

# Evaluation of the project "Regional-based Assessment of Persistent Toxic Substances" (GF/XG/4030-00-20)

By

Arne Jernelöv  
Professor/Consultant

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## A. Executive summary

The Regional-based Assessment of Persistent Toxic Substances (hereafter RBA/PTS) project has met its overall objective of providing a comprehensive, regionally-based assessment of the damage and threats posed by persistent toxic substances. It has also facilitated evaluation and agreement on the priorities among chemically-related environmental issues at the regional level, in order to focus subsequent interventions on the most important and pressing issues. The twelve Regional Reports include assessments of the sources of persistent toxic substances in the environment, their concentrations and impact on biota and their transboundary transport, as well as an assessment of the root causes of the problems and the capacity at the regional level to manage them. Consolidation of the regional analyses has provided an assessment of global priorities. The results are available on the Web and in printed form, as one global report and twelve regional ones.

In making the assessments and establishing priorities, the project identified gaps with regard to data, knowledge and resources. This information may in itself be of great value, as it may set the stage for research and monitoring to follow, as well as for technology transfer undertakings.

In addition, the project has created a global network of PTS experts who have successfully collaborated to produce the results mentioned above. It has also developed a Web-based system for data collection using a set of questionnaires; a database on PTS with data from sources that to a large extent are difficult to access and from regions where data are scarce; and it has done most of the development work of a GIS-based data-handling system.

In order to achieve its results, the project had to resolve a number of problems of a conceptual as well as of a practical nature. One of these was the classic one of non-commensurable units. How do you tell what is worse, when one chemical causes cancer among humans and another leads to extinction of bird populations? The solution for the purpose of the project was a simple but clever scoring system with a key feature: There is no total score for a chemical.

Another conceptual difficulty to bridge was that of the great difference between regions with regard to availability of data and expertise. In some regions, the problem was how to deal with all information available on PTS - "how to see the forest for all the trees". In other regions, the scarcity of data was the great obstacle. Yet the requirement was to put them all into a similar framework in order to consolidate the regional analyses into global priorities. Here, I find that the project has achieved its success through a well-balanced mixture of flexibility in approach and rigidity in form. The success is however not universal. For the Regional Report for North America, what was intended to be a representative sub-region was selected in order to reduce the volume of data to analyse. This approach was not a good solution, as also a number of outside critics have pointed out.

When a regional approach is chosen to assess an environmental problem, one of the key differences that could have been taken into account is the sensitivity of the ecosystem given, e.g., differences in temperature, humidity, biodiversity and food web structure. Key factors for PTS-like persistence itself would be influenced by these factors. However, as stated on page 10 of the Global Report, "the general and comparative sensitivity of specific regions was not considered". The rationale for this decision is not fully explained.

While the project has delivered according to expectations, there are several issues with regard to sustainability that are still unresolved and thereby questionable. At the conceptual level, two features of the project differ from the concept that underlies the Stockholm Convention on Persistent Organic Pollutants (POP), which was signed when the RBA/PTS project was already underway. One difference is the regional-based assessment, in which the global picture is derived through a consolidation of regional priorities. The other difference is the number of PTS. In principle an open-ended group of chemicals, in the case of the current project reports the number was 28, including the 12 covered by the POP convention. Ironically, the initial success of the Stockholm Convention with its global and POP concepts may mean that the distinguishing ideas of the RBA/PTS project turned out to be a blind alley. Interviews with workshop and meeting participants from developing countries give an almost unanimous picture of the POP part of the PTS studies being used for the National Implementation Plan of the POP Convention, while the rest mostly lay idle. National focus on POP also means that limited personnel resources are for the time being concentrated on those, leaving the rest of the PTS with little or no attention.

So while the project has contributed to the implementation of the Stockholm Convention on POP, it might be overshadowed by it, leaving the other parts of the PTS assessments to become obsolete.

In a similar way, it is unclear what the future of other outputs of the project will be. An impressive network of almost 800 experts from more than 140 countries was created and made operative use of. It should be a valuable investment, but a network will wither if not kept busy, and motivation for a re-run of a regionally-based PTS assessment does not seem likely for another five years or so. Can and will the regional networks fulfil a function and be used in the meantime? In some regions such as Europe and North East Asia, initiatives have been taken that make that seem likely. In others, tasks and funding mechanisms need to be found. A possibility would be to launch projects aimed at filling data gaps in data-poor regions, using the established networks in the process.

There is also the question of the sustainability of the database on PTS that the project built. It contains some 15,000 entries. Most come from sources such as government laboratories and universities that are not easily accessible, and/or from regions where data are scarce. Will it find a "home" from where it can be accessed by scholars around the world, and where it can be updated as more information becomes available? That question is still open.

Linked to the database are the Web-based questionnaires that were developed for data collection, and the GIS-based data-handling system that was developed but barely used within the project. Will they become useful somewhere else, or will they turn out to be investments with very limited returns? This is still unresolved.

These open questions of sustainability throw a cloud also over the question of cost-effectiveness of the project. On the most fundamental level one can say that the project was cost-effective, as it reached its goals within the allocated budget. However, if the products have limited or no use after the termination of the project that conclusion may seem too simplistic or formalistic.

The information disseminated by the project consists of a brochure printed at an early stage of the project describing the risks associated with PTS and the project's objectives and organisation; an Web-site to be used also to collect data; twelve regional reports, some of which are available in two or three languages; and the global report. A CD-ROM with the reports was distributed in 1700 copies and a popular brochure with the results of the project is said to be forthcoming but were not available at the time of the evaluation.

Various project documentation, including the logical framework of the project, mention dissemination of information aimed at, e.g., the media and the public at large. In this aspect more could have been done and should, given the-first-of-the-kind nature of the outcome.

The project is, from a management and execution point of view, a complex one. With some 800 individuals in 141 countries involved; a total of 62 regional and global meetings to be arranged; development and programming work on a database to be carried out; questionnaires for data collection and a data-handling system to be developed; and with responsibilities delegated to twelve Regional Coordinators, it was unlikely that everything would progress without hiccups. The Sub-Saharan Africa Region experienced severe and temporary crippling problems with money transfers, the Central America and Caribbean Region had its share of delayed payments, and the contractor for the programming work had to practice patience, too, but given the size and complexity of the task, these problems are small.

The overall impression of the RBA/PTS project is that it has succeeded very well indeed with a very challenging task of making the first global assessment of PTS, and to base that assessment on regional priorities that a wide range of experts could agree on. The task was made no simpler by the fact that networks of regional experts had to be created and tools such as questionnaires, database and data-handling system, were developed within the project.

The results obtained, given the premises, could only be reached thanks to an approach of clever flexibility with a strong managerial hand, applied to steer when, and only when, it was required. The important questions as to the sustainability of the results, the infrastructure and the tools created within the project are still to be resolved and are, although central with regard to the long-term value of the project, to be taken up by policy bodies high above the project level.

The most important lessons learned relate to techniques and methodologies to prioritise between non-commensurable units and highly varying amounts of information. The scoring system that was developed is based on available information, but carries a parallel evaluation of the extent of data gaps. A central feature is also the absence of a total score for a chemical.

A pioneering attempt was made by the project to establish a web-based data collection system where Geographic Information was a base for the sorting and handling of data. Despite the limited use of the system for the project these are future-oriented features that should be trademarks also for other environmental databases. The lessons from this project are thus important. This goes also with regard to the time and resources required developing and putting into operation new information collection and handling systems.

The lessons also include the outcome of different strategies to handle huge amounts of information, where selection of a “representative region” proved less successful than a more comprehensive approach.

