Sustainable Development Policy Institute

Working Paper Series no: W-56

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12 August 2000

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Working Paper Series # 56
2000

A publication of the Sustainable Development Policy Institute (SDPI).

Sustainable Development Policy Institute is an independent, non-profit research institute on sustainable development.

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Implementing NEQS: Pakistan's Response to Industrial Pollution

Haroon Ayub Khan and Abdul Matin Khan[1]

I. Introduction

A pollution charge regime has been introduced in Pakistan to achieve industrial compliance with the National Environmental Quality Standards (NEQS). These standards, if successfully implemented and documented, would go a long way to meeting the standard requirements likely to be imposed by importing countries. The modalities for the implementation of the pollution charges have gone through a unique consultative process between representatives of industry, government, environmental NGOs and academic researchers. The consensus of all stakeholders has been to adopt a market based approach, i.e., a pollution charge[2] or tax combined with fiscal incentives to industries, rather than using coercive criminal procedures for ensuring compliance with NEQS. Appreciable progress has been made towards operationalizing the process and January 2000 was fixed as the date for commencing implementation. This chapter documents Pakistan's experience in formulating these critical environmental policy developments.

II. Background

Although originally promulgated by the government in 1983, there had never been a concerted effort to implement the NEQS until the Pakistan Environmental Protection Council (PEPC) was reactivated in 1993 by Mr. Asif Ali Zardari, the Minister for Environment and husband of then Prime Minister, Ms. Benazir Bhutto. Patronage at this level provided the necessary political support for environmental concerns in the country and it was at this time that the Sustainable Development Policy Institute (SDPI) suggested the use of a pollution charge, based on the German experience in pollution control, and initiated discussions on modalities for implementation.

Somewhat skeptical at first about the use of such a market based instrument, government and private sector representatives soon came to the realization that this was perhaps the most effective and equitable way of ensuring compliance with NEQS. There are obvious obstacles in the transition to more sustainable industrial production, not least of which is the cost of new technology, lack of technical know-how or expertise, insufficient credit availability, and the already weak financial health of the industrial sector. Faced with these problems, it has been a challenging task to convince industry, especially the non-exporting sectors, to comply with new environmental standards.

Nevertheless, there has been a growing awareness amongst industry of the needs and benefits of going green with special efforts from organizations such as APTPMA (All Pakistan Textile Processing Mills Association), FPCCI (Federation of Pakistan Chambers of Commerce and Industry), OCAC (Oil Companies Advisory Committee) and OICCI (Overseas Investors Chamber of Commerce and Industry). The increasing

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1 Mr. Haroon Ayub Khan produced original version of this paper in 1998. Comments on earlier drafts of this paper are gratefully acknowledged from Mr. Abdul Matin Khan, Dr. Mahmood Ahmad Khwaja, Mr. Mahmood Ahmed, Mr. Zaffar A. Khan and Dr. Shahrukh Rafi Khan. The latter's extensive work for editing and contributing to this updated version is also duly acknowledged. Technical support and guidance in developing the NEQS programme extended by SDPI's local consultants, Hagler Bailly Pakistan, is especially appreciated.

2 A pollution charge is a fee or tax on the amount of pollution in excess of levels allowed by the NEQS. The aim of the charge is to discourage environmentally damaging activities and/or strengthen incentives to reduce waste and pollution, while at the same time generating revenue that may be ear-marked for environmental protection

pressure, especially on exporting sectors, for new international production and management standards has made the private sector a little more conscious of the need to comply with environmental standards to remain competitive in international markets. While a few industries in Pakistan have undertaken some voluntary efforts to curb pollution, the passage of the Environmental Protection Act 1997 has now made the payment of pollution charges a statutory requirement for all non-conforming industrial units.

Unfortunately, however, whether there is an adequate legislative cover or not, command and control measures usually employed by the government have often failed. SDPI, therefore, advocated the need for dialogue from the very beginning. A systematic approach was needed that took into account the realities and limitations of both government and industry, and in doing so, also build trust and confidence between them. This is necessary for government because it does not have the capacity to regulate all industry, and conversely, it is necessary for industry in order to ensure that any control measures initiated by the government are realistic and fair.

III. Early Interaction

The need for a dialogue was echoed in a meeting convened at the Prime Minister's residence in March 1996 where industry representatives appreciated the ongoing consultative process that had been adopted by the government to draft environmental legislation. It was pointed out that a similar process had not been followed for setting the NEQS and that industry was of the view that these were too stringent and impractical. As a result, a request was made that the implementation of NEQS be deferred for some years to enable industry to prepare and take corrective action. After much discussion, the government said that while deferral was not acceptable, a system could be worked out which imposed a progressive financial penalty starting at a moderate level in lieu of immediate implementation of the harsher penal clauses of the draft legislation. Such a system would be worked out, it was agreed, through a consultative process.

IV. The Negotiation Process

In order to rationalize the NEQS and to work out detailed modalities for their implementation, PEPC constituted (March 12, 1996) the Environmental Standards Committee (ESC) under the chairmanship of Dr. Shamsh Kassim-Lakha, President of The Aga Khan University, and designated SDPI as its Secretariat. The members of the Committee included representatives from the Ministry of Environment, Federal and Provincial Environmental Protection Agencies (EPAs), public and private sector corporations, industrial chambers and associations, environmental NGOs, research organizations, and legal experts. The mandate of the ESC was very specific: "to review the NEQS and suggest changes where necessary, and to recommend modalities for enforcing them". But in order to accomplish this mandate, a multi-dimensional strategy would be necessary -- one that combined a creative market-based formula with technical support to the industry and government, a mass awareness program and an effective monitoring system. The only way to ensure success was to do all this openly and transparently.

The series of roundtable discussions following the establishment of the ESC is a classic example of a transparent and participatory policy making process at the national level. In fact, it can be argued that the survival of the consultative process, despite a turbulent political climate in the country since 1996, has been the result of its participatory nature and the sense of ownership of the process acquired by all parties concerned.

