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DISSERTATION

A MODEL ENVIRONMENTAL POLICY PLAN FOR PAKISTAN

Submitted by

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In partial fulfillment of the requirements

for the Degree of Doctor of Philosophy

Colorado State University

Fort Collins Colorado

Fall 2002

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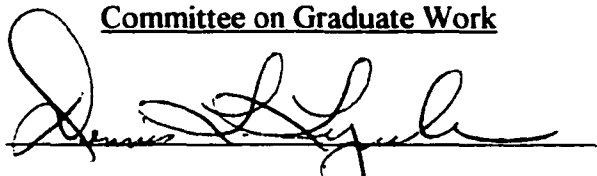
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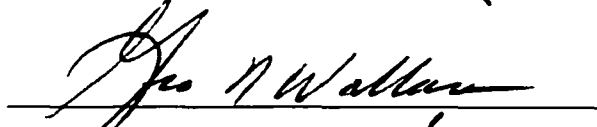
COLORADO STATE UNIVERSITY

NOVEMBER 6, 2002

WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED
UNDER OUR SUPERVISION BY BABUR EJAZ ENTITLED A MODEL
ENVIRONMENTAL POLICY PLAN FOR PAKISTAN BE ACCEPTED AS
FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY.

Committee on Graduate Work





Adviser


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ABSTRACT

A MODEL ENVIRONMENTAL POLICY PLAN FOR PAKISTAN

This study examines the environmental protection legislation in Pakistan and the US. Although Pakistan Environmental Protection Ordinance-1983 is very similar to the US National Environmental Policy Act-1969, the success story in terms of practice and application of the legislation is very different in both the countries.

The National Environmental Policy Act-1969 of the US was analyzed: how it was enacted and how much of a success it was in obtaining its objectives. Similarly, the Pakistan Environmental Protection Ordinance-1983 was studied. Both legislations were compared pointing out the similarities and differences. A dual analyses of these commonalities and differences was able to yield section-wise modifications and prescriptions to build a framework for a Model Environmental Policy Plan. It is hoped that this plan could be more effective and appropriate for the political, cultural, religious and socioeconomic context of Pakistan.

The Model Policy is comprehensive and integrates management of a variety of resources. It recommends changes in the nature of government, society, law enforcement, system of education and the system of justice both for violations of rights of the poor masses as well as for settling environmental disputes. One of the bold concepts that has

been coined in the Model Environmental Policy Plan is under the last Title XII which deals with ‘Moral Pollution’. It serves a caution to the Government for having failed to control corruption in the 55 years of existence of Pakistan. The researcher strongly believes that without addressing ‘Moral Pollution’, Pakistan will lose its fight against any other kind of pollution.

“Not gold but only men can make
A people great and strong;
Men who for truth and honor’s sake
Stand fast and suffer long.

Brave men who work while others sleep,
Who dare while others fly...
They build a nation’s pillars deep
And lift them to the sky.”

— *Ralph Waldo Emerson*

In the words of Our Creator, as conveyed to Prophet Mohammed by Arch-Angel Gabriel, “*Let there arise out of you, a band of people inviting to what is good, enjoining what is right and forbidding what is wrong. They are the ones to attain success.*” —
Surah *Al Imran*, v 104

The research hypothesis of ‘Model Environmental Policy Plan’ was tested via questionnaire by a diverse population in Pakistan. Statistical analyses of the responses revealed support for the Model Environmental Policy Plan.

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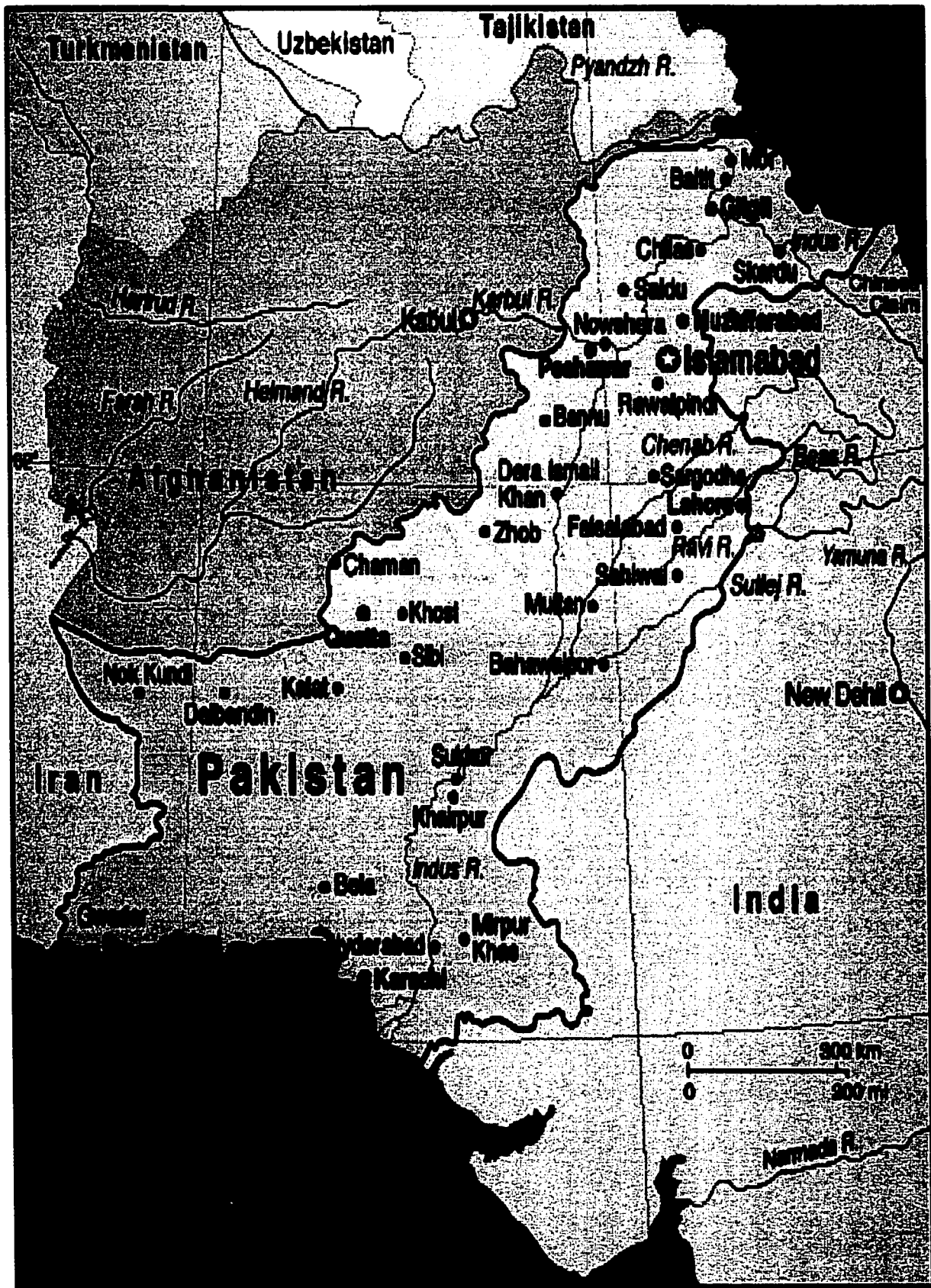
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BISMILLAH-HIRRAHMAAN-NIRRA-HEEM

In the name of Allah, the Beneficent, the Merciful.

CHAPTER I

INTRODUCTION

We have established you on Earth and granted you means by which to live on it. Little are the thanks you give. {The Heights 7:10}

He is the One Who has made the Earth subservient, to be managed by you (i.e. easy for you to walk, to live and to do agriculture etc.), so walk along its by ways and eat some of what He provides you with, for with Him lies reviving it again (Resurrection). {Sovereignty / Dominion / Control 67:15}

Pakistan

The Islamic Republic of Pakistan is located in Southern Asia and extends from the Arabian sea, Northward across the Thar Desert and Eastern plains, to the majestic Himalayan mountains. Pakistan is basically an agricultural country, has a land area of 796,095 sq. km which slightly less than twice the size of California. Population as of July 2002 is roughly estimated at 147,663,429 millions - 65% of which live in the rural areas. 97% of the population are Muslims. Christians, Hindus and others constitute 3%. Literacy rate is approximately 44% for age 15 and above (UNDP-1998). Access of rural population to safe drinking water is 48% while only 23% rural population has sanitation facilities. Agriculture, the largest economic sector, contributes 25% to GDP. Out of a

reported area of 59.32 million hectares, only 21.92 million hectares is cultivated while 24.62 million hectares is not available for cultivation due to one or the other reasons. Excessive use of fertilizer, pesticides and aerial spray leads to serious environmental and health problems for rural community and wildlife. Development schemes like construction of roads, electrification, setting up of industry and sometimes mega projects like construction of dams and oil and gas exploration not only cause environmental degradation but also uproot rural community. (Pakistan, Government of, 2001).

The Indus River, which traverses the country, contributes to the world's largest irrigation system. Four other major rivers run through it, from which a network of irrigation canals spreads through the country. Pakistan is endowed with many natural resources including forests, minerals, wildlife, fisheries, and rich soils. It also includes the very rare Indus Dolphin besides being a home to more than 6,000 species of plants of which over 2,000 species are medicinal. The country has a limited supply of coal, oil, natural gas, and iron ore as well. About 5% of Pakistan's total land area is under forest cover. Arable land encompasses about 36% of the total land area. Wheat, rice, and cotton are among the chief crops. It is also home of the world's best fruits of many kinds. Textiles are a major export. Most of the nation's remaining land is either mountainous terrain or wild range lands devoted to grazing for livestock.

Pakistan has one of the world's fastest growing (3%) and least educated population --- a deadly combination for a country trying to break with its backward past (a UNO official). Each day in Pakistan 500 children die of diarrhoea. With more than 5 million births a year, Pakistan is expected to double its population of 135,135,195 (July 1998 est.)

by the year 2023. According to the English language daily of Pakistan, "The News International", the Government is proposing new legislation that would fine parents of truant children. Pakistan is also handicapped by a tradition and culture that prefers boys over girls, fails to educate girls and encourages large families. A 1998 study by the UNDP puts the adult literacy rate at 44.0% (UNDP-2000)

After the partition of India in the year 1947 there came such a tremendously high influx of refugees into this part of the subcontinent (Pakistan), which the world had not seen before. To settle them was humanly impossible. They settled on wherever and whatever land they could lay hands on and this created slum conditions in and around cities. Their settlements and dwellings are haphazard and without little or no sewage facilities that pollute the green atmosphere around.

About 80% of the population lives in rural areas but many urban centers such as Karachi, Lahore, Multan, Faisalabad, Rawalpindi and Islamabad are growing rapidly. New housing colonies are spreading fast around the big cities. Many people have set up small businesses and industries at home, even shoe-making, black smithy, welding and repair shops thus creating lot of noise and pollution around. Still there is job scarcity. Young doctors and engineers roam about with degrees in their hands unable to find jobs because national economy is weak and unable to absorb population growth. So unemployment and poverty are widespread. A large number of young people, therefore are forced to migrate out of the country in search of work. Poverty is also exacerbated by concentrated ownership of land holdings.