As to lessons learned with regard to region based assessments the project was quite successful in applying a concept that can be called “flexibility in content, rigidity in form”.

With regard to recommendations they fall into two groups. One is dependent on whether or not the salient features of the RBA/PTS project are to live on, or if persistent organic compounds are to be handled through the Stockholm Convention on POP only. From a scientific and environmental perspective there are appealing characteristics of both a regional approach and of an open-ended group of chemicals, while from an administrative and resource point of view initial focus on the agreed twelve substances and groups, the POP, makes sense. This is clearly a policy decision way

above a project evaluation. Should, however, the decision be made to continue the RBA/PTS activities, it is recommended that:

- Additional efforts are made to communicate the findings of the RBA/PTS project to a wider group of decision-makers, managers and the public at large.
- The database should be maintained and updated and regional based efforts should be initiated to fill data gaps. Here the established networks would come in handy.
- A new regional based evaluation should be made in e.g. five years time and the decision to do so should come in good time prior to that.

Should the policy decision be not to continue the RBA/PTS approach but to concentrate fully on POP it is recommended that:

- An evaluation is made if the database and the network from the project would be useful in that context or in other global or regional undertakings relating to persistent chemicals in the environment.
- The prerequisites for adding new substances to the Stockholm Convention is further specified so that it becomes clear how PTS can become POP.

Regardless of the future of the region based approach and the wider concept of PTS it is recommended that:

- Trans-boundary and trans-regional transports of POP and other PTS (candidate POP) are studied.
- Releases of PAHs, PCDD/PCDFs and other PTS from open burning are studied.

## B. Problems encountered and lessons learned

The project was designed, among other things “to agree on the priorities between chemical-related environmental issues”. This of course is necessary in order to focus subsequent interventions on solving or controlling these issues. However, at the same time, prioritising means ranking problems, which in turn, explicit or implicit, means answering a number of value-laden questions. Examples of such questions are: Are substances causing cancer in humans worse than those giving rise to reproductive failures in birds? Is a large quantity of a chemical no longer produced a larger problem than a smaller amount of one with rising production and use? Is an easily replaceable but less damaging chemical a higher priority than one more damaging, where no realistic alternatives exist? Is a well-investigated compound with by and large known risks, worse than one on which we have little information?

In all these cases, the answers would also have to be quantified: e.g. How many cases of human cancer correspond to ten thousand non-hatched bird eggs or an extinct bird species?

These sorts of questions obviously do not have scientific answers. Therefore, it is understandable that many of the Regional Coordinators and Regional Team Members at the onset of the project were reluctant to prioritise. Yet, when it came to the regional and global priority setting meetings, agreement or near agreement was reached on all the regional and global priorities. How was this resolved?

The key to the solution was a relatively simple scoring system, where the figures 2, 1 and 0 on one axis were used to mean Regional, Local, and No concern, respectively. The other axis had the groups Sources, Environmental levels, Eco-toxicological effects and Human effects. Scoring was done on available information, but each of the four groups also had a column for data gaps, where “0” meant supportive data existed, “1” that supportive data is limited, and “2” that supportive data are lacking.

A key feature was that there was no total score for a chemical. This is a clever and practical way to get around the unsolvable problem of comparing non-commensurable units, and one that has gained acceptance from a wide range of experts as a way to arrive at a science-based tool for administrative decision-making. It is a lesson learned with applications in a variety of fields and situations.

Another conceptual problem encountered in the project is the identification of global priorities based on regions, which differ significantly with regard to data availability, expertise, legislative framework and administrative and financial resources. As important from an ecological and toxicological point of view, is that temperature, humidity and food web structure, as well as species diversity and seasonal migration patterns (among many other parameters), may have a strong effect on sensitivity of populations and ecosystems. Similarly, human populations may have different sensitivities dependent on food habits, nutritional levels, age structure and numerous socio-economic factors.

Here the project was less innovative, and merely excluded from consideration all possible differences in sensitivity of ecosystems and human populations. Further, the global priorities came as a result of a summary that was balanced but somewhat mechanical of the priorities identified at the regional level.

A very special, possibly unique problem facing this project with regard to dissemination of results and follow up, is that the international focus on *persistent* substances has moved from PTS to POP, following the signing of the Stockholm Convention. There are two conceptual differences between the RBA/PTS project and the Convention. The project is region-based, whereas the Convention is basically global, with a potential for regional additions. Furthermore, the group of PTS is larger and in principle open-ended, while the Convention covers a small number - currently twelve - of specified chemicals or groups. The current situation, strengthened by the financial mechanism associated with the Stockholm Convention that provides funding through the Global Environment Facility (GEF) for, e.g., development of national implementation plans for POP, is that few of the developing country experts that were enthusiastically involved in the RBA/PTS project, work in their home countries today with any other part of PTS than the POP.

Seen from the project's perspective, there is thus a significant risk that only those parts of the RBA/PTS that are covered by the Stockholm Convention can feed into any continuing activity. Its sustainability is thus an open question. The risks with the relative limited volume of information and the reach of the dissemination mechanisms for project results must be seen in this light.

On the practical level, a key question for the project to resolve was how to collect and evaluate a huge amount of data. The attempted solution was the development of web-based questionnaires and a GIS-based system for storage and handling of data. These two strategic decisions, using the web and geographic information, are future-oriented and commendable. It's "lessons learned" from the project that should be remembered for numerous future applications.

However, for practical use within the project, neither the questionnaires nor the database and data handling system came to much use. In total, some 15,000 entries were made to the database using the questionnaires, which is not a small number and, as discussed elsewhere, represents a special value as much of it is data that is not available in the open literature, but was dug out from other sources and to a large extent came from regions where data are scarce. The future value of these data would be in relation to trend analyses, which could be crucial both for scientific purposes and to assess if chemicals that have been banned or for which the use has been restricted are still released. Thus the future users would be scientists and national environment protection agencies.

However, in relation to the total amount of data available for PTS, 15,000 entries is a drop in the sea. Most Regional Coordinators and Teams found the questionnaires unsuitable, either because they

were too time-consuming to fill out with all the information requested, or because the information given was insufficient to assess the quality of the information. Some even used both arguments simultaneously.

It is clear that there has to be a compromise between the amount of information that has to be filled out, given the time it takes; and the amount and type of information needed for assessing the validity and relevance of the data. (See discussion by the interim reviewer on sediment sieving information!) Unfortunately, the questionnaires developed for the project did not succeed in finding that balance.

With regard to the data-handling system, this was not used beyond testing for the evaluations and priority-settings within the project. In fact, the system is not yet bug-free. The work done is not bad, but unless a continued application is found, it will be wasted. It should probably have been foreseen that development of a data collection system, questionnaires, an evaluation mechanism for a large volume of data, a database and a data-handling system, were unattainable within the relatively short duration of the project and with the meagre staff resources available. The lesson to be learned is simply that development of data handling systems are time and resource consuming and should generally not be done *ac hoc* for short term uses.

In some regions of the world the main problem was not the lack of data, overall, but the vast amount of them in relation to time and personnel resources available for their collection and evaluation. This was especially true for Europe and North America. In the latter region, the strategy chosen to solve this problem was to select a “representative sub-region” – in this case the Great Lakes - and to concentrate the efforts on data from there. Judging both from many critical comments and from a careful reading of the resulting report, the conclusion is that the strategy failed to give the originally intended coverage and wide base for assessment of regional priorities. The European region’s much more comprehensive approach to the data volume problem worked far better. This lesson learned within the project should not be forgotten.

