

**UNCTAD EXPERT MEETING ON STRENGTHENING CAPACITIES IN DEVELOPING
COUNTRIES TO DEVELOP THEIR ENVIRONMENTAL SERVICES SECTOR
GENEVA, 20-22 JULY 1998**

Communication from UNCTAD

UNCTAD held an Expert Meeting on Strengthening Capacities in Developing Countries to Develop their Environmental Services Sector on 20-22 July 1998. The preliminary version of the summary of the Chairperson, Ms. Laurence Tubiana (France), of this meeting is circulated to Members of the Committee on Trade and Environment for their information.

I. MAJOR TRENDS IN THE ENVIRONMENT INDUSTRY

1. Major trends in the environmental industry have exhibited changing patterns in the more recent years, where, after the peak growth rates in the late 80s, developed countries have witnessed a decline in growth rates to 0-3 per cent and a build-up of over-capacity in some areas. This situation is mainly due to compliance with existing regulations by the largest polluters, limited implementation of new environmental legislation, and less stringent enforcement. At the same time, vast potential remains in many developing countries, where growth in environmental industry has reached 5 to 25 per cent and where there is a critical need for environmental services to deal with dramatic environmental problems. As a result, exports of environmental services, though still a small share in total revenues, have become relatively more significant. This phenomenon, along with privatization and the trend towards harmonizing national environmental standards and adopting global environmental targets, are making the industry more export oriented.

2. According to a private sector estimate, in 1996 the global environmental market represented some US\$ 452 billion in revenues generated by private companies and public-sector bodies. Half of the market was represented by fees generated by services, while the remaining half was almost equally divided between equipment sales and the sale of environmental resources, such as water, energy or reclaimed material. Around 87 per cent of total revenue was generated in the United States, Western Europe and Japan, with only the remaining 13 per cent generated by developing countries and countries with economies in transition. However, the most rapid market growth may occur in those countries. Annual growth forecast for the years 1999 and 2000 is promising: 12 per cent for Asia and Latin America, 10 per cent for Africa, and 8 per cent for countries in the Middle East and Eastern Europe.

3. The volatility of demand for environmental services creates particularly difficult conditions for firms to operate in this sector. For example, in the United States, the annual growth rate of the environmental industry has fluctuated from 10 percent in 1971, to 16 per cent in 1988, to 2 per cent in 1996.

4. The environmental industry has a dual structure, with a small number of large firms accounting for about 50 per cent of output in individual market segments and a large number of

smaller firms accounting for the remainder. In 1995, the top 50 companies in the industry represented 20 per cent of the market. The only company from a developing country which appears in the list is a Brazilian State-owned company operating in the water sector.

5. The structure of the industry is changing, since consolidations, merger and acquisitions are increasingly taking place to satisfy a very diversified and multi disciplinary demand. The goals the industry aims at are also changing, namely from complying with regulations to resource efficiency. The private sector is playing an increasingly important role, thanks to privatization occurring in both developing and developed countries in the water, waste and energy sectors. On the other hand, some public-sector bodies are making the expertise they have developed in this field available to other countries, and are therefore competing with private firms in the market.

6. The issue of trade liberalization in the environmental industry is being discussed in several international fora. At their November 1997 meeting in Vancouver, APEC trade Ministers agreed to pursue early, voluntary liberalization in several sectors, including environmental goods and services. The European Union has also indicated that the liberalization of the environmental services is a priority area for the forthcoming round of multilateral negotiations under GATS.

7. However, the benefits of trade liberalization may not be realized if certain preconditions are not satisfied. Appropriate domestic environmental legislation has to be set up and enforced. Transfer of environmentally sound technologies (ESTs) has to be pursued. Environmental education and public awareness have to be enhanced. International financing is essential to enable developing countries to address their most pressing environmental problems: a gap exists in those countries between their environmental needs and the resources available to satisfy them. Resources may originate from multilateral financial institutions, development agencies, regional development banks and bilateral donors. However, the process of getting international financing, especially from multilateral donors, may be over-bureaucratic and slow.