Dr. Mahboob-ul-Haq former finance minister of Pakistan and a UN official

criticized Pakistan's spending plans for the year 1994-95. As a co-author of the UN's 'Human Development Report' he has noted that, "Pakistanis are living longer but growing poorer each day. South Asia has surpassed sub-Sahara Africa in poverty, yet it is one of the world's biggest importers of arms. Pakistan's Government is spending billions of dollars on its arms and weapons acquisition programs but fails to provide safe drinking water to its people who are mostly illiterate. Out of the current proposed budget of US \$12.6 billion, \$3.3 billion are allocated for the army and another \$4.6 billion for debt servicing. Pakistan's neighbor increased its defense budget by 20% (US \$7 billion) this year (94-95)." Dr. Haq has proposed a 3% reduction in the defense budgets of all countries in the region. No Government or ministry can do much as long as the country continues to spend the major portion of budget on Defense and luxuries like a New National Assembly Building. (UNDP-1990)

Pollution

Right from the genesis of human society, many efforts made by mankind to improve its living conditions caused great damage to the environment. Man was so fascinated by his achievements and his own intellect, that he did not consider preservation of the planet he was living in.

Environmental pollution, global warming, population growth, ill-planned use of natural resources, and mismanaged employment of advanced technology including nuclear hazards have posed a serious threat to the world and its inhabitants (The News International-Sept. 17, 1993).

A major cause of pollution is human and industrial waste. Much has been said and written on how to solve this problem. Around 10-20% of all manufactured waste is potentially hazardous. In the developed countries, waste is treated before its final disposal. Unfortunately, there is no such concept in Pakistan or many of the less developed countries. Public is casual even in the disposal of house-hold garbage. Heaps of garbage along-side the roads, in drains and in many cases, even in parks, is a common sight. Used packets, and polythene bags requiring proper processing are a nuisance for all but move none (The News International-Sept. 17, 1993).

According to a survey, Lahore was found to be one of the most polluted cities. Its garbage ratio is 1.3 lbs. per person per day (The News International-Sept. 17, 1993). The problem can be overcome to some extent, by establishing recycling plants in the public sector which is very beneficial. For instance "to make aluminum out of waste costs only 1/20th of what is needed to produce it from mined bauxite. Japan converts more than 100,000 tons of garbage into valuable material every year" (The News International-Sept. 17, 1993). The world today has practical concern about recycling and the disposal of urban wastes, and new global concerns about oil spills, the destruction of tropical forests and the green house warming of the earth. There is also awareness of the connectivity of things. We now know that industrial chemicals that bring us the convenience of air conditioning also degrade the Earth's protective ozone shield. We understand that buying ivory trinkets or clothes and other things made from the skins of endangered animals supports an illegal market that is decimating wild-life population. We have a new interest in the more efficient use of energy in our homes and cars in our oil-dependent economy

The carrying capacity of environment is like a reservoir, as is the quantity of raw materials-- whether or not renewable. The cycles of substances between these reservoirs must be controlled in order to maintain the carrying capacity of the environment. We therefore need to know more about the environmental consequences of our actions, as individuals and as nations sharing the global village. The preservation of our planet is a common responsibility of all of us at different levels- home, community, city, district, division, province, national and international levels.

At the international level the U.N. launched a world wide campaign, 'Clean-up the world' on Sept. 17, 1993. The campaign aimed at cleaning local parks, rivers, beaches and road sides. Thousands of people participated in the campaign on a voluntary basis. People of Pakistan are concerned about their national and international responsibility towards the environment. They are aware of the world's environmental problems and that the issue demands serious effort at the public and private levels.

In addition to many environmental problems at different levels of scale, many sources can be identified as causes of environmental problems. Apart from population growth itself, almost all human activities are damaging environmental values to some extent: agriculture, traffic, industry, energy supply, building-trade, households, recreation, etc. Since there are a large number of sources, problems are occurring at a very large scale.

Research Problem

In 1983, the Government of Pakistan established Pakistan Environmental Protection Ordinance. It included several goals to be accomplished. It gave an indication

about the intent of the Government at that time to be sensitive to issues related to environment. The ordinance is brief and successfully gave a broader outline of the issues related to environment- (Appendix-B).

Pakistan Environmental Protection Ordinance of 1983 (PEPO) can be compared to National Environmental Policy Act (NEPA) of 1969 in the USA- (Appendix-A). Pakistan's Environmental Protection Ordinance of 1983 is very similar to NEPA, it followed almost the same directions and laid down the foundation of all the Environmental Protection legislation to come later on. The most recent one being the Pakistan Environmental Protection Act-1997.

Pakistan Environmental Protection Ordinance (PEPO) is made up of three titles and every title has sections and sub-sections. The ordinance itself was a step in the right direction. After more than two decades of its adoption by the Government, it did not bring about the desired results, when it is compared to what NEPA did in the USA. Pakistan's Environmental Protection Ordinance-1983 was not a big success in terms of its implementation. A lot can be said and a number of reasons can be attributed towards its failure.

The work of this research is dedicated towards serving that need and remains focused on the sole aspect of legislation and policy issue alone. The study aims at providing factual, accurate and practical information about PEPO, compares it with NEPA and develops a new Model Environmental Policy Plan for Pakistan with the hope that it will have better implementation and offer a wide range of environmental protection.

The research represents a comparative and descriptive analysis of the environmental pollution control legislation in USA and Pakistan. Both countries have similar legislation but different degree of implementation and success.

The purpose of the study is to see to what degree the measures of the Pakistan Environmental Protection Ordinance (1983) are sufficient to achieve the stated objectives of environmental policy. A critical analysis should be able to identify inherent weaknesses. A knowledge of related natural resource policies can help to find a way to integrate them together in a new Model Policy Plan.

Hypothesis

"Pakistan's environmental and related legislation can be modified to incorporate an integrated policy approach as well as religious and cultural beliefs in order to improve the effectiveness of Pakistan's EPA, and to set a model or precedence for other Muslim countries of the world."

Review Of Literature

Since environmental concern is relatively new, there is serious lack of systematic comparative studies in this field. NEPA has been hailed as the Magna Carta for the environment, and its beneficial effects have been widely acclaimed (Hank and Hank, 1969). It has changed public life not only in America but has provided a model that has influenced environmental policy making worldwide.

NEPA of USA has also been the most commonly sought and adopted legislation among a number of nations of the world. Pakistan is one of them. Many countries of the world today have adopted NEPA in one form or the other. This study deals with the procedures employed by the US and Pakistan to administer the legislation which gives broad and specific guidelines to manage pollution.

The two countries have attempted to handle the implementation function within somewhat ecologically distinct institutional set-ups. Legally, however, responsibilities for implementation of environmental pollution control policies have been delegated to state/provincial and local Government agencies in both the countries. However, most of the specific implementation is carried out by the intent, willingness and commitment of the administrators responsible for the implementation of such laws.

Although America's NEPA-1969 is the most commonly followed or adopted in a lot of other parts of the world, systematic legislative or policy studies comparing two countries is very limited. Chongthu (1971), studied legislation of outdoor recreation in the United States and its applicability to India. It was recommended that, "Much legislation in the United States is found to be suitable for use in India after minor modifications are made to suit Indian conditions".

Pradice (1977), did a structural analysis of environmental research and education organizations within the USA and how conflict resolution has been made through environmental impact analysis and environmental education. It was noted that in spite of a generally favorable attitude toward science and technology in the western world, there still appears to exist a considerable time lapse before new ideas and innovations reach

wide acceptance. However, attempt will be made to apply the experience and knowledge to problems pertaining to environmental and recreational quality in Australia.

Torres (1979), studied the possibility of establishing environmental education in Brazilian universities. Adoption of some concepts, definitions, and issues describing inter-disciplinary insights as potential growing points was recommended.

“The word “environment” was unfamiliar to people of Pakistan even after promulgation of the 1983 Environmental Protection Ordinance. Pakistan Environmental Protection Council-an apex body for setting up environmental policies, met for the first time after 9 years since the Ordinance became effective. Even the rules to operate the 1983 Ordinance could not be formulated in 13 years span till it was replaced with a new act of Parliament in 1997. Environmental institutions at the federal and provincial levels were too weak to enforce the laws. Environmental awareness was non-existence and whatever efforts exerted made a little change due to low literacy rate. In that way, a decade passed without a significant event happening in the environmental history of Pakistan since the 1983 Ordinance was promulgated.” (Pakistan, Government of, 2001).

This means that the information concerning the development of environmental legislation was incomplete, particularly in the longer term. To give the policies a good start, not only the Central Government but other tiers of Government and target groups must enthusiastically take up the challenge posed by the environment. It is felt that a new and comprehensive pollution control act should be drafted which would cover all aspects of pollution and measures for the protection of environment (Malik, 1993).

Given the growing scientific knowledge and complexities of issues relating to

pollution management, it has been seen that Pakistan's Environmental Protection Ordinance, 1983 is deficient in many respects (Malik, 1993). Many of the planned policies which were proposed have not been implemented. According to very reliable sources (Masrur, 2001), this is even true about the 1997 Act. "The provisions of Pakistan Environment Protection Ordinance- 1983 or for that matter the earlier ones appear to have remained restricted to paper and punitive measures never saw the light of the day, although contraventions under Section 12 (i) were punishable with imprisonment for a term of two years or a fine of one hundred thousand rupees or with both." (Masrur, 2001)

"Enforcement of laws and policies is a major problem. There are laws already, but no action taken to enforce. Depends on the political will of the country!" Ahmed (May-2002)

'Policy'

Policy, in the legal context, means general principles by which a Government is guided in its management of public affairs (Black, 1951).

The word "National Environmental Policy" began to emerge in the decade of 1960's. The quality of the environment is a subject of public policy action. Thomas R. Dye's concept of public policy is "what a Government chooses to do or not to do", but if we accept it we are not left with a very clear understanding of what environmental policy may comprise. James E. Anderson, however defines public policy as "a purposive course of action followed by an actor or a set of actors in dealing with a problem or a matter of concern", we get a clearer picture of what environmental policy may be concerned with.

An environmental policy would be a purposive course of action directed by a set of actors toward the problem of environmental pollution. In a Governmental sense, then, public policy for management, control, regulation and prevention of environmental pollution must take the form of bureaucratized regulation, legislation, a dictated ordinance or a democratically evolved law through some model of policy process for self-regulation by both the public and private sector.

A precise meaning of the policy is still not possible. However, understanding of policy which constitutes Sec.101 of NEPA, 1969 can be enhanced by the study of its legislative history, court decisions and administrative guidelines and regulations.

Earlier Development of Concept

The Resources and Conservation Act of 1960 (U.S. Congressional record, 1959) was the first legislative attempt to establish a national policy now called environment. The purpose of the Act is "to declare a national policy on conservation, development, and utilization of national resources (U.S. Congressional record, 1959). This policy was stated as under:

The Congress hereby declares that it is the continuing policy of the Federal Government...to use all practicable means, including coordination and utilization of all its plans, functions, and facilities, for the purpose of creating and maintaining... conditions under which there will be conservation, development, and utilization of the natural resources of the nation to meet human, economic, and national defense requirements, including recreational, wildlife, scenic and

scientific, values and the enhancement of the national heritage for future generations (U.S. Congressional record, 1959).

Although the policy statement differs from NEPA, the 1960 proposal marked the beginning of attempts to establish a broad overall policy to conserve natural resources, which expressed the same concern as NEPA for future generations.

The Resources and Conservation Act of 1960 failed to become a law; however, its supporters, Senator Henry M. Jackson of the Interior Committee and Senator Jennings Randolph of the committee on Public Works who later became chairmen of their respective committees, played an active role in the development of NEPA.

Environment

As the decade of 1960's progressed the word 'environment' became popular. According to Webster's Dictionary, environment means 'something that surrounds i.e. all conditions, circumstances and influences surrounding, and affecting the development of, an organism or group of organisms'.

According to Dictionary of Green Ideas, "The surroundings and context of something or someone; a much-used, much abused word, almost impossible to define: 'The environment' proves an elusive concept. It is everything, bar something' (Ash, 1980). Until about 1950 it was used in a fairly 'neutral' way to describe the physical and social setting of a place or person. Increasingly from then on it was used to draw attention to what human beings were doing to their surroundings: "Along with the possibility of the extinction of human kind by nuclear war, the central problem of our age has...become the

contamination of [our] total environment with such substances of incredible potential for harm -- substances that accumulate in the tissues of plants and animals and even penetrate the germ cells to shatter or alter the very material of heredity upon which the shape of the future depends"(Carson, 1962).