As individuals and teams with different backgrounds carried out much of the work at the regional level, it is obvious that their different traditions and expectations would lead to appearance of centrifugal tendencies, causing regions to start marching in different directions. This illustrates the classic management dilemma of how to keep experts enthusiastic, but at the same time converge their efforts towards a common coherent product. At several points during the execution of the project, such situations arose. Those occasions were handled commendably: the project’s management, with clever flexibility and some well-balanced compromises, together with a firm hand when needed, brought disparate regional efforts back in line while maintaining the good spirits of the experts involved. This is an important lesson learned in the project but one that might be difficult to generalize.

Given the complexity of the project and the administrative set-up, involving in total some 800 persons and more than 60 meetings, as well as ambitious and time-pressed programming work, it would have been extraordinary if there had been no administrative problems at all. During the project execution there were some, involving especially the Sub-Saharan and Central America-Caribbean regions. The problems were, in all except a few cases, ultimately sorted out, and the lessons appear mostly to be case-specific rather than general.

## C. Findings and recommendations for follow up

The project has provided an assessment of global and regional priorities for PTS-related environmental issues, and has identified important gaps in knowledge and weaknesses in regional

capacities to deal with the problems. To date, these findings have not been communicated much outside the directly concerned group of experts. Unless UNEP and GEF are of the opinion that control of persistent and toxic organic substances are pursued at the international level only under the precepts of the Stockholm Convention on POP, additional efforts should be made to communicate the findings of the RBA/PTS project to a wider group of decision-makers, managers and the public at large.

The regional reports have identified a number of gaps in knowledge and data. The gaps vary between regions and between chemicals, but are such that they in many cases constitute obstacles to a rational handling of PTS-related environmental issues. It is thus important that these gaps are filled, and processes to do so should be initiated soonest. A regional base for much of that work seems feasible based on project experience.

Some data and knowledge gaps were general and partly generic in nature. One of the most important relates to releases of PAHs, PCDD/PCDFs and other PTS from open burning. Studies of this should be conducted.

An area that is interregional in nature and where severe knowledge gaps were identified concerns long-range transport of PTS. To fill this gap, a combination of region-based monitoring and global modelling is required. For this work, the experience gained from measuring and modelling transboundary transport of acidifying substances could act as a useful model.

Regional capacities to deal with matters related to PTS were assessed in the project and found to differ a great deal. To fill the competence and resource gaps identified, a global strategy for technology transfer should be developed and mechanisms for its implementation be identified.

The RBA/PTS project developed a database with some 15,000 entries on PTS, a large part of which came from sources that are difficult to access, and the data was screened through a process for quality assurance. Much of it further relates to regions where PTS data are scarce. A "home" for the database should be found, where scholars around the world can access it and updates can be done as new data are generated.

An assessment should be made of the data handling system that the project initiated but did not put to practical use, to see if it is worth finalizing for use in some future context.

One real asset that the project created is the network of some 800 PTS experts, covering 141 countries. In some regions, e.g. Europe and North East Asia, initiatives have been taken that will utilize these networks and keep them alive. In other areas, they may wither unless tasks and funding sources are found. Such networks are essential for broad based evaluations of global or regional problems in the area of expertise of the members. They are also central components for information exchange and learning as well as for team formation for research and monitoring. Also with the current emphasis on the compounds covered by the Stockholm Convention they would be valuable for assessing transboundary transport and emissions of unintentionally formed POP from open burning. In general it would be hard to find national funding for this type of activities in developing countries, but assessing future international funding options fall outside the scope of this project evaluation. An attractive idea with regard to the networks is to use them to fill in some of the knowledge and data gaps that the project identified. This would be especially pertinent in those parts of the world where expertise and data are most scarce.

Obviously the policy decision on whether to continue regional based assessments of the wider range, in principle an open-ended group, of chemicals called PTS or to concentrated, for the time being, on



those covered by the Stockholm Convention, the POP, has a strong impact on where to go with the heritage of the RBA/PTS project. If there is a follow up with a new assessment within say five years, the database will remain useful and should be maintained and updated. The network would again come to use and there would be a strong rationale for filling data gaps and good reasons to engage the members of the regional teams in those efforts.

Should the decision be to concentrate on POP the question is if the database in that context would fulfil any worthwhile role or whether there are other global or regional undertakings in the field of environmental chemicals where it would be useful. The data collection and handling systems are technically sound, although not bug-free, and encompasses interesting characteristics. That however is less relevant if there is no interested user. To establish if such user exist and assess to what extent and at what cost the systems have to be modified to fit the needs fall outside the scope of this project evaluation but should be done.

## D. Material used for evaluation

The evaluation is based on review of written material and interviews as specified below. During five days with UNEP Chemicals in Geneva over the period 9 – 21 November 2003, interviews were made with the Project Manager and other key staff there and telephone interviews were made from Geneva with Steering Committee Members, Regional Coordinators, Regional Team Members and other meeting participants. The data collection and handling systems were also reviewed, as was the database. A draft evaluation report was submitted to UNEP and with considerations given to the comments received this final version was prepared.

Field visits were originally planned as part of the evaluation process and two regions, VII South East Asia and South Pacific and X Central America and the Caribbean were tentatively selected. After long telephone interviews with the Regional Coordinators and some of the Regional Team members, however, the evaluator in consultation with the Project Manager felt that field visits would yield little additional information and therefore proposed not to make them.

The evaluator finds that the methods used and the material available has been appropriate and useful for the evaluation exercise.

The following was used:

- Project documents

The project-related documents that were reviewed are listed in Appendix 1.

- Specific products

The specific products from the project that were reviewed are listed in Appendix 2.

- Interviews with relevant UN staff

The UNEP staff members that were interviewed are listed in Appendix 3.

- Interviews with Regional Coordinators and members of Regional Teams

The Regional Coordinators (RC) and Regional Team Members (RTM) that were interviewed are listed in Appendix 3.

- Interviews with workshops participants and steering group members

The persons interviewed are listed in Appendix 3.

## E. Background

### The project

“The Regionally-Based Assessment of Persistent and Toxic Substances (PBA/PTS)” project is a full-size GEF project based on a PDF-B phase that was designed to deliver a comprehensive regionally-based assessment of the damage and threats posed by persistent toxic substances, and to evaluate and agree on the priorities between chemical-related environmental issues at the regional level in order to focus subsequent interventions on the most important and pressing issues. The UNEP Governing Council identified the need, and the project was initiated when negotiations on the Convention on Persistent Organic Pollutants (POP) were still in an early phase and the outcome could not be foreseen. The project started 1 September 2000, originally planned for 24 months, but was extended until 31 December 2003, with most of the activities completed by the end of the first quarter (30 March) of 2003. The total cost of the project to the GEF trust fund was US\$3 million, and the total counterpart contributions, including in-kind contributions, was US\$1.99 million.

For the project the globe was partitioned into twelve regions. The regions were linked to important international waters in keeping with the focus of the project. The twelve regions were: I Arctic; II North America; III Europe; IV Mediterranean; V Sub-Saharan Africa; VI Indian Ocean; VII Central and North East Asia; VIII South East Asia and South Pacific; IX Pacific Islands; X Central America and the Caribbean; XI Eastern and Western South America; XII Antarctica.

### Expected results

The results of the project were expected to be: Identification of major sources of PTS at the regional level; impact of PTS on the environment and human health; assessment of transboundary transport of PTS; assessment of the root causes of PTS-related problems and the regional capacity to manage these problems; identification of regional priority PTS-related environmental issues; and identification of PTS-related priority environmental issues at the global level, based on consolidation of the results of the regional reports.

