United Nations Environment Programme

# Terminal Evaluation of the UNEP / GEF project

# "Technology Transfer Networks Phase II: prototype verification and expansion at the country/regional level"

**Project No. GEF/2328 – 2740 - 4343**

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**Evaluation Office**

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**ACRONYMS AND ABBREVIATIONS**

| | |
|---|---|
| CBD | Convention on Biological Diversity |
| DTIE | UNEP Division of Technology, Industry and Economics |
| GEF | Global Environment Facility |
| GRID | UNEP Global Resource Information Database |
| MEA | Multilateral Environmental Agreement |
| MoU | Memorandum of Understanding |
| PMU | Project Management Unit |
| POPs | Persistent Organic Pollutants |
| ROtI | Review of Outcomes to Impacts |
| SANet | Sustainable Alternatives Network |
| TTN | Technology Transfer Networks |
| UNDP | United Nations Development Programme |
| UNEP | United Nations Environment Programme |
| UNFCCC | United Nations Framework for the Convention on Climate Change |

# 1 EXECUTIVE SUMMARY

1. **The evaluation**. An independent Terminal Evaluation of the project "Technology Transfer Networks Phase II: prototype verification and expansion at the country/regional level" was conducted in the first semester of 2010 by the Evaluation Office of the United Nations Environment Programme (UNEP).

2. **The project**. The project's overall objective was to build capacity and incentives for local businesses in addressing global environmental issues. It was aimed at assisting business managers and experts in making informed decisions regarding investments on cleaner technologies by providing three different but interlinked services: face–to–face communication at country or regional levels through Local Desks, technical assistance and training, and internet based information services. The project focused on three main areas: i) strengthening and expanding the network of national agencies called TTN Local Desks; ii) decentralizing content management of the Sustainable Alternatives Network (SANet) web site and enhancing information inflow from GEF recipient countries; and iii) demonstrating successes in leveraging investments with small co-finance incentives and disseminating information of success cases for further replication. The project was a follow-up to the project "UNEP/GEF Technology Transfer Network (TTN) Phase I" that developed the original SANet web site.

3. The two project phases had an estimated total cost of US$ 5.92 million of which US$ 3.29 million would be provided by the Global Environmental Facility (GEF). Phase II of the project had a total estimated cost of US$3.44 million, with US$2.014 million provided by the GEF. Phase II started effectively in October 2003 and, although initially planned for 17 months, was completed only by December 2007. The project was implemented by UNEP's Division for GEF Coordination (UNEP/DGEF) and executed by UNEP's Division for Technology, Industry and Economics (UNEP/DTIE) in collaboration with the GRID-Arendal[1] Center and five Local Desks (LDs) located in national environmental agencies across the world.

4. **Main Results**. The project had an excessive time-overrun due to a questionable choice of the global partner institution and personnel management issues. Early 2006, the management of key project components was taken away from GRID-Arendal and taken up by UNEP/DTIE itself. In spite of the delays, most project activities were carried out successfully and most outputs have been delivered.

5. Five LDs (out of three to six initially planned) have been established in Brazil (National Centre for Clean Technologies), India (National Productivity Council), Nicaragua (Cleaner Production Centre), Peru (National Council for Science, Technology and Innovation), and Tanzania (Cleaner Production Centre). They signed a Memorandum of Understanding (MoU) with UNEP/DTIE and provided tailored information, technical trainings and face-to-face technical consultations to businesses, experts and consultants.

6. The SANet website has been expanded and its navigation and usability improved. New functionalities and links/portals have given it improved synergy with other data bases and information sources. The LDs have contributed content to the site (experts and case studies) and taken part in ensuring quality of uploaded information. The SANet is currently maintained internally by UNEP/DTIE. The Energy Efficiency Technologies Knowledge Base (EET–KB), based on a collection of 170 key technologies collected by the New Energy and Industrial Technology Development Organization (NEDO) in Japan was integrated in the SANet website.

[1] GRID-Arendal is a collaborating center of UNEP, located in Arendal, Norway. The center is part of the UNEP-GRID network of environmental data and information centers, under the UNEP Division of early warning and assessment.

Except for this, since the MTE in early 2007, hardly any new content has been added to the SANet website.

7. The TTN Phase II project has designed and disseminated comprehensive knowledge and training packages. There are both internet and CD-ROM based tools that can be used effectively for information dissemination and clean technology transfer. An 8-week online training on the Fundamentals of Energy Efficiency in Industrial Enterprises prepared by the LD in India was another key output of the project, with replication potential.

8. **Project performance**. The project was in line with UNEP's mandate and corporate goals of creating capacity for sustainable development, providing technical advice on environmental matters and supporting cleaner production. Its expected outcomes would also complement activities in the GEF focal areas of climate change, biodiversity and POPs. The project components were clear, practicable and feasible but the project duration, in particular the life-span of the LD's, was insufficient to achieve impact and sustainability. The project strategy rested on the assumption that a lack of knowledge and expertise were the main impediments to EST uptake by the private businesses in developing countries. As such, the project did not address other important obstacles such as the lack of access to financial resources and an inadequate regulatory environment.

9. Partnerships were well negotiated but the choice of the global partner (GRID-Arendal) was a clear mistake with serious consequences. Host countries were not involved in project design, and involvement of national institutions in project implementation and decision-making was very variable from country to country. Overall, the project was not country driven.

10. There is no monitoring data on the number or volume of investments in ESTs by local businesses that can be linked to project support. The project developed a good model to bridge knowledge on ESTs and local businesses through a network of LDs. During the project life-time over 1,600 stakeholders were reached and their awareness and knowledge on ESTs was enhanced. The overall assessment by stakeholders is that the quality of the information provided by the LDs was generally good. The activities of the LDs have influenced and supported their work. Unfortunately, the LDs have ceased their activities when project funding ran out, as they did not receive further backing from their host institution and the project failed to assist them in raising funds or generating income for their sustenance.

11. There is no information on the number of stakeholders reached through the improved SANet website. It is still active thanks to the support of UNEP/DTIE and provides access to local experts and a host of online information resources, including case studies of businesses that have successfully switched to cleaner technologies. It lacks, however, since the completion of the project, the active participation of the LDs, who should be key content providers for the SANet website and play a bridging role between the information and knowledge collected and structured on the SANet and the local business community of the participating countries.

12. Project design had good intentions for M&E but the logical framework of the project had many shortcomings such as a poor internal logic, a lack of higher level indicators and targets, and inadequate means of verification. The project had no Steering Committee but during its first two years an Advisor Board served as a platform for self-assessment and experience exchange between the geographically distant project partners. Progress was monitored following UNEP/GEF procedures. An MTE was conducted rather late and with limited in depth due to budget constraints. Not all of its accepted recommendations were acted upon.

13. The reporting on co-financing and financial expenditures by UNEP provides insufficient detail to assess proper use of funds. There have been no audits of the project, as this was considered a UNEP- internally executed project even though GRID-Arendal is not part of UNEP per se.

14. **Lessons learned**. The project has demonstrated that the Internet and other electronic media are now sufficiently advanced to be used effectively as information, communication and technology transfer tools. However, as shown by the usefulness of the LDs, there is still a need for a "human" bridge between the information and the end users, to customize the contents to the specific context and needs of the client. Second, the project has shown that a good institutional analysis is required before selecting the key project partners, to ensure that institutional mandates and project objectives are aligned, and that the required competencies and experience are available. A third lesson that can be drawn from the project is the importance of ensuring financial sustainability of project outputs, by actively supporting local partners in identifying sustainable income sources, without which project outputs and outcomes might never persist long enough to contribute to the intended impact.

15. Forth, technology transfer is not the only missing link between the available cleaner technologies and their uptake by local businesses in the developing world, and any future interventions, especially in developing countries, aiming at promoting the uptake of ESTs by local businesses should also support access to financing to invest in ESTs and a stronger regulatory environment. Finally, the model developed to utilize existing institutional infrastructure such as the NCPCs for the provision of technical assistance, marketing and brokering services was very appropriate, but UNEP should in future interventions foresee a long enough time-frame to reach a significant number of stakeholders. At country level, UNEP could also experiment with LDs covering smaller geographical areas by collaborating with national institutions that have a representation at a lower level.

16. **Recommendations**. The evaluation recommends to increase the visibility of the SANet website to increase its outreach and use. This can be done by making sure there are more visible links to the SANet site from other well frequented websites, by registering the website on at least the top three search engines (including by key words) and by increasing "off line" promotion of the website. It is further recommended to better monitor the use of the SANet website, which will provide useful information on how to improve the visibility of the website and better adjust its contents to the most sought after information. A combination of a web statistics tool and regular online user surveys is proposed. Experts in the roster should also be contacted at least once a year to update their contact information and biodata, and to collect information on the number and nature of requests for information and potential clients that have reached them via the SANet website. Finally, the evaluation recommends to increase efforts to keep SANet contents up to date by inputs from national and regional institutions involved in ESTs and cleaner production. This could be done by giving certain registered users the opportunity to upload contents to the website and build in a quality assurance mechanism involving peer reviews to ensure relevance and quality of newly uploaded information.

## 2 INTRODUCTION

### *2.1 Project Background*

17. The challenges arising from environmental problems have been increasing and several Multilateral Environmental Agreements (MEAs) have been put in place in order to address them globally. The GEF has been supporting developing countries and countries with economies in transition to invest in environmentally sound technologies as to enable them meet standards and regulations. The awareness of the business community has gone beyond compliance with regulation and is recognizing the benefits of increased cost reduction, productivity and competitiveness in the more demanding global market.

18. However, the application of clean technologies has not been fully mainstreamed into business practices mainly due to lack of customized technological and market information as well as financial data; limited technical assistance and advisory service; lack of project financing and tailor made business planning and lack of communication among stakeholders with similar needs.

19. A number of initiatives and projects that are providing technical and financial support for technology transfer have been launched in order to address these limitations. An important lesson learnt from these initiatives was that it is critically necessary to translate information, knowledge and know-how into the decision-making process by tailoring them to fit specific contexts and locations. Tailoring this technology transfer is considered the missing link to connect business interest with global environmental benefits.

20. In order to address this missing link, UNEP initiated the TTN project that was implemented in two phases: Phase I focused on: 1) developing interfacing mechanisms at industrial community level through TTN local Desk at country and regional levels; 2) developing and operationalizing the SANet website as a knowledge management tool offering internet based and offline service; and 3) operationalizing a decision-making support facility through small grants at due diligence and deal-making stages. Phase II of the project would deal with the verification and expansion of TTN.

### *2.2 Project objectives*

21. The TTN phase II aimed at building capacity and providing incentives for addressing global environmental issues by local businesses. Its overall objective was *'to increase the quality and flow of environmentally sound investment projects in the private sector communities of developing countries and countries with economies in transition'*. The project was a follow-up to the UNEP/GEF Technology Transfer Network (TTN) – prototype set-up and testing. Phase II was aimed at prototype verification and expansion at country/regional level in response to the increasing demand for consolidated knowledge management and tailored support to countries for access into Multilateral Environmental Agreements (MEAs).

22. Four components would contribute to achieving the project's overall objective: 1) Strengthening technology transfer networks in GEF recipient countries through the engagement of Technology Transfer Local Desks; 2) Facilitating exchange of know-how through the SANet web site, customized brokering services, technical assistance, training, information dissemination and regional outreach; 3) Contextualizing content management of the SANet web site, increasing ownership of content developers and enhancing information flow from GEF recipient countries; and 4) Overall TTN coordination and regional/global meetings.

23. To achieve its objective, the project would provide three types of services to experts and business managers, in order to enable them to make informed decisions with regard to investments in clean technologies, namely: i) Face-to-face communication at the country and regional levels through Local Desks, which would connect and broker different services of the Sustainable Alternatives Network (SANet) and articulate needs of the local business community; ii) Technical assistance and training, aimed at strengthening the capacity of key stakeholders for the use of cleaner technologies and project conceptualizations; and iii) Internet-based information services that would support exchange of know-how through a web site and a CD-ROM equivalent.

24. Local Desks (LDs) were considered to be the main actors in the TTN framework, playing the role of linking the information and knowledge base with its practical implementers, i.e the local businesses. The necessity of LDs was previously recognized during the assessment of demand and readiness of the stakeholders, which was conducted before phase I started. Moreover, the need for LDs was identified in UNEP's Cleaner Production Global Status Report, September 2002. TTN LDs were established in Peru, Brazil, India, Tanzania and Nicaragua. The LDs were supposed to conduct TTN activities in addition to their usual awareness raising, information dissemination, training and other technical operations.

### *2.3 Implementation arrangements*

25. The project was launched in October 2003 and was planned to be completed by March 2005 for an expected duration of 17 months. Due to delays, mainly caused by changes of executing personnel after the start up, the project required extension until December 2008 to complete its activities.

26. In UNEP terminology, the project was internally executed. The project was implemented, i.e. supervised, by UNEP's Division for GEF Coordination (DGEF) and executed by UNEP's Division for Technology, Industry and Economics (UNEP/DTIE), which oversaw both the global and national components of the project and managed the contracts with the partner agencies. The GRID-Arendal[2] Center was initially contracted to conduct most of the global project activities including the strengthening of the SANet and the establishment of Local Desks (LDs) located in national environmental agencies across the world. The LDs conducted most of the project activities at the local (national and regional) level. Their host agencies signed a Memorandum of Understanding (MoU) with UNEP/DTIE.

27. Early 2006, the contract with GRID-Arendal was terminated and project management was fully taken over by UNEP/DTIE. UNEP/DTIE has since then been managing the project with its own staff and resources, with support from the internal ICT Department for the further development and maintenance of the SANet website.

28. An Advisory Board/Steering Committee comprised of representatives of the five LDs, UNEP/DTIE and GRID-Arendal was created as some kind of peer review and monitoring mechanism, even though its formation was not foreseen in the project document.

[2] GRID-Arendal is a collaborating center of UNEP, located in Arendal, Norway. The center is part of the UNEP-GRID network of environmental data and information centers, under the UNEP Division of early warning and assessment.

### *2.4 Cost and financing*

29. The total cost of the TTN Phase II was estimated at US$3.442 million, covered by a GEF grant[3] of US$2.014 million, a UNEP in-kind contribution of US$0.340 million and co-financing by operating partners[4] (US$1.088 million).

