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Water Supply & Sanitation Coverage in UNEP Regional Seas

May 2004

Need for Regional Wastewater Emission Targets!

Section III:

**An Inventory of Regional Specific Data and the Feasibility of
developing Regional Wastewater Emission Targets (WET)**

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UNEP/GPA Coordination Office
The Hague – The Netherlands

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An inventory regarding the feasibility to develop regional Wastewater Emission Targets was carried out by AIDEnvironment and coordinated by the UNEP/GPA Coordination Office in the Netherlands. This report is the result of a questionnaire, a web search and a desk study. The authors wish to thank the respondents to the questionnaire, who elaborated on the regional specific data as reflected in this report. They are, in alphabetical order, Mr. Ulises Munaylla Alarcon, Mr. Carlos Chaves, Mr. Mahboob Elahi, Mr Jean-Pierre Giraud, Mr. Claus Hagebro, Mr. Yihang Jiang, Mr. George Kamizoulis, Mrs. Rosa Maria Rodriguez, Mrs. Reza Sheikholeslami, Mr. Chia Lin Sien, Mr. Mohamed Fawzi. Their valuable collaboration and contributions are highly appreciated.

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Foreword

Since the adoption of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) in 1995, UNEP has pioneered the development of tools addressing marine pollution originating from land-based activities.

The majority of the UNEP Regional Seas identified untreated domestic wastewater – sewage – as one of the primary pollution source categories. Jointly with WHO, UN-HABITAT and WSSCC, UNEP/GPA developed a Strategic Action Plan on Municipal Wastewater. Within this context, Guidelines for Municipal Wastewater Management and 10 KEYS for Local and National Action have been developed. Implementation of the Strategic Action Plan is regarded an important contribution to achieving the agreed MDG and WSSD-targets on Water and Sanitation, particularly in addressing the environmental aspects.

Consistent with the UN Convention on the Law of the Seas (UNCLOS), UNEP/GPA and partners seek to move beyond the provision of guidance to a process of determining and achieving global, regional and national **Wastewater Emission Targets (WET)**. Exploring Wastewater Emission Targets may be instrumental to achieve a better coverage in water, sanitation and wastewater treatment. In addition, it may stimulate adequate priority setting in the field of sanitation and municipal wastewater management, help appropriate resource allocation to achieve the targets agreed upon, and contribute to the regular reporting on progress made. The WET-initiative has been launched as a component of the H₂O – From Hilltops to Oceans Type II Partnership during WSSD, Johannesburg, 2002

Background document

In the context of the UNEP Regional Seas Programme, a series of preparatory discussion documents on WET has been produced. One of them is this overview document on sewage collection and treatment information: *“Water Supply and Sanitation Coverage in UNEP Regional Seas; Need for Regional Wastewater Emission Targets! Section III: An Inventory of Regional Specific Data and the Feasibility of Developing Regional Wastewater Emission Targets (WET)”*, which is being used as a background document in further exploring the feasibility of WET.

Outcome consultations

Following consultations with the UNEP Regional Seas Programme, the feasibility of WET has been discussed extensively among stakeholders during the H₂O – From Hilltops to Oceans Global Partnership Conference, held in Cairns, Australia, May 2004. With regard to Wastewater Emission Targets (WET) as they relate to Sanitation, the key outcomes included the following consensus statements:

1. In the implementation of the WSSD sanitation target, all of the water cycle management and hygiene practices should be considered, from hand washing to sustainable treatment of wastewater, including its reuse.
2. Setting targets is not an end in itself but a tool to achieve specific policy objectives. Targets will differ at global, regional, national and local levels depending on specific circumstances. Flexibility is key to an adequate use of targets, setting different types of targets addressing various situations and needs. The community should be involved in the process of setting targets. Once targets are set, progress towards them should be monitored and evaluated periodically.
3. Considerable progress in the integration of policies for wastewater management has been achieved in several regions, including in the Pacific Islands and South Asian regions. The use of Wastewater Emission Targets (WET) was highlighted as a potential vehicle to further the implementation of the GPA component on municipal wastewater at the regional level.

A new partnership was launched between UNEP and the WSSCC, linking the WET-initiative with the Water, Sanitation and Hygiene for all campaign, WET – WASH, to ensure that the WSSD targets on Water and Sanitation include all aspects, in particular hygiene awareness and the safe discharge and re-use of wastewater.

In general, WET is regarded a feasible instrument to be implemented within the context of the UNEP Regional Seas Programme. The expected outcomes of WET are multilateral negotiations for establishing Wastewater Emission Targets, multilateral binding instruments that set sanitation and wastewater emission targets and measurable reductions in discharges of untreated wastewater at local, national and regional levels.

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Executive Summary

UNEP/GPA-RS, jointly with WHO, UNICEF, WSSCC, has launched the initiative to request governments, within the context of the UNEP Regional Seas Programme, to consider the possible use of targets and indicators at the regional level while contributing to achieving the WSSD agreed target on Sanitation. The use of such regional targets and indicators also contributes to the effective implementation of UNEP's Global Programme of Action.

This process has been initiated using the name WET: Wastewater Emission Targets, as a major component of the H2O initiative ('From Hilltops to Oceans'), launched as a Type-II Partnership at the World Summit on Sustainable Development (WSSD, Johannesburg, 2002), and is part of the GPA Programme of Work 2002-2006.

As such this study is a direct follow up to the proposal of the governing Council Decision 22/2/II (2003) that underlines the importance of linkages between environmental impacts and the regional coverage of water supply and sanitation services and the need to integrate environmental dimensions in longer term planning.

This report is a third report in a series on regional WET; Water Supply & Sanitation Coverage in UNEP Regional Seas; Need for Regional Wastewater Emissions Targets?:

- Section I: Regional presentation of data (2002)
- Section II: A discussion paper (2003), which proposes a framework and raises pertinent issues with respect to setting wastewater emission targets.
- Section III: An Inventory of Regional Specific Data and the feasibility of WET, as presented in current report.

As such, present report aims to give insight in the feasibility to develop regional Wastewater Emission Targets (WET) within the UNEP/GPA-RS framework. It highlights the availability of regional specific data on wastewater treatment and management and endeavours to broaden the scope of the Joint Monitoring Programme (JMP) by including environmental wastewater aspects.

The study is based on the feedback from eleven Regional Seas focal points in response to a questionnaire, and a subsequent websearch and desk study. It shows that many regional sea focal points confirm the added value of developing regional WET as was suggested by the Governing Council Decision 22/2/II (2003). It can serve as a tool for transboundary environmental issues, it also improves synergy between sanitation and environmental objectives. It thus validates to develop and set *regional* priorities and it contributes to participation of the (e.g. involving) public sector, civil society and private sector. As such, WET could stimulate adequate priority setting in the field of sanitation and municipal wastewater management, help appropriate resource allocation to achieve the targets agreed upon, e.g. improve the global environment and health.

In many regions there appears to be a lack of quantitative information on the environment and wastewater management. The data on wastewater management and treatment costs are least available, only for specific treatment plants or cities costs analyses have been carried out. However, based on a subsequent web search and desk study in several cases more specific information is available than suggested by the focal points (e.g. Internet, Grey literature etc.). There is thus a lack in coordination of data collection, through for instance a comprehensive regional information, databases and web sites.

In addition, comparability of data is poor, not only between regions but also between nations within a region. The used parameters differ substantially with respect to all components of the wastewater management chain.

Prospects for synergy between wastewater, sanitation, health and environmental sectors can be improved through joint target setting, harmonization of (inter) national legislation, policies and institutional frameworks, public participation or international programmes such as GEF, JMP and the Regional Seas Programme. Concrete opportunities have been suggesting and identified.

The Regional Seas focal points noted that the main bottlenecks to further the definition and implementation of regional WET are the lack of funding and capacity.

With respect to the critical partners for implementing the regional WET, all respondents appear to prefer working with the public sector. The public sector is responsible for implementing international, national policies, which are linked to achieving the WSSD/MDGs.

However, the private sector has not / or hardly been selected as critical partner. In case funds and capacities for implementation of WET are missing, a partnership with the private sector might be a good solution strategy. The private sector could play a vital role in ensuring higher efficiency in implementation (cost reduction), while at the same time contribute to the public financial resources. Particularly, when one acknowledged that the private sector in many regional seas benefits from a well-managed environment (e.g. fisheries, tourism). The private sector should thus be expected to (1) be interested in avoiding coastal pollution, and (2) have capacities and funds available to support the WET initiative.

A first step to further develop these partnerships might be to analyse and indicate for each regional sea whether there are substantial incomes and benefits for the private sector from improving wastewater management and the environment. Subsequently, information sharing, awareness raising and training on these strategic partnerships with the private sector need to be organised.

A Regional WET could thus, catalyse appropriate, time-bound policy actions and associated budgets for implementing the WSSD/ MDGs. A more holistic and targeted approach to wastewater & sanitation management is clearly desired and feasible, and concrete follow up is considered necessary. National Governments are, therefore, invited to consider realistic and workable intermediate benchmarks.

Overall this study revealed that follow up with the assigned focal points on a more structural basis would contribute to a better insight in information gaps, analysis, planning and implementation of regional wastewater emission targets. The following main recommendations were given:

- Obtain a better overview of the status of wastewater management in the regional seas, UNEP/GPA/RS as a new partner joining the JMP could facilitate regional specific data on impact of wastewater on human health and environmental/eco-systems.
- Agree with the regions and national members on an approach or roadmap to define WET
- Establish a common reporting and monitoring mechanism to ensure the effectiveness of WET in co-operation with JMP a consecutive progress reporting may be linked to existing Regional Seas Conventions and Protocols.

1. Introduction

This report is based on a quick scan, through a questionnaire, Web search and a desk study on regional specific information with respect to sanitation and municipal wastewater management. It aims to clarify on information availability, opportunities for co-operation and the feasibility to develop regional wastewater emission targets. As such, it forms an integral part of the programme of work and preparatory work of UNEP/GPA in relation to upcoming meetings, such as Hilltops to Oceans Partnership (May 2004), UNCSD-12 (April 2004) and GMEF (March 2004).

1.1 Policy framework

UNEP/GPA and the Regional Seas Programme address coastal and marine pollution problems affecting the environment. The majority of the Regional Seas identified untreated domestic wastewater – sewage – as one of the primary pollution source categories.

In accordance with the GPA Strategic Action Plan on Municipal Wastewater, UNEP developed, jointly with WHO, HABITAT and WSSCC, a guidance document on Municipal Wastewater. The document aims at setting a new global standard through advocating innovative approaches, comprising integrated wastewater management, enhanced institutional set-up, innovative financing mechanisms, multi-stakeholder involvement & community participation, and low-cost environmentally sound technologies.

Consistent with the UN Convention on the Law of the Seas (UNCLOS), UNEP/GPA and partners seek to move beyond the provision of guidance to a process of determining and achieving global, regional and national Wastewater Emission Targets (WET), to be reached within one generation's lifetime. Exploring Wastewater Emission Targets may be instrumental to achieve a better coverage in water sanitation and wastewater treatment. In addition, it may stimulate adequate priority setting in the field of sanitation and municipal wastewater management, help appropriate resource allocation to achieve the targets agreed upon, and contribute to the regular reporting on progress made.

This report is thus a direct response to address the WSSD Target on Water and Sanitation agreed upon in Johannesburg in 2002, i.e. halving the proportion of people who do not have access to safe water and sanitation services by 2015. The report is a follow-up to the global-level Millennium Development Goal (2000; MDGs) on the same subject. Finally, it builds on the H2O 'From Hilltops to Oceans' partnership initiative on Wastewater Emission Targets (WET) launched at WSSD in 2002.

The initiative is supported by the UNEP Governing Council Decision 22/2/II (2003), paragraphs 7 and 10. They underline the importance of linkages between environmental impacts and the regional coverage of water supply and sanitation services and the need to integrate environmental dimensions in longer term planning, and more specifically the need to explore the feasibility of regional wastewater targets:

- Governing Council Decision 22/2/II/op7: *Urges* Governments to adopt, and requests the Executive Director to integrate the relevant components of the programme of work of the United Nations Environment Programme, with a holistic environmental approach to sanitation and the implementation of the World Summit sanitation target. Incorporating not only the provision of household sanitation services, but all other components of the water management process, including wastewater collection, treatment, reuse, and reallocation to the natural environment and requests the Executive Director to pursue the environmental dimension of this approach through the relevant components of the programme of work of the United Nations Environment Programme.
- Governing Council Decision 22/2/II/op10: *Requests* the Executive Director to assess the feasibility of organising regional consultations concerning the development of waste water emission targets suitable for implementation at the national and sub-national level, including reference to ecological benefits, especially where human needs and high conservation values co-exist. Such consultations, if found feasible, should be organised within the framework of the Regional Seas Programme and in co-operation with the partners of the joint Strategic Action Plan on Municipal Wastewater of the Global Programme of Action for the Protection of the Marine Environment, the World Health Organisation, the Water Supply and Sanitation Collaborative Council and the United Nations Human Settlements Programme, and the Task Force on Water and Sanitation of the

Millennium Project, taking into account Governing Council decisions concerning a global marine assessment.