Concern about the environment grew during the 1960's, culminating in the United Nations decision to hold a conference on the 'Human Environment' in Stockholm in June 1972. By now it was clear that 'environment' meant the human environment, the environment as it affects and is affected by human beings, almost as if 'environment' could not exist without human intervention. A book called *Man and Environment* by Robert Arvill, 1967, starts: "This book is about people; about their impact on land, air, water and wildlife, and the environment they create; about the damage and destruction they cause and the measures they take as a society to remedy this. Above all it is about the possibilities they now have to reshape and create an environment that fits their highest aspirations" (Button, 1988).

"To survive on the earth, Human beings require the stable, continuing existence of a suitable environment...The environment makes up a huge, enormously complex living machine that forms a thin dynamic layer on the earths surface, and every human activity depends on the integrity and proper functioning of this machine" (Commoner, 1971).

Paradoxically at the same time stressing the importance of the environment for human reasons, a great deal of environmentalism tends to ignore the human element, concentrating on wildlife and resource conservation: 'Most books about the environment describe the ecological costs of modern society. Yet they often neglect the very human

social cost. Every single day over 40,000 children under the age of five, die because of hunger and poverty' (Weston, 1986).

'Environment' must involve an awareness of the interconnectedness of all these issues if it is to be at all useful. The perspective of 'deep ecology' makes it clear that concern for environment must stem from a clear understanding that 'the environment' is an anthropocentric concept -- we cannot 'save the environment' either for ourselves or without the knowledge that we are an integral part of it. We are all in it together.

In the natural context, 'environment' means the complex of climatic, edaphic and biotic factors that act upon an organism or an ecological community and ultimately determines its form and survival.

In a social perspective, 'environment' means an aggregate of social and cultural conditions that influence the life of an individual or community. All of these definitions are included in the use of the word environment in NEPA.

Developmental History of NEPA

These concerns about the meaning of 'environment' were expressed in a report of the committee on Natural Resources of the National Academy of Sciences where the Committee stated:

'Perhaps the most critical and most often ignored resource is man's total environment. Increasing awareness of the importance of understanding the balance of nature is reflected in the gradual development of interest in ecological studies...The wisdom of examining environment in totality of its interaction with

man becomes increasingly apparent in the view of the rapidity of environmental change in our country'...(U.S. Government, 1962).

The key words expressing these concerns are "interaction" and "totality". First, it is suggesting the need for knowledge of the interaction of man with his environment, and secondly, that the total environment should be considered when environmental decisions are made. These concepts were considered in the formulation of a national environmental policy and eventually became a part of the policy statement in NEPA.

In June 1968, the Subcommittee on Science, Research and Development of the House Committee on Science and Astronautics published a report entitled "Managing the Environment" (U.S. 90th Congress, 2d Session, 1968) which expressed the need for an overall policy to unite Government decision-making in regard to environmental matters. This report was written by Richard Carpenter a staff member of the Subcommittee. He stated:

"A major lesson is being taught today on the relationship of man and his environment. It is a lesson of systematic ecology or the 'web of life.' The interdependency of all living things and the environment is so complex that the 'cut and try' or the reactive practical approach to nature has been the only possible method for centuries" (U.S. 90th Congress, 2d Session, 1968, p.12).

Lack of a comprehensive approach to this problem was stated as follows:

"The web of life is a single system but it is dealt within segments out of necessity. This fragmented approach is due to the practical aspects of localized environments and short time period" (U.S. 90th Congress, 2d Session, 1968,

p.12).

He also indicated in the following statement that the market place does not consider the environmental values:

“The market approach fails for two reasons:

First, it is very difficult to quantify in terms of dollars many of the values of environmental quality. Second, the axiom that a unit of profit is more valuable now than at any time in the future leads to short-sightedness in environmental management” (U.S. 90th Congress, 2d Session, 1968, p.12).

This was followed by a suggestion of a new basis for an environmental policy:

“The new basis for policy is in addition to the existing basis. It is an increased ecological understanding plus the analytic approach for coping with large complex systems. Systematic ecology attempts to replace mystique and lore with facts, mathematical models, and computerized manipulation in order to evaluate alternative actions” (U.S. 90th Congress, 2d Session, 1968, p.12).

Carpenter (1968), then recommended that a national policy of the United States for the environment be developed by both the Government and private sector interests and that it should contain the following elements:

- a. Use of the environment for the benefit of all mankind;
- b. Maximized productivity of the environment consistent with the continued usage into the very long-term future;
- c. Systematic management of applied science and technology to achieve best usage;

- d. Incentives to industry, land developers and local Governments;**
- e. International agreement on projects which have widespread or long-term effects;**
- f. Anticipatory assessment of new and extended applications of science;**
- g. Avoidance of speculative statements and emotional appeals in public relations;**
- and**
- h. An increased education and information program for the public in ecological principles (U.S. 90th Congress, 2d Session, 1968, p.12).**

In July 1968, a report was published by the Senate Committee on Interior and Insular Affairs focusing attention on the need for a national environmental policy, its scope and contents.

Caldwell stressed the need for an effective environmental policy in the following words:

“Effective policy is not merely a statement of things hoped for. It is a coherent, reasoned statement of goals and principles supported by evidence and formulated in language that enables those responsible for implementation to fulfill its intent” (U.S. 90th Congress, 2d session, 1968).

Effective policy was further described as follows:

“To make policy effective through action, a comprehensive system is required for the assembly and reporting of relevant knowledge; for placing before the president, the Congress and the people, for public decision, the alternative courses of action that this knowledge suggests” (U.S. 90th Congress, 2d session, 1968).

In the above statement Caldwell (recognized the need for public involvement when making environmental decisions. He also pointed out that environmental policy should not be confused with efforts to preserve natural or historical aspects of the environment in a perpetually unaltered state. Environmental quality does not mean indiscriminate preservationism, but it does imply a careful examination of alternative means of meeting human needs before sacrificing natural species or environment to other competing demands (U.S. 90th Congress, 2d session, 1968).

From the above language as well as that of NEPA it appears the role of the policy is to require a balancing of the environmental needs of man with the economic and other developmental needs when the two come into conflict. The important portion of Caldwell's environmental policy statement which he expected to be adopted by a joint Congressional resolution is as follows:

“It is the intent of the Congress that the policies, programs, and public laws of the United States be interpreted and administered in a manner protective of the total needs of man in the environment. To this end, the Congress proposes that appropriate legislation be adopted and, where necessary, that administrative arrangements be established to make effective the following objectives of national policy for the environment:

- (1) To arrest the deterioration of the environment.
- (2) To restore and revitalize damaged areas of our Nation so that they may once again be productive of economic wealth and spiritual satisfactions.
- (3) To find alternatives and procedures which will minimize and prevent

future hazards in the use of environment-shaping technologies, old and new.

(4) To provide direction and, if necessary, new institutions and new technologies designed to optimize and to minimize future costs in the management of the environment” (U.S. 90th Congress, 2d session, 1968).

This report and that of Richard Carpenter's Report Entitled "Managing the Environment" formed the basic documents for a joint House-Senate Colloquium held in July 1968. It was a joint effort of the Senate Committee on Interior and Insular Affairs and the House Committee on Science and Astronautics.

After the colloquium a white paper was written by Richard Carpenter and Wallace Bowman which contained a review and discussion of the colloquium. It contained the following policy statements:

It is the policy of the United States that:

- Environmental quality and productivity shall be considered in a world wide context, extending in time from the present to the long-term future.
- Purposeful, intelligent management to recognize and accommodate conflicting uses of the environment shall be a national responsibility.
- Information required for a systematic management shall be provided in a complete and timely manner.
- Education shall develop a basis of individual citizens understanding and appreciation of environmental relationships and participation in decision making on these issues.

- Science and technology shall provide management with increased options and capabilities for enhanced productivity and constructive use of the environment (U.S. 90th Congress, 2d session, 1968).

This proposed policy statement contains some of the elements of the policy contained in NEPA.

In 1969, both the House and the Senate had bills before them which were forerunners to NEPA. Congressman Dingell introduced to the House of Representative Bill 6570 (HR 6570) on February 17, 1969 to amend the Fish and Wildlife Co-ordination Act. This bill contained a short statement on environmental policy and created a Council on Environmental Quality. The next day, Senator Jackson introduced S. 1075, which was a forerunner to NEPA in the Senate (U.S., "Congressional Record" 1969).

S1075 authorized the Secretary of Interior to conduct ecological research and created a Council on Environmental Quality. Although Senator Jackson has been active in pursuing a national environmental policy in 1968, his 1968 proposal did not contain a policy statement.

On April 16, 1969, Caldwell testified to the Committee on Interior and Insular Affairs as follows:

“It would not be enough, when we speak of policy to think that a mere statement of desirable outcomes would be sufficient to give us the foundation we need for a vigorous program of what I would call national defense against environmental degradation. We need something that is firm, clear and operational” (U.S., Congressional Hearings, 1969).

In reply to Caldwell, Senator Jackson stated:

"I have been concerned with the inadequacy of the policy declaration in the bill that I have introduced. Obviously this is not enough".

Six weeks after this statement, Senator Jackson introduced an amendment containing "A Declaration of National Environmental Policy". With minor changes S1075 was passed by the Senate and referred to the House for further action. Later after a few more changes, the bill was renumbered to H.R.12549. Two amendments were made, first to broaden the scope by making it an Act applying to all types of environmental concerns and secondly some changes related to Sections 103 and 104.

In regard to the policy of Sec. 101, Senator Jackson stated:

"A statement of environmental policy is more than a statement of what we believe as a people and as a nation. It establishes priorities and give expression to our national goals and aspirations. It provides statutory foundation to which administrators may refer to it for guidance in making decisions which find environmental values in conflict with other values" (U.S., "Congressional Record", 1969).

This statement was intended to be actively applied to decision-making within the Federal Government.

CHAPTER II

ENVIRONMENTAL PROBLEMS AND REGULATIONS

Pressures on the Environment:

Like a lot of the developing nations, Pakistan's environmental problems can be traced back to factors which either directly or indirectly contribute a lot of pressure on the environment. Those pressures later on culminate into major environmental problems. Poverty, overpopulation, illiteracy, ill-health, land use patterns, haphazard human settlements and industrial sprawl are identified as severe pressures on the environment of Pakistan. They cause problems that include water pollution from raw sewage, industrial wastes, and agricultural runoff. Natural fresh water resources are limited and a great majority of the population does not have access to potable water. Encroachments for human settlements lead to deforestation, soil erosion and desertification.

Natural environmental hazards include frequent earthquakes, landslides and flooding. Occasionally earthquakes are severe especially in north and west of the country whereas flooding occurs along the river Indus after heavy monsoon rains (July and August). According to the latest report of the United Nations Environment Program, there exists a thick brown haze over South East Asia (BBC, 2002). The three kilometer thick brown cloud can travel around the world in a few days and is mainly responsible for

unusual weather patterns and thousands of premature deaths. Main causes are attributed to inefficient burning of fossil fuels, industrialization, inefficient cooking stoves / pots, slash and burn of forests (BBC, 2002).

Major Environmental Problems - (Pakistan)

Some of the major environmental problems and related concerns are briefly described as under:

1. Water Pollution

Water pollution is a major problem throughout Pakistan. Barely one half of the population has access to safe drinking water. Lack of sewage treatment and direct discharges by industrial plants contaminate many water supplies. Overuse of pesticides and fertilizers on farm lands has lead to runoff of these chemicals into canals and rivers adding to the pollutant burden. Livestock run on the roads as well as horse driven carriages as a result of which dung on the roads is not an uncommon sight. It poses a major hazard to health and environment. Adding fuel to fire is almost non existing facility of public restrooms.