30. Table 1 below presents the estimated cost per project component and expected financing source.

**Table 1: Budget by Activities and financing source (US$1000)**

| | | GEF | UNEP | Partners | Total |
|---|---|---|---|---|---|
| **1** | **Strengthen technology transfer networks through the set up of Local Desks** | **543** | **117** | **444** | **1 103** |
| | Identification and negotiation of Local Desk agreements (meetings) | 211 | 117 | 27 | 355 |
| | Contribution to Local Desk expenses | 182 | 0 | 267 | 449 |
| | Establishment of Local Desks | 150 | 0 | 150 | 300 |
| **2** | **Facilitating exchange of know-how national/regional by sector** | **578** | **155** | **55** | **788** |
| | Dissemination | 36 | 5 | 5 | 46 |
| | Technical assistance | 375 | 150 | 0 | 525 |
| | Training & seminars | 167 | 0 | 50 | 217 |
| **3** | **Content management of the SANet web site** | **602** | **50** | **589** | **1,241** |
| | Identification of partners and negotiation of collaborative agreements (meetings) | 75 | 50 | 14 | 139 |
| | Contribution to sector support activities | 145 | | 158 | 303 |
| | Additional contents enhancement with country-driven information | 127 | 0 | 368 | 495 |
| | Technical support for XML adoption | 205 | 0 | 0 | 205 |
| | Development of the Finance Directory | 50 | 0 | 50 | 100 |
| **4** | **Project Coordination** | **292** | **18** | **0** | **310** |
| | Overall coordination | 242 | 18 | 0 | 260 |
| | Overall monitoring local desks | 50 | 0 | 0 | 50 |
| | **Total** | **2,014** | **340** | **1,088** | **3,442** |

[3] The first phase of the TTN project had been financed by a GEF grant of US$1.275 million.

[4] Energy and Environmental Technologies Information Centres (EETIC), German Technical Cooperation Agency (GTZ), The Nature Conservancy (TNC), Friends of the Earth (FoE), Tropical Agronomy Centre for Research and Education (CATIE – Costa Rica), Natural Resources Canada (NRCan), GRID-Arendal and others under discussion at the time of approval.

## THE TERMINAL EVALUATION

### *2.5 Objective and Scope of the Evaluation*

31. The primary objective of this terminal evaluation is to assess project impact with reference to objectives and outcomes and to evaluate the implementation of the planned project activities and outputs against actual intended results (See TORs – Annex 1). Accordingly, this terminal evaluation examines the extent and magnitude of the impacts of the project to date and its possible impacts in the future.

32. The evaluation focuses on four main questions:

i) the extent and sustainability of the institutionalization of the TTN LDs serving the business community in the respective developing countries by engaging key stakeholders to apply cleaner technologies through regular consultation and needs assessments whereby synergies are explored with programmes supported by other implementing agencies and donors;

ii) whether investment in cleaner technology transfer projects were made and implemented as a result of increased awareness and capacity among key stakeholders at the end of the project;

iii) what were the measures put in place by the project in order to ensure active inflow of information to the SANet and affiliated websites for stakeholders in countries and regions in which LDs are located and the actual demand for information and brokering services from GEF recipient countries; and

iv) the extent to which the project promoted active information sharing among the TTN LDs about lessons learned and outreach know-how with a view of increasing the possibilities of replication.

### *2.6 Methodology*

33. The Terminal Evaluation was primarily based on a desk review of project documents including design documents, progress and financial reports, relevant correspondence as well as published materials on the project website and other specific products such as training materials (see Annex 2 for the Bibliography). The Terminal Evaluation has also drawn heavily on the Mid-Term Evaluation conducted at the end of 2006. The desk review was complemented by an e-questionnaire (see Annex 3) and telephone interviews with project management at UNEP/DTIE and the regional and national executing agencies (TTN LDs) (see Annex 4 for a list of people contacted).

# 3 EVALUATION FINDINGS

## *3.1 Attainment of Objectives and Planned Results*

### Effectiveness

34. The project has strengthened technology transfer networks in five GEF recipient countries through the engagement of Technology Transfer Local Desks. The LDs, hosted by three National Cleaner Production Centres (Brazil, Nicaragua and Tanzania) or productivity/technology promotion agencies (India, Peru), were functional during three to four years and engaged in stakeholder consultations, disseminated information through various media, and provided technical trainings, customized brokering services and bilateral technical advise to over 1,600 stakeholders (businesses, experts, consultants) mainly in their host countries, and contributed thus to increasing stakeholders' awareness, receptiveness and knowledge of cleaner technologies and environmental management systems. The LDs in India and Brazil were the most active, Tanzania the least. The LDs, during their period of activity, have contributed to strengthening technology transfer between their respective host institutions and countries.

35. The content management of the SANet web site was brought down to the pilot country level, increasing ownership of content developers (chiefly the LD host institutions) and enhancing information flow between at least five GEF recipient countries. The SANet website was made available globally and enriched with links to other relevant sites. Its case study and expert databases were revamped and expanded with contributions from the LDs. A quality control procedure for uploaded information was added in 2006, involving three LDs. As such, and as long as the LDs remained active, content management of the SANet web site was better contextualized and more decentralized and benefited from an enhanced information flow from LD host countries. The SANet was complemented by an additional knowledge base – the Industrial Energy Efficiency Technology Forum (IEETF) – which gives access to information on technologies related to industrial energy efficiency. The SANet website has played a role in facilitating exchange of know-how, but there is no monitoring information available on the number of stakeholders reached through the SANet website. Even basic statistics such as the number of visits to the different databases accessible through website are not recorded. This makes it very hard to quantify the effectiveness of the website in reaching its target audience.

36. Overall, project effectiveness is judged moderately satisfactory.

### Review of outcomes towards impacts (ROtI)

37. The project developed potential and synergies with existing resources and capacities to deliver technical services to stakeholders. The enhanced SANet web site is still active and is being maintained by UNEP/DTIE, and certainly constitutes a valuable source of reference data. It was enhanced by the energy efficiency section (also disseminated as an off-line CD-ROM) and a searchable knowledge base for the transfer of technology of industrial energy efficiency (through the Industrial Energy Efficiency Technology Forum - IEETF) as well as links with other sources of information. As such, it can provide useful information to whoever is actively searching for it, which in turn could assist motivated businesses to introduce cleaner technologies. However, it is not easy at all to find the SANet website through the most common search engines, unless one already knows the name of the SANet network or the website (www.sustainablealternatives.net). Noticeably, none of the websites of the former LD host institutions provide a link to the SANet website and even on the UNEP website it is practically impossible to locate any links to the SANet.

38. The LDs were hosted by national agencies that, per their mandate, are involved in training and advice to industries on more efficient and/or cleaner production. The innovative aspect of the LDs was that they constituted an international technology transfer network, linked through the SANet and other global project activities (workshops, meetings, trainings and visits). During the project implementation period, the LDs were in a position to tailor and transfer ESTs to businesses and, also, to feed useful information into the SANet databases using their expertise, experience and existing relationships with local businesses. The "live" contact between LDs and local industries was certainly a much more effective way to transfer technologies than the SANet website on its own. Currently, the LDs are no longer functional. The host institutions in Brazil (National Centre for Clean Technologies), India (National Productivity Council) and Nicaragua (Cleaner Production Centre) continue to provide (paid) expert advice and training services. It is reasonable to assume that the coaching and training provided by the project, and experiences acquired during the period that they were hosting a TTN LD, have improved the overall quality of their services. However, they have no longer any active connection to the TTN/SANet.

39. The project logical framework proposes to measure the level of achievement of the overall objective of the project – i.e. to increase the quality and flow of environmentally sound investment projects in the private sector communities of developing countries and countries with economies in transition – by the number, volume and quality of investment decisions inspired by information disseminated through LDs and the SANet web site. However, no monitoring data was recorded by the project on whether and how much investment decisions have been positively influenced by information, training and advise provided by the TTN. There are also no reports indicating the number of investments that utilize environmentally sound technologies (ESTs) as a result of TNT contributions in the five pilot countries. Therefore, it was very hard to assess to what extent the project has been able to influence stakeholders' investment decisions.

40. The results rating sheet in Annex 2 shows that there is a complex causal pathway starting from the exchange and sharing of information and know-how and the provision of tailored expert advice, passing over the increase of awareness and knowledge and change of attitudes and perceptions, leading towards tangible investments in environmentally sound technologies. Targeted capacity building, training and outreach could ultimately create an environment in which technology transfer increases and materializes. However, two key drivers need to be present for private sector communities to be motivated and capable to adopt cleaner technologies. These are, first, the presence of a conducive legal, regulatory and institutional framework and, second, easy access to financing for local businesses. These two additional drivers, which now complement the awareness raising and capacity building pillar at the core of UNEP's clean and renewable energy technology transfer strategy, were largely absent in this project[5].

41. Therefore, it is considered moderately unlikely that the TTN project phase II will ever achieve its intended impact.

**Relevance**

42. The TTN phase II project was in line with UNEP's mandate and corporate goals to: i) create capacity for Sustainable Development; ii) provide technical, legal and policy advice to Governments and regional and sub-regional institutions dealing with environmental matters; iii) establish and support cleaner production programs and centres and more efficient production modes by providing incentives and capacity building to assist enterprises, especially SMEs, particularly in developing countries, in improving productivity and sustainable production; and iv) strengthen sustainable consumption and production activities in-line with preconditions at

[5] Even though it should be noted that information on financing opportunities was made available through the LDs and the SANet website to interested businesses (the SANet Finance Directory – see paragraph 66).

the World Summit on Sustainable Development (WSSD). The project fit also well in UNEP/DTIE's sub-programme objective to promote the development, use and transfer of policies, environmentally sound technologies, economic instruments, managerial practices and other tools that assist in environmentally sound decision-making and in the building of corresponding capacities.

43. In the context of the MEAs, the TTN phase II project aimed at enhancing the implementation of environmentally sound technologies by linking them to business benefits through the provision of contextualized and customized information, knowledge and know-how to specific local businesses using face – to – face communication and brokering services supported by an operationalized knowledge management tool (SANet) particularly in developing countries and countries with economies in transition.

44. There are a number of ongoing initiatives and activities that cross-link with SANet and TTN, and thereby synergize information sources/databases for wide spectrum clean technology transfer that benefit climate change, biodiversity, energy and many other cross-cutting issues related to the MEAs. These initiatives are, among others, the Expert Group on Technology Transfer (EGTT) of UNFCCC, the GEF Focal Points, the GTZ-sponsored international consultants on organic agriculture, RETScreen software development of the Natural Resources of Canada for renewable energy project analysis, the Energy and Environment Technologies Infrastructure Centre (EETIC) of the International Energy Agency (IEA), and the International Finance Cooperation (IFC) Small and Medium Enterprises Programme.

45. As regards project relevance to the GEF, the project was expected to contribute to one of the GEF's main objectives to promote best practices for climate change mitigation. Its outcomes would complement initiatives in GEF focal areas of climate change, biodiversity and Persistent Organic Pollutants (POPs). Accordingly, TTN is a multifocal project that covers in the same framework five operational areas of GEF – i.e. Forest ecosystems (OP 3); Removal of barriers to energy efficiency and energy conservation (OP 5); Promoting the adoption of renewable energy by removing barriers and reducing implementation costs (OP 6); Conservation and sustainable use of biological diversity important to agriculture (OP 13); and eliminating scheduled POPs (OP 14). Further, the project prioritized engagement of the private sector and mainstreaming of biodiversity conservation in production systems.

46. In sum, project relevance is rated satisfactory.

**Efficiency**

47. Project spending on project management and the SAnet development was very high compared to the budget for local activities and LD development, even though the latter were probably the most useful for technology transfer. Project expenditures was, over the two project phases (no separate financial data exists for phase 2 of the project) – divided over the PMU (about 30 per cent), SANet development and maintenance (another 30 per cent), and local activities and LD development (the remaining 40 per cent). Even when taking into account that the PMU did directly execute various project activities, management costs as a share of the total budget were on the high side. The total cost for the SANet website – estimated by the evaluation as close to US$0.9 million – is also quite substantive and seems hard to justify when looking at the volume of information presented on the website and the budget spent on local use of SANet information. The total cost for local activities was around US$1.3 million, and less then US$0.7 million was spent on the five LDs. This means that the amount spent on LDs was only about 20 per cent of the total project expenditure and significantly less than what was spent on the SANet website.

48. Then again, the budget per LD was on average less than US$140,000 for about four years of activities, which, considering the volume of outputs each LD has produced, indicates a high efficiency of the LDs themselves.

49. The project also had a big time-overrun. It was initially planned to have been completed in 17 months but was actually completed in over five years as a result of questionable selection of (see paragraph 91) and communication problems with the main project execution partner (GRID-Arendal), poor personnel management and the overall unclear division of roles and responsibilities between UNEP/DTIE and GRID-Arendal[6]. The time overrun has contributed to the increase in project spending on the management component relative to local implementation expenditures.

50. Overall, project efficiency is considered moderately unsatisfactory.

### *3.2 Sustainability*

**Financial sustainability**

51. The TTN phase II project had initially planned to obtain funds mainly from GEF, but also through co-financing from numerous partners. The LDs were also expected to raise funding to ensure their sustainability after the project ended, from public sources, but also from the consultancy and brokering services they provided to businesses. It was reported in the MTE that about US$900,000 in co-financing had been secured in Brazil, but no co-financing could be raised in the other four countries. Strangely, no co-financing at all is reported in the final financial summary report of the UNEP/DTIE Fund Management Office, so there are doubts that the co-financing in Brazil has ever materialized.

52. Even though there is no data on income generated by LDs by means of their services provided to local businesses, it is unlikely that this income has ever made the LDs financially viable. The host institutions in Brazil (National Centre for Clean Technologies), India (National Productivity Council) and Nicaragua (Cleaner Production Centre) continue to provide paid expert advice and training services, which provide them with an income helping their sustenance. The development of these paid services can, however, hardly be attributed to the TTN project as these institutions received massive support from other projects and programmes.

53. Even though the maintenance of the SANet is guaranteed in the short and medium term because it has been taken up by UNEP/DTIE, the absence of funding to maintain the LDs is a major limit to sustaining the effectiveness and achieving impact with the TTN. As mentioned before, the LDs were an essential partner in the TTN, expected to conduct local awareness raising and training activities, provide up-to-date content (cases studies and experts) to the SANet, tailor the general knowledge and information available on cleaner production to the specific needs of the local businesses, and stimulate information exchange between their host institutions. Without the LDs the link between the former host institutions and the SANet has disappeared, and, except for the SANet website itself which is maintained centrally by UNEP/DTIE, the TTN has seized to exist. Financial sustainability of the TTN is therefore considered moderately unlikely.

**Socio-political sustainability**

[6] According to UNEP/DTIE, the partnership with GRID-Arendal was terminated due to their lack of delivering reliable and timely services and products. The SANet web site and database improvements and re-development were moving too slow without any evidence of GRID-Arendal bringing any significant contributions to it. GRID-Arendal was not open to discussing the required improvements to the website with UNEP/DTIE. GRID-Arendal further outsourced part of the work it was expected to deliver by itself (the E-Learning module).