### Activity components

The activities of the project were clustered into the following main components:

- 1) Co-ordination and management

- 2) Development of guidelines
- 3) Regional assessments
- 4) Global synthesis; and
- 5) Dissemination

## F. Project execution

### Organisational chart

A Steering Group and two Directors, of UNEP Chemicals and UNEP/GEF, to whom the Project Manager reported, supervised the project. At the management and implementation level, it had a Project Manager who coordinated and oversaw the twelve Regional Coordinators, nine of whom had Regional Teams with four or five members each, to share the workload. A total of 781 Country Experts from 141 countries provided data and inputs at the national level. A subset of the Regional Coordinators constituted a Global Team to assist the Project Manager with the global coordination.

### Meeting scheme

The Steering Group held four meetings; the Regional Coordinators met twice; and the nine Regional Teams each held three meetings, making a total of twenty-seven meetings. Sixteen Technical Workshops and ten Regional Priority Setting Meetings were held. The Global Team met twice, and there was one Global Priority Setting Meeting. In total, sixty-two regional and global meetings were arranged as part of the execution of the project.

### Outputs

There was one Global Report, which provided global PTS priorities based on consolidation of the Regional Reports. The twelve Regional Reports all featured, among other things, the following chapters: Source Characterisation, Environmental Levels, Toxicological and Eco-Toxicological Patterns, and Major Pathways of Contaminant Transport, as well as Preliminary Assessment of Regional Capacity and Need to Manage PTS. Guidelines for the execution and conduct of the project were prepared by UNEP. Questionnaires for data collection were prepared, discussed and tested, modified and established. A database with some 15,000 entries on PTS levels was created based on the questionnaires. A functional network of some 800 experts on PTS in 141 countries was established.

## G. Evaluation

- a) To what extent was the projects objectives met and planned results obtained

The final product, The Global Report 2003, has provided global priorities and identified PTS-related environmental issues at the global level. These priorities have the full consent of the vast majority of the large group of people who have been involved in the work, but also the acceptance of a wider range of environmental scientists and NGO's who were not involved in the project as such. During the process of setting priorities, gaps in knowledge have also been identified and this may, in many

cases, be another important contribution, as it may set the stage for research and monitoring undertakings to follow.

The global report is based on twelve regional reports that share a common structure, but are extremely different with regard to the amount of information they are based on. In the Europe and North America regions, the problem can be said to have consisted of an overwhelming amount of data, and the task became “to see the forest and not only all the trees”. Nevertheless, the two regions approached this task in fundamentally different ways. In the North American report, a “representative sub region”, the Great Lakes, has been chosen as focus. This of course means that, e.g., data from intensively studied coastal areas such as the Chesapeake Bay, and from leading institutions such as Woods Hole and the Scripps Institute of Oceanography, have been left out. This choice has been justly criticized, as has the relative scarcity of human health data.

However, a special difficulty faced the North American Regional Coordinator, his team and the consultant, insofar as they had to do the work with very limited support, not being eligible for GEF-funding. In short, the region with the most data to collect and assess had the least resources to do so.

In the European Region, encompassing Western Europe as well as the Central and Eastern countries, a different, much more comprehensive approach was used. Looking only at the end product with no attention paid to the easiness or difficulties with which the Regional Coordinator and Team had to deal, this became the best of the regional reports.

In the Mediterranean region, the Regional Coordinator and his team had to deal with a situation at the regional level that mimics some characteristics of the global picture: Lots of data in the north and scarcity in the south. Despite this, the report is reasonably well balanced after substantial efforts to dig out existing information. In this work, good use has been made of various reports from the Mediterranean Action Plan, and like the UNEP Regional Seas Program, the RBA/PTS project has successfully bridged the main political divide in the region.

For most of the regions, the problem was not the surplus of data but the lack thereof. This was especially noticeable in Sub-Saharan Africa and in the Pacific Islands. Here, the task became first to dig out the often-unpublished data that existed in governmental laboratories and universities, and then to assess data quality and how representative the samples could be. Two important things were clearly achieved here: A fair amount of “grey literature” data surfaced and received at least a preliminary quality assessment, and gaps in information and competence were highlighted.

In the Arctic and Antarctic Regions, the situation was again different. Here, Regional Coordinators were appointed but did their work without teams. In the case of the Arctic, the Arctic Monitoring and Assessment Program (AMAP) had done a fairly recent comprehensive assessment of pollution. The relevant data with regard to PTS could be extracted and organized according to the outline for the Regional Reports.

In the case of the Antarctic, no such ready-made assessment existed. Data from literature consisted primarily of two different types: one where the continent and its ice cover were used to indicate global transport and real background levels, and another where the few local sources around scientific bases and ships had been studied. An important task was to differentiate between the two.

On the whole, the regional approach has functioned very well and, given the flexibility in content, has provided a way to integrate parts of the world with very different use and contamination patterns as well as available data into a balanced global picture.

Discussing the content along the line of compounds assessed, methyl mercury may have been treated more lightly than intended, due to the consequences of formality and language. The PTS compounds are divided into intentionally produced and released, intentionally produced but unintentionally released, and those unintentionally-produced and released. The intentional production and release of methyl mercury, as a fungicide, is now history. The methyl mercury we do find, sometimes in aquatic biota in toxicologically relevant concentrations, is formed by microbes in nature from inorganic mercury, which, even if discharged by humans, would in the then-inorganic form, not be a PTS.

This is a shortcoming in the regional reports, to some extent carried over to the global report, but one that in a wider context is taken care of by the UNEP Global Mercury Assessment project.

The project has delivered a measure of the nature and comparative severity of damage and threats posed by PTS at regional levels. Thereby, it has provided GEF and UNEP with a science-based rationale for assigning priorities for action among and between chemical-related environmental issues and it has, based on the knowledge available, determined to which extent differences in priorities exist between regions.

With regard to the indicators given in the logical framework of the program: “Adoption of the findings of the RBA by various entities, including the GEF and UNEP”, it may be too early to tell, but the signs are not all encouraging.

The Stockholm Convention on POP was signed after the onset of the RBA/PTS project and with the support of GEF-funding for development of National Implementation Plans, got off to a very active start already prior to its entry into force. There is an obvious and large overlap between PTS and POP, but there are also some fundamental differences in the basic approach between the POP Convention and the PTS project. The Convention has a finite, and short, list of substances and a not-too-simple procedure to add new ones. The project had what was in fact an open-ended group of substances. The Convention is a Global Convention with global priorities (with an option to add substances on national or regional bases) while the RBA project has the regional base as a fundament for setting priorities.

Given the current momentum of the Stockholm Convention and the POP concept, there is a clear possibility that both the RBA and the PTS concepts of the project are lost or sacrificed, when efforts are focused on the twelve POP.

The logical framework indicators also include “Development of strategies for implementation”. There are in the reports recommendations for future action, but not “strategies” for implementation.

At the outcome level, the global and twelve regional reports all have chapters containing the following components: Source characterisation; Environmental levels in the region, toxicological and eco-toxicological characterisation; Assessment of major pathways of contaminant transport within, into and out of the region; Preliminary assessment of the regional capacity and needs to manage PTS and identification of barriers that prevent their reduction or elimination and their release into the environment;

Some of this data, though, tend to be generic and derived from research in North America and Western Europe. This is especially true for the toxicology and eco-toxicology sections.