V. Review of National Environmental Quality Standards[4]

Negotiations began with a review of the NEQS themselves.[5] Considerable objections were raised by the private sector that these had not been developed through public consultation and, therefore, some of the standards were unrealistic. A technical committee was formed to address specific objections against each of the parameters in question. This review process resulted in the rationalization of the NEQS with input from industry. Because of the high toxicity of certain pollutants, however, industry specific NEQS are likely to be more stringent than those currently applicable. In comparison with other developing countries with a similar industrial base, these standards are neither too stringent nor too relaxed (see Appendix I). The intention was to begin with realistic limits in view of the prevailing conditions in the industrial sector and to have the possibility to tighten these further later on if necessary.

VI. Concept of Pollution Charge

The concept of the pollution charge is a key element of the implementation program. As mentioned before, it was introduced after extensive discussions with businesses, government, and the private industrial sector, in response to concerns that the NEQS should not be enforced on existing industrial units through coercive criminal procedures. According to the present proposal, the charge would be calculated on the basis of a pollution load measured in pollution units (see Appendix II for list of parameters and the agreed definition of respective pollution units).[6] The principle is that the charge should be high enough to induce industry to clean up its act. In other words, the net cost of the cleanup should be less than the pollution charge. Such a charge would ensure that those who introduce cleanup activities do not suffer relative to those who persist with dirty production methods.

It took more than two years of intense discussions and negotiations to arrive at the present formula for calculating the pollution charge. Numerous questions had to be resolved: NEQS are in terms of concentration – should the charge be levied on the level of concentration or on the quantum of pollutants in the emission? Should the charge be the same on all industries, or a different charge be applied by type of industry? Should there be a charge on every component of NEQS, or should it be levied on key components? Should future increases of the pollution charge be subject to negotiations, or should they be imposed and agreed upon up front? Should fiscal incentives be made available to industries for cleanup activities? How would the pollution charge be collected and for what purpose would it be used? And, of course, the penultimate question: what will be the per unit rupee amount or base rate of the pollution charge?

Getting endorsement for the plan by industry as a whole was as important as reaching a consensus on the above technical questions. Industry representatives at the negotiating table were under intense pressure from their constituents to ease or postpone the financial impact of this program given the already adverse economic conditions being faced by the industrial sector. Sparks flew, tempers flared, but the representatives managed to convince many of the need for the pollution charge regime to address the long-term environmental damage likely to be caused by unrestrained industrial growth in the country.

4 Article 11(1) of the Environmental Protection Act 1997 provides the legal basis for NEQS compliance: "Subject to the provisions of this Act and the rules and regulations made thereunder no person shall discharge or emit or allow the discharge or emission of any effluent or waste or air pollutant or noise in an amount, concentration or level which is in excess of the National Environmental Quality Standards or, where applicable, the standards established under sub-clause (i) of clause (g) of sub-section (1) of section 6".

5 The NEQS consist of 32 liquid and 16 gaseous parameters in addition to limits on noise pollution.

6 It has been agreed through consensus that initially only 10 liquid and 7 gaseous NEQS parameters will be charged for. The list was arrived at in view of the following considerations, (i) to keep the system simple and cost effective, (ii) the quantity of pollutant defined as one pollution unit reflects the relative toxicity of the pollutant, and consequently the extent of damage to the environment and to human/work's health. Other NEQS parameters will be phased-in on an agreed schedule

VII. Formula for Pollution Charge Calculations

A number of proposals were reviewed extensively for determination of pollution charges the following decisions were agreed to: (1) the pollution charge should be an equitable and simple; (2) it should ensure real progress towards making the industry environmentally friendly without jeopardizing economic growth; (3) industry should be allowed sufficient time to prepare for compliance. In addition, the ESC had agreed that:

a. The level of pollution charge will be established through a process of negotiations.
b. The level of pollution charge should initially be such that the industry should feel the impact, but should not be excessive such that the financial health of the concern is jeopardized.
c. The system should be applied uniformly across all industrial sectors. Industry specific application was not recommended.[7]

The initial proposal submitted by SDPI recommended linking the pollution charge to the cost of effluent cleanup. Another variation of this proposal suggested linking it to the cost of environmental damage caused. In either case, a gradual increase was recommended so that industry would be induced to adopt cleaner production methods and technology over time.

An alternative proposal circulated by FPCCI proposed levying pollution charges on the basis of pollution loads depending on the size and type of industry. Industries were categorized into three sets according to pollution treatment technologies: (1) parameters to be covered under primary and secondary treatment, (2) secondary and chemical recovery treatment, (3) recovery and re-use technologies. The proposal divided the NEQS list according to these three categories and estimated cleanup costs for these respectively.

The proposal on which consensus was finally reached was developed jointly by SDPI, the Federal EPA and Halger Bailly, Pakistan. Based on the experience in Germany with the use of pollution charges, this program will levy pollution charges on the basis of pollution units (Annex II) in excess of NEQS as determined by an agreed procedure. It was agreed that the application of NEQS and the levy of pollution charges will be applied uniformly to industry in the private and public sectors, and will eventually include municipal services as well.

VIII. Agreement on the Pollution Charge Amount

Irrespective of the formula or determination procedure applied, the base rate, or the actual rupee amount per unit of pollution, would obviously be the determining factor to ensure a transition towards cleaner production. Clearly this was to be an immensely critical and expectedly controversial decision for all concerned. Numerous discussions took place and the ultimate responsibility of democratically arriving at the figure was placed in the hands of industry under the leadership of FPCCI.