54. All five countries in which LDs were established have ratified the UN Framework Convention on Climate Change (UNFCCC), the Convention of Biological Diversity (CBD) and are signatories of the Stockholm Convention on Persistent Organic Pollutants (POPs). This shows that their governments have taken a political commitment to introduce the necessary regulations and accompanying measures to ensure compliance by productive sectors to more environmentally sound production principles.

55. The TTN phase II project and its LDs were considered relevant by the host institutions in the five pilot countries, but the absence of public funding to maintain the LDs after the project ended might indicate that either the objectives of the project are still not a government priority in the pilot countries or that the governments prefer promoting more environmentally sound production through other means. Socio-political sustainability is rated moderately likely.

**Institutional framework and governance**

56. Even though the institutions hosting the LDs under the project have severed their links to the TTN and SANet, the National Centre for Clean Technologies in Brazil, the National Productivity Council of India and the Cleaner Production Centre of Nicaragua still provide expert advice and training services, as mentioned above. These services seem sustainable and, as such, the likely improvements in these service as a result of the project's capacity building efforts and the experiences acquired by these institutions while functioning as TTN LD, can be sustained.

57. However, as explained under the Review of Outcomes towards Impact (see paragraph 40), two key drivers are necessary for capacity building and awareness raising efforts to lead to increased private sector investment in environmentally sound technologies. These are, first, the presence of an enabling legal, regulatory and institutional framework and, second, private sector access to financing for clean technology investments. In the pilot countries there is still a low level of enforcement of regulations introduced by the MEAs and financing mechanisms to help private businesses to invest in environmental sound technologies remain very limited.

58. The SANet website has been absorbed by UNEP/DTIE with support of the ICT Department, which ensures its maintenance and, to a far lesser extent, the actualisation of its contents up to today. Many results from the project can be accessed through this website, even though the major link between the knowledge base on ESTs and the business communities – the country-based LDs – has disappeared.

59. Overall, institutional framework and governance sustainability is considered moderately unlikely.

**Environmental sustainability**

60. The focus of the project was to promote technologies that should provide global environmental benefits. There are no environmental risks either created by the project or that could hinder the sustainability of project results. The environmental sustainability of project results is likely.

### *3.3 Achievement of outputs and activities*

61. In spite of delays due to the reasons mentioned earlier, most project activities were carried out successfully and an essential portion of the expected outputs were produced and delivered as summarized below.

62. Five local desks were made operational in Brazil (National Centre for Clean Technologies), India (National Productivity Council), Nicaragua (Cleaner Production Centre), Peru (National

Council for Science, Technology and Innovation), and Tanzania (Cleaner Production Centre). This was well within the target of a three to six LDs foreseen in the Project Document. The LDs have been conducting stakeholder consultations and training activities, providing bilateral advisory services to local businesses and contributing contents (case studies and experts – see paragraphs 62-63 below) to the SANet website during their three to four years of full operation. Some details, up to the end of 2006[7]:

- Brazil: The LD has contacted about 150 stakeholders to promote the project's objectives and goals, ask for registration in project data-bases to support decision making in respect to Environmentally Sound technologies (ESTs) transfer, offer technical services, and obtain information on the status of sector representative companies in relation to environmental aspects and sustainability (including ESTs). The LD has provided technical assistance and other services in relation to the adoption ESTs (advice to ameliorate industrial technology, cleaner production programs, energy efficiency, environmental management systems etc.): between September 2004 and October 2006, 341 clients have received tailored technical assistance and another 190 clients received technological information. Over the same period, training courses have been organized for 727 participants in total and technical courses for 49 students. A number of agreements have been established with different implementing partners on continued activities with diminishing support from the LD. Various marketing activities took place to promote the activities of the LD. These included dissemination of LD flyers and CD-ROMs; short news was published in news media (radio, newspaper); an LD e-newsletter was produced; and the LD organized or participated in different events.
- India: Around 1000 stakeholders including consultants and experts, industries, financial institutions, government and private enterprises have been contacted during the project. Frequent inquiries by email and phone have been received from industries and consultants. The following services were offered by the LD: energy audit for industries and commercial establishments; awareness raising on energy conservation; institutional capacity building on energy efficiency; training of the trainers on energy management and audits; advice on energy efficient technologies, project implementation monitoring and evaluation and renewable energy technologies and its applications. Technical assistance has been provided to 4 industries and the technology has been demonstrated in 3 of them. At two places the demonstrated technology has led to a multiplier effect, i.e. the demonstrated technology has been copied and implemented in other industries in the same sector. The local service provider was trained by the LD to assure the continuation of activities in clusters of the industries where a demonstration project was carried out. Two fliers on industrial energy efficiency and renewable energy activities performed by the LD were developed and disseminated to over 1000 industries. About 20 workshops / training programs were organized. The LD participated in about 15 workshops presenting the activities and has co-organized 7 workshops all over India. The total number of participants in all workshops is about 1200. The concepts and the results of the project were disseminated at an international workshop for the Asian Productivity Organization member countries.
- Nicaragua: Three meetings were organized in Nicaragua with entrepreneur groups from different sectors (dairy, coffee and tourism). Another meeting with stakeholders was held for other countries in Central America. A total of 112 stakeholders attended these meetings. In addition, five workshops were organized (Nicaragua, Costa Rica, Salvador, Honduras and Guatemala) with professional groups to assess stakeholders' needs and disseminate information on the project and ESTs. Agreements were made with local centers in Central America to promote the SANet in each country. Stakeholders have requested information about technology suppliers, water and energy saving programs, production process, business plans, environmental studies and saving programs. Eight stakeholders in Nicaragua have developed and implemented projects - six in cheese plants and two in coffee plants. Five other

[7] Source: MTE (November 2006) – no more up-to-date information could be obtained from LDs or the former PMU.

investments are under development in Central America. Seminars and workshops were organized in El Salvador, Honduras and Guatemala, financed by SANet, and a total of 76 experts have been participating in these seminars: 19 in Salvador, 29 in Guatemala and 28 in Honduras. In Nicaragua, the CPC has developed specific seminars to train specialist consultants in technology transfer; a total of 11 people attended. Further, training was delivered to 87 consultants in four different activities in four countries. 2500 brochures and 1250 CDs were distributed in four countries of Central America, through different events.

- Peru: Regular meetings were held with different stakeholders and assessments of their needs and expectations conducted. A Clean Technology Network was created with 300 consultants and small and medium industrialists. Joint activities were implemented with the Organization of American States Clean Technology Project, contacting approximately 250 persons, mainly SME entrepreneurs of the 9 participant countries. The Andean and Local Network is hosted on the CONCYTECT[8] web page www.concytec.gob.pe. About 600 stakeholders in mining, textile, food-industry, forest and energy sectors have received technical support during workshops organized by the LD. After the workshops, follow-up contacts have been maintained between the LD and interested parties, but there is no further specific information on the technical support provided or on possible agreements for the continuation of activities. Eleven workshops were organized and participation in about 20 seminars took place with around 1000 participants. The LD has also participated in several press conferences, and has published news in various newspapers and TV channels. CD-ROMs and flyers were disseminated, via conferences on Clean Technology Transfer organized at least once a month, where 50 to 70 persons attended.

- Tanzania: 40 key stakeholders were consulted including enterprises, government departments, financial institutions, R & D institutions, the media institutions and non-governmental organizations. Consultations were made on the following issues: Needs and expectations of stakeholders' existing networks and their objectives; Stakeholders' activities; Stakeholders' obstacles to information sharing; and Stakeholders' solutions to information sharing. The LD has provided advisory and technical assistances to 8 clients, including information search, cleaner production assessments and project proposal evaluations. The TTN Local/Regional Desk was marketed through the distribution of flyers & folders and face-to-face interactions of the LD with various stakeholders at the project launching workshop and events organized by other stakeholders. One training workshop was organized with 60 participants.

63. The Sustainable Alternatives Network (SANet) website, was redeveloped, expanded and complemented with links to other information sources. The site and its content databases were transferred from the GRID-Arendal server to the UNEP-DTIE server in June 2006. Between then and September 2006 the SANet site was improved and the four modules of its database section redeveloped (Experts, Case Studies, Planning Tools and Finance Tools) in terms of forms display and editing. The online forms and database of experts and case studies were revised with the latest technologies in the development of forms and to ensure a more user-friendly navigation. A screening process for accepting and approving experts and case studies (quality assurance process) was developed, including a "back office" accessible by all helpdesks with all pending application of experts and submitted case studies.

64. The SANet website currently presents an impressive 1475 case studies in different languages, of which about one third have been contributed by the LDs. The case studies present a quite heterogeneous level of detail and relevance and many links to more details are dead. The number of cases in the database is only about 50 more since the MTE (late 2006) which indicates that very few new case studies have been added during the last project year and certainly since the end of the project.

[8] National Council for Science, Technology and Technological Innovation

65. An important number (316) online resources referred to as "Planning Tools" (RETScreen, TNC tool, CADDET Energy Efficiency etc.) are registered on the SANet website. This is one less than reported at the time of the MTE. Local online resources have not been added yet as planned.

66. A global expert roster was set up in collaboration with the five LDs and remains accessible through the SANet website. Over two thirds of the experts in the roster are nationals of the five pilot countries where LDs were set up. More then one third of the experts in the roster are from India. Since the MTE (late 2006), the number of experts in the roster has only slightly increased from 643 to 678, mostly in Brazil, indicating a slack in momentum during the last years. Table 2 below shows the current number of experts in the TTN roster.

67. A Finance Directory has been made available on the SANet website, containing currently 79 finance sources all over the world that can be tapped by businesses wishing to invest in ESTs. Although it is not clear whether some resources have been removed and others added since the MTE, the number of resources in the database has remained unchanged.

**Table 2: Current number of experts in the TTN expert roster**

| Continent/Country | Number of experts |
|---|---|
| **Asia** | **288** |
| India | 275 |
| **Europe** | **45** |
| **Africa** | **49** |
| Tanzania | 42 |
| **North-America** | **21** |
| **Latin America** | **269** |
| Nicaragua | 19 |
| Brazil | 73 |
| Peru | 53 |
| **Oceania** | **6** |
| **Total** | **678** |

68. During 2007, a new knowledge base component was developed on the basis of New Energy and Industrial Technology Development Organization (NEDO) publication "Technologies for Energy Saving and GHG emission reductions". This publication was converted in a searchable knowledgebase tool entitled "Energy Efficiency Technologies Knowledge Base (EET-KB)" which provides access via the SANet website to a wealth of information on technologies aiming at industrial energy efficiency.

69. The SANet website is probably the most significant and also sole surviving output of the TTN project. However the volume, quality and relevance of the information flow has not been reported on, and neither was any co-financing obtained for the management of the web content. Moreover, there is no report on the number of stakeholders engaged as registered members of the website. Hardly any content was added during the last project year, and certainly after the project's end, so the site's contents are slowly losing their actuality.

70. Three Advisory Board meetings were held: the first took place in October 2004 in India; the second in Paris in January 2005; and the third was held in Rio De Janeiro in November 2005. The project organized these meetings to evaluate the progress of each LD based on a new unified reporting format that was used by each of the Local Desks. Two more meetings were organized for the TTN LD teams to exchange experiences and best practices. The first meeting took place in November 2004 in Monterrey; the second in Peru in March 2005.

71. During the first Advisory Board meeting, the e-learning initiative launched by the Indian Local Desk was presented for replication by the other LDs. This is an eight-week online course on industrial energy efficiency entitled "Fundamentals of Energy Efficiency in Industrial Enterprises" for engineering professionals who want to broaden their expertise in that field. Fourteen students completed the pilot online course and were awarded certificates on successful completion of the course. Other Local Desks expressed their interest in conducting a similar online course in their own countries (but this did not happen). Lessons learned from this activity were shared with other Local Desks.

72. The TTN phase II project can boast of concrete efforts in information dissemination, meetings, workshops and one online training, involving quite a significant number of stakeholders, and the SANet website with its useful and user friendly content databases is still up and running even though its contents might be becoming a bit dated. These outputs have laid a good foundation as useful reference material for information dissemination and training on environmentally sound production technologies and practices. However, the LDs, who played a crucial role in organising local awareness raising and capacity building activities, and also in the tailoring and customizing of the information available to the specific needs of stakeholders, are not functional anymore. These local activities and tailoring and customizing of technical information were considered from the start, and are still considered, as essential to ensure technology transfer and up-take by local businesses. Despite this, because the project has already been penalized for this issue under effectiveness and sustainability, the project is rated satisfactory in terms of achievement of outputs and activities.

### *3.4 Catalytic role*

73. The project has developed an on-line knowledge repository available globally and has generated useful tools that can be used for information dissemination and trainings by other institutions. The e-learning course on industrial energy efficiency developed with the Indian Local Desk is accompanied by a manual on how to organize the course (or any other e-learning course) which should help other institutions to replicate the course in the future.

74. Much of what the project has delivered has replication potential and is, in fact, contributing to dissemination and replication of environmentally sound technologies to local industries, even though the essential tailoring and customizing services by LDs are not active anymore and little new has been added to the SANet website since 2006-2007 (see paragraphs 64-69). The model of the LDs remains very interesting and promising and could, with public, private sector or donor funding, be revived. Accordingly, the catalytic role of the TTN project has been rated as satisfactory.

### *3.5 Monitoring and Evaluation Systems*

**M&E planning and design**

75. According to the Project Document, the project would follow all standard UNEP and GEF procedures for monitoring and reporting. Monitoring of indicators for outputs and outcomes achieved during the project would be executed by the TTN project team as part of project supervision.

76. Standard indicators were developed during Phase I of the project for monitoring LD activities, which would be adjusted to fit to specific sectors, nature and activities of each LD. Also, stakeholder surveys would be used to assess needs of the marketplace and improve the effectiveness and targeting of the services provided by the LDs.

77. The SANet website would be monitored to ensure the quality of published information and relevance to the need of users. To this purpose, a manual for content management had been developed during Phase I. The quality control checkpoints in the manual include authoritative-ness, relevance and completeness. The content was also to be reviewed by LD, thereby ensuring the relevance from the country perspective. In the SANet web site, a user feedback system called “Online Optional Omni Present Survey” has been installed with the technical support of GRID-Arendal. Web statistics and comments from users would be closely monitored by the SANet web manager, which would be reflected in improvement of the function and contents.

78. For the Local Desk component, capacity building and motivation increase towards replication of successful investment projects were major goals. The indicators to be used for success were project related (qualitative analysis of the project's impact on stakeholders' attitudes), programmatic (long term impact beyond the project-only level with regard to GEF's objectives: e.g. replication of successes can be estimated) and outcome or proxy indicators. A programmatic indicator was the co-financing pledged for Local Desk and knowledge management web sites, i.e. extra financial resources made available for Local Desk activities and web site content development.

79. Sustainability prospects of Local Desks would be evaluated at the project conclusion, by examining the funding situation for continued operation, such as co-financing and income generation, commitment of host organizations and demonstration of demands for continued services among key stakeholders.