1.2 Status and need for a regional WET

As the world's population will steadily grow while investments remain at present day levels, it is expected that the numbers of people without access to improved sanitation and wastewater treatment will remain the same or even increase. The WSSD target will thus remain unachievable. In this scenario, human and ecosystem health impacts and economic losses due to emission of untreated wastewater are not avoidable unless adequate, innovative measures are taken.

A regional analysis of the status of water supply and sanitation service coverage clearly illustrates the need for Regional Wastewater Emission Targets (UNEP/GPA Regional Seas report, 2002).

Although the setting of targets and indicators are regional specific, it is important that all regions base their efforts on the same general conceptual framework. The challenge is that such a framework should be based on a holistic approach towards water, sanitation and the environment in order to achieve adequate sanitation and to reduce health and environmental impacts. Section II of UNEP/GPA Regional Seas report (2003) describes ideas for an initial conceptual framework. It describes ways to define possible targets and indicators, and how to monitor progress of a target. The proposed holistic approach incorporates the household level of sanitation and the subsequent wastewater management chain including wastewater collection, treatment, reuse and reallocation to the natural environment.¹ The holistic approach is summarised in Figure 1, which describes the direct and indirect links and relations between sanitation, livelihoods, ecosystems and the dimensions of sustainable development. Poor wastewater management in coastal zone areas has both direct (short-term) impacts on livelihoods, and indirect (long-term) impacts on livelihoods through environmental change and degradation of coastal sea ecosystems. The Joint Monitoring Programme (JMP) has primarily focussed on sanitation services and wastewater treatment. The UNEP/GPA initiative aims to broaden the JMP focus by incorporating key issues where water, sanitation and environmental objectives meet. This broadened focus will allow for more strategic target selection, implying that both direct and indirect impacts on livelihoods are tackled in an optimal sense.

1.3 Developments towards a Regional WET

The Millennium Development Goals (MDGs, 2000) and the WSSD Target on Sanitation are presently the most relevant targets on a *global* level for developing the WET. However, there are several other developments and targets set at a global level, that also aim to increase the access to sanitation services and wastewater treatment. For instance, in the World Water Development Report (WWDR, 2003), targets and indicators are mentioned as important tools to describe the state of the global freshwater resources, sanitation and water supply and the socio-economic and institutional context of their management.

Translating initiatives of the above global agreements to a *regional and national* level are few, but are emerging fast. Some agreements on sanitation have been established years ago in environmental conventions, such as the protocol to the Carthagena convention, protecting the Caribbean Sea from pollution from land-based activities.

In order to catalyse the above development, the UNEP/GPA 'WET-initiative' aims to link human health and environmental aspects and suggests a tentative regional Waste Emission Target (WET). The expected outcome of such a WET includes

- A programme of multilateral negotiations for establishing Wastewater Emission Targets;
- A multilateral binding instrument, or a series of integrated regionally binding agreements, by December 2005, that set sanitation and wastewater emission targets for parties based on 2000 levels;
- Measurable reduction in discharges of untreated wastewater at local and/or national levels;
- At least 20% of coastal cities implementing sustainable water supply and wastewater treatment systems by 2012.

¹ Also referred to in Decisions on GPA of the UNEP Governing Council at its 22nd Session (Nairobi, 2003).

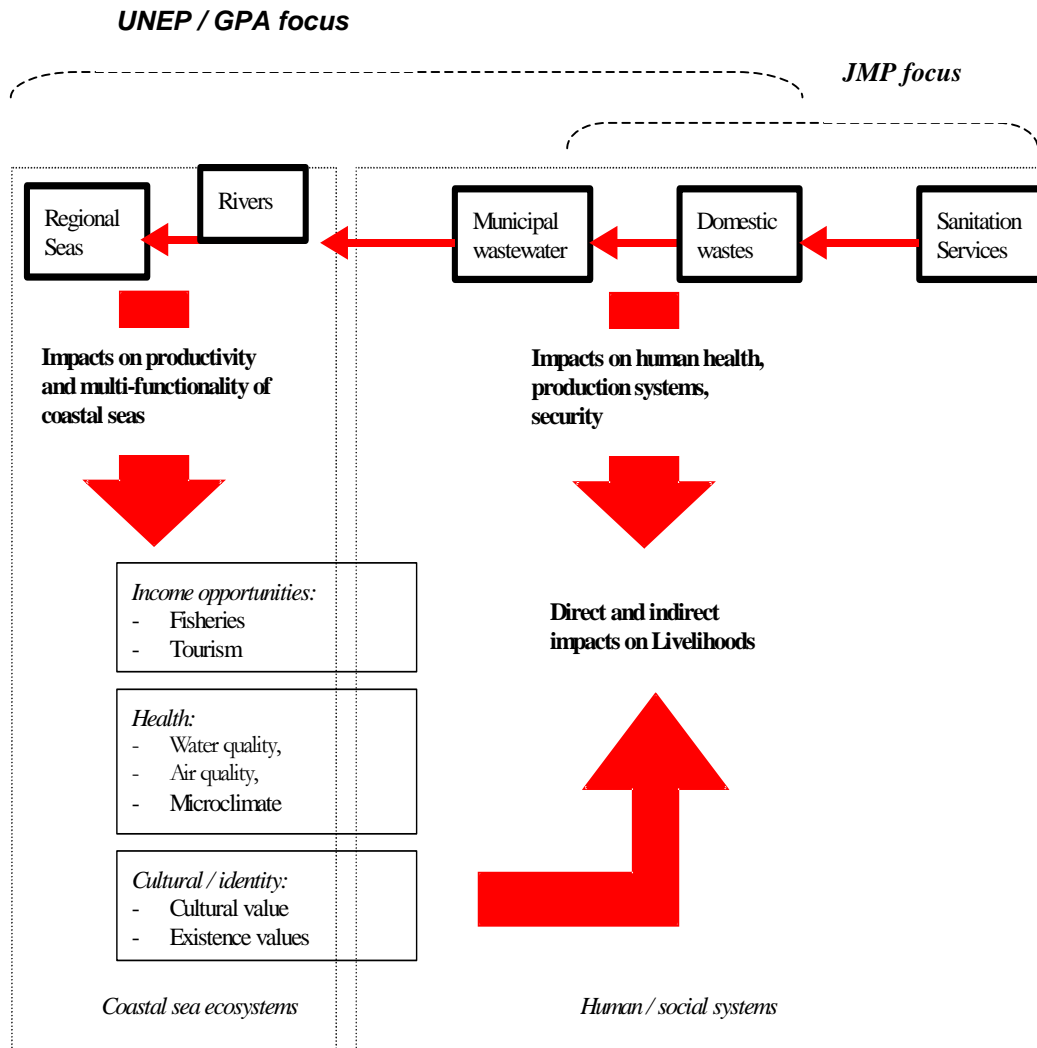


Figure 1: The multiple impacts of sanitation services and wastewater (AIDEnvironment, 2003)

2. Objective of the inventory

The specific focus of the inventory was to assess the feasibility for developing Regional WET and to acquire more concrete information, data and documentation on wastewater aspects in the regional seas, e.g.;

1. **the availability and quality of data on domestic wastewater treatment** throughout the wastewater management chain, including environmental related aspects: thus from coverage of sanitation service data to wastewater treatment, discharge and the quality of coastal waters as indicated by the arrows in figure 1.
2. **feasibility** including arguments supporting the need and aims for regional WET, regional diversity, bottlenecks and possible partnership.

In addition, the inventory aimed at more active involvement of regional stakeholders and focal points of Regional Co-ordination Units (RCU) of the Regional Seas Programme. In order to raise awareness, generate region-specific insights and information, and stimulate commitment to define and implement realistic targets as was recommended in Section II of UNEP/GPA Regional Seas report (2003). During the regional seas meeting in November 2003 in Nairobi these items were further discussed.

The inventory will be used for further elaboration on the possible use of regional targets during the H2O Partnership Conference, to be held in Cairns, Australia, 11-14 May. In addition, this regional specific information will be part of the preparatory work of UNEP/GPA for the Global Ministerial Environment Forum (GMEF/ GC SSVIII) in South Korea from 29-31 March 2004 and the Commission on Sustainable Development (CSD-12) meeting in New York, 19-30 April 2004.

3. Methodology

In order to facilitate the collection and compilation of regional information on water and sanitation, UNEP/GPA has assigned AIDEnvironment, a Dutch consultancy bureau, to carry out a so-called quick scan through sending out a questionnaire by email and carry out an additional web search and desk study.

A four-pages questionnaire (see Annex 1) was compiled that consist of the following three topics:

1. General information respondent/ regional sea focal point,
2. Availability of information on domestic wastewater treatment, coverage, pollution loads wastewater, related costs, and data on ecological and human health in addition to the data compiled by JMP (2000).
3. Feasibility of regional targets on wastewater.

The questionnaire was sent out per email on the 14th of November to all focal points of the Regional Co-ordinating Units (excluding the Antarctic and Arctic seas) of the UNEP/GPA regional seas (Table 1).

Subsequently, during the 5th Global Regional Seas meeting that was held in Nairobi from 26-28 November the importance of input from and collaboration with the Regional Seas Programme was stressed once more. The specific regional views, comments, data and documentation on the issues of Water & Sanitation respectively Wastewater Emission Targets (WET), were part of the agenda of that meeting. After the meeting follow-up phone calls were made and emails were sent to collect the available information. Subsequently, all collected information was compiled and a literature study and web search was carried out.

This report reflects the results of the quick scan and provides a general overview of the available documentation and information at the level of regional seas.

It should be noted that it is not possible to come up with one single superior conclusion or recommendation that is valid for all regional seas, due to the high diversity. The conclusions and recommendations constitute thus different, personal and specific contributions from each regional sea.

Table 1: Overview of the UNEP/GPA regional offices and the corresponding regional seas organisations

Regional Offices	Regional Seas	Regional Co-ordinating Unit, Conventions & Action Plans Independent Partner Programmes
Europe (ROE)	Mediterranean (MED)	Mediterranean Action Plan (MAP/RCU)
	Black Sea (BSEP)	Black Sea Environmental Programme
	North-East-Atlantic (OSPAR)	OSPAR - Commission
	Baltic sea (HELCOM)	Baltic marine Environmental Protection Commission -Helsinki Commission (HELCOM)
	Caspian sea (CEP)	Caspian Environmental Programme
Africa (ROA)	Eastern Africa (EAF)	Regional Co-ordination Unit for Eastern Africa (EAF/RCU)
	West & Central Africa (WACAF)	Regional Co-ordination Unit for West & Central Africa (WACAF/RCU)
Asia & the Pacific (ROAP)	East Asian Seas (EAS)	Regional Co-ordination Unit for East Asian Seas (EAS/RCU)
	South Asian Seas (SAS)	South Asian Seas Co-operative Environmental programme (SACEP)
	South-East Pacific (SEP)	South East Pacific Action Plan CPPS Lima Convention for the Protection of the Marine and coastal Area of the South East Pacific
	South Pacific (SP)	South Pacific regional Environmental programme (SPREP)
	North-West Pacific (NWP)	Coastal Environmental Assessment Regional Activity Centre (CEARAC/NOWPAP)
Latin America the Caribbean (ROLAC)	Wider Caribbean (CAR)	Regional Co-ordinating Unit for the Caribbean Environmental Programme (CAR/RCU)
	North-East Pacific (NEP)	UNEP-Interim Secretariat (NEP)
West Asia (ROWA)	Red Sea & Gulf of Aden (PERSGA)	Regional Organisation for the Protection of the Environment of the Red Sea Area And the Gulf of Aden (PERSGA)
	ROPME Sea Area (Kuwait region)	Regional organisation for the Protection of the Marine Environment (ROPME)
North America (RONA)*		
	Antarctic*	Commission for the Conservation of Antarctic marine Living resources (CCAMLR)
	Arctic Seas*	Protection Arctic Marine Environment (PAME)

* Not included in this inventory

4. Results

4.1 Response

A total of 16 focal points of the UNEP / GPA Regional Seas Co-ordination Units have been asked to fill out the questionnaire (excluding the Antarctic and Arctic Seas). Eleven regional focal points responded to the questionnaire, however for both the Mediterranean and the East Asian Seas two separate responses were received (thus nine regional seas), which resulted in a response rate of 69 % of the regional seas (See Annex 2).