2. Water Scarcity

In spite of a network of irrigation canals, water is scarce in most parts of the country. The primary reasons are inadequate rainfall, high rate of evaporation and increasing salinity in the available water supply as a result of irrigation. Occasional failure of the monsoon rains lead to water shortages and crop failures. The construction of dams has also restricted the flow of fresh water into the region. The quality and amount of

fresh water resources of Pakistan are dwindling. It is feared a state of nationwide water inadequacy may occur before the turn of the century.

3. Land Degradation.

The country's exploding human population requires more land and has created enormous pressures on a finite amount of arable land. Poor management practices, including overgrazing and over-harvesting, as well as erosion caused by water and wind are among the most immediate causes. Water logging and salinity are on the increase which seriously affect irrigated lands. Growth of water-hyacinth is widespread and on the increase. No control has yet been found for it. Pakistan's soil resources are therefore endangered. Over grazing has resulted in deforestation while over-cultivation has also depleted some soils of valuable nutrients. Use of marginal lands is widespread because of dire need. The most damage that has been done is by the overwhelming spread of industries over most fertile land near the city boundaries.

4. Deforestation.

Pakistan's already limited forest resources are shrinking by more than 2.9% each year according to estimates during 1990-95. (UNDP-2000) Indiscriminate cutting for household fuel wood and timber needs and clearing for agricultural purposes are the major causes. Thus deforestation contributes to an array of adverse effects on Pakistan's natural environment, including soil erosion, siltation, flooding, and sometimes drought. It also creates damage to infrastructure, natural habitats and areas rich in bio-diversity.

5. Coastal / Marine Pollution.

Especially around the city of Karachi, coastal pollution is severe. Pakistan's entire

coast line is threatened by oil pollution that washes ashore from other countries. Recently it has been learnt through Pakistan News Service via E-Mail (March 23rd, 1994), that Pakistan communication ministry asked The Imperial Chemical Industries (ICI- Pakistan) to immediately stop dumping hazardous chemical wastes into the Arabian sea, near Karachi. ICI was found dumping glycol waste in violation of conditions of the allowed permission. ICI officials denied the charge which is a common attitude of the defaulting agencies.

Pakistan has almost no environmental monitoring and controlling department for industries. The EPA for the province of Sindh has been reported to having a negligible number of inspectors and staff. The agency said on Saturday, 19th March 1994 that ICI wastes contained antimony, highly active aldehyde compounds and cadmium in high concentrations.

Pakistani cities are also noticing a steep rise in the number of cancer, kidney, liver, pulmonary and other diseases related to pollution in the environment and daily life.

6. Urbanization.

Deterioration of urban environmental quality is directly related to rapid urbanization. People are fast moving from rural to urban areas especially around big cities in search of jobs and better facilities. Rapid growth of cities brings congestion, pollution, and noise from automobiles. The most serious of these problems is the disposal of solid waste, inadequate sewage system and traffic jams. Driving is so hazardous that news of fatal accidents on the roads is a daily and regular feature of news media.

7. Air Pollution

Pakistan's air, especially in urban areas is polluted by emissions from automobiles, refineries, industries, dust and natural gas leakages. The smell of open cooking fires, garbage burning and natural gas leaking is rampant in every house, office and street. There is rapid industrial growth, small units of which are set up even in private homes and untreated toxic emissions from these results in high levels of pollution.

Pollution in Pakistan and other Asian Countries

There are already many metropolitan areas in Asia where air pollution has reached a serious dimension. Regarding sulphur dioxide, eight out of fourteen Asian cities included in Table 1 exceeded either in 1978-79 or in 1980 and 1982 the standard of 60 $\mu\text{g}/\text{m}^3$ which is considered the threshold for hazardous impact by the WHO. As a result, in China large forests have been destroyed by acid rain.

Table 1

Ambient Concentration of Sulphur Dioxide in Asian Cities (μ/m^3)

	1970-71	1975	1978-79	1980	1982
Ankara			230		
Baghdad			17-25		
Bangkok			27	11	
Bombay	47		83	48	
Calcutta	33		85	48	

Chongqing (China)				520	430
Delhi	41		39		
Hongkong		101			
Kuala Lumpur				22	
Lahore				40	
Manila			103	79	
Seoul		334	143-314		
Singapore	60	60			
Teheran		105	46-71		

Sources: [Hartje (1983); Hartje (1982); Center for Science and the Environment (1982); ESCAP (1984); Zhao and Bozen (1986)].

The situation for particulate matters is even more dramatic, as can be seen from Table 2. Only three cities out of thirteen between 1970 and 1982 remained under the WHO-standard of $150 \mu\text{g}/\text{m}^3$. Lead levels measured in Kuala Lumpur and in South Korea exceeded the acceptable standard by the factor of 10 and 20 respectively. For carbon monoxide the critical WHO-threshold is 8.6 ppm. The concentration in Bangkok ranged from 14-32 ppm and in Karachi from 6-40 ppm (Government of Pakistan 1987). In Kuala Lumpur in 1980 it reached up to 50 ppm (Sahabat 1984).

Table 2

Ambient Concentration of Particulate Matters in Asian Cities (μ/m^3)

	1970	1975	1979	1980	1982
Bangkok				170	
Beijing					403
Bombay	241		275	211	
Calcutta	341	547	578	463	
Delhi	601		481		
Hongkong		104			
Jakarta				274	
Kuala Lumpur				182	
Lahore				690	
Manila		80-100			
Singapore	100-160	30-60			
Taipei		100-300			
Teheran		429			

Sources: [Hartje (1983); Hartje (1982); Center for Science and the Environment (1982); ESCAP (1984); Zhao and Bozen (1986)].

There are two main sources of air pollution: one is the combustion of fossil fuels in various sectors, the other is the specific industrial activities which discharge hazardous contaminants. The size of industrial activities, accordingly, is one important determinant of air pollution. It is notable that despite the low per capita income quite a few Asian countries have already reached an overall level of manufacturing activities which is

comparable with small and middle industrial countries, as can be seen from Table 3.

More important for pollution than the absolute level, however, is the immense regional concentration of industrial activities in many Asian countries. About 60 percent of all middle and large firms of the Philippines, e.g., are located within Metro Manila, almost two-thirds of the industrial value added in the country is concentrated there.

Another main factor for air pollution is the number of vehicles, their spatial concentration and the speed of their increase. Developing East Asia (except China) experienced a 500 percent expansion between 1960 and 1980, South Asia an increment of 280 percent. In addition, a 300 percent increase is expected in the Asia-Pacific region between 1985 and 2000 (Asian Development Bank 1987). Air pollution due to motor vehicles is exacerbated by the fact that all petrol is highly leaded.

8. Noise Pollution

Indiscriminate and uncontrolled use of loudspeakers, music decks, auto horns, vehicles without mufflers, noise of the industry, fire-arms and fire-works etc. have made life difficult in homes, hospitals or offices.

9. Natural Disasters

Pakistan lies in a climate zone that is quite frequently subjected to river flooding and Monsoon rains. This causes widespread damage to crops, houses, reduction in agricultural production, erosion and sediment loading as well as spreading diseases like malaria and diarrhoea. Human dwellings are just devastated. Many heads of livestock are also lost every year. UN has reported 10,742 people killed by natural disasters during 1980-99. (UNDP-2000)

10. Industrial Pollution

Industries are rapidly growing in Pakistan and that has led to pollution problems. They are growing in close proximity to urban areas and usurping fertile agricultural land. There is no proper control on their effluent or emissions.

Indirect Sources of Pollution - (Pakistan)

Some of the indirect and invisible sources of Pollution can briefly be listed:

1. Poverty

Pakistan has a low income economy with GDP per capita of US \$511 (1995 est.). It is not a welfare state. Nearly 32% in urban and 29% in rural areas live below the absolute poverty income level. Average size of the family is seven; only 31% of people have electricity, 51% of the population has access to safe drinking water; and there are 3.1 passenger cars per 1000 people. A great majority of people live in absolute poverty. Very few enjoy a good standard of living. A 1998 survey by the UN estimated access to information flows and found availability of telephones @ 19 per 1,000 people, televisions @ 88 per 1,000 people, personal computers @ 4 per 1,000 people and internet hosts @ 0.02 per 1,000 people.

“A poverty curtain has descended right across the face of the world, dividing it materially and philosophically into two different worlds, two different planets, two unequal humanities – one embarrassingly rich and the other desperately poor. This invisible barrier exists between nations as well as between them” (Haq, 1976). An overwhelming majority of rural people live in poverty. In a class oriented society, ridden

with economic hardships and the cancer of corruption, life is miserable for the great majority of poor. Pakistan desperately needs sensible economic growth without any harm to the environment so that people may be able to get out of the vicious cycle of poverty and be able to raise their standard of living. This is an absolute prerequisite for education, health and a change in the production systems. It will be less destructive to the environment and rely less on the natural resources. According to the United Nations Human Development Report, Pakistan ranks at #135 for the Human Development Index among the list of 174 countries of the world with Canada at #1 and Sierra Leone at #174. Human Poverty Index has rated Pakistan at #68. (UNDP-2000)

2. Population Pressure

Pakistan is the 9th most populous country in the world. Since independence in 1947, its population has increased more than three fold. Its growth rate is 3.2% per annum. With this growth its population is likely to reach over 150 million by the year 2002. Contraceptive prevalence rate (percentage of married women+husbands using contraceptives) is 17% for Pakistan. (UNDP-2000). Even with the family planning efforts of the Government and assuming a reduction in growth rate of 2.0%, the population will still reach 250 million by the year 2035. These estimates do not include 3.0 million Afghan refugees present in the country. Then there is the flux of rural-urban migration resulting in immense pressure on natural resources in Pakistan.

3. Illiteracy

Based on 1998 census, UNDP estimated adult literacy rate at 56%. Although the Government has laid stress on improvement in the quality of education at primary and

secondary levels and is also encouraging the private sector to participate, they have a long way to go to keep pace with the population growth rate. Attempts are also underway to introduce environmental education at the college and university levels.

4. Public Health

One out of every ten Pakistanis dies within the first year of life. Under 5 mortality rate is 110 per 1,000 live births. Water borne diseases are common as 51% of the population has access to safe drinking water. Access to adequate sanitation is very limited. At best 78% of children get proper immunization. Nutritional levels stay far below the standards and such 51 % of the children around 2 years of age stay underweight. (UNDP, 2002) Risks related to health and welfare of the people of Pakistan run high and are numerous. Accountability of the medical profession or for the Department of Health does not exist.

5. Corruption

Pakistan is rated as one of the most corrupt country in the world by independent organizations. "Pakistan has improved its position in the ranking of the Corruption Perception Index (CPI) 2001, maintained by Transparency International (TI), said a report here on Wednesday. The new index, released all over the world simultaneously, has ranked 91 countries with almost two-thirds of the countries ranked in the CPI index score less than 5 out of a clean score of 10. Pakistan has been put on 79 rank along with Ecuador and Russia with CPI score of 2.3. If calculated from bottom, Pakistan is put on 12th position among the list of 91 countries survey. Bangladesh has become the top of the surveyed countries. From bottom, Nigeria follow Bangladesh with 1.00 CPI score.

Uganda and Indonesia (1.9), Kenya, Cameroon, Bolivia, and Azerbaijan (2.0) and Ukraine (2.2).” (Pakistan Chronicle, June,29 2001, Vol. 1#26-Houston, Texas).