In general, the assessments are balanced and well founded, and have been reached in near consensus among the participants. The data that reached the regional and global reports seem to be of adequate quality and have generally passed quality control procedures. The Regional Coordinators and team members, who undertook the control, when data was not already published in peer-reviewed journals, made sure that adequate information was available on sampling and analytical techniques used and of the existence of formal quality assurance programs at the involved laboratories.

Sometimes they also rejected data on the bases of “unrealistic levels”. Although somewhat subjective, these control procedures are acceptable for the purpose of this assessment and the errors are most probably on the side of caution.

The PTS-related priorities from the regional and global perspectives have been identified, agreed upon and clearly stated. It is noteworthy that all the Regional Coordinators feel that the results from their regions are fairly represented and taken into account in the Global Report.

With regard to the assessments of major pathways for transport within, in and out of the region, this section is generally one where data are missing, and most of the conclusions and listing of major pathways are built on general conceptual models rather monitoring data. This is clearly recognized and the need for measurements in this area is highlighted in the reports, in which especially the regional report from Antarctica makes a strong argument for global and regional studies of atmospheric transport patterns of PTS.

The project has succeeded in establishing a broad and wide-ranging network of experts, in fact an impressive one, although it is clear that in groups built on expertise in the regions one can always wish for some better coverage and representation. The only overall weak point is with regard to Industry. When the question “why” was asked to industry representatives in interviews, two types of answers were given. One related to that after the signing of the Stockholm Convention on POP, Industry found the PTS concept was overtaken and somewhat outdated. The other type of answer was that there was a mismatch between the regions of the project and the global or national character of most industrial organisations, so no one saw it as their task to attend.

In some regions the human health aspects could have been better covered, and the depth and breadth of the North American scientific, technical and policy community is not that visible in the network.

Another indicator in the logical framework of the project is: “Adoption of the findings of the RBA at the national level; adoption, use and promulgation of the findings of the RBA by NGO’s and the media.” At the regional level, in Europe and Eastern Asia, the findings have been the starting point for regional monitoring and control initiatives. At the national level, as far as it has been possible to ascertain, the information gathered in the context of the RBA/PTS project has been utilized for the compounds covered by the Stockholm Convention on POP, primarily for the preparation of the National Implementation Plans, but to a very limited extent, if at all, beyond that.

The representatives of environmental NGO’s that were interviewed testify that they promulgate the findings of the RBA project, and in particular the identified gaps in knowledge, in relation to the Precautionary Principle. Representatives from Industry are clearly less enthusiastic. They appreciate the regional approach, they say, but are very suspicious of the open-ended nature of the PTS concept and generally much prefer for the time being to concentrate on POP and the Stockholm Convention. The media coverage of the outcomes of the project has been relatively small. A web search for the official UN languages yielded just over 100 hits. According to the Project Manager and the Regional Coordinators some of the regional activities received good coverage in national media.

Thus, in conclusion: the project has contributed to improved knowledge and understanding of the threats posed by PTS to the environment among scientists and decision-makers. The effect on industrial managers and the public at large is small. The project has also given support to the POP Convention.

Among the stated outcomes in the logical framework of the project are also Contribution to the Global International Waters Assessment, and among indicators are mentioned: “The results of the RBA are generated in parallel to GIWA’s analytical phase and can feed into its predictive phase.” As worded, that has been the case and it can happen. Whether it will and thereby *de facto* contribute to

the international waters assessment remains to be seen. To date, there has been little contact between the RBA/PTS project and GIWA.

At the activity level, an impressive global network of PTS experts totalling close to 800 persons has been established. In this network scientific institutions, governmental agencies and environmental NGO's are well represented and have been active. Industry and industrial organisations have been invited but have barely participated.

The global network consists of regional parts, which of course operated under very different conditions and limitations. In North America, where technical expertise abounds, economic limitations dwarfed the effort. In Africa, problems with money transfer and administration were severe obstacles until UNEP Nairobi, at the request of the Project Manager, took over meeting arrangements.

Given the realities in the world, the project succeeded very well in establishing workable and functional regional networks.

The number of participants in the technical workshops ranged from twenty to just over fifty, and represented well the competence available in the regions, with the exceptions already mentioned (North America, Industry).

The project was conducted in English, and no translations were formally required in the Project Document. However, guidance documents at the onset of the project were translated into all six UN languages, and regional reports were translated as follows: the Central America & the Caribbean and Eastern & Western South America reports were translated into Spanish; the Sub-Saharan Africa report was translated into French; the Indian Ocean report was translated into Arabic; the Central and North East Asia report was translated into Chinese, & the Russian and Europe report was translated into Russian. When there were Regional Reports in several languages, the distribution of both/all language versions occurred simultaneous and without undue delay.

The Regional Coordinators, in consultation with the Project Manager, scheduled the regional meetings. In some cases, notably in Sub-Saharan Africa, they had to be rescheduled for administrative reasons. In total, fifty-three regional meetings and nine global ones were arranged. The effectiveness naturally varied, and in some cases delay in payments to participants caused irritation. The conduct of the meetings ranged from acceptable to very good to excellent, with the regional and global priority setting meetings falling into the latter two categories.

The mode of dissemination of information by the project has largely been through the printed Regional and Global Reports and through a CD-ROM containing them. The web has been used to collect information for the project database via questionnaires and also for dissemination. The material available there is of good quality both with regard to content and organisation. The number of visitors is, however, not recorded and the extent of the use thus not well known.

No specific monitoring and evaluation plan was developed by the project beside the quarterly and half-year reports and the mid-term review. Of the nineteen recommendations in the mid-term review, eleven were acted upon and all were considered. The following ones resulted in no action, for the reasons below as stated by the Project Manager:

Recommendation 4. "When assessing data on PTS/POP in sediments, attention must be paid to whether the samples concerned were sieved and if so what size fraction was analysed; only by this means will comparisons area-to-area have any validity."

P.M. answer: Sieving is only one of several equally valid parameters, and the questionnaire was a compromise between precision and user-friendliness. It was not changed.

Recommendation 6. “Steps should be taken to ensure that adequate backstop support is available at UNEP Chemicals to ensure that, whilst the PM is away on duty travel, matters that arise are dealt with promptly and effectively.”

PM answer: There was a heavy turn-over of secretarial staff at that time and that got better during the last year, but otherwise nothing changed.

Recommendation 11: “The GEF Coordination unit in Nairobi should issue a similar reminder concerning expenditure reports and include in that reminder the fact that audits are likely if there is a suspicion of malpractice. The unit should be prepared to implement such threats as deemed necessary.”

PM’s answer: Not their policy. They remind the PM. I did mention the risk of “audit indictments” in my reminders.

Recommendation 12: “Consideration should be given to simplifying the way in which budgets are administered between the Nairobi and Geneva offices. Assuming it is not possible to have both administered from the PM’s base in Geneva, the relative responsibilities should be clarified and if necessary, additional support should be provided to ensure the PM has regular and timely updates on funds still available.”

PM’s answer: It did not happen. In fact only a few months ago, when the project was virtually over, did I get my first report on available funds.

Recommendation 17: “Assuming Regional Reports are to be published and distributed outside the project system, a procedure for their approval and publication need to be established and administrated either by the PM or someone else within the UNEP Chemical Office or the GEF Coordination Unit.”

PM’s answer: Publications were done from *inside*.

Recommendation 18: “At some stage a decision will have to be taken on whether to maintain or even extend the database established via questionnaires. It could either serve as a useful start to a longer-term operation or indicate how difficult establishing and maintaining such a database might be.”

PM’s answer: Still to be decided.

Indicators on the activity level in the logical framework of the project are, e.g., “UNEP Chemicals, with support from experts, drafts guidelines and protocols for the assessment, including country questionnaires.”