II. THE DEMAND-GENERATING FACTORS

8. Factors that contribute to growth of demand and international trade in environmental services are mainly related to the development and enforcement of appropriate environmental legislation at the country level, especially through regulatory instruments. However, market-based incentives, fiscal policies and public education and awareness also contribute to ensure a sustainable demand of environmental goods and services. Multilateral and bilateral assistance represents an important market-driver in developing countries, where external financing makes it possible to secure at least some of the needed environmental goods and services.

9. Regulations used to be the most powerful demand-generating factor in developed countries, while at present there is an increasing reliance on non-regulatory mechanisms. On the other hand, regulations are still the main driver of the demand for environmental services in most developing countries.

10. Public awareness and environmental education are playing an increasingly important role in developed countries as demand-generating factors and are starting to have an impact also in developing countries. For instance, transnational corporations (TNCs) may apply the same environmental standards in all the countries where they operate to avoid being criticized by shareholders and the public opinion in the home country. Economic and financial considerations are also playing an increasing important role, since the goal is at present "to get more with less". The development of life-cycle analysis is facilitating the task of finding ways of producing more efficiently, and limiting the use of raw materials, water and energy. Civil liability is also pressing companies to pay more attention to the environmental damages they may cause during their activities. Self-reporting, company self-imposed standards, environmental management schemes - such as the ISO series 14000 - and voluntary eco-labelling programmes represent additional demand-generating

factors for the demand of environmental services, but they are often limited to large companies in developed countries.

11. An additional demand-generating factor for environmental services in developing countries has been the introduction of environment-related requirements in their export markets. The need to comply with such standards and regulations has led to some changes in the production processes and therefore has generated additional demand for environmental goods and services.

III. ENVIRONMENTALLY SOUND TECHNOLOGIES (ESTS)

12. ESTs are difficult to define, since what is regarded as an EST today may not be so tomorrow or what is considered an EST in one country may not be so in another. A successful transfer of technology may occur if local technicians are trained to absorb foreign technologies and adapt them to local needs. In most cases solutions which have been developed by and for industrialized countries are not adequate to environmental conditions in developing countries. Environmental problems have to be addressed and, hopefully, solved through solutions which are appropriate to each individual case. For instance, even though London and Mexico City share the problem of ozone pollution, significant improvements would probably not be achieved just by applying the same remedies in the two cities. Likewise, solutions related to waste collection and treatment in developed countries cannot successfully apply in developing countries, where waste composition is different.

13. When developed countries started addressing environmental problems, the prevailing technology was an 'ex-post' type (end-of-pipe technologies) aimed at correcting the pollution rather than avoiding it through the use of 'cleaner' technologies. Only in a second phase, developed countries started introducing pollution prevention technologies. Developing countries could aim to 'leap-frog' these first generation technologies and seek to adopt pollution prevention technologies, though their costs may prevent many from achieving that goal.

14. The issue of the transfer of technology and of its potential beneficial effect on developing country development and trade perspectives has been addressed in several fora. Provisions which encourage such a transfer are included in multilateral trade and environmental agreements and in several UN resolutions. The possibility to resort to new facilitating instruments is being explored, however, according to some, a completely satisfactory solution to the transfer of technology has not yet been found.

15. The possibility to provide ESTs to developing countries on preferential terms may be considered. Some have argued that developed country governments could consider to compensate private firms for the profit foregone by providing ESTs to developing countries at reduced costs.

16. One of the ways of overcoming the problem of financing ESTs in developing countries is through a joint effort of environmental authorities, local industries and national and international lending institutions. Many of the latter are ready to offer credits at below-market rates to companies with superior environmental performance. They set aside given amounts of "green" credit, motivated by their own providers of funds, who express preference for "environmentally-correct" behaviour. Making available these more favorable loans to companies with good environmental performance requires some sort of collaboration between government environmental authorities in developing countries, domestic industries and financial institutions, where the first certify good environmental performance.