Possible reasons for this relatively low response rate include that:

- the email requests was send just out prior to the holiday season, thus not all focal points could be contacted by email or telephone.
- the language of the questionnaire and the accompanying letter were in English which might formed a barrier for Spanish and French speaking regions. In relation to this the interpretation of the questionnaire could have caused difficulties for more oral oriented regions such as West and East Africa.
- the lack of capacity of some of the Regional Co-ordination Units as indicated by some respondents (NOWPAP).
- a certain indifference regarding questionnaires could have developed, as over the past years many were carried out.
- the importance for implementing a 'relative new' topic such as WET and the need for their concrete input was not recognised.

Overall one may conclude that a more personal and elaborate approach, for instance through regional workshops, will ensure higher involvement, and commitment to collaborate in furthering the assessment, analysis and subsequent implementation of regional wastewater emission targets. It will ultimately provide more data needed to make the right choices and define the right approach for developing regional WET's.

For the more 'advanced' regions one can have a workshop with more progressive subjects, e.g. on how to define good WET and indicators and set up an information system.

Below the outcome of the questionnaire is described in two paragraphs (e.g. 4.2 and 4.3) each covering respectively 4 and 7 questions. The first paragraph focuses on the availability and quality of data on domestic wastewater treatment in order to cover all components of wastewater management chain. The first components of the chain were covered by the JMP Global report (2000). The second paragraph focuses on feasibility of developing Regional WET.

4.2 Joint monitoring Programme and Availability of data

4.2.1 Additions to the Joint Monitoring Program Global Report for Water Supply and Sanitation (question 1)

The Joint Monitoring Program for Water Supply and Sanitation (JMP) aims to report on the status of the water supply and the sanitation sector. It also supports countries in their monitoring efforts to enable better planning and management. In that sense it thus monitors and reports on the progress of implementing the MDG on water and sanitation.

JMP assessments have been undertaken in 1991, 1993, 1996 and 2000. The last results of the survey are presented in the 'Global Water Supply a Sanitation Assessment – 2000 Report'. This document presents the data from six regions (Africa, Asia, Europe, Latin America, and the Caribbean, North America and Oceania).

Presently, the Joint Monitoring Programme (JMP) of WHO, UNICEF, UNEP, UN-ABITAT and WSSCC is the only programme that carries out regular surveys on water supply and sanitation coverage world-wide. It has been proposed to have UNEP (GPA) as a future partner of the JMP to

1. cover environmental dimensions and;
2. supply data gathered within the UNEP Regional Seas Programme.

The JMP will also consider extension of the present list of indicators to serve issues like hygiene attitudes and coverage in cities and slums.

In order to obtain an idea about the accuracy of the data in the JMP Global Report 2000, the regional seas focal points were asked if they agreed with the presentation of their regional seas in terms of data, figures and tables.

Six regional seas (SACEP, Mediterranean, Caspian Sea, Wider Caribbean, Baltic Sea, North East Pacific) agreed with the way their regions were presented in the JMP Global report. ROWA focal point indicated not to have the JMP document available and was thus not in the position to comment on its applicability the region. Mediterranean regional sea focal point from France and Greece, South East Pacific and the East Asian Seas focal point recommended to improve its regional presentation in the JMP by including or/and considering additional regional documents. Furthermore, the Mediterranean focal point from Greece recommended improving its regional presentation by adding new contracting parties to the Barcelona Convention, namely Serbia and Montenegro. Annex 3 gives an overview of the submitted extra documentation to improve the JMP Global Report data.

4.2.2 Coverage domestic wastewater collection, treatment, re-use or re-allocation impacts (questions 2 - 3)

Presently the JMP does not provide information on coverage with respect to domestic wastewater collection, treatment, re-use or re-allocation impacts. But is limited to coverage data on sanitation services, e.g. the first box of figure 1.

In order to assess the specific availability of regional information on the other wastewater chain boxes the regional seas focal points were asked to indicate specific information or documents available regarding:

- a) regional target / actions in relation to waste water
- b) % untreated wastewater reaching fresh / coastal waters
- c) number & capacity of treatment plants versus numbers of people served
- d) tonnes N, P, BOD fresh and/or marine pollution load
- e) domestic wastewater pollution load compared to other pollution sources
- f) amount of money spent (country/region) on municipal wastewater collection or treatment
- g) costs per capita for domestic wastewater collection respectively treatment
- h) % domestic wastewater re-used (probably after treatment)
- i) Money spent to promote/ implement innovative re-use and recycling approaches
- j) Money spent on capacity building / training in municipal wastewater management
- k) Money needed to achieve the WSSD target on Water & Sanitation

In response to this question SACEP, Wider Caribbean and ROWA focal points indicated not to have such comprehensive documentation available. The Mediterranean (France and Greece), Caspian Sea, South East Pacific, East Asian Seas, South Asian seas, Wider Caribbean, North East Pacific and Baltic Sea focal points indicated to have some relevant information available.

All proposed documentation and information had been scanned with regard to the above topic. Subsequently a further literature study and web search was carried out to actually identify the availability of factual information and specific data gaps. Some reports were mentioned by the focal points but were not digital available.

Annex 4 includes a table of the background documents provided by the focal points to improve the JMP Global report 2000. The documents characterise or link to the implementation of the MDG per region (question 2). The literature mainly referred to the MDG in qualitative terms, and only little quantitative information was given. Table 2 gives an overview of the data availability in relation to the MDG per region. Annex 5 provides more background to table 2 and gives a general insight with respect to the content of the available data and additional information found during the web search.

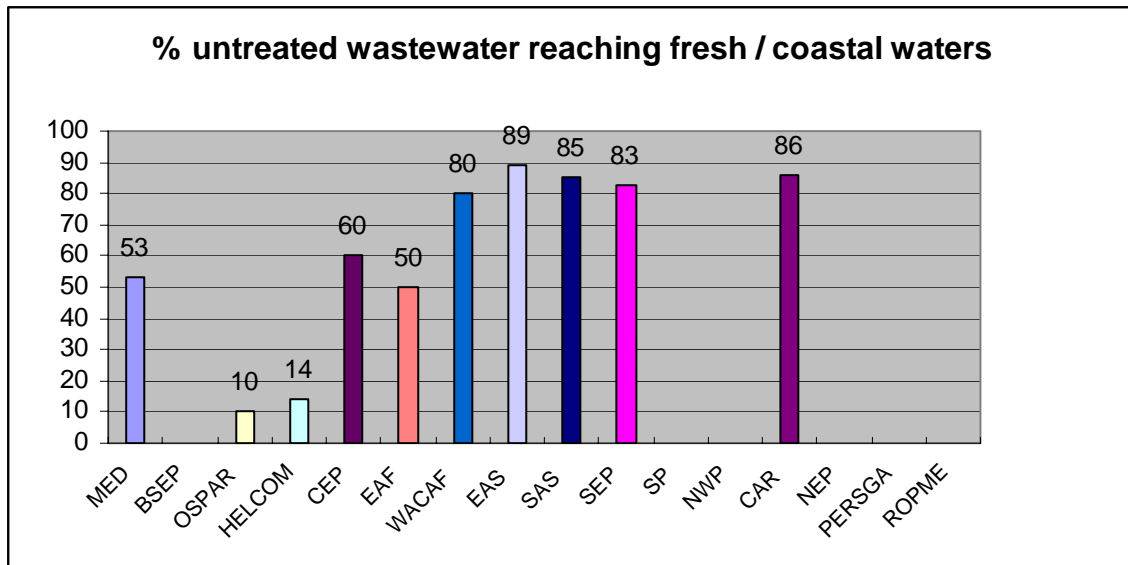


Figure 2. % Untreated wastewater reaching fresh / coastal waters. EAF is the percentage of untreated wastewater from Maputo only.

From the available data the following can be noted

- All regional seas note domestic sewage as the most important pollution source. Most action plans, therefore, do refer to the reduction of this pollution source. However, most targets are qualitative. More quantitative targets may exist on national level, but search into this level takes a more thorough inventory, which goes beyond the scope of this report. The MED and the Baltic Sea region set the most quantitative targets (see box below). Furthermore, EAS aims at developing a regional agreement Water Recycling Management Criteria and standards. Possibly serving as a pilot / example to other regional WETs.
- The regional data show that the percentage of untreated domestic or municipal wastewater reaching the coastal or freshwater waters is between 86 % (Latin America) and 14% in the Baltic Sea region (figure 2). However, for many region no data are available, or there are only data are available for (some) urban areas / main cities (i.e. Maputo in Mozambique), whereas the wastewater data from rural areas are not available. Households here are most likely not connected to sewage systems.
- With regard the number and capacity of treatment plants versus numbers of people served: these data are highly diverse. Percentages are given for people or municipalities, or cities, or rural areas served with only a sewage system, or served with a sewage system and treatment plants or only treatment plants.
- Most regional data are available with regard to BOD, N and P load and estimates of the percentage treated domestic wastewater, also in comparison with other pollution sources. At National level these data are more easily available.
- Regional data regarding cost aspects of wastewater management are least available. The cost of individual projects plants or sewage systems are however, easily to gather.
- The presented data show that there is an overall gap and lack of standard and comparability. Comparison of data, especially of national data, is very time consuming as the presented parameters differ substantially and also because the data cover different components of the waste water chain.
- The quality of available data varies substantially. In general data are often recycled (JMP, 2000), outdated and references are not well-organised and thus difficult to track down.

Examples of Most Quantitative Regional Targets

Specifically on regional targets 2000 UNEP/MED report reads, 'in 1985 the Genoa Declaration was adopted to cover the second decade of the Mediterranean Action Plan. Ten targets to be achieved by the end of the decade were approved. Amongst the targets approved, one of the priorities was the establishment of sewage treatment plants in all cities around the Mediterranean Sea with more than 100,000 inhabitants and appropriate outfalls and/or appropriate treatment plants for all cities with more than 10,000 inhabitants'.

For the Baltic Sea, **HELCOM** depicted in the 1988 Ministerial Declaration the target of 50% reductions in nutrient inputs before 2005 (review in 2003).

Within the **South East Pacific** region, coverage goals at national level are very specific, for Chile a sanitation coverage target of 26.6% for 2001, 77.9% for the year 2005 and 93.8 % for 2010.

Table 2: Summary of regional specific data availability

TOPICS	MED *	BSEP	OSPAR	HELCOM*	CEP*	EAF	WACAF	EAS*	SAS*	SEP	SP	NWP	CAR*	NEP	PERSGA*	ROPME
a. regional target / actions in relation to waste water	Green	Green	Green	Green	Green	Green	Orange	Green	Orange	Orange	Green	Orange	Green	Orange	Orange	Orange
b. % untreated wastewater reaching fresh / coastal waters	Green	Orange	Green	Green	Green	Green	Green	Green	Green	Green	Green	Orange	Green	Orange	Orange	Orange
c. number & capacity of treatment plants versus numbers of people served	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
d. tonnes N, P, BOD fresh and/or marine pollution load	Orange	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
e. domestic wastewater pollution load compared to other pollution sources	Orange	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
f. amount of money spent (country/region) on municipal wastewater collection or treatment	Orange	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
g. costs per capita for domestic wastewater collection resp. treatment	Orange	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
h. % domestic wastewater re-used (probably after treatment)	Orange	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
i. Money spent to promote/ implement innovative re-use and recycling approaches	Orange	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
j. Money spent on capacity building / training in municipal wastewater management	Orange	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
k. Money needed to achieve the WSSD target on Water & Sanitation	Orange	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

Regional data on domestic wastewater available and/or found * RCU which reacted on the questionnaire
 only national data on domestic wastewater available and/or found
 No data available and/or found

4.2.3 Impacts on human health, ecosystem health and/or economic benefit (question 4)

This paragraph focuses on factual information regarding wastewater, sewage treatment and the impacts on human health, ecological and economic systems.

With respect to available regional specific information on impacts on human health, ecosystem health and/or economic benefits of applying appropriate domestic wastewater management approaches, e.g. in terms of

- Decline in lost man years due to proper sewage treatment (preventing contact)
- Decreased incidence of waterborne diseases
- Decreased incidence of algae blooms, fish kills, etc.
- Decreased impacts on coral reefs and other biotopes
- Increased fisheries and/or aquaculture income
- Increased tourism income

The regional focal points were asked to indicate whether regional specific information is available on these topics.

In response to this question SACEP, Mediterranean (France, Greece), South East Pacific, Baltic Sea, Wider Caribbean region, North East Pacific and ROWA focal points indicated not to have regional specific information available on impacts on human health, ecosystem health and/or economic benefits of applying appropriate domestic wastewater management approaches. Only, the Caspian Sea, South Asian Seas, East Asian Seas focal point recommended some additional information (See annex 5).