It took weeks of negotiations amongst industry representatives to establish both a pollution charge and a progressive escalation schedule.[8] This was an unprecedented achievement in Pakistan and perhaps, also elsewhere in the world, whereby industry voluntarily agreed to a charge to be applied to themselves for generating pollution in excess of permissible national limits. The FPCCI task force also recommended that the pollution charge be renamed to Environmental Improvement Charge to evoke a more favorable response from industry.[8]

7 Guidelines for Determination of a Pollution Charge for Industry, March 1998
8 The proposed pollution charge of Rs.50 per pollution unit will be achieved by charging 10% in year one and escalating to 80% of the base rate in year five
9 Although renaming the charge was endorsed by the ESC, it's official adoption would require and amendment to

IX. Monitoring

A major issue for the Environmental Standards Committee was the absence of an adequate monitoring capacity in the EPAs, and in the government more generally. Industry representatives were skeptical of the transparency and fairness of any system that relied primarily on monitoring by a limited number of overburdened and under-trained government inspectors. The government representatives also felt that the current capacity of the monitoring agencies was considerably short of the demands likely to be placed upon it. As such, there was a consensus on developing a sophisticated monitoring system that did not rely exclusively on government inspections. Such a system would begin initially by self-monitoring and reporting by the units concerned. These reports would be taken at face value, except in case of doubt. Also EPA authentication would be required for a randomly selected sample. Finally, reporting of compliance with NEQS from all industrial units would be placed in the public domain to enable independent research and environmental NGOs to monitor them and assess the performance of the entire system. Any entities that willfully conceal or falsely declare the level of pollutants in their report will be open to prosecution under the harsher penal clauses of the Environmental Protection Act.

A simplified monitoring program has been agreed to. Based on the degree of hazardousness and toxicity of emissions, industry has been divided into categories A, B, and C in order of the pollution generated. For category A, a monthly monitoring and reporting (M&R) frequency has been recommended for both liquid and gaseous emissions. For Categories B and C, quarterly and biannual M&R has been recommended respectively. For most of the industries, M&R of 4 to 6 priority parameters have been proposed under normal plant operating conditions. These M&R guidelines would be applicable to both the private and public sectors and would be reviewed from time to time.

To ensure consistency in the sampling and monitoring process, the Federal EPA is undertaking measures to standardize sampling and testing procedures as well as certifying laboratories across the country that would be used for analysis. Furthermore, in order to ensure transparency, the government and industry agreed to allow reputable NGOs to be present at any stage of the monitoring process.

X. Mode of Collection and Use of Funds

While the modalities of collection and disbursement of funds are still being worked out, the basic principles have also been agreed to after exhaustive discussions between industry representatives and the government. Ever since it was agreed that the money collected as pollution charges would be made available for environmental services to benefit industry (see Box I), the private sector has been adamant that these funds must not be deposited into the national treasury from where they are likely to be utilized for other purposes. Instead, they have strongly advocated the creation of Provincial Environmental Trust Funds (PETFs) that would be governed by a tripartite board of private sector, government and NGO representatives. Furthermore, the private sector has recommended that these funds be collected by industry associations. Such an arrangement is necessary, according to the industry, to facilitate timely payments, both by the industrial units and subsequently by the Trust Funds, for any environmental services requested.

EPA '97.

Box 1:

Use of Pollution Charge

Money collected will be used primarily for activities that will help in abatement of environmental pollution through the following activities:

- provision of soft loans for the purchase of pollution treatment equipment,
- installation of combined effluent treatment plants in industrial estates,
- research and analysis in support of pollution abatement,
- round tables, conferences, workshops for pollution abatement,
- provision of incentives to develop indigenous technology for pollution control,
- training and advisory services for industry.

Source: ESC recommendations to PEPC, May 20, 1996.

Although these arrangements received endorsement by the Environmental Standards Committee and were formally submitted as recommendations to PEPC, certain legal restrictions have prevented the establishment of such institutional arrangements. Article 11(2) of the 1997 Environmental Protection Act states that *"The Federal government (will) levy a pollution charge on any person who contravenes or fails to comply with the provisions of sub-section (1), to be calculated at such a rate, and collected in accordance with such procedures as may be prescribed"*. The Act, however, does not specify where these funds are to be deposited or for what purpose they are to be used. It is implicit, nevertheless, that since the Federal government is responsible for the collection of the pollution charge, they must be deposited as revenue of the federal treasury.

Article 9 of the Act calls for the establishment of Provincial Sustainable Development Funds (PSDFs). These funds can be utilized for *"providing financial assistance to the projects designed for the protection, conservation, rehabilitation and improvement of the environment, the prevention and control of pollution, the sustainable development of resources and for research in any specified aspect of environment; and any other purpose which in the opinion of the Board will help achieve environmental objectives and the purposes of this Ordinance"*, [Article 9(3)(a,b)]. The government is of the opinion that the PSDFs can be used as the PETFs suggested by the private sector. However, the anomaly is that pollution charges have not been included as one of its sources.[10] Industry representatives have consistently argued against this point saying the PSDFs are not industry specific and will result in innumerable complications.

Institutional arrangements, therefore, for the collection and administration of pollution charges are being worked out. Legal advice is being sought to try and resolve this issue and preserve the use of pollution charges in the manner recommended by the ESC. Provisions are also needed to ensure an equitable participation of government, private sector and NGOs on the boards of the PSDFs to oversee and ensure the agreed utilization of the pollution charges.

XI. Financial Incentives for Industry

Following extensive negotiations with the government in the ESC, the Pakistan Environmental Protection Council approved a detailed proposal for provision of fiscal incentives to industry for pollution abatement or

10 *"The Provincial Sustainable Development Fund shall be derived from the following sources:*
(a) grants made or loans advanced by the Federal Government or the Provincial Governments;
(b) aid and assistance, grants, advances, donations and other non-obligatory funds received from foreign Governments, national or international agencies, and non-Governmental organizations; contributions from private organizations, and other persons", Article 9(2).

compliance with NEQS. The current status of these incentive measures as reported by the Federal EPA is shown in Box 2 below.