17. International transfer of expertise and technology would to a large degree depend on how private companies could be attracted into domestic markets, either through joint ventures or through participation in the process of privatization. However, private firms will likely establish operations in foreign countries if economic benefits can be secured and few limitations to ownership and control of companies and assets are in place. In fact, a peculiarity of some environmental services, especially

those related to utilities, is that they involve considerable investment which can only be recouped in the long run. This makes ownership and control a more vital consideration than in the case of many other services sectors. Private investment could supplement or substitute the usually scarce public finances.

18. When analysing transfer of ESTs from developed to developing countries, care has to be taken with analogies with the transfer of industrial technologies from the North to the South. While in the latter case the technological advantage of developed country technologies seems undisputed, in many cases developing countries use traditional technologies which are cleaner than the use of prevailing technologies in middle-income countries. Another issue that arises in technological relations between developed and developing countries is the fact that in some cases traditional technologies and processes have been patented, or could be patented, by private firms (particularly from developed countries and especially in the field of genetic resources management) and risk becoming unavailable for populations of developing countries which have traditionally used them at no cost or at a very reduced price. Alternatively, these populations may be forced to start paying for the use of these patented goods, which may aggravate their poverty.

IV. EQUITY

19. When the private sector is involved in the management or ownership of public goods, such as water, special rules are required to ensure that the interests of all social groups are preserved. In the environmental sector, as well as in the health and telecommunication sectors, all considerations point to the need for governments to provide a regulatory framework. Conditions may be set up under which domestic and foreign private companies have to operate to guarantee that equity and efficiency are both achieved. According to some, the profits generated by water supply should mainly be invested in water infrastructure. In what regards the pricing policy of water supply, it may be argued that fees charged to consumers should not exceed a certain ceiling and that government subsidies are necessary policy tools, especially to guarantee access to water to the poorer segments of the population.

V. SPECIFIC PROBLEMS FACED BY DEVELOPING COUNTRIES

20. In developing countries the lack of appropriate institutions capable to effectively enforce environmental legislation is paramount. This problem is often coupled with the lack of clearly defined environmental policy which could be translated into concrete action by the implementing agencies. In addition, environmental legislation itself is in the initial stages of development in a number of countries. Furthermore, most developing countries are faced with the lack of qualified personnel, exacerbated by the fact that often the remuneration offered by the private sector does not permit the retention of the most qualified human resources in the public sector.

21. Internalization of environmental costs could be a viable tool to pass the costs of environmental improvements to consumers and may prove to be the most sustainable policy instrument in continuously driving the demand for improving environmental conditions. This strategy, however, may undermine the international competitiveness of firms in those countries which are willing to adopt it.

22. There is a general perception of poverty in developing countries as a major threat to the environment. However, it frequently happens that elements of the population living at the poverty level (particularly in rural areas) in these countries strive to preserve the environment. The reason is that the environment is their ultimate source of livelihood, as it provides them with essential resources such as water and with the possibility to develop subsistence agriculture. Thus, in such situations, strong environmental laws are ducted toward the needs of the poor and demanded by them.

VI. ENVIRONMENTAL SERVICES, GATS AND THE SCOPE FOR FURTHER TRADE LIBERALIZATION

23. Environmental services in the GATS is a relatively new subject, since limited scope for international trade has existed earlier in this sector. Environmental services were considered to have all the characteristics of the public good and, thus, had to be supplied by the government, usually at local level. On the other hand, this sector has been also prone to the existence of natural monopolies which excluded any competition from private services suppliers. Recent changes and privatization of public utilities have created a number of private markets and opened up the sector for international competition. Even where monopolies still remained in place, regulated private monopoly is being given preference over a public one. As a result, governments are increasingly assuming the role of procurers and regulators, leaving to the private sector the role of provider of environmental services.

24. Definition of the environmental services in GATS is relatively restricted, particularly when considering the integrated supply of environmental services that industry is providing at present. OECD has developed in that respect a more comprehensive definition, including, for example, resources management and cleaner technologies.

25. Commercial presence appears to be the most important mode of supply for trade in environmental services, supported by the temporary presence of natural persons.