4.2.4 Opportunities for synergy within the waste water and sanitation chain (question 5)

As illustrated in Figure 1 there is a direct link between (waste)water, sanitation and environmental issues and a sustainable livelihood in any geographical area (local, national or global level). In addition the Governing Council Decision 222/II/7 urges governments, and requested the Executive Director to take a holistic environmental approach towards water and sanitation and the implementation of the WSSD sanitation target. There is thus an actual need to strengthen the synergy between the health, sanitation and environmental sectors. The possibility to supply the JMP with data gathered within the UNEP Regional Seas Programme on the environmental dimension of wastewater and sanitation would imply a direct reinforcement of synergy between these sectors.

In order to assess regional feasibility and opportunities for synergy and linkages between the health and sanitation and the environmental sectors, the focal points were asked to indicate concrete opportunities (see table 3).

Table 3: show the exiting linkages and opportunities mentioned by the focal points between health, sanitation and environmental sectors.

Region	Opportunities and existing links
SACEP	<ul style="list-style-type: none"> • On national level there are opportunities during development of Urban Settlements (e.g. Town and country planning initiatives). • Improving the quality of rivers and lakes with multi-purpose usage (e.g. drinking, bathing, tourism etc), • Using treatment residues of sanitation wastes for compost production.
MED	<ul style="list-style-type: none"> • Tourism, Health, and Bathing water quality are issues where the link between health, sanitation and environment is ver close and therefore offers a great opportunity to build upon for increasing synergy. • A concrete action could be to integrate health related issues to environmental legislation.
CEP	<ul style="list-style-type: none"> • Human health and environmental concerns offer opportunities for synergy. This is regrettably not covered by the GEF.
NEP	<ul style="list-style-type: none"> • The most recent meeting with these three sectors ‘Salud y Ambiente’ (reunión del mes pasao en Panamá) is a concrete evidence of synergy between water, sanitation and environment sectors.
CAR	<ul style="list-style-type: none"> • At the level of governmental planning and investments participation of Health and Environment sectors should be ensured.
EAS	<ul style="list-style-type: none"> • Different sectors should work together to agree on environmental targets that are not further detrimental to human health. • International organisations need to co-operate better with each other to facilitate the different sectors in each country to achieve the above.
ROWA	<ul style="list-style-type: none"> • Linkages exist on country level in most of PERSGA member countries.
HELCOM	<ul style="list-style-type: none"> • Close co-operation, co-ordination and integration of measures is ensured were identified as concrete opportunities for synergy

The responses of the focal points show that there are already initiatives and linkages established between health, sanitation and environmental sectors, mainly on a national level. This might be the result of the fact that an integral (policy) approach is slowly becoming a mainstream routine around the world. However, co-operation between the sectors is not yet systematically considered.

A better synergy between (waste) water, sanitation, health and environmental sectors could be realised through joint target setting, (inter) national legislation, public participation or international programmes such as GEF, JMP and the Regional Seas Programme. Opportunities include

- taking the linkages into consideration during urban / settlement planning and development on national level.
- issues such as tourism, health, and bathing water quality which show a very clear and direct link and thus opportunity (e.g. through environmental legislation)
- organising and facilitating better co-operation between international organisations and between the different sectors in each country.
- agreeing, together with other sectors, on environmental targets that are not further detrimental to human health.

4.3 Feasibility of Regional WET

The following section of the questionnaire focussed on the feasibility of regional targets on wastewater and Sanitation, as a follow-up to the UNEP Governing Council Decision GC22. More specifically, the feasibility of defining and working with regional Wastewater Emission Targets (WET), that link sanitation with environmental objectives.

4.3.1 Arguments regarding the need of a Regional Targets on Water and Sanitation (question 1)

In order to assess the arguments of the focal points regarding the need of a wastewater and sanitation targets they were asked to prioritise eight arguments that confirm the need to define and implement regional WET (see Table 4).

Most focal points mentioned three arguments determining the need for a regional target, namely:

- 1 Transboundary environmental issues (e.g. land-based pollution, water resources, etc)
- 2 Harmonise national policies, institutional frameworks and legislation
- 3 Setting regional priorities

To a lesser degree they marked the following two arguments:

- Involving public sector, civil society and private sector
- Synergy between sanitation and environmental objectives

Prioritised as the least important arguments were

- Dealing with transboundary issues influencing sanitation services (e.g. migration and trade)
- Taking into account regional specificity's (e.g. cultural, political, economic)

The results of this question can be summarised as that focal points see a regional WET as a tool for transboundary environmental issues, which make it necessary to set regional priorities and to harmonise national policies, institutional frameworks and legislation. Secondly, it contributes to participation of the (e.g. involving) public sector, civil society and private sector. In this way it also improves synergy between sanitation and environmental objectives.

Table 4 Important arguments that confirm the need for regional WET

Important arguments for prioritisation	Low priority	Medium	High priority
Involving public sector, civil society and private sector		CEP, SACEP, HELCOM MED(GR), EAS(Th)	MED (fr), NEP, SEP, CAR, EAS, ROWA
Defining more specific and focused targets (e.g. sanitation in highly polluting slums)	CEP, NEP	CAR, EAS, EAS (Th), ROWA	MED, SACEP, SEP, MED(GR), HELCOM
Setting regional priorities		SEP, CAR, HELCOM, EAS (Th)	MED, CEP, NEP, EAS, SACEP, MED(GR), ROWA
Harmonise national policies, institutional frameworks and legislation	CEP, EAS (Th)	HELCOM	MED, CAR, NEP, SACEP, SEP, EAS, MED(GR), ROWA
Setting regional standards and norms for sanitation and wastewater pollution	CAR, EAS (Th)	HELCOM, MED(GR), EAS	MED, CEP, NEP, SACEP, SEP, ROWA
Transboundary environmental issues (e.g. land-based pollution, water resources, etc)	CAR	MED(fr), MED(GR)	CEP, NEP, SACEP, SEP, EAS, HELCOM, EAS (Th), ROWA
Dealing with transboundary issues influencing sanitation services (e.g. migration and trade)	MED, CAR, EAS (Th), HELCOM,	CEP, SACEP, SEP, EAS, MED(GR)	NEP, ROWA
Taking into account regional specificity's (e.g. cultural, political, economic)	SEP, HELCOM, EAS	CEP, SACEP, MED(GR), EAS (Th), ROWA	NEP, MED, CAR
Synergy between sanitation and environmental objectives		MED SACEP, EAS, MED(GR)	CEP, CAR, NEP, SEP, EAS (Th), ROWA, HELCOM
Others	-	-	-

4.3.2 Aims to initiate or strengthen joint / regional activities (question 2)

In response to the question if it is desirable to initiate or strengthen joint / regional activities, the regional seas focal points could prioritise aims (see table 5).

The question clearly revealed that the focal points wish to initiate or strengthen joint / regional activities for learning, training, capacity building, for information supply / web-site.

To a lesser degree initiation and strengthening for joint activities were desired for joint strategy development.

Least important aim for joint activities was research and monitoring.

Interestingly all possible aims scored as medium or high priority. Only joint funding was scored by the focal point from the Caribbean with a low priority aim for initiating / strengthening joint activities.

Table 5. Prioritisation of activities to initiate or strengthen joint regional activities

Important aims to strengthen joint/ regional activities for prioritisation	Low priority	Medium	High priority
Joint strategy development (e.g. coastal zone management)		EAS, MED (Gr), EAS (Th)	MED, CEP, NEP, HELCOM, SACEP, SEP, CAR, ROWA
Joint learning, training, capacity building		SEP, HELCOM	MED(fr, gr), CEP, NEP SACEP, CAR, EAS, EAS (Th), ROWA
Joint funding	CEP	CAR, ROWA, HELCOM, MED (Gr)	MED, NEP, EAS SACEP, SEP, EAS (Th)
Joint research		MED(fr, Gr), CAR, CEP, HELCOM, EAS (Th)	NEP, SACEP, SEP, EAS, ROWA
Joint monitoring		MED, CEP, EAS (Th), ROWA	NEP, SACEP, SEP, CAR, EAS, HELCOM
Joint reporting		CEP, SEP, EAS (Th), ROWA	MED(fr, Gr), NEP, HELCOM, SACEP, CAR, EAS
Joint information supply / web-site		MED (Gr)	MED, CEP, NEP, HELCOM, SACEP, SEP, CAR, EAS EAS (Th), ROWA
Others	-	-	-

4.3.3 Regional diversity (question 3)

Regarding, the diversity within the regions the focal points were asked to specify various aspects to illustrate the diversity between the countries (table 6).

The responses showed that the Wider Caribbean region is the only region that is relatively uniform with respect to institutional and legal setting and its environmental issues. Within the East Asian Seas region the level of urbanisation is uniform. For the other regions, the mentioned issues were mainly highly diverse. Most diverse are aspects included the socio-economical / poverty context, demographic and political / governance context aspects. Slightly diverse within a region are the institutional / legal setting and level of urbanisation.

Table 6 Overview of the diversity within the regional seas * ROWA did not filled out this question.

Important aims to strengthen joint/ regional activities for prioritisation	Uniform	Slightly diverse	Highly diverse
Political / governance context		NEP, EAS, SACEP, CAR, HELCOM	MED(fr, gr), CEP, SEP, EAS (Th)
Institutional / legal setting	CAR	CEP, NEP, SACEP, MED(Gr), EAS (Th), HELCOM	MED(fr), SEP, EAS
Environment	CAR	CEP, SACEP, EAS, EAS (Th)	NEP, MED(Fr, Gr), SEP, HELCOM
Socio-economical / poverty context		CEP, SACEP, EAS	NEP, MED(Fr, Gr), SEP, CAR, HELCOM, EAS (Th)
Demographic		CEP, NEP, SEP, EAS (Th), HELCOM	MED(Fr, Gr), SACEP, CAR, EAS
Level of urbanisation	EAS (Th)	CEP, NEP, SACEP, CAR, EAS, HELCOM	MED (Fr, Gr), SEP
Others	-	-	-

4.3.4 Need for regional sub-division of WET (question 4)

In order to get more specific insight in the diversity within the region with respect to the need to make sub-regional target, respondents were asked to indicate one or more countries that are substantially or highly diverse. If so, respondents were asked to indicate if it would be an argument for a regional sub-division in order to have a realistic and feasible regional WET. The response to this question is reflected in table 6. The table shows that seven regional seas have common environmental problems, however, the available infrastructure and capacity to deal with these issues varies across the region. The East Asian Seas, Wider Caribbean and the Mediterranean focal points proposed a regional sub-division.

Table 6: Need for regional sub-division

	Highly diverse countries in relation to the other countries within the region.	Proposed sub-division
CEP	Iran, Azerbejan.	
HELCOM	Russia	
EAS	*	China & ASEAN countries.
CAR	*	Continental & island countries
MED (fr)	*	EU-Med countries & South and East Med Countries (SEM).
MED (gr)	*	
NEP	*	
SACEP	*	
ROWA	*	
SEP	non	

* All countries have common environmental problems.

4.3.5 Added value Regional WET (question 5)

Regional focal points were asked if they see an added value to further develop the JMP with inclusion of environmental aspects by defining regional WET considering the regional diversity.

Mediterranean (Fr, Gr), Caspian Sea, North East Pacific, SACEP, Wider Caribbean, Baltic Sea, South East Pacific and ROWA indicated that there is and added value to develop the JMP with inclusion of environmental aspects by defining regional WET.

The East Asian Seas focal point from Thailand indicated that there is added value, only if a regional agreement is in place and under the condition that: Each nation has its own standards and targets, and political and economic agendas. It will be difficult to get all countries to agree on regional targets. Thus, it needs to be defined at which level to apply the WET.

The Caspian Sea focal point added that the diversity of Iran and Azerbedjan needs to be taken into consideration and also the Wider Caribbean stipulated the importance of taking into account the differences in national resources and the level of environmental problems they confront.

4.3.6 Bottlenecks to meet WET (question 6)

To be useful the regional WET's must be specific, measurable, achievable, realistic, time-bound (SMART), and, most importantly, there must be a sense of ownership by those responsible to implement and monitor the defined WET. A regional WET should not merely add paperwork, but must lead to priority actions and concrete impacts on sanitation and regional sea ecosystems.

Regional focal points were asked to give their opinion about the main expected bottlenecks to meet these criteria. The responses to this question are reflected in Table 8.