Lawlessness prevails and accountability at any level of the Government or the private sector remains absent or very limited. The nation seems to be misguided by the principal that ‘might is right’. Law of the ocean prevails - ‘the big fish must eat the small fish’. Those in positions of power, trust and authority however small or big it may be, very often become abusive, arrogant, authoritative, dictatorial and criminal in behavior. This is absolutely true and includes a great majority of elites of the country who cling to power from the circles of politics, department of justice, education, police, health, industries, etc. Unfortunately it has not been uncommon in the short 55 year history of existence of Pakistan to have witnessed military coups, exiles and political assassinations. Very often the political leaders are sold out to foreign powers and their dictates. Replacements are readily available in hierarchy of the politicians and top brass of the military, dedicated in line of service to foreign masters.

The very hidden, coherent and almost indestructible mafia of the Central Superior Services of Pakistan, the so called ‘brown masters’ indulge in debauchery, dissipate and dictate a top down corruption. Departments of Police, Justice, various ministries, and leaders of the country become icons of corruption. In an environment like this it is not possible for agencies and Government functionaries to operate normally. Political goals, election agendas and promises seldom get fulfilled. Government policies however noble and virtuous in their content and intent, face the hard task of difficult implementation. Absolute corruption, culture of bribery, nepotism, illegal gratifications makes life

miserable. Social environment becomes very chaotic, haphazard, unreliable, and untrustworthy. Nothing gets accomplished in a timely manner. Loss of moral purity and integrity, violations of human rights and lack of dignity becomes a norm. Living pure among the impurities of life becomes a tough uphill struggle.

Policy Process in Pakistan

The policy process in Pakistan is influenced by leaders of various political parties, the bureaucracy and the local elite interest. Public involvement and group influences are only secondary influences. Policy initiation most likely occurs at the national level. However, its implementation depends on local interests such as businesses and on civil servants. Political and bureaucratic factors are strong determinants of the environmental policy process. In spite of the national control over policy initiation, the implementation of the policy is likely to be significantly influenced by various elite at the local level.

Bureaucracy in Pakistan is not only deeply rooted in the system, but is also one of the strongest institutions. Pakistan inherited a strong organized bureaucracy from its British rulers. Politicians, elected Governments and even military leaders and dictators have come and gone, the inherited system is so tough that bureaucracy cannot be replaced. While a strong bureaucracy was crucial for social stability, it also produced rigidity and elitism that restrains the system from adopting new changes. C.S.S.P. or the Central Superior Service of Pakistan is the other name for bureaucracy. Entry into the bureaucracy at the national or local level is through examinations and interviews. Most trainees are still recruited from the more prosperous urban families. Bureaucrats remain a

part of the ruling elite, and with few exceptions, are not representatives of the rural and the poor. This upper class orientation of bureaucracy is partly responsible for the mistrust and suspicion expressed by the general public. The rest of the blame lies with red-tapism and corruption.

The bureaucracy assumes great responsibility for both policy formulation and policy implementation -- a top to down mechanism. At the same time, its political position is irresponsible in the sense that it does not have to answer to any elected body. For example the planning commission is only an advisory body, not answerable to Government, has no executive functions and holds no executive powers. However, it controls almost every aspect of the social and economic life of the country and even scrutinizes the plans for its economic development.

The bureaucracy in Pakistan has emerged as an active participant in the process of public policy-making. While the strength of the bureaucracy makes it possible that bureaucratic innovations may take place, it also forces politicians to become dependent on civil servants. While strong and established bureaucracy may ensure the execution of new programs, at the same time, it may also create a difficult situation for new-coming agencies which may survive in a competitive atmosphere. Environmental agency since it crosses the jurisdiction of several other agencies --- such as agriculture, industry, health, forestry, housing development, etc. may find itself in a rough situation when dealing with a multiple of bureaucracies and the usual lack of inter-agency cooperation.

Local Government.

The basic democracy system at the grass roots level is laid out as follows:

1. National Assembly
2. Provincial Assembly
3. Zila Council —> District Level
4. Tehsil Council —> County Level
5. Union Council —> Village Level
6. Tribal Council —> Jirga

Local Government Plan 2000

Salient features of the Local Government Plan 2000 are:

Councils and Councillors

1. District Government, Tehsil and Union Municipal Administrations have been introduced with vast powers.
2. Strong links between Union, Tehsil and District Councils for effective coordination in the development process.
3. Legislative opportunities for all the three councils.
4. All the three councils have powers to levy taxes.
5. Councillors now have legislative and monitoring powers.
6. Direct participation of councilors in planning, management and monitoring of development projects.

Nazim / Administration

7. Zila Nazim / District Administrator will be the head of the District
8. All the Nazims / Admininstrators and Naib Nazims / Assistant Administrators will have academic qualification of at least matriculation/secondary school

certificate or equivalent.

- 9. No Nazim or Naib Nazim may hold the same office for more than two terms**
- 10. The Union Nazim will also be member of the Zila Council**
- 11. The Naib / Assistant Union Nazim / Administrator will also be member of Tehsil Council.**

Voters

- 12. Voters age has been lowered to 18 years**
- 13. Women representation has been enhanced to 33% at all levels of representatives.**
- 14. Representation for peasant, workers and minorities in all three councils.**
- 15. Training programs for councilors to help them in the development of their communities.**

At the time of election, voter turn-out remains low. During the March, 1997 elections the turnout was 35%.

Institutional Framework:

Ministry of Environment, Local Government and Rural Development is the main policy-making institution at the federal level. The ministry was created in 1972 as a Town Planning Division in the then ministry of Production and Presidential Affairs. It was renamed as Ministry of Housing & Works with a division for Environment & Urban Affairs in 1975, declared under the purpose of:

- 1. Formulation of policies regarding environmental planning, housing, physical planning, and human settlements;**

2. Liaison with international organizations in the above mentioned areas.

The regulatory function of the above at the federal level is being carried out by the Pakistan Environmental Protection Agency (EPA) established in 1984 under the Pakistan Environment Protection Ordinance, 1983 (PEPO). It is responsible for the control of pollution and the preservation of environment.

A high level Pakistan Environmental Protection Council was created under Section 3 of PEPO-1983, which comprises of representatives of Federal Ministries, Provincial Departments, Environment Protection Agency, legislators, environmental journalists and other reputed organizations. Functions of the Council, inter-alia, include enforcement of Environmental Protection Ordinance, 1983 and formulation of national environmental policy.

At the provincial level, policies on environmental issues are being formulated by the Environmental Sections located in their respective Physical Planning and Housing Departments. The regulatory function in all the four provinces is carried out by the Environmental Protection Agencies established by the Provincial Governments, to enforce the Environmental Protection Ordinance of 1983.

Regulations and Policies Related to Natural Resources and Environment

The deep concern presently felt about the environment all over the world can be traced back to the 1960s. It was in 1962 that Rachel Carson illustrated the wide-ranging implications of the interconnectedness of nature in her book *Silent Spring*. By demonstrating how minute quantities of pesticides could become concentrated in the food

chain, even appearing in penguins many thousands of miles away from pollution sources, she effectively reminded people of the complexity of sustaining a viable natural environment.

In Pakistan the concept of environment became known in early 1970s. For environmental protection and pollution prevention, the Environment and Urban Affairs division was established in 1974. It had a staff of only four professionals and non of them were environmental specialists. A high level council under the chairmanship of the President was formed under the Pakistan Environmental Protection Ordinance of 1983. In July 1991, the Council had its first meeting following which Environmental Protection Agencies were established in all of the four provinces.

The Government in Pakistan, as a matter of policy, identified the following main areas for immediate attention:

1. Conservation of natural resources and their optimum utilization;
2. Pollution management;
3. Institutional development including capacity building; and
4. Mass awareness, education and training.

A comprehensive policy document entitled "National Conservation Strategy" (NCS) composing the above policy parameters was developed in 1991. It was approved by the Federal Cabinet in its meeting held on 1st.March 1992. With the formulation of the NCS, Pakistan joined a small and select group of nations which are planning their development within the context of their National Environmental Plan.

The NCS has recommended the following 14 programs for priority

implementation:-

1. Maintaining soils in crop lands;
2. Increasing irrigation efficiency;
3. Protecting watersheds;
4. Supporting forestry and plantations;
5. Restoring rangelands and improving livestock;
6. Protecting water bodies and sustaining fisheries;
7. Conserving biodiversity;
8. Increasing energy efficiency;
9. Development and deploying renewables;
10. Preventing/abating pollution;
11. Managing urban wastes;
12. Supporting institutions for common resources;
13. Integrating population and environmental programs, and
14. Preserving the cultural heritage.

Total investment required for the above mentioned areas was estimated to be Rs.150.7 billion during 1992-2001. The strategy in question would be implemented through a collaborative effort by the Federal and Provincial Governments, NGOs , private sector, local bodies, and local communities with foreign assistance.

A plan of action, envisaging the following measures was prepared by National Conservation Strategy (NCS) during the period of the 8th five year Plan (1993-98):-

1. Institutional strengthening;

2. Mass awareness campaign;
3. Legal measures and economic incentives;
4. Implementation of the core program of the NCS.

National Environmental Quality Standards (NEQS):

In order to control the menace of increasing pollution in the country, the Environment & Urban Affairs Division developed National Environmental Quality Standards (NEQS) for municipal and industrial effluents and for emissions, noise and motor vehicles exhaust. The NEQS were approved by the Pakistan Environmental Council in its inaugural meeting held on May 10, 1993 under the chairmanship of the Prime Minister. The Council approved these standards and decided that these should be implemented with immediate effect; except in the case of industrial units in which case these standards will be enforced after a grace period of 1 and 3 years for new and existing industrial units respectively, as indicated below:-

1. New industrial units i.e. those units that will come into production on or after 30th.
June 1993. Dead Line for Enforcement —> 1st July 1993.
2. Existing units i.e. those units already in production.
Dead Line for Enforcement —> 1st July 1996.

Later on in 1997 yet another Environmental Protection Act was approved by the parliament and is claimed to have covered comprehensively all important aspects (Appendix-D). Important provisions of the 1997 Act are listed under Appendix-E.

The 1983 ordinance however, was the pioneering legislation and has been the

foundation for the 1997 act. Present study is strictly focused on the 1983 Pakistan Environmental Protection Ordinance.

Although specific environmental enactments are few and insufficient, Pakistan is fairly rich in incidental environmental or natural resource legislation - on land use, grazing, forest conservation, minerals development, fish and wildlife, parks, water and air quality, etc. There are at least 53 legislations on different aspects of environment and natural resources. (Appendix - C). Pakistan is also a signatory to at least 33 International and Regional Environmental Agreements. (Appendix -I)

CHAPTER III

ANALYSIS OF LEGISLATION

PART- ONE

ANALYSIS OF NATIONAL ENVIRONMENTAL POLICY ACT - 1969: USA.

The NEPA Strategy

The National Environmental Policy Act of 1969 (Appendix -A), committed the Government of the United States for the first time in its history, to a comprehensive policy of environmental protection. To understand the implications of NEPA on specific federal policies and procedures, an appreciation of the broad purpose is required.

Although brief in text, NEPA is comprehensive in substance. The end purpose of NEPA was to reorient national environmental policy.

Sectional Analysis

Sec. 1. Declaration of name, citation or the Title: "National Environmental Policy Act of 1969".

Purpose

Sec. 2.

This section gives encouragement to enjoy the productive harmony between man and his environment. Be productive as much as you will like to be, but on the condition, that will allow our actions / projects to be in a manner that are orderly, and in a pleasing

congruity with nature - a friendly arrangement of relationship with environment.

The purpose as enunciated here -- "To promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man" -- is narrow in its scope as it becomes evident in the later part of the discussion that NEPA tends to be geographically limited to the North American continent only. Natural resources of air and water do not recognize political boundaries. These resources are intricately connected at various levels. Pollution and deterioration of the environment in any place of the world, does have global implications.