These documents were produced. As was indicated above, the design of the questionnaires had to be a compromise between user-friendly and complete. Whether the products in the end were useful at all is a matter of dispute also among the Regional Coordinators. In a few regions they were used fairly extensively, in other regions they were tried out and found too cumbersome to use extensively, although in most regions they were rejected after initial scrutiny. Thus rejection was based both on the amount of work it would take to fill them in with the information required, *and* on the ground of containing too little information to be useful e.g. with respect to sieving of sediments.

Considering the substantial efforts, that went into preparing the questionnaires and the data handling system, and the limited use they found in the project, it seems at a first glance to have been a waste of time and money. However, there was some fundamental thinking done, that was just right. The questionnaires are web- and GIS-based and feed into a data-handling system with a number of procedures for automatic analysis. Based on the experience at IIASA (the International Institute for Applied Systems Analysis) this is the way to go. May be it should have been realized that the



duration of the project was too short and the organisation too lean to handle and see through such an advanced tool development. As things stand, the products are there, still unfinished and of little use unless more development work is undertaken. Such work would include procedures so that certain information does not have to be repeated when additional data are entered from same area, by the same investigator, or concerning the same chemical or species or environmental compartment. It would also have to include the type of debugging that is by far best done in connection with use of the system. (A small illustration of remaining bugs is that on the map of Europe in the system, Lithuania has gone into cyberspace and been replaced by Guatemala!)

Closely connected to the data-handling system is the database, with some 15,000 entries. A large part of these data are from governmental laboratories and universities, and have been dug out as part of the data-collecting exercise of the RBA project. They are also to a large extent from parts of the world where data are scarce. To some degree they have been used for some of the regional assessments.

When the project team for the Mediterranean Region decided not to use the questionnaires, they did so after assessing that filling one out took at least ten minutes. Accepting that estimate, just filling in the data in the current database represents an effort of in the range of a year's work.

The question at hand is whether to save and possibly expand the database for future use or to abandon it. Naturally, questions regarding the continuation of the database can be coupled to the question of the fate of the questionnaires and the data-handling system.

Among the indicators in the logical framework of the project is also production of outputs according to the work plan. The project got off to a slow start, as was emphasized in the mid-term evaluation, and was subsequently extended in time and rescheduled. The outputs have been delivered in accordance with this revised work plan.

To the indicators also belong: "Results are disseminated widely, including to the public, decision-makers, managers and NGO's."

Given the "first-of-its-kind" nature of the project a wider dissemination would have been warranted.

#### b) Cost-effectiveness of the project

There is a simple and fundamental way to answer the question of cost-effectiveness: The project has by and large undertaken the activities, produced the outcomes and reached its overall goal as stated in the project document, within the budget. Thus it has been cost-effective.

Without detracting from that overall conclusion there are, however, reasons to discuss elements of the project further and to look at cost-effectiveness in the light of sustainability.

Substantial efforts and resources within the project were devoted to the development of questionnaires and a data-handling system that is not yet bug-free and fully operational, and that has found only limited use within the project. At the same time it has interesting elements, such as being web- and GIS-based, that make it more modern and future-oriented than most systems for collection and handling of environmental data. If the system can be fruitfully utilized in the future it would be another valuable output of the project and further improve the cost-effectiveness. If not, it will have been a wasted allocation of resources of a project that despite this succeeded to stay within budget. The question of the database is related and similar. It was created within the project, but found limited use there. It is unique in that it contains data that are otherwise more or less inaccessible, and that to a large extent come from areas where data of that sort are scarce. If the database can be maintained and used, it is another valuable product of the project. If not, it represents a resource allocation with only limited return.

In fact, the whole project concept of a region-based assessment of an open-ended group of chemicals runs the risk of being overtaken by the concepts of the Stockholm Convention on POP, with its

basically global scope and restricted coverage. If this happens, it would not reduce the contribution that the RBA/PTS project has made to the POP Convention and especially to the establishment of NIP, but if that is the only lasting contribution to the overall international efforts to control persistent organic compounds, the project will with hindsight be less valuable than if further work is done to build on its concepts. Thus, this question also has a bearing on the cost-benefit ratio of the project. As these questions of sustainability of the outputs and concepts of the project depend on decisions yet to be made, it is still too early to evaluate them.

In general, the funding level for the project seems to have been adequate.

In interviews with the Regional Coordinators, there were relatively few complaints in this regard. One exception was North America, where the countries are not eligible for GEF funding. There, counterpart contributions were not sufficient to deal with the vast amount of information and expertise available. In the case of Antarctica, a mode of operation similar to that in most other regions, with national experts and a regional team to support the coordinator, could have been used had funding been available, and that might have generated more data and an even better report. In some cases the Regional Coordinators said that extraction of data from governmental laboratories and universities would probably have been easier if funds had been available for the members of the regional teams to travel around, rather than having to rely on country experts.

These comments relevant, but they do not detract from the main evaluation above.

Regional Coordinators and team members also expressed some frustration that money had not been available to generate data. This, however, falls outside the scope of the project.

#### c) Comments on various aspects of the project

- No direct synergies were created by UNEP between this project and other PTS-related GEF activities implemented by UNEP. The Project Manager was not aware of any such other activities.
- The network of regional experts is clearly one of the outputs of the project, but one where the future usefulness and survival is dependent on decisions still to be taken. The ones in the Europe and North East Asia regions have become engaged in regional initiatives and are likely to remain active and relevant. Many of the others would need both a specific task and funding not to wither. An attractive idea from within UNEP is to use, for example, the Sub-Saharan Africa network for a project aimed to fill the data gaps with regard to PTS that were identified in that region. In such a project, support may also be given to generation of data, which would take care of some of the concerns among participants in the RBA/PTS project. Similar arrangements could of course be conceived for other regions where data are scarce, important gaps have been identified and regional cooperation needs encouragement. The usefulness of the global and regional reports after the completion and termination of the program is highly dependent on the future of the RBA/PTS concepts as discussed under b) above. There seems to be a risk of a sort of cannibalism of them from the concepts of the Stockholm Convention on POP.
- A number of the interviewed persons stated that the project and the regional networks it created spurred the interest in PTS at the national level, but that since signing the Stockholm Convention, the focus was now exclusively on POP. This, they unanimously said, was further emphasized since the Convention carried a funding mechanism, which meant that work with the National Implementation Plan for POP got economic support and engaged the same persons. The POP part of PTS was thereby advanced, while the rest, for the time being, was all but left aside.

- Among intergovernmental organizations some, such as UNECE, WHO and the World Bank actively participated in the project as members of the Steering Group. Others, such as FAO were invited but did not come. No contacts were established with IPCS or GESAMP.
- In the project, a total of 781 persons were engaged as Country Experts. Many of them were also participants in some of the 53 regional meetings or workshops or in the 9 overriding or global ones. In the group as a whole, civil servants from national governments and scientists from universities constitute the largest fractions. Environmental NGO's are also well represented. Among stakeholders with limited representation, Industry stands out as virtually absent in the regional activities, despite invitations, and with very limited participation also at the global level. With regard to countries, attempts were made by the regional teams to establish contacts and extract information from all UN member countries. Between one and twenty-five country experts were appointed in a total of 141 countries. Some thirty countries did not respond at all, some of them being engaged in civil wars and/or having limited functions of central government. In the technical workshops and regional priority setting meetings, the participants came from more than hundred countries. If participation is viewed in the light of existing national competence, the limited involvement of US policy-makers and scientists is obvious.
- The project organisation was quite complex, with much of the practical work in the regions, e.g. arrangements of meetings and travel, subcontracted to the organizations of the Regional Coordinators. It is obvious that given the number of persons and organizations involved, some amount of problems would arise. Most of those that did appear to have been settled readily, but a few linger on to this date. By far the worst problems were encountered in the Sub-Saharan Africa Region, where money transfers were regularly delayed or did not reach the intended recipient through the intended route at all. On some occasions, entire meetings were at risk when the participants had arrived but funds for, e.g., meeting rooms and accommodation, had not. Things did not really improve until UNEP Nairobi on the initiative of the Project Manager took over the arrangements and held the remaining workshops and meetings there. In other cases, as pointed out in the mid-term review, there was some confusion and delay in action that seemed to stem from unclear distribution of responsibilities between the UNEP offices in Nairobi and Geneva. Some Regional Coordinators and participants in workshops also mentioned this as somewhat of a problem.