Table 8: Overview of most relevant bottlenecks to meet regional WET

	Relevant	less relevant
Lack of capacities	CEP, SACEP, HELCOM, EAS, EAS (Th), ROWA	MED, NEP, SEP, CAR
Lack of funds	MED (Fr, Gr) , CEP, NEP, SACEP, SEP, CAR, HELCOM, EAS, EAS (Th), ROWA	
Lack of willingness to share information	MED (Fr, Gr), CEP, SACEP	NEP, SEP, CAR, HELCOM, EAS, EAS (Th), ROWA
Political differences	MED(Fr), NEP, SACEP, CAR, EAS (Th)	CEP, SEP, HELCOM, EAS, ROWA
Cultural differences	MED(Fr), CAR	CEP, NEP, SACEP, SEP, HELCOM, EAS, EAS (Th), ROWA
Legal differences	SACEP, SEP, EAS, EAS (Th), ROWA	MED(fr), CEP, NEP, CAR, HELCOM
Difficulty to involve public sector	MED(Gr), ROWA	MED(fr), CEP, NEP, SACEP, SEP, CAR, HELCOM, EAS, EAS (Th)
Others	SACEP indicated the Lack of motivation CAR indicated the difficulties to get the private sector involved	

The table clearly shows that the lack of funding and (thus) capacity is the largest bottleneck.

The cultural differences and the difficulty to involve the public sector are considered of least importance. However, with respect to the latter, the Wider Caribbean focal point mentions the difficulty to involve the private sector, which could hamper the success of regional WET.

Not included in the bottlenecks is a possible lack of motivation among the regional sea member's countries (SACEP). This is off course, an important factor to further elaborate on.

4.3.7 Main partners (question 7)

Finally, regional focal points were asked to identify the main partners of the regional sea programme to implement and monitor WET.

Clearly the public sector needs to be involved in this process. For SACEP, ROWA the civil society and the private sector is important and research institutes for CAR and EAS.

In addition, the Mediterranean indicated that Mediterranean Action Plan – Plan Bleu would be a main partner for implementing and monitoring WET.

Table 9: Overview of most relevant partners per region

	Relevant	Less relevant
Public sector	MED(fr, Gr), CEP, NEP, SACEP, SEP, CAR, EAS, EAS (Th) HELCOM	, ROWA
Civil society	SACEP, ROWA	MED(fr,gr), CAR, Helcom, EAS, EAS (Th)
Private sector	SACEP, ROWA	MED(fr,gr), CAR, Helcom, EAS, EAS (Th)
Research institute	CAR, EAS, EAS (Th)	MED(fr, gr), SACEP, Helcom, ROWA
Other stakeholder, namely		SACEP, HELCOM SEP; Universities governmental agencies involved in monitoring (EAS(th))

5. Conclusions and Recommendations

5.1. Conclusion

- **Response:** 11 (including two responses from MED and two from EAS) out of 16 Regional Seas Coordination Units reacted on the email request to fill out a questionnaire (response rate of 69%).
- Regional Focal points in **general agreed with the content and presentation of the current JMP Global Report 2000**. However, some data for the Mediterranean regional sea (e.g. include the new contracting parties Serbia and Montenegro), Southeast Pacific and East Asian Seas could be improved.
- In many regions there **appears to be a lack of adequate information**, particularly quantitative information on the environment and wastewater management. However, based on a subsequent web search and desk study in several cases more (specific) information is available than suggested by the focal points (Internet, Grey literature etc.). There is thus a **lack in comprehensive regional information** in databases and web sites.
- **Primary data are limited**, in many cases it appears that data are recycled in different national and regional reports and documents but are based on the some source, namely the JMP report 2000. However, it should be noted that the available data sets are too weak to constitute SMART targets. The JMP report collects its data through national surveys that are carried out in collaboration with WHO and UNICEF, and grey literature, mostly single source.
- The **comparability of data is poor**, not only between regions but especially national data within a region. The presented parameters differ substantially with respect to all components of the wastewater management chain. A better overview of the qualitative and quantitative data is needed to set realistic regional WETs.
- **Most regional data** are available with regard to **BOD, N and P loads and estimates of the percentage treated domestic wastewater**; also in comparison with other pollution sources. Moreover, on National level these data are more easily available. Developed countries focus more on N/P & BOD reductions (also relating to agriculture inputs) rather than to wastewater treatment coverage (developing countries).
- The **data on wastewater management costs are least available**, such as
 - amount of money spent (country/region) on municipal wastewater collection or treatment,
 - costs per capita for domestic wastewater collection respectively treatment,
 - money spent to promote/ implement innovative re-use and recycling approaches
 - Money spent on capacity building / training in municipal wastewater management
 - Money needed to achieve the WSSD target on Water & Sanitation
 - Only for specific treatment plants or cities costs analyses have been carried out.
- **Information regarding the impact of wastewater and sewage treatment** on human, ecological economic systems and health is **not directly available**. However, regional Transboundary Diagnostic Analysis (TDA) partly covers the issue and other sectors possibly WHO and academia have more information can be found. Additional time is needed to elaborate on this topic and give a more complete availability overview.
- **Prospects for synergy between (waste) water, sanitation, health and environmental sectors** can be improved trough joint target setting, (inter) national legislation, public participation or international programmes such as GEF, JMP and the Regional Seas Programme. Concrete opportunities include
 - taking the linkages into consideration during urban / settlement planning and development on national level.
 - organising and facilitating better co-operation between international organizations and between the different sectors in each country.

- agreeing, together with other sectors, on environmental targets that are not further detrimental to human health.
- issues such as tourism, health, and bathing water quality which show a very clear and direct link and thus an opportunity (e.g. through environmental legislation)
- Arguments for the need of WET: The need to define and implement Regional WET is confirmed by focal points. It can serve as a tool for transboundary environmental issues, it also improves synergy between sanitation and environmental objectives, which makes it necessary to set *regional* priorities and to harmonize national policies, institutional frameworks and legislation. Secondly, it contributes to participation of the (e.g. involving) public sector, civil society and private sector.
- **Aims for initiating joint / regional activities** include initiation or strengthening joint / regional activities for
 - 1 **learning, training,**
 - 2 **capacity building, for**
 - 3 **information supply / web-site.**

To a lesser degree initiation and strengthening for joint activities. Least important aim for joint activities as indicated by the focal points was research and monitoring. Interestingly all possible aims scored as medium or high priority. Only joint funding was scored by the focal point from the Caribbean with a low priority aim for initiating / strengthening joint activities.
- **Regional diversity:** Most regional seas are highly diverse with respect to political/ governance context, institutional / legal setting, environment, socio-economic context and level of urbanization. Most diverse aspects included socio-economical / poverty, demographic and political / governance context aspects. Slightly diverse within a region are the institutional / legal setting and level of urbanization. The Wider Caribbean region is the only region that is relatively uniform with respect institutional and legal setting and its environmental issues. Within the East Asian Seas region the level of urbanization is uniform.
- **Sub-division:** Furthermore regional focal points indicated that all countries within the region have common environmental problems. However, the available infrastructure and capacity to deal with these issues varies across the region. Suggested sub-divisions are;
 - 4 EAS: China and the ASEAN countries,
 - 5 CAR: continent and the island countries,
 - 6 MED: EU Med countries and East Med countries
- **Added value of WET:** Most (7) respondents agreed on setting up regional wastewater emission targets and thus **recognize the added value of WET**. However, this might be a 'response-bias' or a 'desirable response' to the questionnaire. The critical open question to clarify on this, would be 'what is your own commitment to further regional WET' and in line with this question 'are you willing to put in your own funds/ capacities'.
- **Bottlenecks:** Focal points noted that the **lack of funding and** (thus) **capacity** is the main bottleneck for implementing WET. The cultural differences and the difficulty to involve the public are considered of least importance. However, with respect the latter, the Wider Caribbean focal point mentions the difficulty to involve the private sector, which could hamper the success of regional WET.
- **Partners:** With respect to the critical partners for implementing the regional WET, it is remarkable that all respondents appear to **prefer working with the public sector**. On the other hand the private sector has not / or hardly been selected as critical partner (see box below).

Example of the importance of Private Sector Involvement

A report on the South East Pacific region, which reads, 'there have been difficulties in attracting investment for the collection and treatment of wastewater due to the fact that the public is not willing to pay for wastewater treatment. It is more willing to pay a higher price for access to drinking water than to treat sewage'. It further reads, 'Anthropogenic effects on the coastal, beach and cliff ecosystems and on the protected natural areas of the Pacific coast have been due to the great variety human activities that take place in these areas..... without considering the intermediate and long-term costs that these may have.....These activities affect tourism, fishing and aquaculture, and, as a consequence, they have an impact on human health, the conservation and sustainability of marine resources, productive capacity, and the biodiversity of the marine environment'.

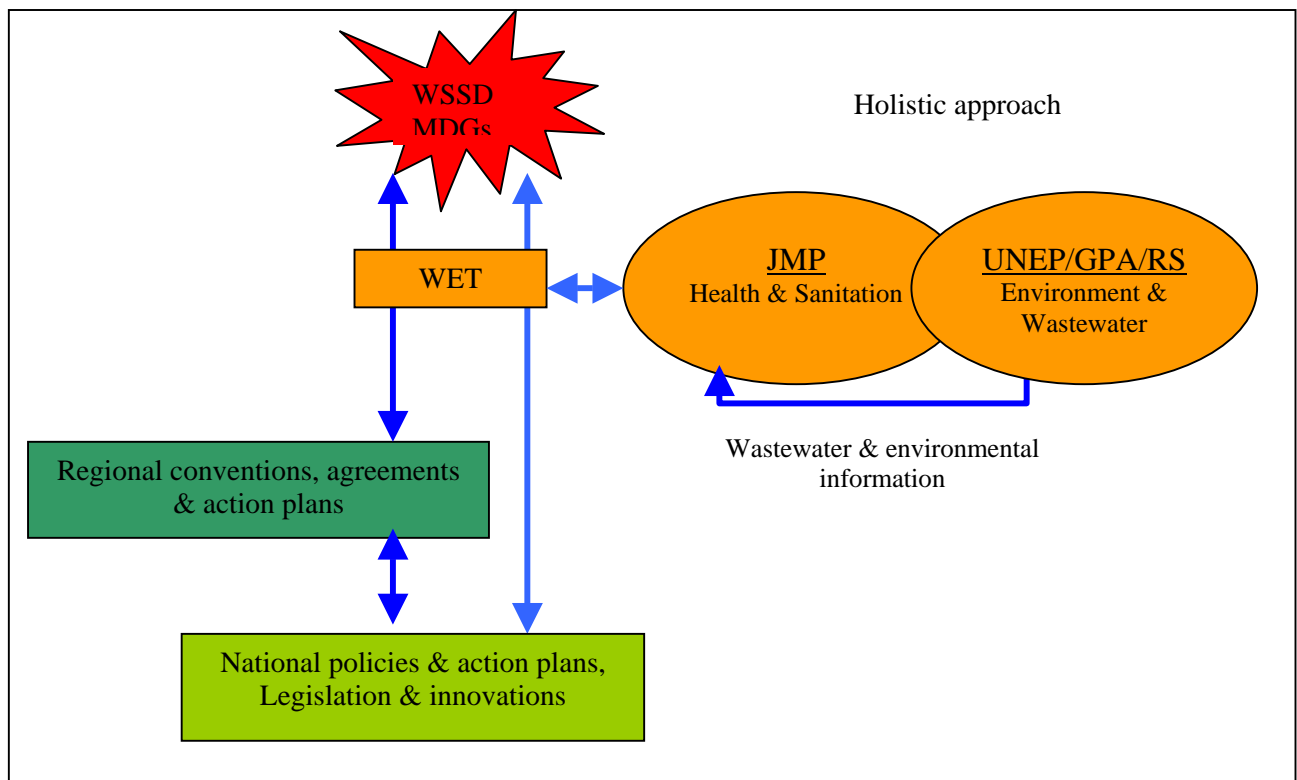
Overall the quick scan in combination with the web search and desk study revealed that follow up with the assigned focal points on a more structural basis would contribute to a better insight in information gaps, analysis, planning and implementation of regional waste water emission targets. The following paragraph outlines the next steps to take.

5.2. Recommendations

The questionnaire and subsequent literature study showed that many regional sea focal points confirmed the added value of developing Regional Wastewater Emission Targets as was suggested by the Governing Council Decision 22/2/II (2003). A Regional WET could thus, catalyse appropriate, time-bound policy actions and associated budgets for implementing the WSSD/ MDGs. Figure 3 provides an overview of the linkages, role and position of regional WET between global, regional and national level.