NEPA evidently declared a national policy for the American nation -- "which will encourage productive harmony between man and his environment", it is important to note that the word 'man' has been used in the context of the American nation only.

"To promote efforts that will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man". NEPA was very helpful in protecting the environment and was also a big step towards conservation of life and life support systems by directly and indirectly taking care of habitats and environmental degradation.

The section asks all developers or proponents of a project to promote efforts which will prevent or eliminate damage to the environment and biosphere. All of this will eventually result in health and welfare of man. Other fruits of this harvest will include a much better understanding of ecosystems and knowledge of natural resources around us. It did help "to enrich the understanding of the ecological systems and natural resources important to the nation". Requirement of Environmental Impact Statement (EIS) in

federal, state or private projects was instrumental in that direction.

A casual reading of this brief Act (Appendix-A), would reveal that scientific knowledge of various disciplines has been diffused throughout in almost every section of NEPA, reflecting the significant influences that the environmental sciences had in genesis of the Act. Scientific concepts are embedded in the very purpose of the statement of NEPA:

"To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality."

Lastly this section forecasts establishment of a Council on Environmental Quality in later part of this Act.

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

Federal Government Responsibility

Sec. 101. (a)

The first paragraph of Section 101 declares that the continuing policy of the Federal Government is to use all practicable means and measures for creating and maintaining conditions under which 'man' and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations

of Americans. This section explicitly expresses the meaning of the word 'man' as 'American' in the later part of this section. It was recognized in this Act that human activities exert profound impacts on the inter-relations of all components of the natural environment. These impacts are in part covered by population growth, high density urbanization, industrial expansion, resource exploitation, and accelerated rates of technological innovations.

The main thrust of NEPA environmental policy is contained in Section 101(a). This policy emanated from Senator Jackson's Interior Committee and remained essentially intact through out the legislative process. Statements by persons who formulated the policy such as Caldwell, Carpenter and Senator Jackson indicate they expected the policy to play an active role in Government decision-making. Their view point was carried forward by the courts which regard the policy as a substantive law, which creates a duty for Federal agencies to consider environmental amenities. However, difficulties in applying this law are encountered because the policy statement is very general and does not set any criteria or standards to guide the agencies. Perhaps this is good in that it allows the agency flexibility in achieving the goals outlined in Sec. 101(b).

The words "use all practicable means and measures" are basically words of action and apply to both the first and second paragraphs. They provide a mandate for the Federal Government to create harmony between man and nature, and yet fulfill man's social, economic and other needs. They also direct that Federal Actions should be formulated to enable national attainment of the six goals enumerated in section 101(b). These mandates are consistent with the words of Caldwell, Senator Jackson and others who suggested an

active policy provision in NEPA.

Sec. 101.(b)(1-6)

Explicit reorientation toward the six goals enumerated in Section 101(b) of the Act was regarded as necessary, because the traditional policies and practices of Government have become major factors obstructing their attainment.

Title I (of NEPA, 1969; see original in Appendix A) declares a national policy for the environment, identifying six general goals toward achievement of which "it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy."

A powerful message is being sent out here: Firstly, about the determination and resolve of the Government to do what ever it takes to improve and coordinate Federal plans, functions, programs, and resources in accordance with the declaration of the policy in this Act.

Secondly, the Government has declared and recognized her duty towards her citizens, which gets confirmed and cemented in Sec. 101.(b)(1)

A controversial provision in Section 101 (b)(2) originally stated that "the Congress recognizes that each person has a right to a healthful environment."

In Section 101 (b)(2) Congress stopped short of creating a "fundamental and inalienable right" to a healthful environment. Therefore, the degree of action taken on Section 101 (b)(2) lies between an active policy based upon the creation of an absolute legal right and the somewhat passive role of a policy, which merely operates as a statement of principle. The language of Section 101(a) helps define this role.

The second paragraph states, the Federal Government is to use all practicable means and measures, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs and resources. These means and measures are to be undertaken so that the nation may attain the following goals:

- (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- (2) assure for all Americans safe, healthful, productive, aesthetically and culturally pleasing surroundings;
- (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety or other undesirable and unintended consequences;
- (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;
- (5) achieve a balance between population and resource use which will permit high standard of living and a wide sharing of life's amenities; and
- (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Often Section 101 is referred to as the substantive portion of the NEPA and Section 102 the procedural part of the Act. Blacks Law Dictionary describes "**procedural law**" as that which prescribes methods of enforcing rights, while "**substantive law**", according to him creates, defines, and regulates rights rather than prescribing methods of

enforcing them. It follows that Section 101 would create the right to force the Agency to follow the policies in Section 101 and the method of enforcing this right would be established in Section 102.

In the context shown above, the EIS process would generally be considered procedural and the policy provisions of Section 101 would affect substantive changes in Governmental decisions.

There is considerable legal support for the notion that Section 101 creates substantive duties for Federal agencies. The first land mark NEPA court case discussing this issue was *Calvert Cliff's coordinating committee versus Atomic Energy Commission* (Cliff, 1971). In this case the court stated:

Section 101 sets forth the Act's basic substantive policy: that the Federal Government "use all practicable means and measures" to protect environmental values. Congress did not establish environmental protection as an exclusive goal; rather it desired a reordering of priorities, so that environmental costs and benefits will assume their proper place along with other considerations (Cliff, 1971).

In the *Gillham* case, another landmark decision which involved one of the projects located in the Tulsa District, Corps of Engineers, the court stated:

'The language of NEPA, as well as its legislative history, makes it clear that the Act is more than an environmental full disclosure law. NEPA was intended to affect substantive changes in decision-making. Sec 101(b) states that agencies have an obligation, "to use all practical means, consistent with other essential considerations of national policy...to preserve and enhance the environment"

(EDF, 1972).’

The substantive aspect of Section 101 was also discussed in a court decision, *Sierra Club Versus Morton*. Here the court stated:

‘Section. 102. (2) contains procedural requirements designed to compel all Federal agencies contemplating actions having a significant impact on the environment to consider NEPA’s substantive policies and goals as enunciated in Section 101 (*Sierra Club, Vs. Morton, 1975*). Here the court described the relationship between the procedural requirements of Section 102 and the substantive provisions of Section 101.’

Although the courts have generally considered Section 101 as substantive and Section 102 as procedural, there are some subsections of Section 102 which are also substantive in nature. The judiciary has interpreted and applied the policy provisions of Section 101, yet the policies have not been substantively expanded in agency guidelines and regulations. The guidelines promulgated by Council on Environmental Quality (CEQ) discuss in detail the procedures for the EIS, but do not contain any significant provisions interpreting or expanding Section 101. However, the core regulation implementing NEPA contains the following statement:

“all Federal agencies and officials to use all practical means and measures to enhance, preserve and protect the quality of the environment to the fullest extent possible.”

Sec. 101(c)

The final paragraph under this section recognizes that each person should enjoy a

healthful environment, and in addition, have a responsibility to contribute to the preservation and enhancement of the environment. It recognizes the right of every person to a healthful environment and simultaneously, very wisely assigns a duty to each and every person the responsibility to contribute to the preservation and enhancement of the environment.

Under Section 101(c) as enacted, this "right" was deleted and the phrase "should enjoy a healthful environment" substituted. The argument for this change was that the right to a healthful environment was without remedy--the provision would have been unenforceable. To have defined "a healthful environment" would have exceeded the capabilities of science (if not of politics) and raised a number of legal implications regarding the rights of persons compelled by circumstances to work under conditions potentially hazardous to health— for example, in association with persons smoking tobacco.

Even though Section 101 (c) does not create a fundamental and inalienable right to a healthful environment for individual persons, it has been viewed as intended to bring about substantive changes in Federal agency decision-making.

Consideration of Environmental Impacts

Sec. 102

Section 102 contains the main thrust of the "action forcing" provisions and describes the administrative or procedural part of NEPA:

(1) – This section is very strong in giving congressional authority and direction towards the adoption of the NEPA act in every aspect of policy, public law and

regulations of the United States. All interpretation and administration must be carried out in accordance with the policies set forth in this Act.

(2) – It also provides for the planning and decision-making process to be systematic, interdisciplinary and integrated whenever man's actions will affect environment. Further it requires an Environmental Impact Statement to be prepared for Federal and State actions affecting the quality of the human environment.

Section 102 must be construed and applied in the context of Section 101 policies. In fact it is a set of instructions from the Congress to the Federal agencies regarding implementation of the purposes of the Act through planning and decision-making. Science is made an integral part of the implementation process through Section 102(2), which reads unequivocally that all agencies of the Federal Government:

Sec. 102 (A)

Utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental arts in planning and decision making which may have an impact on man's environment;

Sec. 102 (B)

Identify and develop methods and procedures, in consultation with the Council on Environmental Quality...which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision-making along with the economic and technical considerations.

That these were not rhetorical admonitions is made evident in the opening lines of section one or two and in section 102(2)(c). This section establishes a principal link provided by NEPA between science and administrative decision making:

The Congress authorizes and directs that, to the fullest possible extent:(1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall:-

Sec. 102 (C)

Include in every recommendation or report on proposals for legislations and other major Federal actions affecting the quality of the human environment, a detailed statement by the responsible official on -

- (i) The environmental impact of the proposed action,
- (ii) Any adverse environmental effects which can not be avoided should the proposal be implemented,
- (iii) Alternatives to the proposed action,
- (iv) The relationship between the short-term uses of man's environment and the maintenance and enhancement of long-term productivity and
- (v) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Sec. 102 (D)

This section entails that if a project is initiated by a Federal or State agency or is involved in its preparation or execution, or is part of the review process for EIS, or provides an earlier notification for such project and solicits the views of all stake holders, then any EIA / EIS may not be considered necessary. However, for the scope, objectivity and content of the entire statement, the Federal Official remains responsible.

Sec. 102 (E)

This sub-section seeks to recommend alternative courses of action in the case of proposals which involve unresolved conflicts. It requires the agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts, concerning alternative uses of available resources".

Sec. 102 (F)

Global dimensions of environmental problems and their blindness towards political boundaries of nations is well recognized. But, foreign policy has the upper hand to control and dictate: Lend appropriate support, initiatives, resolutions and international cooperation only 'where it is consistent with the foreign policy of the United States'.

This Sub-section (f) on the one hand recognizes the worldwide and long-range character of environmental problems and on the other, makes the environmental policies subordinate to the foreign policy of the U.S. -"where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing decline in the quality of mankind's world environment;" The statement of purpose includes "efforts which will prevent or eliminate damage to the environment and the biosphere".

The global nature of environmental problems should have an overriding power over foreign policy matters such that inconsistencies need not be sought.

Sec. 102. (G)

Useful hints, tips and information is made available to everyone concerned with pollution, restoring, maintaining and enhancing the quality of environment. Advice and information is available to individuals, institutions, municipalities, counties and States.

Section 102 (H)

"to initiate and utilize ecological information in the planning and development of resource-oriented projects."

Section 102 (I)

This section insists and request all Government agencies and functionaries along with their policies, laws and regulations that they make, to assist, cooperate and strengthen the 'Council on Environmental Quality' established under Title II of this Act.

Conformity of Administrative Procedures

Section. 103

Two additional provisions affecting agency responsibility deserve to be mentioned. The first, (Section 103) requires all agencies to review their statutory mandates to determine whether they contain deficiencies or inconsistencies that would either prohibit full compliance with the Act or be conflicting with the purposes and provisions of this Act. Further more, it gives a deadline for proposing possible solutions or remedies that may be helpful in bringing their authority, regulations, policies and administration in conformity with the intent, purpose and procedures of this Act.