Box 2:

Agreed Recommendations	Current Status (March 1998)
(a) National Development Finance Corporation may be designated as the DFI for channeling soft-term credit to industries for environmental purposes.	(a) State Bank regretted to extend the credit line to industry through NDFC for this purpose.
(b) Purchase of equipment for pollution abatement may be given the most favored treatment, i.e. 10%, with regard to import duty, sales tax, and no regulatory duty.	(b) Presently pollution equipment are subjected to 10% customs duty with no regulatory duty.
(c) Most favored tax treatment may be extended to those developing indigenous technology for pollution control.	(c) No action has been taken. Recommendations for the next financial year have been made.
(d) The amount collected from pollution charges and other sources for the Provincial Environmental Trust Funds may be matched by proportional grants from the government.	(d) This proposal has been deferred due to the current financial constraints of the government.
(e) The use of the Provincial Environmental Trust Funds may be decided by the respective governing boards in accordance with the guidelines laid down in the recommendations of the Environmental Standards Committee.	(e) This may be considered for incorporation into the draft rules.
(f) Provision of accelerated depreciation of anti-pollution equipment within three years for income tax purposes.	(f) Existing depreciation of plant/machinery is allowable as follows: normal depreciation 10% initial depreciation 25% extra depreciation for double shifts 50% triple shift 100%

Another obstacle identified by industry is the lack of credit availability for environmental technology or investment. Private financial institutions in the country are reluctant to provide loans for environmental projects because they do not see them as profitable. In any case, since savings from environmental investments are likely to be indirect and realized over a long term, industry is not willing to take on loans at commercial rates. With this realization, SDPI has begun investigating the possible establishment of green credit facilities on soft terms. Some international donors have expressed interest in such credit windows and there may be potential to mobilize others. If suitable, efficient and effective channels are established, a case can be made for the international community to live up to their global commitments to protect, conserve and support environmental activities in developing countries. This has been the commitment made by Northern countries in numerous international conventions and treaties on the environment.

XII. Increasing Technical Capacity

Effective implementation of this program requires increased technical capacity in the private sector as well as of government monitoring agencies. Information and experiences of industry in other countries will be of use as options and improvements are identified in Pakistan. EPAs need greater technical capacity and trained manpower to monitor compliance of industrial emissions with NEQS. The EPAs are currently in the process of standardizing analytical sampling and testing procedures, and draft regulations for certification of environmental laboratories have been prepared. All these efforts must be accompanied by extensive training and awareness raising in industry, preferably, by a multi-party initiative involving EPAs, relevant government departments, chambers of commerce and industry, environmental NGOs and other national or international agencies. A detailed action plan for implementing an environmental monitoring program, including awareness and training for industry, has recently been finalized by the Federal EPA and SDPI.

There are also two independent initiatives currently underway to extend such services to industry and government, and to facilitate compliance with NEQS. These are SDPI's project on Technology Transfer for Sustainable Industrial Development, and FPCCI's Environmental Technology Program for Industry (see Annex III for additional private sector initiatives).

SDPI's program on ***Technology Transfer for Sustainable Industrial Development (TTSID)***, funded by the Swiss Federal Office for Foreign Economic Affairs, provides support to industry and government for the promotion of policies and practices for sustainable industrial production through 5 distinct components. (1) Business-government roundtables to facilitate regular consultations between the private sector and government on environmental issues.[11] (2) Supported by technical research, recommendations emerging from these consultations are used to provide advice to the government for the development and implementation of national environmental policy. (3) The training component of TTSID develops training materials by conducting environmental studies in selected industrial sub-sectors followed by hands-on training and workshops. This component also provides support to industry in building capacity in self-monitoring, implementation of in-plant pollution control measures, and in identification of end-op-pipe treatment options. (4) Through the information and advisory services component, the project is producing information packages on environmental issues for selected industrial sub-sectors, developing directories of equipment, service and technology suppliers, and a database for the exchange of information. (e) Finally, the project is also developing proposals for innovative financial mechanisms for the establishment of green credit facilities for environmental projects in industry.

A similar initiative is FPCCI's ***Environmental Technology Program for Industry (ETPI)***, funded by The Netherlands government. Its primary objective is to promote the use of environmentally sound technologies for the production of environmentally safe products in Pakistan's manufacturing and industrial sectors. This will be achieved by on-site training and demonstration projects for adopting measures for pollution abatement, waste management and recycling, chemical recovery, more efficient utilization of natural and/or economic resources, production and installation of instrumentation and control systems for utilizing more efficient and environmentally safe production technologies. The project has five components: the development of a user-friendly database of relevant information; institutional networking within and between key industrial institutions of the country; dissemination and communication to promote cleaner industrial production; institutional support and training to create environmental capacity within industrial chambers and associations; and demonstration projects in

11 SDPI's support for the Environmental Standards Committee has been made possible through this program

selected industrial sub-sectors to demonstrate the economic feasibility and environmental efficacy of environmental technologies.

The ETPI and TTSID program are complementary in nature, and although modest in scale, will help meet some of the immediate training and advisory requirements in this context. However, much more in this regard is needed.

XIII. Role of Non-Governmental Organizations

The role of NGOs in this entire process has been a crucial one from the start and one that has been acknowledged both by government and industry. First, PEPC's appointment of the leader of an NGO (The Aga Khan University) as President of the Environmental Standards Committee with SDPI (another leading environmental NGO) as its secretariat supports this view. Second, the presence of NGOs has provided an openness and transparency to the negotiation process, and has allowed a balanced expression of opinions that catered to the interests of all concerned parties. Third, certain NGOs are playing an important role in raising awareness not only within industry but also of the public about the importance and need for environmental conservation. Fourth, a few NGOs working in this sector such as IUCN and SDPI are making efforts to strengthen capacity of both the private sector and the government (see section on increasing technical capacity above). Fifth, NGOs are expected to have an important monitoring function in future implementation of the program. Sixth, the sharing of technical expertise between the private sector, government and NGOs has resulted in an unprecedented constructive partnership between these diverse entities. Seventh, several NGO leaders have been appointed to be members of PEPC, which is the highest environment policy making organ in the country.