80. The logical framework of the project, on which M&E would rest, had several shortcomings. It lacked logic in the hierarchy of goals, objectives, outputs and activities. Most indicators were chosen to measure the realisation of project activities rather than outcomes and impacts achieved. With a few exceptions, no target values had been defined for indicators, which made it impossible to measure progress against what was planned. Means of verification of the indicators often did not address the indicator at hand at the proper level of analysis, and would not result in indications of the effectiveness of the project. This would have been particularly useful as this is a pilot project, intended to demonstrate the added value of specific technology transfer activities.

81. The project design did not foresee the creation of a Steering Committee, which would have been useful for project steering and creating greater ownership in the pilot countries. The Advisory Board set up for the project could only partly assume the functions of a Steering Committee. Considering all the above, M&E planning and design is rated moderately satisfactory.

**M&E budgeting**

82. Monitoring of indicators for outputs and outcomes achieved during the project was to be executed by the TTN project team (UNEP/DTIE), the cost of which was to be covered by the management budget. Monitoring and reporting at the LD level was covered by the local implementation budget to support the LDs. A budget of US$50,000 was allocated to "Overall monitoring Local Desks" under the project coordination component. The cost of SANet monitoring was to be fully internalized in GRID-Arendal.

83. About US$30,000 were split 60-40 over the MTE and the TE. The MTE and TE budgets were insufficient as they could not cover any travel by the evaluation consultants. As such, the evaluations were conducted mainly as desk reviews complemented by Email and telephone interviews. This limited the opportunities for active stakeholder participation in the evaluation process and for deepening the evaluators' understanding of some performance issues such as the early management problems of the project. Budgeting for M&E is judged moderately unsatisfactory.

**M&E implementation**

84. Stakeholder meetings and surveys were used by the LDs to assess needs of the marketplace and improve the relevance of their services to the local stakeholders' needs. A quality assurance mechanism was set up for SANet content with LD participation. It is not clear whether the user feedback system has ever been operational. Web statistics and comments from users, supposedly closely monitored by the SANet web manager, were not shared with the evaluation team and it was therefore impossible to verify whether these were effectively collected and have contributed to improvements of the functions and contents of the website.

85.

86. Even though extra financial resources (co-financing) made available for Local Desk activities and web site content development were to be tracked as an indicator for long term impact, beyond the project level, UNEP/DTIE was unable to provide any information to the evaluation team in this regard. The same counts for the funding situation of the LDs for continued operation, such as co-financing and income generation, which would indicate the likelihood of LD sustainability.

87. The project has monitored its progress according to UNEP procedures for GEF-projects by preparing annual project implementation reviews (PIRs) based on data and information gathered from each LD. The PIRs were quite comprehensive and reflected overall progress of project activities and outputs in the respective year in a cumulative manner.

88. The project has undergone an MTE which was limited in depth due to budget constraints. It led to some adaptations in project execution, but not all recommendations were implemented as stated in the "Recommendation implementation plan". E.g. co-financing was never reported on and the "Energy Efficiency Technologies Knowledge Forum" which was supposed to be an interactive experience sharing and learning tool, never really reached that stage.

89. An Advisory Board, consisting of representatives of all project partners including the LDs, not foreseen in the original Project Document, met three times to review project progress and exchange experiences between partners. The last meeting was held in Brazil in November 2005. During the Advisory Board meetings, each member reported its accomplishments to its "peers" for review and evaluation of the progress of the TTN project. The members of the Advisory Board, however, were possibly too involved in project activities to be able to play a supervisory and steering role.

90. In sum, M&E implementation is considered moderately unsatisfactory.

### *3.6 Preparation and Readiness*

91. The project components were clear, practicable and feasible within the envisaged time frame with regard to the expected outputs and to some extent outcomes. However, to achieve the project's long term objectives a longer duration and continued engagement of stakeholders, the LDs in particular, would have been required.

92. The partnership between the executing agency (UNEP/DTIE) and the main partner agency (GRID-Arendal) originated from the first phase of the project. GRID-Arendal was a relevant choice to play an important role in the second phase of the project, in particular in relation to the further development of the SANet website and related databases, given its experience with managing large databases and complex websites. However, GRID-Arendal was also tasked with setting up the LDs in the pilot countries, an assignment in which it evidently lacked experience. Also, there were clear compatibility problems between the GRID-Arendal team and the UNEP/DTIE team, which may have originated from the distinct mandates of the institutions but most likely also from personnel and relational issues[9]. These problems have caused major delays in project execution.

93. The LDs, which were responsible for executing activities at the pilot country and regional level, and their respective host institutions, were properly identified. However, as mentioned under the sustainability criterion, resources and time allocated by the host institutions to the LDs were too limited.

[9] Please refer to the MTE report for an attempt to explain the difficult rapport between GRID-Arendal and UNEP/DTIE.

94. Considering this, preparation and readiness of the project is rated moderately unsatisfactory.

### *3.7 Country ownership*

95. Although the TTN project concept was not initiated at the country level, some recipient countries (such as Sri Lanka and Zambia) have been involved in the development of the concept from the early stages. However, most countries and national organisations have been recruited during the project within the framework that had already been established.

96. The TTN concept and the project itself are supported at the national level. The involvement of national institutions in project implementation and decision-making varies considerably: ranging from general support and consultations during various commissions and meetings to specific support in the provision of technologies and incentives as was the case with the governments of Brazil, India and Peru. Some countries like Nicaragua and Tanzania have had very limited or no involvement at all.

97. The introduction of environmentally sound technologies is in line with national environmental and development goals for all the participating countries. The countries in which TTN local desks were established have ratified the UNFCCC and the CBD and are signatories to the Stockholm Convention. However, the countries appear to attach a different level of priority to these goals and have given different levels of support for the project. From that perspective, the project seems to fit better with national priorities in India and Brazil than, for example, in Tanzania.

98. The level of participation by the countries of the host institutions for the TTN project was rather weak and did not reflect their ownership of the project. All in all, the TTN project was not country driven. Country ownership is rated moderately unsatisfactory.

### *3.8 Stakeholder participation / public awareness*

99. There is a substantial difference between countries when it comes to stakeholder participation and the associated outcomes. Stakeholder participation in Brazil, for instance, was undertaken during the implementation phase of the project, with national institutions regularly informed on project progress and consulted on the core project decisions by the LD. Other stakeholders such as consultants and technology suppliers were consulted as well, but less frequently. In the Indian context, a large number of stakeholders were informed by the LD about core project activities, mainly via bilateral and other forms of meetings. However, the relevant national institutions were consulted on an as-needed basis in order to obtain a better perspective on the policy decisions being planned by the government, but not on concrete aspects of the project itself. In Nicaragua, consultations with stakeholders and governmental institutions were irregular. In Peru, stakeholders were regularly informed on the project results, and there were frequent consultations with national government and other relevant institutions about core project decisions. In Tanzania, finally, a rather limited number of stakeholders (both private and public sector) were informed about the project through seminars and visits to the LD.

100. LD representatives have been consulted regularly about the direction of the project at the global level. Although these discussions and sharing of experiences were useful, they cannot be considered as true stakeholder consultations because the pilot LDs were in fact an integral part of the project itself. These internal exchanges did not allow the project to go beyond its current scope of the work. There are no indications of consultations with global partners or stakeholders related to the global component of the project, or efforts to involve these stakeholders more closely in the implementation of the project.

101. Public awareness activities varied between countries. Overall, the LDs were quite active during the implementation period of the project and have contributed to public awareness through numerous workshops, seminars, meetings and trainings. Flyers and brochures/folders were distributed by some LDs to increase the awareness of the public (see paragraph 59). The quality of the information provided by the LDs was generally good. The activities of the LDs are likely to have influenced and supported the work of stakeholders. For instance the LD in India has claimed that public awareness activities have had a significant impact on small and micro-scale industries. The SANet website continues to provide global access to relevant (though not always very recent) information.

102. In sum, the project is rated moderately satisfactory for stakeholder participation and public awareness.

### *3.9 Financial Planning and Management*

103. As discussed under project efficiency, it seems that a disproportionately high portion of the project budget was destined to project management and website/database development as compared to the amount destined to local activities and LD development.

104. In UNEP terminology, this was an internally executed GEF project and expenditures were recorded by the PMU in the executing division of UNEP (UNEP/DTIE). Before UNEP/DTIE had direct access to the United Nations system-wide electronic Integrated Management Information System (IMIS), the PMU produced monthly spreadsheets of obligations and disbursements for entry into IMIS by the UN Office of Nairobi (UNON), where UNEP finances were managed. In the more recent years of the project DTIE had access to IMIS and could enter obligations and disbursements directly. Only on expenditures related to the GEF grant did UNEP/DGEF receive quarterly expenditure reports from the PMU at UNEP/DTIE.

105. The UNEP/DGEF Financial Management Officer was based in Nairobi and kept track on obligations and disbursements on the GEF grants only. The financial administrator of the project, a UNEP/DTIE staff member, was certifying officer for the project's expenditures that were channelled through UNEP. Day-to-day financial management was conducted by the executing partners as well (GRID-Arendal and the LDs) for their portion of the project, all funding sources confounded. As such, three accounting systems were maintained in parallel, each of them presenting an incomplete picture of the project's expenditures. Besides, the dependence of the executing agencies on UNEP/DTIE financial administration for the finances that passed through UNEP, caused many delays and budget information was typically more than one year outdated when it reached GRID-Arendal or the LDs. The partial financial reporting by UNEP/DTIE and UNEP/DGEF make it very difficult to have a clear and transparent overview of how much and for what project funds were spent.

106. From UNEP/DGEF the evaluation team obtained a project statement of expenditure as of December 31, 2008 which includes expenses covered by GEF funding for both phases of the project (see Table 3). The DGEF Financial Management Officer also prepared an expense breakdown for phase II (Table 4).

**Table 3: TTN Project Statement of Expenditure on GEF funding for both project phases as of December 31, 2008 (US$)**

| Year | TTN | SANet | Total |
|---|---|---|---|
| 2001 | 678,023 | 0 | 678,023 |
| 2002 | 199,767 | 395,000 | 594,767 |
| 2003 | 231,353 | 177,042 | 408,395 |
| 2004 | 366,525 | 270,201 | 636,726 |
| 2005 | 260,968 | 51,871 | 312,839 |
| 2006 | 151,975 | 45,279 | 197,254 |
| 2007 | 262,849 | 0 | 262,849 |
| 2008 | -51,058 | 0 | -51,058 |
| | 2,100,402 | 939,393 | 3,039,795 |
| **Unspent balance** | 249,205 | 0 | 249,205 |
| | 2,349,607 | 939,393 | 3,289,000 |

Source: UNEP/DGEF

**Table 4: Expenditures breakdown as of September 2010 on GEF funding for phase II**

| **Budget item** | **GEF Design** | **GEF Real** |
|---|---|---|
| **PMU** | **789625** | **742797** |
| Project personnel | 486260 | 344020 |
| Consultants | 103079 | 52672 |
| Admin Support | 77436 | 103231 |
| Travel | 18479 | 47975 |
| Facilities & misc. | 104371 | 194899 |
| **GRID Arendal** | **544393** | **544393** |
| Project personnel | 405743 | 405743 |
| Travel | 42150 | 42150 |
| Sub-contracts | 96500 | 96500 |
| **Local implementation** | **679982** | **491215** |
| UNOPS Decision Support Facility | -12325 | -12325 |
| Content Management | 29258 | 0 |
| Local Desks | 458880 | 421130 |
| Marketing LDs | 34138 | 4138 |
| Meetings/conferences | 170031 | 78272 |
| **Total** | **2014000** | **1778405** |

107. The total GEF contribution (Phase I and Phase II) approved was US$3,289,000 of which close to 93 per cent was disbursed (see Table 4). Disbursement on the phase II grant of US$2.014 million was about 88 per cent.

108. An estimate of the UNEP in-kind contribution to the project was provided by UNEP/DTIE – about US$487,000 – which was 43 per cent more than expected at design. This is explained by the need to take over SANet management from GRID-Arendal in 2006 and by the project extension. The remaining planned co-finance (US$1,088 million) was to come from several sources[10]. It was not channelled through UNEP so no records have been made of co-financing in IMIS or elsewhere. DTIE as executing agency was responsible for tracking and reporting on co-

[10] Energy and Environmental Technologies Information Centres (EETIC), German Technical Cooperation Agency (GTZ), The Nature Conservancy (TNC), Friends of the Earth (FoE), Tropical Agronomy Centre for Research and Education (CATIE – Costa Rica), Natural Resources Canada (NRCan), GRID-Arendal and others under discussion at the time of approval.

finance and informed the evaluation team that none of the expected co-financing, amounting to 31 per cent of the total estimated project cost at design, had been mobilized by the project.

109. There have been no audits of the project, as this was considered a UNEP- internally executed project, even though GRID-Arendal is not part of UNEP *per se*. It is surprising that the contract with GRID-Arendal was terminated on the grounds of poor performance but that no verifications have been done by UNEP of how GRID-Arendal spent over half a million dollars.

110. Overall, financial planning and management is considered moderately unsatisfactory.

### *3.10 Implementation approach and management*

111. This project is a follow-up to its first phase and follows the same underlying rationale. The implementation strategy of the project basically seeks to remove barriers, if any, for local businesses to access knowledge and information on environmentally sound technologies to businesses in developing countries. However, as explained under the Review of Outcomes towards Impact (paragraph 40), making ESTs and technical options known to businesses alone may not create sufficient motivation and interest to invest in and use cleaner technologies. Financial support might be required to enable businesses to revert to ESTs. Finally, when the efforts to clean up one's business outweigh the immediate benefits, a stronger enforcement of environmental regulations should take place, in line with the MEAs to which the countries are party. This would also reduce unfair competition for environmentally sound producers from less energy efficient and/or more polluting enterprises.

112. Institutional arrangements for oversight or guidance of the TTN project were complex. UNEP/DGEF was supervising the project for the GEF, UNEP/DTIE was responsible for overall project management and supervising the sub-contracted partner agencies, and GRID-Arendal was expected to manage the majority of "global" project activities. There was no internal cooperation agreement between UNEP/DGEF and UNEP/DTIE stipulating the supervisory roles and responsibilities of each. The Project Document did not specify these either, and was, in any case, not signed by any of the two parties.

113. Although GRID-Arendal had experience in knowledge management and website development, it had little or no capacity to support the development of LDs. There were also serious issues between UNEP/DTIE and GRID-Arendal staff, who did not seem to be able to collaborate constructively. According to UNEP/DTIE, the partnership with GRID-Arendal was ended because GRID-Arendal performed below expectations on all accounts. The MTE provides an attempt to explain more in detail what occurred between UNEP/DTIE and GRID-Arendal[11].