Other Statutory Obligations of Agencies

Section 104

This section offers confirmation that nothing in Sec. 102 or 103 shall affect in any way the statutory obligations of any Federal or State agency to (1) to comply with criteria and standards of environmental quality, (2) to coordinate or consult with any other Federal or State agency, or (3) to act or refrain from acting contingent upon the recommendation or certification of any other Federal or State agency. i.e. by chance, accidental, unforeseen or conditional acceptance of a recommendation from other agency.

Section 105

This Section (105), declares the goals and policies set forth in NEPA to be "supplementary to those set forth in the existing authorities of Federal agencies. Thus, in effect, NEPA amended all basic authorizing statutes to which its policies and procedures applied.

TITLE II

COUNCIL ON ENVIRONMENTAL QUALITY

Reports to Congress; Recommendations for Legislation

Sec. 201

Title II of NEPA establishes the three - member Council on Environmental Quality (CEQ), specifies its powers and provides that the President shall transmit to the Congress annually an environmental quality report. The contents of the report are specified in the statute (Section 201), and its preparation falls largely to the CEQ (Section 204). The report is to cover:--

- 1) the status and condition of the environmental classes / categories of the nation;
- 2) present and future trends in the environmental management;
- 3) adequacy of the available natural resources to support current and future growth of population and economy;
- 4) a review of the programs and activities of the Federal, State, local Governments, non-Governmental entities and individuals and their effects on the environment and on the conservation, development, and utilization of natural resources;
- 5) a program for correcting the existing deficiencies and short comings of existing programs and activities; together with further recommendations for legislation.

Council on Environmental Quality

Sec. 202.

Under this section a Council on Environmental Quality consisting of three members is created in the Executive Office of the President. The council is composed of three members one of whom serves as a chairman. The President alone is not empowered to make these appointments, on the contrary he does it with the consent and advice of the Senate - a very democratic process.

Members are technocrats highly qualified to analyze and interpret environmental trends and information of all kinds. They are able to appraise programs and activities of the Federal Government on scientific lines in the light of the policy set under the act. They remain conscious of and responsive to the scientific, economic, social, esthetics and cultural needs and interests of the nation. In light of all this the council formulates and

recommends national policies to promote improvements in environment quality.

Staffing the Council

Sec. 203.

This section is regarding:

- (a) staffing of the Council which may be done as deemed necessary by the council in order to carry on its function and in doing so, it may hire professional and expert services for just compensations or
- (b) accept voluntary services when available and relevant to its purposes.

Duty and Function of the Council

Sec. 204.

The section lists duties and functions of the Council:

- (1) to assist and advise the president on preparation of the annual Report on Environmental Quality;
- (2) collection and analysis of authoritative information concerning current and future conditions and to determine if the trend of such conditions is likely to interfere with the policy of this act, and to submit a study report to the President.
- (3) to evaluate, review and appraise Federal Government programs with a view to determine to what extent such programs and activities are beneficial and contributing to achieve the goals set forth by the act. In the light of this, necessary recommendations are made to the President. It is a very good clause of the act which helps the council to make amendments and recommendations whenever and wherever necessary. It is a sort of self appraisal.

(4) this clause can cover all other aspects of the nation's life in respect of social, economic, health and any other requirements not specifically mentioned under the act.

(5) the council conducts investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality; and

(6) documents and defines changes in the natural environment, including the plant and animal systems thereby accumulating necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes.

The above two clauses (5) & (6) keep a track record of the ecosystems and environmental quality and suggest a future line of action.

(7) every year the council has to report to the President on the condition and state of the environment; and

(8) to conduct policy and legislative research as may be requested by the President and make necessary recommendations.

Obtaining Information: Using Advisory Committee

Sec. 205.

This section gives guidelines to the Council on obtaining necessary information for it to exercise its powers, functions and duties assigned under the act:

(1) by consulting the Citizen's Advisory Committee on Environmental Quality and with the representatives of science, industry, labor, agriculture, conservation organizations, State and local Governments and other organizations that it may think appropriate and advisable; and

(2) by fullest utilization of services, facilities and information available with agencies, organizations and individuals so that duplication of effort, time and expense could be avoided.

Compensation for the Council Members

Sec. 206.

It is about the amount of compensation to be provided for the Members and Chairman of the Council during their service.

Travel Reimbursement

Sec. 207.

This section states about reimbursement for travel which may be accepted from a private organization, department or agency for the reasonable travel expenses incurred by an employee of the Council.

International Activities

Sec. 208.

This section allows the Council to make expenditures to support its international activities for: (1) international travel; (2) implementation of international agreements; and (3) support of international exchange programs in the US and foreign countries.

Authorization of Appropriation

Sec. 209.

It gives authorization to the Council for the expenditure not to exceed \$300,000 for the year 1970, \$700,000 for 1971 and \$1,000,000 for each subsequent fiscal year in

order to carry out the provisions of this act.

PART - TWO

Significance of EIA and Effectiveness of NEPA

Assessment of the Significance and effectiveness of NEPA varies with the perspective of the viewers. Charles Ross, former member of the Federal Power Commission, found NEPA to be a sophisticated piece of legislation. John B. Calhoun of the National Institute of Mental Health concurred with Russell E. Train, first chairman of the CEQ, that the Act "demands no less than a revolution in the way we approach problems and make decisions." And Federal Judge Henry J. Friendly remarked that NEPA "is so broad yet so opaque that it will take longer than usual to comprehend its impact." Contrasting with these judgements is a minority opinion that "NEPA is easy to grasp. Doing so however restricts one to talking about documents."

NEPA was enacted to achieve or restore a balance in American public policy that many persons believed had been lost in an overemphasis on economic, technological, and development values. In one of the leading interpretations of NEPA in the case of *Calvert Cliffs Coordinating Committee v. Atomic Energy Commission* (Cliffs, 1972), Judge J. Skelly Wright described the balancing requirement of NEPA in the following words:

NEPA mandates a case-by-case balancing judgement on the part of Federal agencies ... The particular economic and technical benefit of planned action must be assessed and then weighed against the environmental costs; alternatives must be considered which would affect the balance of values In some cases the benefits will be great enough to justify a certain quantum of environmental costs;

in other cases they will not be so great and the proposed action may have to be abandoned or significantly altered.... The point of the individualized analysis is to ensure that the optimally beneficial action is finally taken. - 449 F.2d at 1123, 1 ELR at 20353

Neither the text of NEPA nor the judgement of the majority of persons who have worked with the Act or given it serious study supports the opinion that NEPA is easy to grasp or that its product is no more than paper work. This view point totally misconstrues NEPA and misinterprets the function of the environment impact statement. The NEPA "document" or environmental impact statement is significant only as evidence that agencies have observed the congressional intent regarding a national policy for the environment. To make the statement the end product of the Act is plainly contrary not only to the stated purposes of the Act but also to its legislative history. The EIS can neither be understood nor properly evaluated if treated as an end in itself; it was intended and should be no more than a means to an end.

The national environmental policy could have been just a statement of policy. However, time and again, in the legislative developmental history of NEPA it was emphasized that there should be some action-forcing provision for enforcement of the policy.

EIA - Invention

A rising tide of public opinion gave birth to a new social value which was concerned with environmental quality either broadly defined or, in most instances, undefined. No one knew precisely what form any action should take, but legislators felt

considerable pressure to take some appropriate steps to clean up, protect and enhance the quality of the environment. The congress of the United States answered this challenge with several initiatives, perhaps the most significant being the National Policy Act of 1969 (NEPA). The framers of NEPA developed a strategy whereby science would be used to constrain negative aspects of the uses of science (Caldwell, 1982). NEPA was a policy act written in such a manner that its implementation would depend not on establishment of a new agency, nor the continuing interest of a chief executive, nor the good will of disparate bureaucracies. The substance and method of science were crucial to the rationale underlying the language of this landmark legislation, and it is to the specific provisions of NEPA that we now turn in order to explicate its dependence upon science.

Achievement of the NEPA policy declaration required that reliable analyses of environmental effects and relationships be built into and guide the planning and decision processes of Government, but without pre-determining final action. To achieve the goals of NEPA, an integrated and inter-disciplinary use of science was necessary to address the complex and interrelated environmental problems. Recognition of the need to re-deploy and re-integrate scientific knowledge to respond to the complex challenges to environmental policy gave practical expression to the theoretical unity of science.

To obtain such an integrative use of science, administrative procedures had to be reformed. Administrative arrangements were needed to insure that planners and decision makers not only took account of the environmental impacts of their actions, but that they obtained the information to enable them to carry out their responsibilities extended by NEPA. These included consideration of alternative means of accomplishing public

purposes and of the environmental implications of such alternatives. Science therefore provided the substantive element in redirecting national policy for the environment through procedural reforms. The critical procedure and the environmental impact statements became the vector, carrying integrated interdisciplinary sciences into shaping of the public policy (Caldwell, 1982).

Environmental impact analysis and assessment are information gathering and analytic activities that originated with the National Environmental Policy Act of 1969 (NEPA). This legislation was itself influenced by scientific concepts, particularly ecology and systems theory, and reflected the intent of its authors that science be used as an integral tool in developing and administering a national policy for the environment.

Title I under NEPA contained a procedural invention which was enlisted to affect the major reorientation of public policy and administration required by the NEPA of 1969. The purpose of the procedure-Environmental Impact Analysis, was to force federal officials to consider the possible consequences of decisions having major implications for the quality of the human environment. The NEPA was not meant to force any particular decision on an agency; it requires the agency to certify through an environmental impact statement (EIS) that it had investigated and considered the environmental implications of its proposed actions. The EIS was intended to set forth the environmental facts relative to the proposed public action. It was thought to be mandatory, action-forcing reorientation of planning and decision making. It never was intended to preempt the decision making authority. Rather it was intended to influence the way in which this decision making authority was exercised (Caldwell, 1982).

To achieve environmental impact analysis, an effective policy-focused use of scientific knowledge and method was necessary, and for this purpose, EIS was conceived. Although it is not a scientific document in itself, the EIS depends for its usefulness upon the adequacy of its knowledge base, which, given the question and situation the EIS addresses, must necessarily be sought in the sciences. But the adequacy is conditioned not only by the scope and quality of the science employed; it is also determined by how this knowledge is deployed. To obtain a policy-focused use of science in environmental impact analysis, two instrumental reforms were required: (1) Rendering of assumptions about the relevant scientific knowledge and method to federal planning and decision-making. (2) restructuring of administrative procedures to ensure that the implications of the reordered view of science were considered in agency planning and that decision-making are consistent with the purposes of the Act (Caldwell, 1982).

Criticism.

Controversy has arisen over these provisions and because NEPA nowhere exempts actions of the federal agencies falling outside the United States territorial jurisdiction from the requirements of the act. The contention has been over the applicability of NEPA to actions occurring in other countries and upon the high seas. The language of NEPA would seem to remove all doubt unless the phrase "consistent with the foreign policy" is interpreted to provide an exemption to extra-territorial activities of agencies such as the Departments of State, Defense and, Agriculture and the Export-Import bank. For example it is clear that some agency action that have major and damaging environmental impacts do not fall under NEPA-military operation considered

essential to national defense. Nevertheless, a question arises: To what extent do United States agencies have the right and responsibility to assess, report, and recommend concerning the impacts of their actions upon foreign countries or upon the biosphere in general? President Jimmy Carter's Executive Order 12114, dated 4 January 1979, entitled "Environmental Effects Abroad of American Federal Actions" was an answer to this type of a question. In principle, the United States has bound itself by certain statutory laws in addition to NEPA and by several treaties to assume responsibilities declared also by NEPA and consistent with both customary and positive international law. As examples the Convention for the Preservation and Protection of Fur Seals of 1911, the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere of 1942, the Convention on International Trade in Endangered Species of Wild Flora and Fauna of 1976, the Marine Mammals Protection Act of 1972 and the Marine Protection, Research, and Sanctuaries Act of 1972 may be cited. This agreement, however, still surrounds the question of the extent to which American domestic environmental policies should bind American Government and business abroad.