In addition, consecutive progress reporting on regional WET, may be linked to existing Regional Seas Conventions and Protocols and National Actions Plans. Focal points indicated that, the Joint Monitoring Programme (JMP) is a good fundament for a world-wide survey to monitor the MDG at regional level. Furthermore, they indicated that there is an added value to broaden the scope of the JMP by including environmental aspects, thus following the proposal of the governing Council that underlines the importance of linkages between environmental impacts and the regional coverage of water supply and sanitation services and the need to integrate environmental dimensions in longer term planning. As such, a broadened scope also supports the idea of UNEP/GPA/RS joining the JMP as a new partner, next to WHO, UNICEF and WSSCC. UNEP / GPA could facilitate regional specific data on impact of wastewater on human health and environmental/eco-systems.

A more holistic and targeted approach to wastewater & sanitation management is clearly desired and feasible, and concrete follow up is considered necessary. National Governments are, therefore, invited to consider realistic and workable intermediate benchmarks.



Recommendations to further the work towards regional Wastewater Emission Target (WET), include three aspects that need to be defined and/ or elaborated on:

1. Obtain a better overview of the status of wastewater management in the regional seas.
2. Agree with the regions and national members on an approach to define WET.
3. Establish a common reporting and monitoring mechanism to ensure the effectiveness of WET in co-operation with JMP.

1 **Obtain a better overview of the status of wastewater management in the regional seas**

Currently, the JMP Global Report 2000 provides a good overview of the sanitation coverage and status for the various regions. It is, therefore, an important data information source on the wastewater chain. Some suggestions have been made by the focal points on specific issues that could be updated and supplemented. The report, however, does not cover components such as wastewater collection coverage, treatment, discharge and environmental impacts, which is necessary to get a true holistic approach.

In order to get a general idea of possible problems and priorities and to allow for the setting realistic targets, a better overview of the regional wastewater management status is key for making the right choices and to define the right approach for developing regional WET.

Therefore, it is recommended to obtain a complete regional overview of the wastewater chain data, from sanitation to wastewater discharge, by making an inventory of:

- *National Wastewater management data*, such as wastewater services, collection systems, coverage, treatment, discharge data etc. Additional research needs to be carried out in order to fill the information gaps on, for instance, the required financial means for managing wastewater.
- *Regional specific information on impacts on human health, ecosystem health and/or economic benefits* of applying appropriate domestic wastewater management approaches.
- It is recommended to also include *academic databases and grey literature*, especially with regard to the impact data on health and environment.

As such the above described data inventory is very time consuming, since it has to be carried out on a national level, **an alternative** might be to screen three illustrative example regions and/or to organise regional workshops:

- *Three illustrative example regions*: for instance, one developed region with a good database, one intermediate region (e.g. The East Asian Seas Regional Co-ordination Unit is working on Regional Guidelines and Quality Standards), and one region with a low information availability based on a national search. This approach skips the need to approach and collect data from all coastal countries, but does give sufficient insight in the needs, obstacles and possible parameters to set a WET.
- *Regional workshops*: a more personal and elaborate approach could also be considered with respect to gathering the necessary information. For instance through regional workshops with regional focal points and (national) experts. This ensures a higher involvement, and commitment to collaborate in furthering the assessment, analysis and subsequent implementation of regional wastewater emission targets.

2 **Agree with the regions and national members on an Approach to define WET**

The H2O-partnership meeting (May 2004) will be a stepping stone to get more consensus from both regional and national stakeholders on an approach to define the *content* of, and the *process* to develop WET for regional seas.

Considerations with respect to the **content** of selecting appropriate regional WET include:

- ensure time bound targets for Water and Sanitation & Wastewater treatment at regional level with consideration of the many *national* targets and timeframes in legislation, policies and action plans.
- acknowledge regional diversity.
- be efficient in terms of local capacity.
- be consistent with the technical and institutional level of specific regions. For instance, the definition of WET in terms of chemical quality and loads (N, P, BOD) relates more to those regions that are more advanced in terms of managing wastewater and environmental related topics. For less advanced regions, the definition of WET could be different. **A stepwise approach** would be more realistic and feasible, initially these regions could focus more on awareness raising/education, institutional and policy issues, rather than starting with chemical quality aspects.

Other considerations are more **process-oriented**:

- Targets should acknowledge and stimulate synergy between regions and the countries within regions. Transboundary environmental and health issues have shown to be similar for all

nations and regions. As such these issues could possibly be the basis for building trust and synergy, and thus actual commitment.

- Clear insight regarding capacity and funding needs. Without these, feasibility and the commitment for implementing WET is difficult to defend.
- UNEP/GPA could consider to facilitate the process of generating capacity in terms of
 - Institutional organisation and co-ordination between regional and national policy makers;
 - Promotion of innovative techniques and technologies for managing wastewater, through pilot projects;
 - Training and capacity building in relation to shaping and implementing the holistic approach;
 - Generating funds and funding mechanism, through establishing partnerships with the private sector;
- Involvement of NGO's and the private sector, next to the public sector (see below).

As indicated in Section II of the Water Supply & sanitation Coverage in UNEP Regional Seas report (UNEP, 2003), it is critical that right from the beginning the regional sea focal points involve the relevant stakeholders in the target setting process by information sharing. Note that participation does not only mean 'information supply' or 'consultation', but requires a genuine exchange and possibly debate on the basis of equality and access to information.

A report on the East African Seas indicates the following on information sharing and communication; 'although a diverse range of waste management and pollution issues were raised by the different country representatives, many problems and issues were shared, even by different country types. An exchange of information on such issues could be very beneficial'.

The public sector is responsible for implementing international, national policies, which are linked to achieving the WSSD/MDGs. On the other hand the private sector has not / or hardly been selected as critical partner. However, in case funds and capacities to implement WET are missing, a partnership with the private sector might be a good solution strategy. The private sector could play a vital role in ensuring high efficiency in implementation (cost reduction), while at the same time contribute to public financial resources. Particularly, when one acknowledges that the private sector in many regional seas benefits from a well-managed environment (fisheries, tourism). The private sector should thus be expected to (1) be interested in avoiding pollution, and (2) have capacities and funds available to support the WET initiative.

A first step to further develop these public-private partnerships might be to analyse and indicate for each regional sea, if wastewater reductions have substantial impact for the private sector activities.

When acknowledging the importance of WET, as one of the main outcomes of the questionnaire, the critical open question for regional seas focal points would be 'what is your own commitment to further regional WET' and in line with this question 'are you willing to put in your own funds/ capacities'. This question will also clarify on the possible lack of motivation among the regional sea member countries, which was not included in the question on bottlenecks for implementing WET. Both commitment and motivation are, off course, important factors to further elaborate on when developing and implementing WET.

3 *Establish a common reporting mechanism to ensure the effectiveness of WET*

Once a better overview exist on the status of wastewater data, and consensus for an approach to define WET is reached, a common reporting and monitoring mechanism can be developed and installed. This could, possibly, be done parallel with the previous two steps.

In this respect, it should be considered to link up with the JMP efforts. This way WET reporting does not have to be built from scratch, thus improving effectiveness and efficiency.

A common reporting mechanism on WET enables easy comparison at regional, national and local level. The consensus on and development of such a reporting mechanism needs to be made at the regional level by properly addressing and considering the specific regional context in terms of social, institutional, economical and technical context.

Concluding: a regional WET could catalyse appropriate time-bound action and associated budgeting. Such long-term targets and consecutive regular progress reporting may be linked to existing Regional Seas Conventions and Protocols and National Action Plans. National Governments are invited to collaborate within the regions and consider SMART regional targets for managing wastewater.

The Hilltops to Oceans (H2O) partnership meeting in Cairns (May 2004) offers a great opportunity to further elaborate on the process and means, in order to get a better overview of the status of wastewater management in regional seas. It also allows for transparency, commitment and motivation in the process of target selection, by those who choose, define and use them. The H2O partnership meeting is thus in itself a participatory and transparent approach to define WET. During the plenary and working group sessions, participants are invited to formulate additional recommendations for defining WET.

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ANNEXES

ANNEX 1 Questionnaire

UNEP GPA Quickscan on Water Supply & Sanitation in Relation to UNEP Regional Seas

Within the framework of the Global Programme of Action for the protection of the marine environment from land-based activities (GPA), the regional focal points as representatives of regional seas are consulted in providing regional specific background information on Water Supply & Sanitation.

Present quickscan will be used to assess the information availability on domestic wastewater treatment and the feasibility of defining regional targets (WET). At a later stage more detailed information on the coverage and financing of water supply & sanitation services in relation to coastal seas will be collected. The results of this inventory is thus a starting point of a comprehensive process which will be launched at **the Global Regional Seas meeting on the 26-28 of November 2003**.

The **ultimate goal** of the quick scan will be the compilation of an comprehensive overview on environmental aspects of Water & Sanitation as an input to the GMEF/GCSSVIII and CSD-12 preparatory processes (dec/jan), and an exploration on the possible use of global, regional and/or national priority WET (march). The latter may comprise useful indicators and an action plan for applying these in the UNEP regional seas.

Please return this form before the **22nd of November** to wet@aidenvironment.org.

GENERAL INFORMATION RESPONDENT

- 1) Please indicate which person(s) (other than yourself) can be contacted to provide regional specific information for this quickscan.

Name: _____
 Organisation/ Institution: _____
 Function title: _____
 Address: _____
 Country: _____ Regional sea: _____
 Telephone: _____ Facsimile: _____
 Email: _____
 Website: _____

WATER SUPPLY AND SANITATION SERVICES

1. Can you provide any background documents with respect to Water Supply and Sanitation Services that characterises or link to the **implementation of the MDG** on water and sanitation in your region?

(tick what is relevant, more than one is possible)

- No not available
 Yes (please specify documents, website, organisations):

2. The **Joint Monitoring Program for Water Supply and Sanitation (JMP)** aims to monitor and report on the progress of implementing the MDG on water and sanitation. Attached you may find the UNEP/WHO/HABITAT/WSSCC presentation of the JMP Global Report 2000 (WHO/UNICEF) on a Regional Seas basis. Do you agree with the presentation of figures and tables for your region?

- No, the regional presentation is not correct
- Yes, but the regional presentation could be improved,
e.g. by

(please specify relevant documents, website, organisations):

- Yes

3. The JMP presently does not provide information on **coverages with respect to domestic wastewater collection, treatment, re-use or re-allocation impacts**. Would you have any comprehensive information documents available for your region with respect to the above, e.g. in terms of

% of wastewater which reaches fresh or coastal waters untreated
number & capacity of treatment plants versus numbers of people to be served
tonnes of N, P and/or BOD fresh and/or marine pollution load
relative domestic wastewater pollution load compared to other pollution sources
amount of money spent (country/region) on municipal wastewater collection or treatment
costs per capita for domestic wastewater collection resp. treatment
% domestic wastewater re-used (probably after treatment)
amount of money spent to promote/implement innovative re-use and recycling approaches?
Amount of money spent on capacity building and training in municipal wastewater management
Amount of money needed to achieve the WSSD target on Water & Sanitation both without and with appropriate domestic wastewater collection and treatment

.....

- No
- Yes, e.g. by
- (please specify relevant documents, website, organisations):

4. Would there be any information available on impacts on human health, ecosystem health and/or economic benefits of applying appropriate domestic wastewater management approaches, e.g. in terms of

Decline in lost man years due to proper sewage treatment (preventing contact)
Decreased incidence of waterborne diseases
Decreased incidence of algae blooms, fish kills, etc.
Decreased impacts on coral reefs and other biotopes
Increased fisheries and/or aquaculture income
Increased tourism income

.....

- No
- Yes, e.g. by
- (please specify relevant documents, website, organisations):

5. What do you see as concrete **opportunities for synergy** and linkages between the health and sanitation sector/s, and those from the environmental sector/s in your region?

FEASIBILITY of REGIONAL TARGETS on WATER & SANITATION
(Wastewater Emission Targets – WET)

This quick-scan explores, as a follow-up to the UNEP Governing Council Decision GC22, the feasibility of defining and working with regional Wastewater Emission Targets (WET) that link sanitation with environmental objectives. These targets might be further specified for national or local levels. In this section we would like to explore in a general sense, the feasibility of defining WET. Note that the term WET can be confusing, because targets might be defined at any level and area that (in) directly concerns the linkages between sanitation and regional seas. See the attached discussion document for further information.

1. What are important **arguments that confirm the need to define and implement regional WET?**

(set priorities for each issue from 1 = low priority to 3= high priority)

	1	2	3
Involving public sector, civil society and private sector	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Defining more specific and focused targets (e.g. sanitation in highly polluting slums)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Setting regional priorities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Harmonise national policies, institutional frameworks and legislation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Setting regional standards and norms for sanitation and wastewater pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transboundary environmental issues (e.g. land-based pollution, water resources, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dealing with transboundary issues influencing sanitation services (e.g. migration and trade)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Taking into account regional specificity's (e.g. cultural, political, economic)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Synergy between sanitation and environmental objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Do you consider it desirable to initiate or strengthen **joint / regional activities**, for the following aims?