Although an appreciable role has been played by NGOs in the process so far, there are very few NGOs with the requisite technical knowledge or program in related areas. Just as with the government and private sector, environmental NGOs also need capacity building. There are a large number of advocacy groups in the country that have also not been sufficiently mobilized to campaign for pollution controls on industry. The potential, therefore, exists for a much more involved interaction of NGOs in this area.

XIV. Achievements

The achievements of have been significant. The establishment of a transparent, broad-based, national consultative process has been instrumental in moving the program for implementation of NEQS as far as it has come. In fact, this experience is now being replicated at the provincial level in the implementation of the industrial development component of the Sarhad Provincial Conservation Strategy. The endorsement of the basic principles of the program and its simultaneous inclusion in the Environmental Protection Act concretizes the initial move towards sustainable industrial development in Pakistan.

XV. The Human Element

The human element was probably the most critical element for the process to develop as it did. In particular, Tariq Banuri, Director SDPI's initial leadership and sustained efforts, Syed Babar Ali's allowing the first audit (at Packages), the support of Mahmood Ahmed and Zaffar Ahmed Khan, prominent leaders of the business community, and of Aban Marker Kabreji, Country Representative

IUCN, particularly for ensuring that the IUCN law team included the NEQS document in the draft of the Environmental Protection Act, were all vital. Others who played a supportive role as concept champions include G. R. Arshad and Gulzar Firoz.

Asif Zardari's convening of the task force for the final agreement was essential, as was the support of Mohammed Imran Faruqi. Similarly, Asif Shuja played a supportive role during Council meetings, without which the idea would have withered on the vine. Moeen Afzal (then Secretary Finance), and Qazi Alimullah (Secretary General Finance, later Deputy Chairman Planning) were also helpful. The point is that considerable intellectual and political leadership went into making the process a success.

XVI. Uphill Effort and Update

Notwithstanding the achievements, it has not been smooth sailing the whole time. Certain sectors of the strong industrial lobby are still trying to postpone implementation; government enthusiasm has been lukewarm at best; PEPC remained inactive for a long period; economic crises and political unrest, with at least three changes in the government (including frequent changes at senior levels in the Ministry of Environment – the main government counterpart) since 1996, have made outcomes and direction of the process very uncertain; there continues to be disagreements on the means of collection and use of the pollution charge; the Environmental Protection Act was enacted after a long delay and a hard struggle. The danger of the entire initiative being shelved at a moment's notice is still possible.

One of the outstanding areas of disagreement in the negotiating process is the lack of a suitable institutional arrangement for the collection and disbursement of the pollution charge. While the government claims it is legally bound to use PSDFs for this purpose, industry insists on placing the funds in the private sector (see section on Mode of Collection and Use of Funds above). This remains a contentious issue because of the prevailing mistrust or apprehension of the private sector regarding the government's bureaucratic procedures and urgent need for funds due to the on-going fiscal crisis.

While the dialogue continued, and as the reality of the pollution charge regime loomed closer, sections of the private sector that were hitherto inactive in the negotiating process are beginning to raise various objections. The most common of these is that they were not adequately consulted in the process. Other complaints include the fear that the EPAs will simply because another agency for rent-seeking and extraction and that they don't have adequate capacity anyway. Numerous concerns about the NEQS parameters and other elements of the program are being brought up. This is, in part, due to the failure of the industry representation process, and partly because of the insufficient creation of public awareness at the outset of the program. The last ESC meeting of August 6, 1998, however, ruled out the possibility of reopening previously settled issues. Nevertheless, given the evolving nature of the process, mechanisms for dialogue or continual adjustment when necessary must be permanently institutionalized.

The first step to implement Environmental Standards Committee (ESC) decisions was to convene the Pakistan Environmental Protection Council (PEPC). The Council, which is required by law to hold at least two meetings in a year, assembled after two and a half years in August 1999. This was exactly a year after the ESC finalized its recommendations. This meeting was only convened after NGOs and other environmentalists exerted considerable pressure. The Prime Minister could not spare time to chair this meeting and nominated the Minister for the Environment, who is the Vice-Chairman, to Chair it.

During this meeting, the Chairman of the ESC presented his final report and the details of various

recommendations, which were adopted by the Council as a whole. The final report of the ESC is attached as Annex IV. The important decisions of the Council included approval of the revised National Environmental Quality Standards (NEQS) and implementation of self-monitoring program and pollution charge system from January 2000. The Council also decided that the Environmental Standards Committee (ESC) and the Experts Advisory Committee (EAC) would continue functioning for monitoring the implementation process and for developing industry-specific standards respectively.

Although the progress has not been as fast as could be expected after a complete consensus on important issues, matters are moving in the right direction. Some of important developments from August 1998 to date (March 2000) are briefly discussed below:

A. Self-monitoring and reporting program

It was agreed in principle in the ESC that industry would start monitoring and reporting their pollution levels in the manner agreed during these negotiations. In fact a date of November 1998 was also decided. Pakistan Environmental Protection Agency (PEPA) had to do some homework before implementing this program, which included finalizing Analytical Methods and Procedures and designating testing laboratories for this purpose. In the meantime, the government also felt that collecting and compiling the information in the hard form would be difficult. PEPA, with assistance from Sustainable Development Policy Institute (SDPI), has now developed software as the Self-Monitoring And Reporting Tool (SMART). This software will be used for reporting and compiling environmental data in soft form. The database has three different modules to be used by industry, provincial EPAs and PEPA respectively.

B. SMART

The database is user-friendly by design and the user will be able to enter the data with the help of accompanying 'user instructions'. It has a registration module, which would automatically assign a distinctive user number to each reporting industrial unit in the country. These units would be able to transfer this data to EPAs electronically. All this information will be compiled through this database at the provincial as well as national level. There is an in-built provision of data confidentiality to safeguard genuine business interests.