114. The Advisory Board, as mentioned above, was too internal for reviewing and evaluating the progress of the project and providing proper guidance other than self-evaluation and consensus building on the way forward. Furthermore, the documentation on the deliberations of the Board was very limited.

115. Considering the above, the implementation approach and management of the project are judged moderately unsatisfactory.

[11] In short, the UNEP/DTIE staff leading the first phase of the TTN project was moved to GRID-Arendal as a consultant to advise on the creation of the LDs. He did not appreciate being moved from a senior management position to a consultant's position far down the hierarchy and this had a strong negative influence on the relationship between the DTIE and GRID-Arendal teams.

### *3.11 UNEP Supervision and Backstopping*

116. UNEP/DGEF in collaboration with UNEP/DTIE's Energy Branch designed and was responsible for implementing the project. UNEP/DTIE signed MoUs with GRID-Arendal and LD host country institutions and was responsible for the overall management ("execution" in GEF terminology) and supervising the sub-contracted partner agencies. In the early stages of the project, there was a staff transfer from UNEP/DTIE to GRID-Arendal to support the development of LD. This contributed to frictions between the teams and staff frustrations, of which the signs were very clear but largely ignored by GRID-Arendal management, UNEP/DTIE management and UNEP/DGEF.

117. Since the collaboration with GRID-Arendal was interrupted and the MoUs with LD host institutions have been exceeded, UNEP/DTIE has been executing the project on its own. The close follow-up and the subsequent corrective measures taken and interventions made by UNEP/DTIE did certainly contribute to the final achievements of the project, in particular to the re-development of the SANet website including the new platform for energy-efficient clean technologies (EET-KB). However, even though UNEP/DTIE would have held regular consultations with the LDs to identify their own financing sources, it has not been successful in achieving financial sustainability of the LDs.

118. In sum, UNEP supervision and backstopping was moderately satisfactory.

### *3.12 Complementary with UNEP Medium Term Strategy and Programme of Work*

119. The TTN project directly complements the cross-cutting thematic priorities of climate change in relation with UNFCCC, ecosystem management in relation with the CBD and harmful substance and hazardous waste in relation with POPs by promoting the transfer of clean technologies. The TTN project also sought to promote resource efficiency and reduction of waste.

120. The Bali Strategic Plan has provided UNEP with the opportunity to develop, operate, update and maintain an information and knowledge data base on existing technology support and capacity building activities thereby maintaining it to serve as a clearing house. The development, testing and validation of the SANet Website and its content are exemplary outcomes of the TTN project that contribute towards UNEP's efforts to fulfil this goal.

121. The Bali Strategic Plan also establishes South-South Cooperation as a mechanism for experience sharing and capacity building among developing countries. In the TTN project phase II, the Indian LD played a vital role in developing an e-learning course and reference material on Energy Efficiency which was shared with other LDs and NCPCs such as Brazil, Peru, Nicaragua and Tanzania all of which come from the South. Moreover, a number of workshops and meetings of the five LDs and other members of the Advisory Board provided good opportunities for the developing countries to share their experiences and formulate the way forward in executing the TTN project.

## 4 CONCLUSION

122. The TTN project sought to help address global environmental challenges by contributing to more effective implementation of the three MEAs (UNFCC, CBD and POPs) promoting the use of more environmentally sound technologies by local businesses.

123. The project increased the knowledge of over 1,600 stakeholders on cleaner technologies through its LDs in five pilot countries by means of information dissemination, trainings and face-to-face technical consultations. The project has built capacity for technology transfer by introducing knowledge and training packages both Internet and CD-ROM based, as tools for information

dissemination and technology transfer. During the period of collaboration with the LDs, the project successfully promoted information and experience sharing between the pilot countries and beyond. The SANet website, launched during the first phase of the TTN project, is still functioning thanks to the support and oversight of UNEP/DTIE. Therefore, the TTN project is partly alive and is serving as an information source with the help of add-on capacities and links that have given it improved synergy with other on-line data bases and information sources.

124. However, the project encountered several management issues, such as the need to change the executing agency for the global component, high staff turn-over and incomplete financial reporting. The project, originally planned for 17 months, required extension and was completed only after more then five years.

125. The LDs in the five pilot countries are not functional anymore despite their essential role in providing contents to the SANet website and in tailoring and transferring ESTs to local businesses using their expertise, experience and existing relationships with both the public and private sectors. The LDs were a more effective way to transfer technologies than the SANet website on its own. Unfortunately, the LDs are no longer supported by their host institution or by external funding, nor do they generate their own income. They have, overall, most probably not been active for a sufficient extent of time to have had a significant impact on clean technology uptake in the pilot countries or beyond. Besides, shortcomings in the M&E system of the project make it very hard to assess to what extent the project outputs have effectively influenced investment decisions in favour of more environmentally sound technologies.

126. Table 5 below summarizes the evaluation ratings.

**Table 5: Overall Ratings**

| Criterion | Summary Comments | Project Rating |
|---|---|---|
| **A. Attainment of project objectives and results** | | **MS** |
| A. 1. Effectiveness | The project developed a good model to bridge knowledge on ESTs and local businesses through a network of LDs. The SANet, a globally accessible online technology and expert database is still functional and providing useful information. During the project life-time over 1,600 stakeholders (businesses, experts, consultants) were reached and their awareness and knowledge on ESTs was enhanced. However, the LDs were not institutionalized and closed shop at the end of the period foreseen in the MoU with the project. Also, the project did not monitor whether investments in cleaner technologies were made as a result of information and advise provided by the project. | MS |
| A. 2. Relevance | The project was in line with UNEP's mandate and corporate goals of creating capacity for sustainable development, providing technical advice on environmental matters and supporting cleaner production. Its expected outcomes would also complement activities in the GEF focal areas of climate change, biodiversity and POPs. | S |
| A. 3. Efficiency | The project had an excessive time-overrun due to a poor choice of the global partner institution and management issues. | MU |
| **B. Sustainability of Project outcomes** | | **MU** |
| B. 1. Financial | The SANet website is still maintained and financed by UNEP/DTIE. The LDs, however, which were an essential link between the information sources and the local businesses, have not become financially viable. Once funding from the project had ended they had to suspend their activities. | MU |
| B. 2. Socio Political | All five countries in which LDs were established have ratified the | ML |

| Criterion | Summary Comments | Project Rating |
|---|---|---|
| | UNFCCC, the CBD and the Stockholm Convention on POPs showing political commitment from their governments. However, absence of public funding to maintain the LDs after the project ended might indicate a lack of interest in the project approach. | |
| B. 3. Institutional framework and governance | Enforcement of MEA regulations in pilot countries is still weak. LDs have not been institutionalised. | MU |
| B. 4. Environment | Focus of project was to promote ESTs that should provide global environmental benefits. No environmental risks are associated to the project. | L |
| **C. Achievement of outputs and activities** | In spite of the delays, most project activities were carried out successfully and the expected outputs have been delivered. | **S** |
| **D. Catalytic Role** | The on-line knowledge repository is available globally. Useful tools can be used for information dissemination and trainings by anyone. Much of what the project has delivered has replication potential and is contributing to dissemination and replication of environmentally sound technologies to local industries, even though the essential tailoring and customizing services by LDs are not active anymore. The model of the LDs, however, remains very promising. | **S** |
| **E. Monitoring and Evaluation** | | **MU** |
| E. 1. M&E Planning and Design | Project design had an M&E plan but logical framework had many shortcomings (poor logic, lack of higher level indicators and targets, inadequate means of verification). No Steering Committee. | MS |
| E. 2.M&E Budgeting | Insufficient budget for in-depth MTE and TE. | MU |
| E. 2. M&E Implementation | Progress was monitored following UNEP/GEF procedures. MTE limited in depth due to budget constraints and not all accepted recommendations were acted upon. Advisory Board served as self-assessment and learning mechanism during first two project years, but was too involved to play supervisory / steering role. | MU |
| **F. Preparation and readiness** | The project components were clear, practicable and feasible but project duration was insufficient to achieve impact and sustainability. Partnerships were well negotiated but choice of global partner (GRID-Arendal) was poor. | **MU** |
| **G. Country ownership / drivenness** | Host countries were not involved in project design. There was country endorsement and participation of host institutions for TTN project implementation. Involvement of national institutions in project implementation and decision-making was very variable (from very strong to very weak). Overall, the project was not country driven. | **MU** |
| **H. Stakeholders involvement** | There was a satisfactory interaction between the LDs and the business community during the project implementation that ceased upon completion of the project due to the discontinuation of the LDs. LDs were consulted regularly about the direction of the project at the global level. Public awareness activities varied between countries. The SANet continues to provide global access to knowledge collected during the project. | **MS** |
| **I. Financial planning and management** | Too much funds for management and website development and too little for local activities. The reporting of the financial expenditures provides insufficient detail. No audits. Zero co-financing mobilized even though co-financing was expected to provide over 30 per cent of project funding. | **MU** |
| **J. Implementation approach** | Project strategy rested on the assumption that lack of knowledge and expertise were the main impediments to EST uptake by the private sector. Lack of access to financial resources and an inadequate regulatory environment are as important obstacles which the project did not address. Poor choice of global executing partner but good adaptive management from UNEP/DTIE. Complex institutional arrangement for | **MU** |

| Criterion | Summary Comments | Project Rating |
|---|---|---|
| | oversight and guidance. | |
| **K. UNEP Supervision and backstopping** | Serious management issues during the first project years. UNEP/DTIE's close technical backstopping and financial and administrative support did contribute to the achievements of the project, the SANet re-development in particular. Failed to secure co-financing and continued host country support to the LDs. | **MS** |
| **Overall Rating** | | **MS** |

## 5 LESSONS LEARNED

127. The most significant output of the project, the Sustainable Alternatives website and its related databases, provides world-wide, open and multi-lingual access to environmentally sound technological solutions and expertise across the globe. An online course and CD-ROM publications were successfully used by the project to inform and train people on clean industrial technologies. The project has shown that the Internet and other electronic media are now sufficiently advanced to be used effectively as information, communication and technology transfer tools.

128. The project collaborated successfully in five pilot countries with national institutions that hosted the TTN Local Desks (LDs). These institutions were chosen on the basis of their mandate, in line with the project's objectives, and their competencies and experiences. However, the choice of the global executing agency (GRID-Arendal), made at the design stage of the project, was poor. As a result, the project lost considerable time and UNEP/DTIE initially only charged with project backstopping had to absorb project management as well, reducing the strength of the firewall between execution and implementation required by the GEF. The lesson to be drawn here is that a good institutional analysis is required before selecting the key project partners, to ensure that institutional mandates and project objectives are aligned, and that the required competencies and experiences are available.

129. The TTN project was supposed to support LDs in finding their own financing to ensure their continuity after project funding had ended. The LDs did not manage to obtain significant and sustainable financial support nor did they generate their own income from services provided. This reduced the duration that the LDs could remain functional, and therefore the number of businesses that could make use of their tailored services. As a result, it is unlikely that significant impact in terms of increased investment in ESTs by local businesses in developing countries has been achieved. This shows the importance for projects like the TTN to actively support local partners in finding their own financing to ensure continuity of their services after the project has ended.

130. The project started off on the assumption that (tailored) technology transfer was the single most important missing link between the available cleaner technologies and their uptake by local businesses in the developing world. Even though this certainly is a missing link, it is not the only one. Access to financing to invest in ESTs and also a stronger legal and regulatory environment are equally important drivers that are most often missing in developing countries. UNEP/DTIE has acknowledged this in its more recent technology transfer strategy which focuses on developing technology markets on the basis of awareness raising and capacity building, support to the enabling regulatory environment, and promotion of accessible finance for environmentally sound technology investments. This three-pronged approach calls for a programmatic and country-based approach, where the country is the unit of account and technology transfer, access to financing and the institutional/regulatory environment are

improved together, instead of a scatter-gun approach, where these three pillars are covered by disconnected initiatives, each one of them spread over multiple countries.

131. The model developed to utilize existing institutional infrastructure such as the National Cleaner Production Centers for the provision of technical assistance, marketing and brokering services was very appropriate, but the allocated budget and timeframe for implementation were not commensurate with the expected outcomes at a national scale. UNEP should certainly build on the Local Desk model in future interventions, but foresee a long enough time-frame to reach a significant number of stakeholders and experiment with LDs that cover smaller geographical areas (provinces, districts, municipalities etc.) by collaborating with national institutions that have a representation at a lower level. These LDs would be more accessible to local businesses and be able to tailor even better the technological packages to the businesses' needs.

## 6 RECOMMENDATIONS

132. **Increase SANet visibility**. Even if the usefulness of the SANet website is not in doubt, its use could be increased by making sure there are more visible links to the SANet site from other well frequented websites (National Cleaner Production Centre websites for example) and that the website is properly registered (including key words) with at least the top 3 search engines (Google, Yahoo! and Bing). "Off line" promotion of the website should also be continued, using creative means (E.g. put the URL on the business card and Email signature of staff directly involved in SANet, distribute leaflets during local events involving industry etc.).

133. **Monitor SANet usage**. The use of the SANet should be monitored, to improve the visibility of the website and improve the links and other connections to it, and better adjust its contents to the most sought after information. A web statistics tool, such as the free Google Analytics Tool[12], should be used to collect information on who is visiting, from where visitor are accessing the site (e.g. via a search engine or via a link in another website), and what are the frequency and duration of visits to the different sections of the website. Further, the SANet should conduct online user surveys on a regular basis, e.g. twice a year, to gather more specific information on users' profiles, usage of the website, information needs and general feedback on how to improve the contents and accessibility of the website. Third, the experts in the roster should be contacted at least once a year to update their contact information and biodata, and to collect information on the number and nature of requests for information and potential clients that have reached them via the SANet website.

134. **Keep SANet contents up to date and expand on the business-to-business technology exchange**. Even though the local desks are not functional anymore, the SANet databases and web content should still be updated on a regular basis and allowed to grow with new inputs from national and regional institutions involved in ESTs and cleaner production and, more importantly, through contributions by private businesses having gone through the experience of introducing cleaner technologies in their production chain. Registered users should be allowed to upload contents to the website. A quality assurance mechanism should be built in, involving peer reviews to ensure relevance and quality of newly uploaded information. For this, inspiration may be sought in the quality assurance mechanism set up in the TTN involving the Local Desks.

[12] https://www.google.com/analytics/provision/

**ANNEXE 1**

**TERMS OF REFERENCE**

**Terminal Evaluation of UNEP GEF Project GF/4040-01-12 (4343)**

**Technology Transfer Networks Phase II: Prototype verification and expansion at the country/regional level (GFL/2328-2740-4343)**

## 1. PROJECT BACKGROUND AND OVERVIEW

This project was a continuation of Phase I of the UNEP/GEF 'Technology Transfer Networks (TTN)' – prototype setup and testing. Phase I and Phase II of TTN project were to respond to the growing need for consolidated knowledge management and customized support across Multilateral Environmental Agreements (MEAs). Specifically, Phase II was designed to build capacity and incentives for local businesses in addressing global environmental issues. With a view to achieving this objective, the project focused on three main areas: i) strengthen and expand the network of national agencies called TTN Local Desks; ii) decentralize content management of www.SustainableAlternatives.net (the SANet web site) and enhance information inflow from GEF recipient countries; and iii) demonstrate successes in leveraging investments with small co-finance incentives and disseminate information of success cases for further replication.