(set priorities for each issue from 1 = low priority to 3 = high priority)

	1	2	3
Joint strategy development (e.g. coastal zone management)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint learning, training, capacity building	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint funding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint research	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint monitoring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint reporting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint information supply / web-site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. What is the **diversity within your region** with respect to the following aspects?

(Please score 1-3: 1 = Uniform, 2 = Slightly diverse, 3 = Highly diverse)

	1	2	3
Political / governance context:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Institutional / legal setting:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environment:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Socio-economical / poverty context:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Demographic:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of urbanisation:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Is there one or more country that is substantially/highly diverse? If yes, would this be an argument for a **regional sub-division** in order to have a realistic and feasible regional WET?

No

Yes, the following country or group of countries: _____

Yes, proposed regional sub-division: _____

5. Considering the regional diversity, do you find it an **added value to further develop the JMP with inclusion of environmental aspects** by defining regional WET?

- Yes
 Yes, but under the following conditions: _____
 No, unless: _____
 No

6. To be useful the regional WET's must be specific, measurable, achievable, realistic, time-bound, and, most importantly, there must be a sense of ownership by those responsible to implement and monitor the defined WET. Regional WET should not merely add paperwork, but must lead to priority actions and concrete impacts on sanitation and regional sea ecosystems. Please give your opinion about the **main expected bottlenecks to meet these criteria.**

(tick what is relevant, more than one is possible)

- Lack of capacities
 Lack of funds
 Lack of willingness to share information
 Political differences
 Cultural differences
 Legal differences
 Difficulty to involve public sector
 Others: _____

7. Which / who would be the **main partner(s)** of the regional seas programme to implement and monitor WET?

(tick what is relevant, more than one is possible)

- Public sector
 Civil society
 Private sector
 Research institute; _____
 Other stakeholder, namely: _____

THANK YOU FOR YOUR CONTRIBUTION!

Please return this form before November 22nd 2003, to wet@aidenvironment.org

ANNEX 2: Overview focal points and responses to the questionnaire

(Green =reaction; Red = no reaction)

Regional Seas	Regional Seas focal points	Focal points WET
Mediterranean (MED)	<p>Lucien Chabason Coordinator Coordinating Unit for the Mediterranean Action Plan - Barcelona Convention (MAP/RCU) 48 Vassileos Konstantinou Avenue P. O. Box 18019 116 35 Athens, Greece Tel: 30 210 727 3100/1/2 Direct to Chabason: 30 210 7273101 Mobile: 30 94 52 90 526 Fax: 30 210 7253196/7 Email: Chabason@unepmap.gr or unepmedu@unepmap.gr</p> <p>A. Hoballah Deputy Coordinator Coordinating Unit for the Mediterranean Action Plan - Barcelona Convention (MAP/RCU) 48 Vassileos Konstantinou Avenue P. O. Box 18019 116 35 Athens, Greece Tel: 30 210 727 3100/1/2 Mobile: 30 94 52 90 526 Fax: 30 210 725 3196/7 or 72134200 Email: hoballah@unepmap.gr unepmedu@unepmap.gr</p>	<p>COMEAU Aline, Scientific Director Plan Bleu 15 rue Beethoven Sophia-Antipolis 06570 VALBONNE, FRANCE Telephone: 33 4 92 38 71 30 Facsimile: 33 4 92 38 71 31 Email: acomeau@planbleu.org Website: www.planbleu.org</p> <p>GEORGE KAMIZOULIS, Senior Scientist MAP - MED POL 48, VASSILEOS KONSTANTINOU AVENUE, ATHENS, GREECE Telephone: +30-210-7273105 Facsimile: +30-210-7253196 / 7 Email: whomed@hol.gr</p>
Black Sea	<p>Mr. Plamen Dzhadzhev Executive Director Black Sea Environmental Programme (BUCHAREST) Dolmabahce Saray 2 Hareket Kosku 60860 Besiktas Istanbul, Turkey Tel: 90 212 227 9927/8/9 Fax 90 212 227 9933 Email: pdzhadzhev@blacksea-commission.org</p>	
North-East-Atlantic	<p>Mr. Alan Simcock Executive Secretary Commission of the Convention for The Protection of The Marine Environment of the North-East Atlantic (OSPAR) New Court, 48 Carey Street London WC2A 2JQ United Kingdom Tel: 44 207 430 5200 Fax: 44 207 430 5225 Email: alan@ospar.org</p>	
Baltic sea	<p>Ms. Anne Christine Brusendorff Executive Secretary Helsinki Commission Katajanokanlaituri 6B 001600 Helsinki Finland Tel: 358 9 6220 2233 Fax: 358 9 6220 2239 Email: anne.christine@helcom.fi</p>	<p>Claus Hagebro, Professional Secretary Helsinki Commission Katajanokanlaituri 6B, Finland Telephone: +359-9-6220 2223 Facsimile: 359-9-622022 39 Email: claus.hagebro@helcom.fi Website: www.helcom.fi</p>

Caspian sea	<p>Mr. Hamid Ghaffarzade Room,108, 3rd Entranch Government House 40 Uzier Hadjibeyov Street Baku-370016 Azerbaijan Tel: 994 12 971785/938003 Fax: 994 12 971786 Email: caspijan@caspijan.in-baku.com</p>	<p>Reza Sheikholeslami, Regional Consultant Dept Environment, Villa Street, Tehran Iran Telephone: +9821 8901096 Facsimile: +8921 8907223 Email: sheikh_mr@hotmail.com Website: http://www.caspianenvironment.org or former CEP Coordinator Mr Tim Turner at t.turner@ayetye.ge</p>
Eastern Africa (EAF)	<p>Dixon Waruinge Programme Officer United Nations Environment Programme Division of Environmental Conventions P. O. Box 30552 Nairobi Kenya Tel: 254 2 622025 Fax: 254 2 624300 Email: dixon.waruinge@unep.org</p>	
	<p>Rolph Payete Interim Coordinator Nairobi Convention Regional Coordinating Unit for Eastern African Action Plan (EAF/RCU) P. O. Box 487, Ste.Anne Island Mahe, Seychelles Tel: 248 22 4644/248 51 1915 (mobile) Fax: 248 324573/248 224500 Email: rolph@seychelles.sc</p>	
West & Central Africa (WACAF)	<p>Madame Nassere Kaba Acting Coordinator Regional Coordinating Unit for West and Central African Action Plan (WACAF/RCU) Abidjan Convention, c/o The Dept. of Environment Ministry of Environment & Forestry 20 BP 650 Abidjan 20\Cote d'Ivoire Tel: 225 20 211183 Fax: 225 20 21 0495 Email: biodiv@africaonline.co.ci or kaba@cro.orstom.ci OR pglitorral@africaonline.co.ci</p>	
East Asian Seas (EAS)	<p>Surendra Shrestha Coordinator East Asia Seas Regional Coordinating Unit (EAS/RCU) UN Building, 10th Floor, Block B Rajdamnern-Nok Avenue Bangkok 10200, Thailand Tel: 66 2 288 1889/1860/8008/8007 Fax: 66 2 281 2428 Email: Surendra.Shrestha@rrcap.unep.org</p>	<p>Yihang Jiang, Senior Expert East Asian Seas Regional Co-ordinating Unit United Nations Building, 9th Floor, Rajadamnern Avenue, Bangkok 10200 Thailand Telephone: (66-2) 288 2084 Facsimile: (66-2) 281 2428 Email: Jiang.unescap@un.org Website: www.Unepasrcu.org</p>
* Note: two reactions!		<p>Dr. Chia Lin Sien, Visiting Professor Institute of Asia-Pacific Studies, Waseda University 1-21-1 Nishiwaseda, Shinjuku-ku, Tokyo, 169-0051 Japan Telephone: 81 3 5286 3971 Facsimile: 81 3 3232 7075 Email: Chia@wiaps.waseda.ac.jp</p>

South Asian Seas (SAS)	<p>Mr. Mahboob Elahi Director South Asia Cooperative Environment Programme (SACEP) No. 10 Anderson Road, Off Dickman's Road Colombo 5, Sri Lanka Tel: 941 5989 787 Fax: 941 589 369 Email: melahi@eureka.lk</p> <p>Mr. Prasantha Dias Abeyegunawardene Deputy Director Programmes South Asia Cooperative Environment Programme (SACEP) No. 10 Anderson Road, Off Dickman's Road Colombo 5 Sri Lanka Tel: 941 596 442 Fax: 941 589 369 Email: pd_sacep@eureka.lk Prasanthadias@hotmail.com</p>	<p>Water and Sanitation Programme – South Asia : http://www.wsp.org/english/sa/sa.html</p> <p>South Asia Consortium for Interdisciplinary Water Resources Studies http://www.saciwaters.org/</p> <p>International Water Management Institute http://www.iwmi.cgiar.org/</p> <p>Global Water Partnership – South Asia; http://www.gwpforum.org/servlet/PSP?iNodeID=131</p>
South-East Pacific (SEP)	<p>Ulises Munaylla Alarcon Comision Permanente del Pacifico Sur (CPPS) Av. Carlos Julio Arosemena, Km. 3 Edificio Inmaral - 1er Piso Guayaquil Ecuador Tel: (5934) 2-221-202/2-221-203 Fax: (5934) 2-221-201 Email: sgeneral@cppsnet.org</p>	<p>Dr. Ulises Munaylla, Technical Regional Coordinator Permanent Cammission for the South Pacific - CPPS Av. Carlos Julio Arosemena km 3. Edificio INMARAL. Guayaquil, Ecuador Telephone: 593-4-2221200 Facsimile: 593-4-2221201 Email: cpps_pse@cpps-int.org Website: www.cpps-int.org</p>
South Pacific (SP)	<p>Asterio Takesy Director South Pacific Regional Environment Programme (SPREP) P. O. Box 240, Apia, Western Samoa Tel: 685 21 929 Fax: 685 20 231 Email: sprep@samoa.net Email for his P.A. apiseta@sprep.org.ws OR</p> <p>Ms. Mary Power Email: sprep@samoa.net, sprep@sprep.org.ws Maryp@sprep.org.ws</p>	
North-West Pacific (NWP)	<p>Ellik Adler Regional Seas Programme Coordinator UNEP Division of Environmental Conventions P.O. Box 30552, Nairobi, Kenya Tel: 254 2 624544 Fax: 254 2 624618 Email: Ellik.Adler@unep.org</p>	
Wider Caribbean (CAR)	<p>Nelson Andrade Colmenares Coordinator Caribbean Environment Programme Regional Co-ordinating Unit (CAR/RCU) (Cartagena Convention) 14.20 Port Royal Street, Kingston, Jamaica Tel: 1 876 922 9267/8/9 Fax 1 876 922 9292 Email: uneprcuja@cwjamaica.com or nac.unprcuja@cwjamaica.com</p>	<p>Carlos Chaves, Consultant UNEP-Caribbean Environment Programme 14-20 Port Royal Street, Kingston, Jamaica Telephone: (876) 922 9267 Facsimile: (876) 922 9292 Email: uneprcuja@cwjamaica.com Website: www.cep.unep.org</p>

North-East Pacific (NEP)	<p>Mr. Juan Alberto Manelia COCATRAM Apartado Postal 2423 Managua Nicaragua Tel: 505 222 2754 Fax: 505 222 2759 Email: geinfrae@cocatram.org.ni</p>	<p>Juan Manelia, Acting executive Secretary Cocatram/NEP. Contiguo a la Mansión Teodolinda, Bolonia, Managua Nicaragua. Telephone: (505) 222-2754 Facsimile: (505) 222-2759 Email: geinfrae@cocatram.org.ni</p>
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Red Sea & Gulf of Aden (PERSGA)	<p>Dr. Abdelelah Abdulaziz Banaja Secretary General Regional Organization for the Environment of the Red Sea and Gulf of Aden Region (PERSGA) P. O. Box 53662, Jeddah 21583 Saudi Arabia Tel: 966 2 653 4563 Fax: 966 2 657 0945 Email: persga@persga.org OR</p>	<p>Dr. Mahmoud Abdel Raheem, Director ROWA UNEP/ROWA 10880 Manama, Bahrain Facsimile: +973825110/1 Email: uneprowa@unep.org.bh Website: www.unep.org.bh</p>
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ROPME Sea Area (Kuwait region)	<p>Dr. Abdul Rahman Al-Awadi Executive Secretary ROPME P. O. Box 26388, 13124 Safat State of Kuwait Tel: 965 5312140-3 Ext 111 Fax: 965 5335246, 5324172 Email: ropme@qualitynet.net OR ropme@kuwait.net</p>
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Antarctic

Arctic Seas	<p>Ms. Soffia Gudmundsdottir Executive Secretary, Programme for the Protection of the Arctic Marine Environment (PAME) Pame International Secretariat Hafnarstraeti 97, 600 Akureyri, Iceland Tel: +354 461 1355/3350 Fax: +354 462 3390 Email: pame@pame.is or soffia@pame.is</p>
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Mr. G. Chowdhury, Director General, Water Resources Planning Organisation, Bangladesh. Tel: 88-02-988 0879; email: dg_warpo@bangla.net
<http://www.warpo.org/>

NGO Forum for Water Supply and Sanitation, Bangladesh:
<http://www.ngo-forum.org/>

Ministry of Rural Development & Department of Drinking water supply, India
<http://ddws.nic.in/>

Ministry of Water Resources, India
<http://wrmin.nic.in/wrwelcome.htm>

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Tel: 011-4364518
Fax: 011-4364113
Email: alok@water.nic.in

The Energy Resources Institute (TERI) –Water Programme
<http://www.teriin.org/waterprogram/index.htm>

Water Sanitation and Extension Programme, Pakistan
Aga Khan Planning and Building Services PO Box 622
GPO Gilgit, Northern Areas, Pakistan
Telephone: +92 572 42 66 / 67; E-mail: wasep@gt.comsats.net.pk

Pakistan Council for Research in Water Resources -
<http://www.most.gov.pk/frames/organizations/PCRWR.htm>

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ANNEX 3: Background documents on Water Supply and Sanitation Services to improve the JMP Report

Six regional seas (SACEP, Mediterranean, Caspian Sea, Wider Caribbean, Baltic Sea, North East Pacific) agreed with the way their regions were presented in the JMP Global report.