C. Pilot phase for the self-monitoring program

All these developments were shared with representatives from industry Chambers and Associations in a kick-off meeting in December '99 and it was agreed to start a pilot phase from January 2000. During this phase, fifty industrial units from different provinces and from different industry groups are taking part in this program on a voluntary basis. SDPI is working as a partner with PEPA and providing technical support to provincial EPAs during this phase. FPCCI and PEPA have already agreed on a list of participants and software has been dispatched to participating units. The main objectives of this phase, include testing SMART, and a small scale testing of the self-monitoring program as a whole. Frequent inter-action during this phase would also strengthen government-business relationship.

D. Information package for Industry

In addition to the 'user instructions for SMART', the government has also put together a set of important documents that will be sent to participating units as a consolidated information package. This package contains guidelines on self-monitoring and reporting program, sampling methods and analytical procedures, Pakistan Environmental Protection Act, 1997, draft Revised National

Environmental Quality Standards, list of recommended laboratories and addresses of resource organizations.

E. Revised NEQS

The Expert Advisory Committee, in consultation with industry representatives and some NGOs, reviewed different NEQS parameters and identified 12 parameters for revision: ten for liquid effluents and two for gases emissions. The ESC and the PEPC have already approved revised NEQS and government is expected to notify them soon.

F. Rules and regulations

During this period, government has also prepared several draft rules and regulations after stakeholders' consultation. A list of these rules and regulations is provided in Annex V. The government is now expected to notify these rules and regulations to support the implementation process.

Lessons Learned, Recommendations and Challenges

All initiatives of this nature need to start with sound intellectual leadership and then a forceful mobilization of concept champions at the highest political level. In Pakistan, such intellectual and mobilizing leadership was very effectively provided by Tariq Banuri.

Following this, perhaps the most important lesson learned has been the usefulness and effectiveness of legitimizing the participatory policy making process. The survival of the initiative, despite all sorts of potentially disruptive internal and external factors, has followed from this. The follow from participation of a wide cross-section of the stakeholders permitted a wider understanding and greater sense of ownership in the design of the program. Just as in any participatory consensus building exercise, it has taken time and a great deal of negotiation at the highest levels. It was also recognized that such an initiative would not have been possible with simply a narrow view on operational modalities, but that a much more integrated program was needed which included institutional support services such as information and advisory services, technical advice on the formulation and monitoring of standards, establishment of innovative financial instruments, capacity building, regulatory and legislative support.

A neutral, business-government roundtable forum (Environmental Standards Committee) was also necessary to ensure balanced representation, unbiased mediation and to provide full transparency to the process (in this particular instance the ESC Chairperson, Dr. Shamsh Kassim-Lakha, provided the essential and outstanding facilitating role). This forum had to be at a sufficiently high level to include key decision makers but structured in a way so as to minimize debate on technical details that would distract their attention (and time) from making important policy choices. The ESC would, therefore, regularly form specific technical sub-committees to investigate options to facilitate the policy making process. Once again, since representation by all stakeholders was allowed on the technical sub-committees as well, suggestions made by them were taken on board.

The ESC is, in turn, a sub-committee of the Pakistan Environmental Protection Council, the highest environmental policy making body chaired by the Prime Minister or his/her direct nominee. This kind of access to the political establishment can ensure quick and binding decisions. Unfortunately, however, while the ESC remained extremely active in developing proposals and recommendations to its parent body, the frequency or regularity of PEPC meetings was adversely affected by changing political

tides in Pakistan. The life expectancy of a government in office remains unpredictable, national priorities are constantly changing, the almost perpetual state of economic crisis in the country, especially after the imposition of sanctions following the nuclear tests in May 1998, have prevented government from performing on its environmental obligations and commitments.

The following recommendations for future action emerge from the above discussion. Some may need specific technical or financial support, while others simply suggest sustaining the positive momentum achieved so far:

(a) *Institutionalizing government-business dialogue:* In order to maintain the momentum and level of trust established in the consultative process, it is necessary to institutionalize the existing arrangements for policy dialogue. A permanent platform is needed to allow the possibility for information exchange, networking and policy dialogue. Ideally, such fora should exist both at provincial as well as national levels.

(b) *Need for public pressure:* One of the complementary forces that could help keep attention on the industrial pollution abatement program is public pressure on the government and private sector. This force, however, has not yet been sufficiently tapped. The partnership in this effort must now grow, therefore, to include advocacy groups, media, consumers and other environmental activists.

(c) *Enforcement of existing and agreed pollution prevention regulations:* It is fortunate that a comprehensive set of environmental regulations are now in place. The regulatory agencies should take advantage of the fact that the detailed proposals for implementation of NEQS have been jointly developed with the private sector. The government must now enhance its commitment and capacity to enforce these.

(d) *Technical Assistance:* In addition to the technical assistance required by regulatory agencies (including NGOs), an institution must be identified which can address industry's needs for technical assistance, information exchange, undertake research and development on industrial waste management, develop programs on economic incentives, and provide linkages to national and international organizations to facilitate the transfer of clean technology.

(e) *Elimination of perverse subsidies:* The government does not systematically take into consideration environmental concerns in its national development planning cycles. Research is therefore required to identify and eliminate existing policies that promote economically inefficient and environmentally unsound practices.

(f) *Green cash required:* Desperately needed green credit lines are unlikely to be established by the government or commercial banks anytime soon. International donors, including private sector lending agencies, must be encouraged to stimulate environmentally sustainable industrial development in Pakistan with the provision of soft credit for environmental projects. The only way this can realistically happen is if a suitable financial and political climate is restored to the country.

In conclusion, there is reason for cautious optimism. Opportunities exist, albeit as tough challenges in the face of today's political and economic realities, to make a permanent transition to sustainable industrial development in Pakistan. If the momentum generated thus far by the negotiation process can be sustained, there is a strong chance that the pollution charge regime will become an institutionalized mechanism for industrial pollution control. The beauty of the program, in addition to its simplicity and transparent formulation, is that it is a completely indigenous effort without any "donor pressure". This fact, in and of itself, also accounts for its sustainability.