The key to the TTN framework was the Local Desks, which, as an interface, would link needs and opportunities at the country/ regional level to information and know-how exchange at the global level. The concept of Local Desks is a response to an assessment of stakeholder demand and readiness, conducted prior to Phase I. It was also recognized in UNEP's Cleaner Production Global Status Report, published in September 2002. TTN support would see offices opened in Peru, Brazil, Costa Rica, Zambia, Sri Lanka and India. These offices would to develop sector-related activities for TTN apart from the traditional operations of information and training.

The project's objective was '*to increase the quality and flow of environmentally sound investment projects in the private sector communities of developing countries and countries with economies in transition'*. The business managers and experts would be assisted in making informed decisions regarding investments in cleaner technologies by offering three kinds of interlinked service: (i) Face-to-face communication at the country and regional levels through Local Desks, which would connect and broker different services of the Sustainable Alternatives Network (SANet) and articulates needs of the local business community; (ii) Technical assistance and training, aimed at strengthening the capacity of key stakeholders for the use of cleaner technologies and project conceptualizations; and (iii) Internet-based information services that would support exchange of know-how through a web site and a CD-ROM equivalent.

**Relevance to GEF Programmes**

The proposed project recognizes GEF's critical areas of economic benefits as well as the global environmental benefits of promoting best practices for climate change mitigation. Its outcomes would complement initiatives in GEF focal areas of climate change, biodiversity and Persistent Organic Pollutants (POPs). Accordingly, TTN is a multifocal project that covers in the same framework five operational areas of GEF – i.e. forest ecosystems (OP 3), (removal of barriers to energy efficiency and energy conservation (OP 5), promoting the adoption of renewable energy by removing barriers and reducing implementation costs (OP 6), conservation and sustainable use of biological diversity important to agriculture (OP 13), and eliminating scheduled POPs (OP 14). Further, the project prioritized engagement of the private sector and mainstreaming Biodiversity Conservation in production systems.

TTN was also a response to the recommendations of the Overall Performance Study 2 (OPS2), which specifically call for:

- Improving GEF visibility through better information products and communication.
- Better focus on the catalytic role of the GEF —through mainstreaming, co-financing, and replication of GEF-funded activities.
- GEF engagement with the private sector more extensively.

Therefore, TTN would link global, regional, and local organizations to influence business decisions and support the dissemination of clean technology. Through the Co-finance Mechanism TTN would facilitate demonstration of successful investment projects with tangible global environmental benefits, namely, GHG emission reduction, enhanced biodiversity and reduced POPs use.

**Executing Arrangements**

The project took advantage of the opportunities for synergy and complementarity, recognizing cooperation with UNEP/DTIE and GEF, and local contacts established during Phase I. Synergies between TTN and locally represented donors, national government departments, the local business community were sought through the TTN Local Desks. Implementation of respective activities was based on standard UNEP and GEF procedures for planning, execution, monitoring and reporting, which were coordinated by the TTN project team.

Project activities were executed by UNEP GRID-Arendal in conjunction with national agencies. The TTN Project Team with members drawn from different collaborating agencies provided technical backstopping to respective Local Desks. At country-level, implementation involved consultations among different stakeholders, including the private sector under the leadership of a local representative entrusted to operate the Local Desk. The process resulted in a wide support of and voluntary contributions from the stakeholders for the set up of the trust fund. In addition, the Local Desks facilitated establishment of contacts with the local partners, including the private sector community.

**Project Activities**

This was a 4-year project, which commenced in October 2003 and ended in December 2007.
The proposed activities constitute a direct follow-up to the results of Phase I of the TTN, which had achieved significant progress on prototype development and testing. Recognizing the need for sequential development, TTN has identified technology transfer experts and advisors as the direct target group of the project. TTN also identified the initial four focal sectors (namely, energy, textiles, organic agriculture and forestry), as well as initial priority countries (namely, Brazil, India, Nicaragua, Peru, Sri Lanka, and Zambia), all of which had expressed demand and had made available collaborating co-finance in the following components:

Component 1: *Strengthen technology transfer networks in GEF recipient countries through the engagement of Technology Transfer Local Desks*

- Develop or refine TTN Local Desk work plan, in consultation with the co-finance provider, for the set up of the initial three TTN Local Desks. A work plan was needed for each TTN Local Desk, specifying activities, budgets, timeframe and monitoring indicators.
- Negotiate partnership conditions, responsibilities, budgets with a Sri Lankan business coalition, four national agencies under a bidding process (from which one Energy Local Desk in India will be selected, while others would also be engaged), ACOA (Agriculture Local Desk, Zambia) and Friends of the Earth Brazil (Forestry Local Desk, Brazil). National agencies are to be identified in Nicaragua and Peru.

- Develop MoU/ToR to be signed by the parties concerned as partnership terms and activities become concrete
- Assess and verify the needs, expectations of and opportunities available within the local business community and national agencies through stakeholder consultations. Compile discussion papers and adjust Local Desk work plans according to the responses received.
- Develop plans for the sustainability of Local Desk services for the medium and long term.

- Identify additional countries/regions for the deployment of further Local Desks and use of TTN through regional meetings.

Component 2: *Selection of Local Desk host organizations will be evaluated according to the following criteria*.

*Country:*

- Demand for environmental technology transfer,
- Demonstrated need for access to information,
- The countries in which Local Desks will be located offer opportunities to address global environmental issues with recognized means to bring about quantifiable benefits,
- There is a demonstration value in the set up of and activities to be pursued by the Local Desk, which can be replicated in neighboring countries and regions, and in some cases, in other parts of the world.

*Reputation:*

- The host organization should have an intrinsic interest in the LD function, which presumably is reflected in their mandate and activities. Being a TTN LD, therefore, is considered as an added value to enhance their own services. Ideally the entity is willing to provide its own resources for operation after the start-up phase.
- The organization has a reputation in the private sector as an impartial and reliable "broker", and is involved in the business-oriented activities.
- The organization must not be considered as a "competitor" by the TTN target group, i.e. experts.
- The organization is at arm's length from the governmental authorities, as it should be perceived as independent, service-oriented, making a difference for investments, highly qualified, authoritative and trusted.

*Expertise:*

- The organization has adequate expertise in the selected industry or issue in the country in order to be able to determine the quality of experts, business cases and other information.
- The organization has adequate expertise in the selected industry or issue in the country to be able to facilitate technical assistance and targeted training.
- The organization has updated information on investments, markets, technologies, and experts at the regional and national level.
- The organization is involved in events/workshops organized at the regional and national level and other major topics in a specific industry or issue in the region and the country.
- The organization has updated information on initiatives in the country sponsored by international institutions and donor agencies.

*Networking Capacity:*

- *The organization must be an excellent "communicator" and "connector" for experts as well as other players in the industry. It must have vertical networks, i.e. from the key*

*persons in donor outpost offices to local engineers, and from international players to local enterprises and financing institutions.*

- The organization has established networks with experts in the region and country and is able to activate the network to solicit their registration (expert/case) in the directories of the affiliated web sites of TTN.
- The organization has established networks with the local financial community. The organization is capable of connecting its clients to local financial institutions, when investment proposals are prepared.
- The organization has established networks with key local and national public offices.
- The organization has communication channels to experts: face-to-face, workshops, newsletter distribution, email list, and so forth.
- As needed, the organization is able to find an appropriate expert from its networks that can answer incoming requests from potential clients.

*Physical Capacity:*

- Once established, the LD provides permanent accessibility during working hours and has a minimum of permanent staff, consisting of one director, one senior technical staff position and an administrative assistant, and one or more advisors that may be hired on a case-by-case basis.
- The organization can provide space, ICT, or other in kind facilities to the LD.
- The organization is able to host workshops and seminars for Technology Transfer target groups, i.e. experts, also known as in-house business planners and business-to-business consultants, as needed.

Component 3: *Facilitate exchange of know-how through the SANet web site, customized brokering services, technical assistance, training, information dissemination and regional outreach.*

- Proactively engage key stakeholders in the country and region in consultation and dialogue to mine needs and promote cleaner technologies and raise awareness through going out in the field.

- Respond to incoming requests for tailor-made information brokerage, matchmaking and other specific services.

- Provide technical assistance/ technical review, aiming at refining project concepts that can bring about demonstration of the financial and environmental viability of cleaner technologies.

- Organize training workshops targeted for entrepreneurs, business managers, experts and other key stakeholders in the country and region to increase awareness about business opportunities available in investments in cleaner technologies.

- Organize information dissemination seminars targeted for entrepreneurs, business managers, experts and other key stakeholders in the country and region to promote the use of cleaner technologies and publicize demonstration cases to facilitate replication.

- Develop and keep a roster of local experts with proven records in supporting investment decision-making.

- Encourage information sharing of experts and cases in which they assisted decision-making in the SANet web site or TTN-affiliated web sites.

- Register best online resources found in a region or country in the SANet web site or appropriate TTN-affiliated web sites.

- Develop and disseminate off-line information dissemination tools (CD-ROMs, diskettes and flyers) in local languages, particularly for stakeholders with limited Internet accessibility.

Component 4: *Contextualize content management of the SANet web site, increase ownership of content developers and enhance information flow from GEF recipient countries.*

- Identify selected numbers of partners to entrust with content improvement and development. The partners may or may not be identical to Local Desks

- Assist selected partners to enhance own web sites, aiming at improving the focus on the decision making support for technology transfer targeted in a specific GEF recipient country/region.

- Provide technical support to partners to use XML, which enables SANet and its partners to exchange, aggregate and republish existing and new content with a semi-automated syndication process.

- Develop the Finance Directory at the country/regional level, in collaboration with Local Desks and other partner(s), most likely available within the IA, that contains information on funds and mechanisms providing financial resources to cleaner technology investment projects. The information includes the conditions and parameters to reach these funds.

- Organize seminars and workshop together with Local Desks to enhance networking capacity and seek active participation in the knowledge management between and among project owners, advisors, local experts and other technology and service providers.

- Identify best online resources found in a country/region to link up with the SANet web site directly or through affiliated web sites.

- Monitor the operation of web sites, particularly the quality control measures applied to the screening of incoming registration of experts, cases and online resources for quality and relevance.

- Support client groups with difficulty with the Internet accessibility to facilitate the exchange of information and know-how among clients in less favorable environments. Search, compare and communicate information available from the SANet web site to those client groups, and collect and share their information in the SANet web site.

Component 5: *Overall TTN coordination and regional/global meetings*

- Coordinate, monitor and advise ongoing activities of Local Desk.
- Monitor and guide content management of the SANet and affiliated web sites.
- Organize global/regional meetings of TTN Local Desks to share information and lessons learned through activities and experiences in each country.
- Organize twice per annum TTN Advisory Board meetings (at least one physical meeting once a year, complemented by online conferences).
- Conduct an internal outcome evaluation at the completion of the project.

**Budget**

The project cost was US$ 5,920,000 of which the GEF component was USD 3,289,000 while co-financing – from collaborating agencies (e.g. GTZ, EETIC, TNC, FoE, NRCan and others) was USD 2,631,000

## 2. TERMS OF REFERENCE FOR THE EVALUATION

### 1. Objective and Scope of the Evaluation

The objective of this terminal evaluation is to examine the extent and magnitude of any project impacts to date and determine the likelihood of future impacts. The evaluation will also assess project performance and the implementation of planned project activities and planned outputs against actual results. The evaluation will focus on the following main questions:

- To what extent did the project sustainably institutionalize Technology Transfer Local Desks, which would actively serve the developing country business community, engaging key stakeholders to the use of cleaner technologies through regular consultation and needs assessment, and exploring synergies with Programmes supported by other IAs and donor agencies?

- Did the project increase awareness and capacity among key stakeholders of technology transfer about business opportunities available from investments in cleaner technologies, resulting in more and better informed technology transfer projects implemented/intended at the end of Phase II?

- What measures did the project put in place to ensure active inflow of information to the SANet and affiliated web sites from stakeholders in countries and regions in which Local Desks are located, and demand for information and brokering services from GEF recipient countries?

- To what extent did the project promote active information sharing among the TTN Local Desks about lessons learned and outreach know-how with a view to increasing replication possibilities?

### 2. Methods

This terminal evaluation will be conducted as an in-depth evaluation using a participatory approach whereby the UNEP/GEF Task Manager, key representatives of the executing agencies and other relevant staff are kept informed and regularly consulted throughout the evaluation. The consultant will liaise with the UNEP/Evaluation Office and the UNEP/GEF Project Manager on any logistic and/or methodological issues to properly conduct the evaluation in as independent a way as possible, given the circumstances and resources offered.

The findings of the evaluation will be based on the following:

1. A desk review of project documents including, but not limited to:
    a) The project documents, outputs, monitoring reports (such as progress and financial reports to UNEP and relevant correspondence.
    b) Review of specific products including the 'experience and guidance' publication, final reports from country executing agencies.
    c) Notes from the Management Committee meetings.
    d) Relevant material published on the project web-site.

2. Interviews with project management and technical support (such as members of the Coordinating Committee of the International Alliance, collaborators and regional Coordinators).

3. Administering e-questionnaires to intended users for the project outputs and other stakeholders involved with this project, including in the participating countries and international bodies.

4. The Consultant shall determine whether to seek additional information and opinions from representatives of donor agencies and other organisations by e-mail or through telephone communication.

5. Interviews with the UNEP/ project manager and Fund Management Officer, and other relevant staff in UNEP dealing with CBD and related conventions as necessary. The Consultant shall also gain broader perspectives from discussions with relevant GEF Secretariat staff if deemed of added value.

6. Field visits to local desks of selected countries and, project secretariat.

**Key Evaluation principles**

In attempting to evaluate any outcomes and impacts that the project may have achieved, evaluators should remember that the project's performance should be assessed by considering the difference between the answers to two simple questions ***"what happened?***" and ***"what would have happened anyway?"*** These questions imply that there should be consideration of the baseline conditions and trends in relation to the intended project outcomes and impacts. In addition, it implies that there should be plausible evidence to **attribute** such outcomes and impacts to the actions of the project **or determine the contribution** of the project to the outcomes and impacts**.**

Sometimes, adequate information on baseline conditions and trends is lacking. In such cases, this should be clearly highlighted by the evaluator, along with any simplifying assumptions that were taken to enable the evaluator to make informed judgements about project performance.