The big picture, however, is that as the overall results are better than satisfactory, the organisational structure has functioned well. With regard to financial planning, including the level of co-financing in cash, as well as in kind, there have been few problems. The most significant one being with regard to the resources available for the North American regional assessment, where resources did not suffice to process available data and make use of the broad and deep expertise at hand. Smaller adjustments, such as movement between budget lines, seem to have worked with fair prudence and without undue delays. Staffing of the project seems adequate, even if with a tilt to the lean side, since the early difficulties as pointed out in the mid-term review could be ironed out, in part with technical means, e.g. through internet availability also when PM was travelling, but also thanks to less secretarial staff turn-over. For the Antarctica region a full Project Team would probably have been a good thing, but this is a minor point. With regard to the complexity of the project task and of the corresponding administrative arrangements, it's impressive that it all worked as well as it did, and the project can be used as a case study of a flexible implementation approach.

- In the early stages of the project, an information-circular was printed and distributed globally in some 17,000 copies. The reach of the printed regional and global reports, that in addition to meeting participants were sent to UNEP and Stockholm Convention focal points, is limited, and even in this group PTS drowns under all the POP-related material and activities. Further, however, a CD-ROM with the reports was distributed in 1700 copies, which should improve the outreach. A few verbal presentations of the findings to international workshops on related tasks were also made, but to a limited audience. The web site ([www.chem.unep.ch/pts](http://www.chem.unep.ch/pts)), which is of good quality with regard to both structure and content, has an unknown outreach as the number and origin of visitors is not recorded. (An indication can, however, be obtained as search engines list hits in order of previous visits through that engine. Using such approaches the web site does not appear to be very well visited.) A brochure on the findings of the Global Report, with an easy-to-read summary of priorities and recommendations, was to be distributed at the time of the evaluation. Yet, given that the project constitutes a first regional based global assessment of POP, the results warrant a broader dissemination.
- The global and regional reports and the network of experts form a good basis for replication of the project. From a content point of view there is, however, little reason to do so within the next 3-5 years, and the network will wither away if unused for such a relatively long period. As discussed elsewhere, an attractive possibility should funding become available, would be to use the network for a sustained effort to fill identified gaps in knowledge and to generate new data in regions where scarce data is a problem. In that context, the possible future use of the database and data-handling system could also be looked into.
- No specific monitoring and evaluation plan was developed for the project besides the quarterly and half-year reports and the mid-term review. The Steering Group at its meetings discussed both policy and managerial aspects of the project, and the two Directors were available for discussions whenever the Project Manager felt a need. He in turn oversaw the developments in the regions and intervened on an *ad hoc* basis, when he identified a compelling need or, much more often, on request. The Regional Coordinators naturally kept track of the progress in their region. The monitoring and evaluation system, although largely an informal one, resulted in effective management of the project. No specific baselines were identified and the indicators at hand were those in the logical framework of the project, which means that the indicators were available from the onset and not developed as a specific management tool within the project. They have been used for the purpose of this evaluation although not all of them are precisely applicable. All the persons interviewed, including all the Regional Coordinators, have expressed satisfaction with the backstopping provided by the Project Manager. In the mid-term review it was indicated that there was a problem when he was away from the office, and a recommendation was made to provide additional support especially at those occasions. Without any resources being added, it appears that those difficulties were overcome. In connection with the collection of data through the questionnaires, a scheme for quality assurance based on the methodologies used for sampling and analysis was developed. The existence of formal quality assurance procedures in the laboratories that produced the results could be used to shortcut the assessment. The degree to which Regional Coordinators and Members of the Regional Teams, who were to carry out this quality assurance procedure for data from their region, did so, varied. Many found the whole procedure of digging out, registering and checking quality far too cumbersome to be useful. The control function for deliverables in the form of the regional and global reports largely rested with the Project Manager. The fact that the end products with few exceptions are good, in my judgement, and that on the insistence of the Project Manager several drafts

were reworked, indicate that “the system” functioned. With regard to the data-handling system, which was never quite finished and put into use, it is questionable if the project had access to the expertise required to make a proper control of what the contractor delivered.

## Rated success of project implementation. UNEP rating system

-	Achievement of objectives and planned results	2	Very good (Objectives were met and planned results obtained with some weakness in a few of the regional reports)
-	Attainment of activities	3	Good (Most things went smoothly but some regional activities and some of the development work had hiccups and may have been blind alleys)
-	Cost-effectiveness	2	Very good (Results were obtained within budget but some resources may have been wasted on development of non- or low-utilized tools)
-	Impact	3	Good (Could have been better if other events and the POP concept had not taken over)
-	Sustainability	4	Satisfactory (The POP part of PTS is promoted through the mechanisms of the Stockholm Convention. The rest risks being forgotten.)
-	Stakeholders participation	3	Good (Industry did not participate much. Other groups much more.)
-	Regional ownership	2	Very good (The extensive network used for data generation and assessment in most regions guaranties this. Industry a weak point also here.)
-	Implementation approach	1	Excellent (The project could be used as a case

			study of flexible implementation approach)
-	Financial planning	2	Very good (Resources were generally adequate and the relatively few reallocations were done in a timely manner.)
-	Replicability	3	Good (The main obstacle to replication is that the project concepts may be overtaken by other events)
-	Monitoring and evaluation	3	Good ( Much happened without a preset plan, but results were acceptable)
	Overall rating	3	Good

(Complex projects that attempt to break new grounds and have to develop new tools tend to get low ratings in systems like this, where % achievements of the goals set form the base for the grading, and the overall rating is the sum of the components. The evaluator sees this as a problem and finds that a project of this nature with consideration given to the excellent rating for implementation approach and success of the flexible management approach could indeed qualify for the rating of 2, very good.)