The pilot phase of self-monitoring program is expected to take 3-4 more months, when the Government will have collected some information on the status of compliance or non-compliance of NEQS. This data, as agreed, would not be used against the participating units during this period for imposing penalties. After this phase, the self-monitoring and reporting program will be extended to the entire country on a mandatory basis. In the meantime, the Government will be required to finalize and notify all relevant rules and regulations to

reinforce this system. During the implementation process, it is also expected that the Government will identify the highly polluting groups of industries and prioritize and focus regulatory efforts on them. A full-fledged support structure at the national level is also expected to grow side by side with these activities in order to provide analytical and technical services to industry for monitoring and pollution control.

The pollution charge system, which, as earlier stated, is the key element for industrial pollution control, is at an implementing crossroad. All the necessary details like procedures and schedules have already been agreed. In fact, industry representatives even took a bold initiative to suggest the base rate of a pollution unit and the schedule of increase over a five years period. It is agreed that the structure is sensible because it initially represents a slap on the wrist but by the sixth year "draws blood" so that it would be cheaper to adopt mitigation measures than pay the fine.

There are two issues, which now require renewed consultations between government and industry. First, the institutional arrangements for the collection and use of funds have not yet been agreed to. There exists a conceptual difference between rules framed by government for Provincial Sustainable Development funds (PSDFs), to be created under the existing law, and the operational mechanisms of Provincial Environmental Trust Funds (PETFs), proposed by the private sector. The Government negotiators assured the private sector during ESC proceedings that the existing rules could be revised, without any amendment in law, to address all their concerns. Second, the sub-committee on pollution charges recommended to the ESC to change the term 'pollution charge' to "Environmental Improvement Contribution". The private sector has its own public relations reasons for pushing this. The ESC could not decide on this issue since the change would require an amendment in the existing Act.

When the self-monitoring and pollution charge systems are implemented, industry will require technical assistance as well as soft loans for installing pollution control equipment and for initiating environmental management activities. Without these, nothing much is expected to change on the ground. Regular and institutionalized contact between Government, industry and service providers will be necessary during this phase. There will also need to be a regular assessment of genuine limitations of different industrial sectors in implementing the existing laws and to create institutions for looking after specific issues and providing policy advice. Ultimately, transparency and across-the-board implementation is going to be the deciding factor in the success or failure of the entire program.

Annex II

List of liquid and metal parameters to be included in the pollution charge regime and the definition of their respective Pollution Units

Parameter	1 Pollution Unit
COD	50 kg
TSS	50 kg
Oil and grease	3 kg
Mercury	20 g
Chromium	500 g
Nickel	500 g
Lead	500 g
Copper	1000 g
Cadmium	100 g
Pesticides and herbicides	100 g

List of gaseous and particulate matter to be included in pollution charge regime

Parameter	Quantity of One Pollution Unit
Carbon monoxide (CO)	400 kg
Oxides of nitrogen (NOx)	200 kg
Oxides of sulfur (SOx)	200 kg
Particulate matter (Coal)	250 kg
Particulate matter (Oil)	150 kg
Particulate matter (Cement)	100 kg
Particulate matter (Other Sources)	250 kg

Source: Guidelines for Determination of a Pollution Charge for Industry
SDPI and Pakistan Environmental Protection Agency, March 1998

Note: The application of the law would require monitoring and reporting against the complete list of NEQS. However, such an approach is neither necessary nor cost effective. Recognizing the lack of experience and technical capacity in industry and government monitoring agencies, the above list has been selected only as a starting point.

Annex III

Other Environmental Management Initiatives by the Private Sector[12]

FPCCI started a monthly environmental magazine, *Environmental News*, from February 1998. With a circulation of 5,000-8,000 it is solely financed through private sector sources. It has been designated as an official publication of the waste management conference to be organized by the Asia Business Forum in Thailand, 1998. *Environmental News* has organized many programs in support of the environmental movement in the country. It also sponsors an environmental award for the organizations/individuals who have established their commitment for the environment.

INEM-Pakistan was launched in 1998 in collaboration with INEM International. Its major functions will be to strengthen private sector institutions on environmental issues, dissemination and communication of environmental solutions, advisory services for the private sector on the subjects of environmental legislation, negotiations, technologies, and implementation modalities. INEM is considered as the continuation of ETPI.

Pakistan Tanners Association (PTA) has established a private company "Environmental Management Limited" that is implementing a combined effluent treatment plant, solid waste management, occupational health and safety program, and a drainage system for about 160 tanneries located in Korangi Industrial area, Karachi.

In Punjab **PTA** is implementing the Cleaner Technology Program with assistance for The Netherlands government. The project has completed initial environmental examinations of more than 260 tanneries. Prototype environmental packages are under implementation in selected tanneries. The emphasis of the project is on in-house improvement, primary treatment systems, and chemical recovery plants.

Pakistan Society of Sugar Technologists (PSST) and **Pakistan Sugar Mills Association (PSMA)** are jointly working with ETPI on environmental policy for the sugar sector of Pakistan.

Korangi Association of Trade and Industry (KATI) started the Upgradation of Korangi Industrial Area project in 1997. The project has targeted installation of a series of combined effluent treatment systems. These plants will be linked with KWSB (Karachi Water and Sewerage Board) treatment plants.
Source: Details supplied by FPCCI.

Annex IV

Environmental Standards Committee: Final Report

Background

The Pakistan Environmental Protection Council (PEPC) constituted the Environmental Standards Committee (ESC) on March 11, 1996 to review the National Environmental Quality Standards (NEQS) and to recommend modalities for enforcing the NEQS along with ways and means for financing such work. Mr Shamsh Kassim-Lakha, President of the Aga Khan University, was appointed Chair of the committee that included representatives from the government, industry associations (FPCCI, OICCI, APTPMA, PTA) and NGOs (IUCN, SDPI). SDPI was appointed as the secretariat of the committee. 'Technology Transfer for Sustainable Industrial Development (TTSID)' project of SDPI provided technical assistance to the committee. The composition of the ESC was expanded on September 26, 1996 to include representatives of public sector organizations. Wider participation in the proceedings was also allowed through additional representation of government, industry and NGOs. The ESC held eight meetings on May 6, 1996, May 16, 1996, June 24, 1996, July 2, 1996, July 15, 1996, September 23, 1997, March 10, 1998 and August 6, 1998. Two interim reports were released on August 27, 1996 and December 24, 1996.