26. International trade in environmental services does not face any significant barriers in the sector itself, however, horizontal measures such as restrictions on investment and movement of persons and government procurement policies affect trade in this sector. A limited number of countries have made commitments on environmental services, but these include the major trading countries.

27. Different approaches may be envisaged to address the problem of inadequate definition of the environmental services sector. One would be to adopt a broader definition and include in it the non-traditional environmental services which constitute an important and increasing share of the market. Commitments would therefore be scheduled with reference to this newly and broader defined sector. Another option would be to look at those services which are necessary to the delivery of an environmental service -such as construction services, legal services, management services- and specify in the commitments that as far as those services are linked to the delivery of an environmental service, they are not subject to the limitations that would apply to them otherwise. The environmental services sector seems to be a likely candidate for successful trade liberalization, since it secures the support of those promoting free trade and those promoting environmentally sound development.

28. However, reconsideration of the GATS definition of environmental services, though providing a more comprehensive picture of the sector, may be redundant since negotiations on services in the year 2000 will be comprehensive and would proceed along intersectoral lines considering interrelated sectors together.

29. The consideration of environmental goods and services in one package may be preferable from the point of view of achieving comprehensive trade liberalization of the environmental industry and would allow a wider scope for trade-offs. The separation between goods and services seems to be more of an artificial nature made in the WTO and does not seem to appropriately reflect the present situation where companies are increasingly required to provide integrated packages of environmental goods and services or multi disciplinary services.

30. Besides barriers which may be included in GATS commitments (specific and horizontal), other important barriers remain in such areas as the system of taxes and subsidies. Particular importance is attached to the discriminatory nature of government procurement, since public sector remains an important purchaser of environmental services and a source of revenues for private

companies. Domestic regulations may create implicit barriers to trade through imposition of standards that would prohibit or limit access of foreign service suppliers.

VII. BUSINESS OPPORTUNITIES FOR DEVELOPING COUNTRIES AND ACTUAL OR POTENTIAL LIMITATIONS

31. One of the main forms of providing environmental service suppliers in developing countries with business opportunities, while at the same time allowing transfer of technology and capacity-building, are partnerships. These usually have some of the following features:

- participation of both the public and the private sectors;
- participation of both domestic and international capital;
- they are set up in order to tackle a specific problem for a very restrained purpose, rather than for general business development;
- frequently there is involvement of international donors and their agencies;
- local government participate with in-kind contributions; and
- foreign technologies are adapted to local conditions.

These sorts of partnerships have the following advantages:

- international donor participation backs the projects until payback has been achieved;
- foreign private capital participation tends to bring with it part of the necessary funds and more advanced technologies;
- public sector involvement tends to ensure political backing to projects;
- they promote better mutual understanding among different stake-holders and partners of such joint-ventures; and
- they create the basis for local supply capacity development.

32. Partnerships between companies in developing and developed countries are beneficial not only for former. Developed country firms may benefit from partnerships because they facilitate their activities in emerging markets, where environmental and business conditions may be quite different than at home. At present some developing country firms are entering into partnerships with firms from the North to have access to management skills.

33. The major difficulties related to partnerships are finding a local champion (who transfers legitimacy locally) and ensuring the continuity of project management teams. An additional problem of these partnerships is that in most cases there is unequal participation of foreign and domestic capital and the former tends to have control of operations and decisions. Some doubts may arise on the appropriateness of partnerships when the two partners have completely different economic strength. However, a situation which is imbalanced at the beginning may improve over time, when the weaker partner acquires more capacity and consequently increases its bargaining power.

34. Partnerships may fail for a number of reasons: inadequacy of one of the partners, discontinuing of external financial support before the partnership reaches economic viability, inability to face unexpected difficulties. On the other hand, there are conditions which contribute to the success

of partnerships: a clear economic interest from both parties involved, transparency, assignment of precise duties and responsibilities and a well-developed plan of the results to be achieved through the partnership.