## 3. Project Ratings

The success of project implementation will be rated on a scale from 'highly unsatisfactory' to 'highly satisfactory'. In particular the evaluation shall **assess and rate** the project with respect to the eleven categories defined below:[13]

It should be noted that many of the evaluation parameters are interrelated. For example, the 'achievement of objectives and planned results' is closely linked to the issue of 'sustainability'. Sustainability is understood as the probability of continued long-term project-derived outcomes and impacts and is, in turn, linked to the issues of 'catalytic effects / replication' and, often, 'country ownership' and 'stakeholder participation'.

### A. Attainment of objectives and planned results:

The evaluation should assess the extent to which the project's major relevant objectives were effectively and efficiently achieved or are expected to be achieved and their relevance.

- *Effectiveness:* Evaluate how, and to what extent, the stated project objectives have been met, taking into account the "achievement indicators". The analysis of outcomes achieved should include, *inter alia*, an assessment of the extent to which the project has directly or indirectly assisted policy and decision-makers to apply information supplied by the TTN in their national planning and decision-making. In particular:
    - Evaluate the immediate impact of the project on the GEF focal areas of biodiversity, UNFCCC and POPs.
    - As far as possible, also assess the potential longer-term impacts considering that the evaluation is taking place 2 years after completion of the project. Frame recommendations to enhance future project impact. UNEP's Evaluation Office

[13] However, the views and comments expressed by the evaluator need not be restricted to these items.

advocates the use of the **Review of Outcomes to Impacts (ROtI)** method (described in Annex 6) to establish this rating.

- *Relevance*: In retrospect, were the project's outcomes consistent with GEF focal areas/operational program strategies? Ascertain the nature and significance of the contribution of the project outcomes to the GEF focal areas of biodiversity, UNFCCC and POPs.
- *Efficiency*: Was the project cost effective? Was the project the least cost option? Was the project implementation delayed and if it was, then did that affect cost-effectiveness? Assess the contribution of cash and in-kind co-financing to project implementation and to what extent the project leveraged additional resources. Did the project build on earlier initiatives, did it make effective use of available scientific and /or technical information. Wherever possible, the evaluator should also compare the cost-time vs. outcomes relationship of the project with that of other similar projects.

**B. Sustainability:**

Sustainability is understood as the probability of continued long-term project-derived outcomes and impacts after the GEF project funding ends. The evaluation will identify and assess the key conditions or factors that have contributed or undermine the persistence of benefits after the project ended. Some of these factors might be outcomes of the project, e.g. stronger institutional capacities or better informed decision-making. Other factors will include contextual circumstances or developments that are not outcomes of the project but that are relevant to the sustainability of outcomes. The evaluation should ascertain to what extent follow-up work has been initiated and how project outcomes will be sustained and enhanced over time. **Application of the ROtI method** described in Annex 6 will also assist in the evaluation of sustainability.

Five aspects of sustainability should be addressed: financial, socio-political, institutional frameworks and governance. The following questions provide guidance on the assessment of these aspects:

- *Financial resources.* Are there any financial risks that have jeopardized sustenance of project outcomes? To what extent are the outcomes of the project dependent on continued financial support? Resources can be from multiple sources, such as the public and private sectors, income generating activities, and trends that may indicate that it is likely that in future there will be adequate financial resources for sustaining project's outcomes
- *Socio-political:* Are there any social or political risks that may jeopardize sustenance of project outcomes? What is the risk that the level of stakeholder ownership will be insufficient to allow for the project outcomes to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project?
- *Institutional framework and governance.* To what extent is the sustenance of the outcomes of the project dependent on issues relating to institutional frameworks and governance? What is the likelihood that institutional and technical achievements, legal frameworks, policies and governance structures and processes will allow for, the project outcomes/benefits to be sustained? While responding to these questions consider if the required systems for accountability and transparency and the required technical know-how are in place.
- *Environmental.* Are there any environmental risks that can undermine the future flow of project environmental benefits? The TE should assess whether certain activities in the project area will pose a threat to the sustainability of the project outcomes. For example; construction of dam in a protected area could inundate a sizable area and thereby neutralize the biodiversity-related gains made by the project; or, a newly established pulp mill might jeopardise the viability of nearby protected forest areas by increasing logging pressures; or a vector control intervention may be made less effective by changes in climate and consequent alterations to the incidence and distribution of malarial

mosquitoes. Would these risks apply in other contexts where the project may be replicated?

**C. Achievement of outputs and activities:**

- Delivered outputs: Assessment of the project's success in producing each of the programmed outputs, both in quantity and quality as well as usefulness and timeliness.
- Assess the soundness and effectiveness of the methodologies used for developing the technical documents and related management options in the participating countries
- Assess to what extent the project outputs produced have the weight of scientific authority / credibility, necessary to influence policy and decision-makers, particularly at the national level.

**D. Catalytic Role**

The catalytic role of the GEF is embodied in its approach of supporting the creation of an enabling environment, investing in activities which are innovative and supporting activities that upscale new approaches to a national (or regional) level to sustainably achieve global environmental benefits.

In general this catalytic approach can be separated into three broad categories of GEF activities: (1) "**foundational**" and enabling activities, focusing on policy, regulatory frameworks, and national priority setting and relevant capacity (2) **demonstration** activities, which focus on demonstration, capacity development, innovation, and market barrier removal; and (3) **investment** activities, full-size Projects with high rates of co-funding, catalyzing investments or implementing a new strategic approach at the national level.

The three categories approach combines all the elements that have been shown to catalyze results in international cooperation. Evaluations in the bilateral and multilateral aid community have shown time and again that activities at the micro level of skills transfer—piloting new technologies and demonstrating new approaches—will fail if these activities are not supported at the institutional or market level as well. Evaluations have also consistently shown that institutional capacity development or market interventions on a larger scale will fail if governmental laws, regulatory frameworks, and policies are not in place to support and sustain these improvements. And they show that demonstration, innovation and market barrier removal do not work if there is no follow up through investment or scaling up of financial means.

In this context the evaluation should assess the catalytic role played by this Project by consideration of the following questions:

- INCENTIVES: To what extent have the Project activities provided incentives (socio-economic / market based) to contribute to catalyzing changes in stakeholder behaviours?
- INSTITUTIONAL CHANGE: To what extent have the Project activities contributed to changing institutional behaviors?
- POLICY CHANGE: To what extent have Project activities contributed to policy changes (and implementation of policy)?
- CATALYTIC FINANCING: To what extent did the Project contribute to sustained follow-on financing from Government and / or other donors? (this is different from co-financing)
- PROJECT CHAMPIONS: To what extent have changes (listed above) been catalyzed by particular individuals or institutions (without which the Project would not have achieved results)?

(Note: the ROtI analysis should contribute useful information to address these questions)

What examples are there of replication and catalytic outcomes? Replication approach, in the context of GEF projects, is defined as lessons and experiences coming out of the project that are replicated or scaled up in the design and implementation of other projects. Replication can have

two aspects, replication proper (lessons and experiences are replicated in different geographic area) or scaling up (lessons and experiences are replicated within the same geographic area but funded by other sources). Specifically:
If no effects are identified, the evaluation will describe the catalytic or replication actions that the project carried out.

**E. Assessment of monitoring and evaluation systems.**
The evaluation shall include an assessment of the quality, application and effectiveness of project monitoring and evaluation plans and tools, including an assessment of risk management based on the assumptions and risks identified in the project document. The Terminal Evaluation will assess whether the project met the minimum requirements for 'project design of M&E' and 'the application of the Project M&E plan' (see minimum requirements 1&2 in *Annex 5* to this Appendix). GEF projects must budget adequately for execution of the M&E plan, and provide adequate resources during implementation of the M&E plan. Project managers are also expected to use the information generated by the M&E system during project implementation to adapt and improve the project.

**M&E during project implementation**

- *M&E design.* Projects should have sound M&E plans to monitor results and track progress towards achieving project objectives. An M&E plan should include a baseline (including data, methodology, etc.), SMART indicators (see Annex 4) and data analysis systems, and evaluation studies at specific times to assess results. The time frame for various M&E activities and standards for outputs should have been specified.

- *M&E plan implementation.* A Terminal Evaluation should verify that: an M&E system was in place and facilitated timely tracking of results and progress towards projects objectives throughout the project implementation period (perhaps through use of a logframe or similar); annual project reports and Progress Implementation Review (PIR) reports were complete, accurate and with well justified ratings; that the information provided by the M&E system was used during the project to improve project performance and to adapt to changing needs; and that projects had an M&E system in place with proper training for parties responsible for M&E activities.
- *Budgeting and Funding for M&E activities.* The terminal evaluation should determine whether support for M&E was budgeted adequately and was funded in a timely fashion during implementation.

**F. Preparation and Readiness**
Were the project's objectives and components clear, practicable and feasible within its timeframe? Were the capacities of executing institution and counterparts properly considered when the project was designed? Were lessons from other relevant projects properly incorporated in the project design? Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project implementation? Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place?

**G. Country ownership / drive-ness:**
This is the relevance of the project to national development and environmental agendas, recipient country commitment, and regional and international agreements. The evaluation will:

- Assess the level of country ownership. Specifically, the evaluator should assess whether the project was effective in providing and communicating biodiversity information that catalyzed action in participating countries to improve decisions relating to systematic participation of indigenous groups.
- Assess the level of country commitment to the use of the information generated by IPNC for decision-making during and after the project, including in regional and international fora.

**H. Stakeholder participation / public awareness:**

This consists of three related and often overlapping processes: information dissemination, consultation, and "stakeholder" participation. Stakeholders are the individuals, groups, institutions, or other bodies that have an interest or stake in the outcome of the GEF- financed project. The term also applies to those potentially adversely affected by a project. The evaluation will specifically:

- Assess the mechanisms put in place by the project for identification and engagement of stakeholders in each participating country and establish, in consultation with the stakeholders, whether this mechanism was successful, and identify its strengths and weaknesses.
- Assess the degree and effectiveness of collaboration/interactions between the various project partners and institutions during the course of implementation of the project.
- Assess the degree and effectiveness of any various public awareness activities that were undertaken during the course of implementation of the project.

**I. Financial Planning**

Evaluation of financial planning requires assessment of the quality and effectiveness of financial planning and control of financial resources throughout the project's lifetime. Evaluation includes actual project costs by activities compared to budget (variances), financial management (including disbursement issues), and co- financing. The evaluation should:

- Assess the strength and utility of financial controls, including reporting, and planning to allow the project management to make informed decisions regarding the budget and allow for a proper and timely flow of funds for the payment of satisfactory project deliverables.
- Present the major findings from the financial audit if one has been conducted.
- Identify and verify the sources of co- financing as well as leveraged and associated financing (in co-operation with the IA and EA).
- Assess whether the project has applied appropriate standards of due diligence in the management of funds and financial audits.
- The evaluation should also include a breakdown of final actual costs and co-financing for the project prepared in consultation with the relevant UNEP/DGEF Fund Management Officer of the project **(table attached in *Annex 2* Co-financing and leveraged resources).**

**J. Implementation approach:**

This includes an analysis of the project's management framework, adaptation to changing conditions (adaptive management), partnerships in implementation arrangements, changes in project design, and overall project management. The evaluation will:

- Ascertain to what extent the project implementation mechanisms outlined in the project document have been closely followed. In particular, assess the role of the various committees established and whether the project document was clear and realistic to enable effective and efficient implementation, whether the project was executed according to the plan and how well the management was able to adapt to changes during the life of the project to enable the implementation of the project.
- Evaluate the effectiveness and efficiency and adaptability of project management and the supervision of project activities / project execution arrangements at all levels (1) policy decisions: Project Management Committee; (2) day to day project management in each of the country executing agencies and the International Technical secretariat.

**K. UNEP Supervision and Backstopping**

The purpose of supervision is to work with the executing agency in identifying and dealing with problems which arise during implementation of the project itself. Such problems may be related to project management but may also involve technical/substantive issues in which UNEP has a major contribution to make. The evaluator should assess the effectiveness of supervision and administrative and financial support provided by UNEP/DGEF including:

- the adequacy of project supervision plans, inputs and processes;

- the emphasis given to outcome monitoring (results-based project management);
- the realism / candor of project reporting and rating (i.e. are PIR ratings an accurate reflection of the project realities and risks);
- the quality of documentation of project supervision activities; and
- financial, administrative and other fiduciary aspects of project implementation supervision.

In summary, accountability and implementation support through technical assistance and problem solving are the main elements of project supervision (Annex 4).

### L. Complementarity with UNEP Medium Term Strategy and Programme of Work

UNEP aims to undertake GEF funded projects that are aligned with its strategy. Whilst it is recognised that UNEP GEF projects designed prior to the production of the UNEP Medium Term Strategy (MTS) http://www.unep.org/PDF/FinalMTSGCSS-X-8.pdf / Programme of Work (POW) 2010/11 would not necessarily be aligned with the Expected Accomplishments articulated in those documents, complementarity may exist nevertheless. For this reason, the complementarity of GEF projects with UNEP's MTS / POW will not be formally rated, however, the evaluation should present a brief narrative to cover the following issues:

*Linkage to UNEP's Expected Accomplishments*. The UNEP Medium Term Strategy specifies desired results in six thematic focal areas. The desired results are termed Expected Accomplishments. Using the completed ROtl analysis, the evaluation should comment on whether the project makes a tangible contribution to any of the Expected Accomplishments specified in the UNEP MTS. The magnitude and extent any contributions and the casual linkages should be fully described.

*Project contributions that are in-line with the Bali Strategic Plan (BSP)*[14]**.** The outcomes and achievements of the project should be briefly discussed in relation to the objectives of the UNEP BSP.

*South-South Cooperation* is regarded as the exchange of resources, technology and knowledge between developing countries. Briefly describe any aspects of the project that could be considered as examples of South-South Cooperation.

The ***ratings will be presented in the form of a table***. Each of the eleven categories should be rated separately with **brief justifications** based on the findings of the main analysis. An overall rating for the project should also be given. The following rating system is to be applied:

HS = Highly Satisfactory
S = Satisfactory
MS = Moderately Satisfactory
MU = Moderately Unsatisfactory
U = Unsatisfactory
HU = Highly Unsatisfactory

## 4. Evaluation Report Format and Review Procedures

The report should be brief, to the point and easy to understand. It must explain; the purpose of the evaluation, exactly what was evaluated and the methods used. The report must highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons. The report should be presented in a way that makes the information accessible and comprehensible and include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination and distillation of lessons.

[14] http://www.unep.org/GC/GC23/documents/GC23-6-add-1.pdf

The evaluation will rate the overall implementation success of the project and provide individual ratings of the eleven implementation aspects as described in Section 1 of this TOR. The ratings will be presented in the format of a table with brief justifications based on the findings of the main analysis.