The ESC has reviewed several dimensions of implementation, and reached a consensus among the three parties on a number of important issues. The overwhelming opinion has been to enforce NEQS not through coercive and punitive measures but through a market-based approach. This approach will induce industry to start clean up activities under economic compulsions. This process should be accompanied by fiscal and other incentives to industry from the government. Industry representatives agreed on instituting an effective and transparent monitoring system and expressed their commitment to make necessary changes in the production processes.

The Environmental Standards Committee reached the following decisions through consensus:

Self-monitoring and reporting by Industry

Pakistan EPA and SDPI jointly developed guidelines for self-monitoring and reporting by industry, which were presented and discussed during the ESC meeting of September 23, 1997. These guidelines were circulated to Provincial EPAs, FPCCI and OICCI for comments, discussed during two roundtable meetings held in Peshawar and Lahore in December 1997 and debated in the Experts Advisory Committee (EAC) on December 9, 1997 and February 7, 1998. The document was revised in the light of these comments and discussions and again presented to the ESC on March 10, 1998. The committee agreed during its last meeting that Pakistan EPA should implement these guidelines from November 1, 1998.

Revised National Environmental Quality Standards

Pakistan EPA worked as the secretariat to invite suggestions from all concerned specially from industry and NGOs, for the revision of NEQS. All these suggestions were discussed in the EAC meetings. The EAC finalized its recommendations in May 1997 and presented the draft revised NEQS to the ESC.

Certification of Environmental Laboratories

Pakistan EPA prepared draft regulations with the help of Hamid Law Associates which were discussed at different stages and finally presented to the ESC on March 10, 1998. The regulations were revised in the light of the views expressed during this meeting and the comments received from the members.

Analytical Methods and Procedures

The ESC formed a sub-committee of experts, headed by Dr Samiuzzaman, FPCCI, on March 10, 1998 to develop guidelines on the sampling and analytical methods and procedures to be followed by the certified laboratories. Pakistan EPA worked as the secretariat of the sub-committee. The first draft of these guidelines was presented to the ESC during its meeting of August 6, 1998. The committee decided that the draft guidelines, after review within the sub-committee members, would be circulated to the members. On receipt of comments from industry, Pakistan EPA will finalize the document and notify it accordingly.

Determination of a Pollution Charge for Industry

This was one of the most difficult areas of work for the Environmental Standards Committee. Pakistan EPA and SDPI jointly developed guidelines for the determination of a pollution charge for industry. This proposal was discussed by the ESC during its meetings on September 23, 1997. It was agreed that the proposal would be subsequently considered in the following two parts:

1. The technical part of this proposal was to be discussed in detail in the EAC and finally decided by the ESC.
2. The remaining part of assigning the actual amount of charge was to be negotiated in the next ESC meetings.

The proposal as a whole was circulated to Provincial EPAs, FPCCI and OICCI for comments, discussed during two roundtable meetings held in Peshawar and Lahore in December 1997 and also thoroughly debated in the EAC on December 9, 1997 and February 7, 1998. The technical part of the proposal was approved by the ESC on March 10, 1998.

The ESC formed a sub-committee on March 10, 1998, headed by Mr Mehmood Ahmad, FPCCI, to recommend the base rate for one pollution unit and the escalation schedule during next 4-5 years. The sub-committee presented its report to the ESC meeting on August 6, 1998 and the following decisions were taken through consensus during that meeting:

1. The base rate of a pollution unit would be Rs 50/- during the first and second years and Rs 75/- from the third year onwards.
2. The amount will be collected at the rate of 10%, 20%, 40%, 60% and 80% of the base rate respectively during a period of five years

3. The implementation of pollution charge system would start from January 1, 1999, so that the first biannual installment is due for payment on July 1, 1999.

The sub-committee also recommended changing the term 'Pollution Charge' to 'Environmental Improvement Contribution'. This would require an amendment in the existing Act. The provisions of the existing law will remain in force until such an amendment takes place.

Institutional arrangements for the collection and disbursement of pollution charge money

The ESC formed a sub-committee, headed by Mr Zahid Hamid of Hamid Law Associates, with members from FPCCI and OICCI, on March 10, 1998, to develop workable proposal within the provisions of the Provincial Sustainable Development Funds (PSDFs) provided in the Environmental Protection Act 1997. The draft rules and regulations were presented during the ESC meeting of August 6, 1998 by way of interim information to the members. These rules aim at maximum participation and control of industry over the collection and disbursement of funds within the provisions of PSDFs.

The industry representatives did not agree to any arrangements whereby the collected money becomes part of the provincial government funds as provided for in the Act. They proposed to create Provincial Environment Trust Funds (PETFs) under private sector control, albeit with some representation of the government on such trust.

It was agreed during the last ESC meeting that FPCCI will send their proposal in the form of a draft amendment in the act and the Ministry of Environment will move the case on the basis of agreed amendments. It was also agreed that the proposed amendment would not be linked with the implementation of the pollution charge system. The Pakistan Environmental Protection Council was requested to decide the matter in the light of above proceedings

Annex V

List of Draft Rules and Regulations prepared by the government

Rules

1. National Environmental Quality Standards (Self Monitoring and Reporting by Industries) Rules, 1998.
2. Provincial Sustainable Development (Procedure) Rules 1998.
3. Provincial Sustainable Development Fund (Utilization) Rules 1998.
4. Industrial Pollution Charge (Calculation and Collection) Rules 1998.
5. Environmental Tribunals Procedures and Qualifications Rules, 1998.
6. Environmental Samples Rules 1999.
7. Hazardous Substances Rules, 1999.

Regulations

1. Review of IEE/EIA Regulations, 1998.
2. Environmental Laboratories Certification Regulations, 1999.

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