35. A crucial question in public-private sector partnerships is the ownership of natural resources. In the less advanced regions of the developing world, frequently local communities (rather than governments) have the ownership of these resources and have traditionally managed and used them according to their needs. This traditionally has not posed any problems, but property becomes an issue when the market dimension puts in jeopardy traditional ownership and usage relations by local communities. Where traditional ownership of local communities prevails, the participation of central or sub-central governments in partnerships does not guarantee a non-conflicting access to natural resources or that the ownership problem is adequately catered for. Moreover, this puts into evidence the wider question of the articulation between communities and the management of natural resources, on one side, and national and international legislation, on the other.

36. The development of environmental services must take in to account the demands of the civil society, rather than only those of governments. This highlights the importance of involving local institutions (whichever they be) when considering environmental-related projects.

37. Some donors put emphasis on the replicability of the projects which they are financing, so that the solutions which have been successfully adopted in one situation can be applied in other cities/regions/countries with similar problems. In case this can be done, the development costs when replicating the experience will be considerably lower.

38. A factor which requires response from environmental policy on the part of governments, while at the same time being able to generate demand for environmental services, is the occurrence of environmental emergencies, particularly man-made disasters. Local authorities are expected to intervene in the event of such disasters, thereby providing environmental services. It is a duty of governments to oversee private firms, e.g., by imposing proper standards and adopting liability laws. However, in exercising oversight they need information and expertise, which are frequently lacking. The best way to bypass this problem is to draw upon the expertise of private firms themselves, since such expertise is not available anywhere else. Thus, governments should strive to avoid unnecessary conflict between the private and the public sectors and use sympathetic means to provide an incentive for the adequate flow of information. The objective is to have private firms providing information in good faith, which can be achieved if the latter perceive this process as being in their interest. Governments use a series of instruments, such as disclosure requirements (e.g., environmental impact assessment) and requirement for risk management plans. They can be complemented by recurring to voluntary processes (such as the ISO 14000 series). Firms should be sure not to be required to disclose confidential information, to share risks with the public and to share information about objective standards. In this way local communities become aware of the risks to which they are exposed.

VIII. ENHANCING DOMESTIC CAPACITY IN THE ENVIRONMENTAL SERVICES SECTOR

39. An important point to bear in mind is that managing environmental infrastructure services is not identical with managing natural resources. However, in many cases these two aspects are decoupled, with firms concentrating on the former. This may bring a risk to the environmental and economic sustainability of such environmental service. In order to avoid this, a more comprehensive approach to the management of natural resources is required.

40. The successful experiences of some developing countries has shown that the following factors are conducive to developing domestic capacity in the environmental services sector:

- considerable period of implementation and enforcement of appropriate environmental legislation, possibly having undergone the experience of the use of several instruments of environmental policy (including command-and-control and market instruments). This requires political leadership and consistency, which, in turn, presupposes awareness of policy-makers and politicians of environmental issues;
- inclusion of national efforts in the framework of the achievement of global goals, as defined in the Agenda 21;
- training of the population, including through long-term environmental awareness policies and campaigns (e.g., incorporating it in school curricula);
- participatory decision-making process and sharing of information;
- development of a pool of highly skilled human resources, through long-term investment in and commitment to human resource development;
- experience in undertaking studies, impact assessment and consultancy work;
- mastery of technologies (including more advanced ones) and the capacity to adapt them to local conditions and demands;
- some degree of success in addressing local environmental and public health problems and in achieving better use of natural resources and energy. In other words, the ecosystem needs to have been strengthened;
- capacity to establish links with more technological advanced foreign firms and institutions;
- partial self-financing;
- financial support by domestic and foreign capital; and
- involvement of the private sector.

41. Once most of the factors mentioned above are present and there has been solid development of domestic capacity, developing country firms, including SMEs, can tap foreign markets and seek export opportunities. This typically tends to take place in the scope of South-South trade, where firms start by exporting environmental services to neighbouring countries and regional partners, which share similar environmental characteristics and problems and with whom they may have cultural or linguistic affinities.