## Complex

projects that attempt to do new things tend to get low ratings in systems that measure % of expectations fulfilled. The evaluator finds this to be a problem and has chosen to grant an overall rating higher than the averages of the % based components)

## Rated success of project implementation. GEF rating system

- Achievement of objectives and planned results	Highly Satisfactory
- Attainment of activities	Satisfactory
- Cost-effectiveness	Satisfactory
- Impact	Satisfactory
- Sustainability	Marginally Satisfactory
- Stakeholders participation	Satisfactory
- Regional ownership	Highly Satisfactory
- Implementation approach	Highly satisfactory
- Financial planning	Satisfactory
- Replicability	Satisfactory
- Monitoring and evaluation	Satisfactory
Overall rating	Satisfactory

## Appendix 1

The following project-related documents were reviewed:

- Project Document GF/XG/4030-00-20
- Report on Mid-term Evaluation of the UNEP/DEF Project GF/XG/4030-00-20
- Quarterly report to UNEP/GEF 1 September 2000 to 1 December 2000
- Quarterly report to UNEP/GEF 2 December 2000 to 31 March 2001
- Quarterly report to UNEP/GEF
- Quarterly report to UNEP/GEF 1 July 2001 to 31 September 2001
- Quarterly report to UNEP/GEF
- Quarterly report to UNEP/GEF 1 January 2002 to 31 March 2002
- Quarterly report to UNEP/GEF

- Quarterly report to UNEP/GEF 1 July 2002 to 30 September 2002
- Quarterly report to UNEP/GEF
- Quarterly report to UNEP/GEF 1 January 2003 to 31 March 2003
- Six Monthly Progress Report – September 2000 – June 2001
- Six Monthly Progress Report - July 2001 – December 2001
- Six Monthly Progress Report – July 2002 – December 2002
- Six Monthly Progress Report – January 2003 – June 2003
- 1<sup>st</sup> Steering Group Meeting. Minutes (Geneva, Switzerland, 3-4 October 2001)
- 2<sup>nd</sup> Steering Group Meeting. Minutes (Geneva, Switzerland, 3-4 October 2001)
- Regional Coordinators Meeting/Steering Group Meeting. Report (Montreal, Canada, 22-24 May, 2002)
- 4<sup>th</sup> Steering Group Meeting. Minutes-Revised (Geneva, Switzerland, 13-14 February 2003)
- Draft. Table 1. Scoring for Prioritising PTS for Sources, Environmental Levels, Effects and Data gaps.
- First Regional Workshop on Sources of Environmental Levels of PTS Substances. Minutes (Campinas, Brazil, 4-6 March 2002)
- 1st Meeting of the Regional Team. Region X: Central America and the Caribbean. Minutes (Heredia, Costa Rica, 13-15 June 2001)
- Priority Setting Workshop. Region IX: Pacific Islands. Report of the Meeting (Nadi, Fiji, 27-30 August 2002)
- First Regional Team Meeting. Region VII: Central and North East Asia. Notes of Meeting (Shenzhen, PR China, 29-31 May 2001)
- Technical Workshop. Region IX: Pacific Islands. Report of the Meeting (Apia, Samoa, 14-17 May 2002)
- First Regional Team Meeting. Region IX: Pacific Islands. Meeting Report (Apia, Samoa, 23-24 July 2001)
- First Technical Working Group Meeting: Sources and Concentration of Persistent Toxic Substances. Region VIII: South East Asia and South Pacific. (Singapore, 6-9 February 2002)
- 1<sup>st</sup> Regional Team Meeting. Region VIII: South East Asia and South Pacific. Minutes (Philippines, 5-7 June 2001)
- 2<sup>nd</sup> Technical Workshop. Region VII: Central and North East Asia. Post-Workshop Notes of Meeting (Hong Kong, 16 May 2002)
- First Technical Workshop: Sources and Environmental Levels of PTS. Proceedings. Region VI: Indian Ocean (Kuwait, 10-13 March 2002)
- First Regional Team Meeting. Region VI: Indian Ocean. Meeting Report (Lucknow, India, 31 July-02 August 2001)
- First Regional Team Meeting. Region V: Sub-Sahara Africa. Report of Meeting (Ibadan, Nigeria, 24-26 July 2001)
- 1<sup>st</sup> Meeting of the Regional Team. Region IV: Mediterranean. Minutes (Barcelona, Spain, 17-18 May 2001)
- First Regional Workshop on Assessment of PTS sources and concentrations in the environment. Region IV: Mediterranean. Minutes (Athens, Greece, 4-6 February 2002)
- Priority Setting Meeting. Region IV: Mediterranean. Minutes (Barcelona, Spain, 26-28 June 2002)
- Second Regional Workshop on Assessment of (eco)-toxicological impact of PTS and transboundary transport. Region IV: Mediterranean. Minutes (Roma, Italy, 3-5 April 2002)
- 1st Technical Workshop on Sources and Environmental Levels of PTS. Region III: Europe. Progress of the Meeting (Brussels, Belgium, 4-8 December 2001)
- Regional Priority Setting Meeting. Region III: Europe. Final Report (Pruthonice, Czech Republic, 28-31 May 2002)



## Appendix 2

The specific products from the project that were reviewed were:

- Global Report 2003
- Antarctica, Regional Report December 2002
- Arctic, Regional Report December 2002
- Central America and the Caribbean, Regional Report December 2002
- Central and North East Asia, Regional Report December 2002
- Eastern and Western South America, Regional Report December 2002
- Europe, Regional Report December 2002
- Indian Ocean, Regional Report December 2002
- Mediterranean, Regional Report December 2002
- North America, Regional Report December 2002
- Pacific Islands, Regional Report December 2002
- South East Asia and South Pacific, Regional Report December 2002
- Sub-Saharan Africa, Regional Report December 2002
- Questionnaires on sources of PTS; Source category: Air releases
- Questionnaires on sources of PTS; Source category: Water releases
- Questionnaires on sources of PTS; Source category: Solid residue releases
- Questionnaires on sources of PTS; Source category: Product or contaminant in product
- Questionnaires on sources of PTS; Source category: Air releases – open burning
- Questionnaires on environmental concentrations of PTS; Environmental media: Air
- Questionnaires on environmental concentrations of PTS; Environmental media: Water
- Questionnaires on environmental concentrations of PTS; Environmental media: Sediment
- Questionnaires on environmental concentrations of PTS; Environmental media: Soil
- Questionnaires on environmental concentrations of PTS; Environmental media: Vegetation
- Questionnaires on environmental concentrations of PTS; Environmental media: Animals
- Questionnaires on environmental concentrations of PTS; Environmental media: Human
- Questionnaire on effects and impacts of PTS
- Guidance document to the questionnaires
- Bibliography for a selected number of Persistent Toxic Substances
- Brochure about the threats of PTS and the project
- The web-site of the project: <http://www.chem.unep.ch/pts/>

## Appendix 3

The persons that were interviewed were:

- Paul Whyllie, Project Manager, UNEP Chemicals, Geneva
- Osmany Pereira, Network/Database Administrator, UNEP Chemicals, Geneva
- John Whitelaw, Officer in charge, UNEP Chemicals, Geneva
- Cairine Cameron, Financial & Administrative officer, UNEP Geneva
- Ahmed Djoghlaif, Director UNEP/GEF Coordination Unit, Nairobi
- Walter Jarman, Program Coordinator, UNEP/GEF Coordination Unit, Nairobi
- Bruce Graham, RC Pacific Islands
- Oladele Osibanjo, RC Sub-Saharan Africa

- Luisa Castillo, RC Central America and the Caribbean
- Gil Jacinto, RC South East Asia and South Pacific
- Ivan Holoubeck, RC Europe
- Ming Wong, RC Central and North East Asia
- Joan Albaiges, RC Mediterranean
- P.K. Seth, RC Indian Ocean
- Victor Shantora, RC North America
- Julian Priddle, RC Antarctica
- Hans Martin, RC Arctic
- Ricardo Barra, RC Eastern and Western South America
- Oscar Nieto, RTM Central America and the Caribbean
- Roosevelt Gonzales, RTM Central America and the Caribbean
- Joth Singh, RTM Central America and the Caribbean
- Nida Besbelli, WHO
- Rainer Koch, Bayer Chemicals and World Chlorine Association
- Rob. Simon, International Council of Chemical Associations, World Chlorine Council
- Ann Blake, International POP Elimination Network
- Klaus Dieter Hermann, Kisters AG