Additionally the Mediterranean regional sea focal point from France recommended improving its regional presentation in the JMP with inclusion or consideration of the following documents;

- Situation des pays méditerranéens au regard des objectifs du millénaire pour le développement (OMD) (Draft, Plan Bleu 2003)
- Indicators leaflets on www.planbleu.org
- Compendium prepared by Plan Bleu for the MEDSTAT-Environment project:
- “Environmental Statistics in the Mediterranean Countries, Compendium 2002, Eurostat”
<http://europa.eu.int/comm/eurostat/Public/datashop/print-catalogue/EN?catalogue=Eurostat>

Furthermore, the Mediterranean focal point from Greece recommended improving its regional presentation by adding the new Contracting Party to the Barcelona Convention, namely Serbia and Montenegro.

Furthermore the South East Pacific regional sea focal point recommended improving its regional presentation in the JMP with inclusion or consideration of the following documents;

- UNEP. 1999. Assessment of land-based sources and activities affecting the marine, coastal and associated freshwater environments in the SouthEast Pacific. UNEP Regional Seas Reports and Studies N° 169.
- Cabrera, N. 2001, Socio-economic aspects of the wastewater problem in the SouthEast Pacific. Repor to CPPS/UNEP, July 2001. (Unpublished).
- CAAM. 1996. Desarrollo y Problemática ambiental del área del Golfo de Guayaquil. January 1996.
- Instituto Cuanto. 2001. El Medio Ambiente en el Perú, Año 2001.
- INE/CONAMA. Estadísticas del medio ambiente 1996-2000. Santiago, Chile. 335 pp.
- Natura/WWF. 2002. Informe Galápagos 2001-2002.
- OMS. 2001. Reporte regional de la evaluación 2000 en la región de las Américas: servicio de agua potable y saneamiento, estado actual y perspectivas.
- AIDIS/AESIA. 2000. Evaluación nacional de los servicios de agua potable, alcantarillado y desechos sólidos. Quito, Ecuador, junio 2000. 48 pp.
- BID, 2000. Datos básicos socioeconómicos al 16 de octubre de 2000. Unidad de Estadística y Análisis Cuantitativo.
- CEPIS/OPS/OMS. 2000. Evaluación de los servicios de agua potable y saneamiento 2000 en las Américas. Informes analíticos de Chile, Colombia, Ecuador, Panamá, Perú, actualizados a diciembre 2000.
- INEI. 2000. Estadísticas del Medio Ambiente 2000. Lima, Perú, junio 2000. 206 pp.
- SISS. 2000. Informe de Gestión Sector Sanitario 1999. Santiago, Chile, mayo 2000. 62 pp.

The East Asian Seas focal point recommended the following documents for improving its regional representation;

- Chia, L.S. 2000. Overview of impact of sewage on the marine environment of East Asia: Social and economic opportunities. EAS/RCU Technical Reports Series No. 15. UNEP, Bangkok, Thailand. 100pp.

- UNEP. 2000. Regional programme of action for the protection of the marine environment of the East Asian Seas from the effects of land-based activities. UNEP/GPA Coordination Office &EAS/RCU. 24pp.
- UNEP. 2000. Overview of land-based sources and activities affecting the marine environment in the East Asian Seas. UNEP/GPA Coordination Office &EAS/RCU. 74 pp.
- UNEP. 2002. Report on Regional Workshop on Protection Coastal and Marine Ecosystems from Land-Based Activities in the Asia-Pacific Region, Toyama, Japan.
- UNEP. 2003. Report of the Regional Workshop on Identification of Pollution Hot Spots in the East Asian Seas Region. 284pp.

Finally, the ROWA focal point indicated not to have the JMP document available and is thus not in the position to commend on its applicability for the ROWA region.

The North East Pacific regional sea focal point recommended consulting Masica for improving its regional presentation in JMP.

ANNEX 4: Documents on Water Supply and Sanitation Services linking to the MDG per region.

Overview of the available background documents on Water Supply and Sanitation Services, which characterises or links to the implementation of the MDG per region.

Regional Seas	Documents, websites, organisations
Mediterranean (MED)	<ul style="list-style-type: none"> - Situation des pays méditerranéens au regard des objectifs du millénaire pour le développement (OMD) (Draft, Plan Bleu, 2003) - Indicators leaflets on www.planbleu.org - Compendium prepared by Plan Bleu for the MEDSTAT-Environment project: - Environmental Statistics in the Mediterranean Countries, Compendium 2002, Eurostat http://europa.eu.int/comm/eurostat/Public/datashop/print-catalogue/EN?catalogue=Eurostat <p>* Note: the focal point from Greece indicated not to have any relevant regional information on the implementation of the MDG.</p>
Black Sea	
North-East-Atlantic	
Baltic sea	<p>On HELCOM website the following publications:</p> <ul style="list-style-type: none"> - The review of more specific targets to reach the goal set up in the 1988/1998 - Ministerial Declarations regarding nutrients (2003) - http://www.helcom.fi/proceedings/bsep89.pdf - The Baltic Sea Joint Comprehensive Environmental Action Programme (JCP) - Ten Years of Implementation (2003) http://www.helcom.fi/proceedings/bsep88.pdf - Third Baltic Sea Pollution Load Compilation 1998 http://www.helcom.fi/a/plc/Bsep-70.pdf (The updated PLC 4 will be available soon). - Lead Country report on implementation of HELCOM Recommendations concerning municipal wastewaters
Caspian sea	<ul style="list-style-type: none"> - CEP website - CEP Water Monitoring Report produced in collaboration with WHO - CEP TDA - GIWA reports
Eastern Africa (EAF)	
West & Central Africa (WACAF)	
East Asian Seas (EAS)	<p>Chia, L.S. 2000. Overview of impact of sewage on the marine environment of East Asia: Social and economic opportunities. EAS/RCU Technical Reports Series No. 15. UNEP, Bangkok, Thailand. 100pp.</p> <p>UNEP. 2000. Regional programme of action for the protection of the marine environment of the East Asian Seas from the effects of land-based activities. UNEP/GPA Coordination Office &EAS/RCU. 24pp.</p> <p>UNEP. 2000. Overview of land-based sources and activities affecting the marine environment in the East Asian Seas. UNEP/GPA Coordination Office &EAS/RCU. 74 pp.</p> <p>UNEP. 2002. Report on Regional Workshop on Protection Coastal and Marine Ecosystems from Land-Based Activities in the Asia-Pacific Region, Toyama, Japan.</p> <p>UNEP. 2003. Report of the Regional Workshop on Identification of Pollution Hot Spots in the East Asian Seas Region. 284pp.</p>
South Asian Seas (SAS)	<p>Arsenic mitigation in water supply of Bangladesh - http://www.bamwsp.org/</p> <p>Towards Total Sanitation and Hygiene: A challenge for India: http://ddws.nic.in/Data/Speeches/SACOSAN.htm</p> <p>South Asian Conference on Sanitation: http://www.sdnbd.org/sacosan/</p> <p><u>SACEP documents:</u></p> <ol style="list-style-type: none"> 1. An overview of socio-economic opportunities related to the protection of coastal and marine environment from land-based activities 2. Cost-Benefit analysis of the proposed sewer network at Moratuwa/Ratmalana in Sri Lanka as a measure to protect the coastal areas from land-based source pollution

South-East Pacific (SEP)	- UNEP. 1999. Assessment of land-based sources and activities affecting the marine, coastal and associated freshwater environments in the SouthEast Pacific. UNEP Regional Seas Reports and Studies N° 169. - Cabrera, N. 2001, Socio-economic aspects of the wastewater problem in the South East Pacific. Report to CPPS/UNEP, July 2001. (Unpublished).
South Pacific (SP)	
North-West Pacific (NWP)	
Wider Caribbean (CAR)	www.cep.unep.org/pubs/techreports/techreports.html#33
North-East Pacific (NEP)	Estudios Realizados, por el Programa De Medio Ambiente y Salud en el Istmo de Centroamerica(Masica) en la decada de los Noventa y hasta 2002. Pra cualquier contacto dirigirse a la oficina de la Ops/OMS en el Salvador a la siguiente dirección: Email: jjenkis@els.ops_oms.org La persona a cargo de dicho proyecto fue el Ing. Jorge Jenkis sus telefonos son :(503) 279-4231 o 279-1591.
Red Sea & Gulf of Aden (PERSGA)	Not available
ROPME Sea Area (Kuweit region)	
Antarctic	
Arctic Seas	

ANNEX 5: Summary of available wastewater data

ANNEX 6: Current targets in Regional Seas Conventions, Protocols and Action Plans

Regional Seas & Offices	Convention	Protocol on Land-based activities/sources	Action Plan	Targets/deadlines	Remarks	Entry into Force/Ratified
Mediterranean MAP/RCU	Mediterranean, Barcelona, 1976	+	+	2005: dispose sewage from cities>100000 conform with LBS. 2025: dispose all sewage conform with LBS	Targets in operational document of MAP/SAP	17/6/1983 Amended 3/1996, but not yet ratified
Black Sea Environmental Programme	Black Sea, Bucharest, 1992	+	+	Implementing significant reductions of the inputs of insufficiently treated sewage from large urban areas by 2006	Implementation of the Black sea Strategic Action Plan (Informal workshop document)	15/1/1994
North-East-Atlantic OSPAR	North-East Atlantic, OSPAR/Oslo and Paris, 1992	Annex	-	50-90 % reduction in N resp. P loads	National regulations	25/3/1998
Baltic sea HELCOM	Baltic Sea, Helsinki Commission, 1992	Annex	-	50 % reduction of nutrient loads (N, P) before 2005	National regulations	17/1/2000
Caspian sea Env. Progr.						
Eastern Africa EAF/RCU	Eastern Africa, Nairobi, 1985	-	+	-	-	-
West & Central Africa WACAF/RCU	West and Central Africa, Abidjan, 1981	-	+	-	-	-
East Asian Seas EAS/RCU						
South Asian Seas (SAS) SACEP						
South-East Pacific (SEP) Action Plan	South-East Pacific, Lima, 1981	+		-	-/?	21/9/1986
South Pacific (SP) SPREP	South-Pacific, Noumea, 1986	-	+	-	-	-
North-West Pacific (NWP) CEARAC/NOWPAP						
Wider Caribbean (CAR) CAR/RCU	Wider Caribbean, Cartagena, 1983	+	+	In 20 years effluent limitations for communities with more than 50.000 inhabitants not possessing wastewater collection system and all other communities except those relying exclusively on household systems	Annex III of protocol	Not yet
North-East Pacific NEP	North-East Pacific, Guatemala, 2002	-	?	-	-	-
CPPS						

Red Sea & Gulf of Aden PERSGA	Red Sea and Gulf of Aden, PERSGA, Jeddah, 1982	-	+	-	-	-
ROPME Sea Area (Kuweit region) ROPME	ROPME Sea Area, Kuwait, 1978	+	+	-	-/?	2/1/1993

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