Evidence, findings, conclusions and recommendations should be presented in a complete and balanced manner. Any dissident views in response to evaluation findings will be appended in an annex. The evaluation report shall be written in English, be of no more than 50 pages (excluding annexes), use numbered paragraphs and include:

i) An **executive summary** (no more than 3 pages) providing a brief overview of the main conclusions and recommendations of the evaluation;

ii) **Introduction and background** giving a brief overview of the evaluated project, for example, the objective and status of activities; The GEF Monitoring and Evaluation Policy, 2006, requires that a Terminal Evaluation (TE) report will provide summary information on when the evaluation took place; places visited; who was involved; the key questions; and, the methodology.

iii) **Scope, objective and methods** presenting the evaluation's purpose, the evaluation criteria used and questions to be addressed;

iv) **Project Performance and Impact** providing *factual evidence* relevant to the questions asked by the evaluator and interpretations of such evidence. This is the main substantive section of the report. The evaluator should provide a commentary and analysis on all eleven evaluation aspects (A − K above).

v) **Conclusions and rating** of project implementation success giving the evaluator's concluding assessments and ratings of the project against given evaluation criteria and standards of performance. The conclusions should provide answers to questions about whether the project is considered good or bad, and whether the results are considered positive or negative. The ratings should be provided with a brief narrative comment in a table (see *Annex 1* to this Appendix);

vi) **Lessons (to be) learned** presenting general conclusions from the standpoint of the design and implementation of the project, based on good practices and successes or problems and mistakes. Lessons should have the potential for wider application and use. All lessons should 'stand alone' and should:

- Briefly describe the context from which they are derived
- State or imply some prescriptive action;
- Specify the contexts in which they may be applied (if possible, who when and where)

vii) **Recommendations** suggesting *actionable* proposals for improvement of the current project. In general, Terminal Evaluations are likely to have very few (perhaps two or three) actionable recommendations.

*Prior to each recommendation*, the issue(s) or problem(s) to be addressed by the recommendation should be clearly stated.

A high quality recommendation is an actionable proposal that is:

1. Feasible to implement within the timeframe and resources available
2. Commensurate with the available capacities of project team and partners
3. Specific in terms of who would do what and when
4. Contains results-based language (i.e. a measurable performance target)
5. Includes a trade-off analysis, when its implementation may require utilizing significant resources that would otherwise be used for other project purposes.

viii) **Annexes** may include additional material deemed relevant by the evaluator but must include:

1. The Evaluation Terms of Reference,
2. A list of interviewees, and evaluation timeline
3. A list of documents reviewed / consulted

4. Summary co-finance information and a statement of project expenditure by activity
5. Details of the Project's 'impact pathways' and the 'ROtI' analysis
6. The expertise of the evaluation team. (brief CV).

TE reports will also include any response / comments from the project management team and/or the country focal point regarding the evaluation findings or conclusions as an annex to the report, however, such will be appended to the report by UNEP/Evaluation Office.

Examples of UNEP GEF Terminal Evaluation Reports are available at www.unep.org/eou

**Review of the Draft Evaluation Report**
Draft reports shall be submitted to the Chief of Evaluation UNEP. The Chief of Evaluation will share the report with the corresponding Programme or Project Officer and his or her supervisor for initial review and consultation. The DGEF staff and senior Executing Agency staff are allowed to comment on the draft evaluation report. They may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. The consultation also seeks feedback on the proposed recommendations. UNEP/Evaluation Office collates all review comments and provides them to the evaluators for their consideration in preparing the final version of the report.

**5. Submission of Final Terminal Evaluation Reports.**
The final report shall be written in English and submitted in electronic form in MS Word format and should be sent directly to:

Segbedzi Norgbey, Chief,
UNEP Evaluation Office
P.O. Box 30552-00100
Nairobi, Kenya
Tel.: +(254-20)762-3387
Fax: +(254-20)762-3158
Email: Segbedzi.Norgbey@unep.org

The Chief of Evaluation will share the report with the following individuals:

Edu Hassing
Task Manager
Climate Change DGEF UNEP
Tel. +33 01 44 37 14 72
Email: edu.hassing@unep.org

Christopher Taylor
Division of GEF Coordination
UNEP/Division of GEF Coordination
P.O. Box 30552-00100 Nairobi, Kenya
Tel: 254 20 7623347
Fax: 254 20 7624041

The final evaluation report will be printed in hard copy and published on the Evaluation and Oversight Unit's web-site www.unep.org/eou.

**6. Resources and schedule of the evaluation**
This final evaluation will be undertaken by an international evaluator contracted by the Evaluation Office, UNEP. The contract for the evaluator will begin on 14th December 2009 and end on 22nd January 2010 (22 days) spread over 6 weeks (10 days of desk review, 3 days of telephone interviews

and administration of e-questionnaires and 9 days of report writing). The evaluator will submit a draft report on 4th January 2010 to UNEP/Evaluation Office. The Chief of Evaluation Office will share the draft report with the UNEP/DGEF Task Manager, and key representatives of the executing agencies. Any comments or responses to the draft report will be sent to UNEP / Evaluation Office for collation and the consultant will be advised of any necessary revisions. Comments to the final draft report will be sent to the consultant by 15th January 2010 after which, the consultant will submit the final report no later than 22nd January 2010.

The evaluator will after an initial telephone briefing with Evaluation Office and UNEP/GEF, conduct desk review work and later hold telephone interviews and administer e-questionnaires to project partners as a way of updating and validating the information gathered.

In accordance with UNEP policy, all UNEP projects are evaluated by independent evaluators contracted as consultants by the UNEP Evaluation Office. The evaluator will work under the overall supervision of the Chief, Evaluation Office, UNEP. He should not have been associated with the design and implementation of the project and must have the following qualifications:

At least Masters degree (or its equivalent); working experience with the private sector; knowledge of stakeholder participation in GEF focal areas; experience in management and implementation of multi-institutional, donor funded projects (especially on knowledge management and/or technology transfer); and experience with evaluation of UNEP/GEF Projects. Knowledge of TTN is an advantage. Must be fluent in oral and written English. Any other UN language will be an advantage.

## 7. Schedule Of Payment

**Lump-sum option**
The evaluator will receive an initial payment of equivalent to the lump sum travel upon signing of the contract, 40 per cent of the SSA fee upon submission of draft report and final payment of 60 per cent upon satisfactory completion of work. The fee is payable under the individual SSAs of the evaluator and is inclusive of all expenses such as travel, accommodation and incidental expenses.

In case, the evaluator cannot provide the products in accordance with the TORs, the timeframe agreed, or his products are substandard, the payment to the evaluator could be withheld, until such a time the products are modified to meet UNEP's standard. In case the evaluator fails to submit a satisfactory final product to UNEP, the product prepared by the evaluator may not constitute the evaluation report.

[Annexes to the TORs have been removed]

**ANNEXE 2**

**RESULTS RATING SHEET**

| **Result rating of: Terminal Evaluation of the UNEP/ GEF Technology Transfer Networks Phase II** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Output | Outcome | Rating | Intermediate States | Rating | Impact | Rating | Overall |
| **1. Country-level networking through TTN local desks:**<br>- 5 LDs established in 5 countries<br>- LDs were engaged in information dissemination, conducting seminars and technical trainings, and face–to–face technical consultations<br><br>**2. SANet website**:<br>- Site development and testing completed<br>- SANet website enhanced with additional knowledge base on energy efficiency.<br>- CD-ROM on energy efficiency prepared and disseminated for off -line usage where internet access is limited.<br><br>3. Additional output:<br>On-line course on industrial energy efficiency. 14 engineers from different countries successfully completed the course. Course content and training manual are still available on the SANet Website. | **1. Increased awareness and receptiveness towards cleaner technologies among key stakeholders (sector-wise and in financial institutions and governments) in countries where local desks are deployed:**<br>- Awareness, receptiveness and understanding increased of over 1600 individuals in five pilot countries (local businesses, experts, LD host institution staff…) about environmentally sound technologies<br>- Improved access to information on cleaner technologies, sources of expertise and financing opportunities temporarily through the LDs and post-project still through the SANet website maintained by DTIE.<br>**2. Integration of TTN-related services in implementing partner's sustaining activities:**<br>- LDs not functional anymore and their host institutions are disconnected from TTN / SANet<br>- Some LD host institutions continue to provide technical advise / brokering services and put to use the knowledge and experiences gained through TTN project<br>- The SANet website is still active and is being maintained by UNEP/DTIE. | B: Outcomes achieved with implicit forward linkages to intermediary stages in the future | **To increase the quality and flow of environmentally sound investment projects in the private sector communities of developing countries and countries with economies in transition**<br>- No monitoring data available on increases in quality and flow of investments.<br>- Duration of LD activity insufficient to have significant influence on investments in cleaner technologies at a national or regional scale<br>- Two drivers are largely absent in developing countries/countries with economies in transition to take the project outcomes (increased knowledge and sustained services) towards the intermediary state and ultimately towards impact: 1) Presence of an enabling legal, regulatory and institutional environment; and 2) Access of local private businesses to financing for investing in environmentally sound technologies | D: Intermediary state not achieved, because outcomes are insufficient to move the project towards intermediary stages and impact. Serious barriers still exist. | 1. Reduction of GHG emissions to prevent Global Warming<br>2. Reduce pollution of the environment<br>- No monitoring data available<br>- As intermediate state has not been reached at a significant scale, impact is unlikely | No measurable impact achieved at a globally significant level | BD: Unlikely |

**ANNEX 3**

**BIBLIOGRAPHY**


1. Sir Lanka OFP Endorsement, 17 march 2002
2. External Progress Review, UNEP/GEF Technology Transfer Networks, www.SustaiableAlternatives.net (SANet), Ferd Schelleman, Independent Evaluation Expert, Netherlands, 3 March 2003
3. GEF Council Work Programme Submission Project Executive Summary, 3April 2003
4. Memorandum of Understanding between DTIE/UNEP and National Productivity Council (NPC), India, 15 December 2003
5. Memorandum of Understanding between DTIE/UNEP and Consejo Nacional de Ciencia y Technology, Peru, 21April 2004
6. Memorandum of Understanding between DTIE/UNEP and CNTL/SENAI-RS, Brazil 17 September 2004
7. 3rd TTN Adversary Board Meeting Minutes, Rio De Janeiro, Brazil, November 24 – 25, 2005
8. TTN Project Document, Project Number GFL/2328 2740 4343
9. SANet Website, www.SustaiableAlternatives.net
10. Annex 8, GEF/UNEP Technology Transfer Network (TTN) Project, Final Report
11. UNEP /GEF PIR FY 06 (1 July 2005 to 30 June 2006)
12. Mid-Term Evaluation, TTN April 2007
13. UNEP /GEF PIR FY 07 (1 July 2006 to 30 June 2007)
14. UNEP /GEF PIR FY 08 (1 July 2007 to 30 June 2008)
15. UNEP /GEF PIR FY 09 (1 July 2008 to 30 June 2009)

**ANNEXE 4**

Interviewed UNEP – DTIE, Regional and National Executing Agencies (TTN Local Desks)

| Name | Country / Organization | Email | Telephone | Remark |
|---|---|---|---|---|
| Paulo Antunes de Oliveira Rosa | Brazil | cntl.informacao@dr.rs.senai.br | +55 51-3347-8414 | SENAI<br>Communicated by telephone and Email |
| Maria Luisa Espinosa Talavera | Peru | aoliveros@concytec.gob.pe<br>forpgf@concytec.gob.pe | +051-1-225-1150 x1151 | CONCYTEC<br>Communicated by telephone and Email |
| Cleo L.C. Migiro<br>Anne Megash | Tanzania | cpct@arscp.org | +255 22 260 2338 | Cleaner Production Center of Tanzania (CPCT)<br>Communicated by telephone and Email |
| Amr M. Abdel Hai | UNEP | Amr.AbdelHai@unep.org | +33144377616 | UNEP DTIE<br>Communicated by telephone and Email |

Two key resource persons were unfortunately impossible to reach by telephone or Email:

| | | | | |
|---|---|---|---|---|
| Sh. N.C. Vasudevan, IAS | India | Sanet.india@npcindia.org | +91-11-2462-2359 | National Prductivity Council (NPC) |
| Cesar Barahona Zamora | Nicaragua | ceb@cpmlnic.org.ni | +505 278 31 36 | Cleaner Production Center of Nicaragua (CPCN) |

**ANNEX 5**

## Short CV of the evaluation consultant

**Nebiyeleul GESSESE**

### EXECUTIVE SUMMARY

With over 18 years of professional experience in promoting and implementing energy and environmental management systems in various industries in developing countries, Dr. Gessese is recognized for his innovations and pioneering works in the fields of industrial energy, environmental issues, and global environmental affairs. His experience includes the development of policies and programs for sustaining environmentally friendly industrial products and optimal energy utilization. In conjunction with the United Nations Industrial Development Organization (UNIDO), Dr. Gessese has helped put into practice the theoretical knowledge of Life Cycle Assessment (LCA). Furthermore, he has had notable success in promoting energy and environmental management systems in Ethiopian manufacturing enterprises and has provided both leadership and technical support for the implementation of UNIDO's Integrated Program for Ethiopia.

### PROFESSIONAL EXPERIENCE

- Addis Ababa University (Sept04-present) / Part-time Lecturer - Department of Chemical Engineering graduate level course
- Austrian Development Cooperation (Oct04-Sept06) / Consultant - Research on "Management of International Product Chains: Developing a Methodology for Integrating Environmental Life Cycle Assessment with Economic and Social Models" towards the enrichment of the Ethiopian Industrial Strategy
- Ethiopian Society of Chemical Engineers - Certification Council Committee (Oct04-Sept06) / Consultant - Developed guideline and criteria for certification and regulation of chemical engineers, consultants and contractors engaged in process and chemical engineering
- United Nations Economic Commission for Africa (Oct04-Sept06) / Consultant - Prepared Africa Industrial Development Report and finalized review report on Climate Change and Atmosphere Pollution for Commission for Sustainable Development
- United Nations Development Organization (UNIDO, Ethiopia) (Jul00-Oct04) National Coordinator: Integrated Program for Ethiopia (IPE)
- United Nations Industrial Development Organization (UNIDO, Austria) (Feb97-Mar00) / Technical Expert/Consultant (Energy and Environmental Department and the Montreal Protocol Department)
- Research Institute of Chemistry and Environment (Vienna, Austria) (May96-Feb97) - Consultant: (Application of Life Cycle Assessment in Environmental Management Systems)
- National Chemical Corporation (Ethiopia) (Sep87-Sep94)

### EDUCATION

- Ph.D. Environmental Chemistry and Management, Vienna University of Technology, Research Institute of Chemistry and Management, Vienna, Austria (1997).
- M.Sc. System Process Engineering, Carl Schorlemmer Technical University, Merseburg, Germany (1987).

### LANGUAGES

- Amharic – native
- English – fluent
- German – fluent