicated that it would not work in Pacific. SEI proposed a more “problem-solution” approach, whereby looking at a real life case study or problem and solving it, experience is built.

117. Mr. David Osborn, Coordinator of the UNEP/GPA provided some closing remarks in which he thanked Ms. Ibby Kakulu and Mr. Daniel Amlalo for moderating, GEF and UNDP, the participants and the GPA team. He noted that in reforming, paradigm shifts are of incredible valuable, but only one part of the solution. What is needed are policy cocktails, or a mixture in legislation, market based instruments and educations - there is no silver bullet policy solution. The training programme is very important in that cocktail. He acknowledged the value of South-South cooperation - not only in the context of environmental education.

**Strategic Planning Meeting  
of the UNEP/GPA Wastewater Management Training Programme,  
Nairobi 17-18 November 2009**

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