The basic responsibility is to observe a long-standing principle of international law to which the United States has repeatedly acceded and specifically endorsed (in the year 1972) Resolutions of the United Nations Conference on the Human Environment that a State ought not use its territory in a manner that would be damaging to the health, welfare, and safety of other nations.

Inferences & Recommendations About NEPA-1969

In the United States there is public law which seeks preventive protection but does

not redress after the damage has occurred. It needs to be more effective and hold the industrial applicant responsible to bear the burden of the proof that his installation will not be harmful and he must convince the responsible public authorities about it prior to the construction of his installation. Such a law in the United States is enforced by states and other public authorities and not by the courts.

The American NEPA of 1969 declares a national policy for the protection of environment for United States. It does not specifically guarantee a healthful environment to every American citizen, but it does indicate that all citizens should be entitled to a "safe, healthful, productive and aesthetically pleasing environment". Although the courts have specifically ruled that NEPA does not guarantee a right to a healthful environment, they have given extensive support and favorable interpretation of the Act as a result of which it has become more powerful and effective than it might have been the intent of the legislation.

After an analysis of the readings about the EIS process in the U.S. certain improvements can be pointed out to improve the scientific content and methodology of environmental impact analysis. They can be listed briefly:-

(1) Significant incremental improvement in the scientific quality of impact analysis has taken place during the past decade and is reflected in large measure in regulations developed by the Council on Environmental Quality out of experience, along with the agency collaboration. Many of the criticism of NEPA and its administration reported during the 1970's are no longer valid, or are less valid than they formerly were.

(2) For further progress in improving the quality of science in environmental

analysis and decision making, the following developments are indicated:

- (a) Comprehension of the purpose of NEPA as a whole and overt commitment to its goals is needed at the highest political level including the presidency.
- (b) Executive responsibility for enforcement of the NEPA mandate should, where possible, replace reliance upon agency lawyers and litigation in the courts, shifting official emphasis from the regulatory aspect of NEPA (the EIS procedure) to the broader policy content declared in the statute.
- (c) The CEQ should be enabled through presidential acquiescence and adequate funding to undertake the initiatives specified under title II of NEPA to work with the agencies toward identifying and overcoming obstacles to the more effective use of science in the administration of NEPA.
- (d) Funds and facilities should be developed, possibly under CEQ sponsorship for inducting science personnel into the tasks of inter-disciplinary and decision-focused analysis of environmental impacts. An interagency staff college or institute for comprehensive impact analysis and projection could greatly facilitate the use of science in policy-making. Alternatively this function can be provided under contract, by universities with agency collaboration.
- (e) Liaison should be established among the agencies, the CEQ, and the environmental training and research facilities throughout the country to follow up on scientific problems revealed in the course of impact analysis.

Section 205(2) provides a statutory basis for such arrangements. The relationship of the National Science Foundation to such a network would require careful consideration.

- (f) The foregoing conclusions have obvious budget implications. Unless the proposed measures actually lead to better decisions and diminished monetary, ecological, and aesthetic costs, it may not be justifiable. It is therefore again justified that the scientific quality of an EIS is determined in large measures by attitudes at the upper end of a long chain of policy. In the absence of policy commitment, improved techniques may be little more than a deceptive charade.

(3) Although there were several opportunities for improvement of environmental analysis and assessment through additional general guidelines or regulations, by far the greater opportunity appeared to be in the faithful application of departmental and CEQ regulations. It may be recognized that regional and local circumstances and differences in mission make general rules more practical in some places and less feasible in others. But we also know that "our situation is different" (is an argument sometimes used to avoid feasible policies that may be locally inconvenient-- often for political reasons). It seems inevitable that over a period of time, occasions will be found for incremental improvement in the CEQ and departmental regulations. Analysis indicates that there remains substantial room for improvement in agency guidelines and regulations. But the greatest area for improvement lies in policy, not in technicalities of the law.

(4) Improvement of the scientific content and methodology of environmental

impact analysis is not the responsibility of science disciplines per se, although it is believed that it should be a matter for their concern. Because scientists have been increasingly employed in the tasks of environmental analysis and because that analysis reveals problems and weaknesses in the structure of science, the science disciplines do have an interest (and a responsibility) in aiding the preparation for scientists capable of participating constructively in interdisciplinary environmental analysis oriented toward policy needs. It is believed however, that this task may best be performed by interdisciplinary institutes and schools of environmental studies at post-disciplinary levels.(Caldwell, 1982)

Effect of NEPA on other Nations

NEPA has been hailed as the Magna Carta for the environment and its beneficial effects have been widely acclaimed (Hank and Hank, 1969). It has changed public life not only in America but has provided a model that has influenced environmental policy legislation among a number of nations of the world. Pakistan is one of them.

NEPA of USA has also been the most commonly sought and adopted legislation among a number of nations of the world. Many countries of the world today have adopted NEPA in one form or the other. The effect of NEPA on other nations is little different from the policy adopted by the World Bank of requiring some analysis of environmental impacts in the considerations of loans for projects that might result in significant, avoidable environmental damage. The application of NEPA to international activities of United States Federal Agencies at most, restricts what they may do on the territory of other nations directly or indirectly. NEPA in no way imposes American standards, values,

or objectives upon the Governments of other nations. They are absolutely free to proceed with whatever projects they think best. There is no apparent reason why the United States should act abroad, in violation of the principle and procedures established for its own conduct, to assist projects that might either have a deleterious effect upon the neighbors of countries in which the project was undertaken or upon substantial numbers of people in the host country either now or in the future. It has been a matter of common knowledge where the Governments everywhere including Third World, have often been manipulated by unrepresentative, self-seeking internal interests to obtain international financial assistance for projects that are ecologically and often even economically undesirable. The United States, as well as other industrialized countries have been publicly faulted for using Third World territories to export their polluting industries and to dump their unwanted substances / unsafe products over there.

Executive Order 12114: Environmental Effects Abroad of Major Federal Actions was signed by President Jimmy Carter on Jan 4, 1979, almost 10 years after NEPA. It requires EIS, bilateral and multilateral environmental studies relevant or related to the proposed action, by the United States and one more foreign nation or an international organization.

Executive Order 12114 should therefore be seen as a clear exercise of responsibility on the part of the United States Government that is consistent with the best principle of international conduct and is in no way prejudicial to the legitimate interests of other nations. The effectiveness of the order is debatable but it is difficult to argue against its intent if one accepts the declared purpose of NEPA. It may be better to be

criticized for cultural imperialism by Third World politicians than to be the object of legitimate popular outrage. The reputation of the United States would suffer more for involvement in the failure of a massive dam in India, Union Carbide explosion in Bhopal, India or the poisoning of the people in the countryside of Sierra Leone because its administrators took an indulgent view of aid requests and were so respectful of the sovereignty of the host country and its right to make its own mistakes that they became party to international tragedy.

Yet another criticism follows Section 2-5 (ii, iii, iv & v) of the Executive Order 12114, whereby, exemptions and undue considerations are given and all sorts of violations are allowed when any of the following happens:

- ii) Actions taken by the President;
- ii) Actions pursuant to the President or the cabinet, when national security or interest is involved, e.g. armed conflict;
- iii) intelligence activities and arms transfer;
- iv) Special exports related to nuclear activities to foreign nations for production or utilization, or for the purpose of nuclear waste management.

This is absolutely cruel and unjust by any standards of virtue, fairness, morals and equality among nations. It comes down to the dirty play, that might is right or else we as a nation will exercise our special 'veto' powers in the area of global environmentalism. Hey, you the poor of the world, clean-up my mess and take care of my waste products, because I am god! Therefore I do not have to practice, what I preach to the rest of the world!

Whatever the fate of Executive Order 12114 may be under the subsequent administrations, the ethical principle underlying the order cannot be abrogated. Nor can the specific mandates of NEPA be ignored without dereliction of constitutional duty. There is acceptance in the declarations and statutes of many countries having same principles that NEPA enunciates. Again it is the policy that is important: respect for the environment and the biosphere evident by ascertaining, so far as feasible, the effect of public action on the world of which man is part and by searching for the least damaging alternatives to the satisfaction of human needs.

Public Involvement and Citizen Power

In America public participation is an instrumental act by which citizens influence their Government. It is the power to make the Government do what the citizen wants it to do. Establishing effective citizen power is a basic, constitutionally chartered idea of the Government in America voting for legislature and administrative leaders is the principal exercise of citizen power and mode of public involvement. The Government's natural resource agencies are increasingly communicating directly with the citizen through "public involvement" procedures in order to carry out their assignments in a way that is in the best interest of the public. In this way citizens are able to see how far the actions and decisions of the agencies are responsive to their needs. Unless the agencies are responsive and effective citizen power is established, "public involvement" in natural resource issues has little real meaning.

In Pakistan, though the citizens elect the Government, they have little power and

involvement in what the government does. They are helpless and their views and voices are like cries in the wilderness.

Since the passage of NEPA the agencies have made a concentrated effort to communicate directly with the public by way of holding public meetings, advisory committees, polls, and mass mailings. These are all methods of direct administrative public involvement where the agencies try to communicate face to face with the public.

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Public Involvement {meetings, advisory committees, polls, mass mailings} **Agency**

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Although the effort is commendable and improving, yet the public seldom obtains enough real power to make direct involvement meaningful. The interest groups with time, money and expertise, still tend to get their way. Most of the time the general public is not well represented and meetings end up to be only fact-finding sessions for people powerless to do anything with the facts. It takes a great deal of time, money and effort on the part of the agency and the public to make the process work the way it should.

Genuine public involvement gives everyone the opportunity to influence events in environmental management and natural resources development, but for this kind of involvement one must be willing to work hard. Even a single citizen willing to put in time and effort can have a significant impact. For example it once happened in America, a woman serving as a public representative on a regional board, controlling Los Angeles

and Long Beach Harbor pollution permits, was out voted regularly by her industrial colleagues. She started a publicity campaign to acquaint the public with the pro-industry (and Pro-pollution) voting pattern of board members. As a result this publicity brought major changes in voting since the governments and corporations for which the members worked could not afford the bad image. A story like this offers hope.

Legally speaking the federal agencies cannot turn over their responsibility or authority to the citizen. Thus if direct public involvement is to mean anything there must in some way be a partnership by sharing in the decision-making power of the agency. But the agencies are not able to give up the power voluntarily, there is need to be persistent; apply considerable pressure and display a fairly sophisticated grasp of the problems to achieve the needed partnership and a share of power.

CHAPTER IV

AN OVERVIEW OF AMERICAN AND PAKISTANI ENVIRONMENTAL STRATEGY

Introduction

After the 1972 UN conference on "The Human Environment" in Stockholm an increasing number of countries in the developing world initiated environmental policies. This process, however, gained momentum, only slowly, as the view was still prevailing (and particularly supported by India and Brazil) that environmental protection was a privilege of the industrial countries which developing countries can not afford.

The 1972 conference also brought about a change in the concept of human environment. It was felt that if it were to be adopted, its definition and scope has got to be expanded and widened and priorities fixed so that by widening the definition it could encompass deforestation, desertification, inadequate water supply, lack of sanitation, poor housing facilities, etc. It was also made clear that in addition to "industrialization-induced" environmental pollution, developing countries suffer particularly from "poverty-induced" environmental hazards (Pintz, 1988).

The following is an effort to look at the development of pollution control legislation in the United States of America and Pakistan.

NEPA, 1969(USA) & PEPO, 1983 (Pakistan)

"Policy performance usually falls short of policy promise. Creative and innovative intentions boldly stated in the preambles of legislation become diluted and deferred in the practical chore of translating what legislatures say and what government does. Causes for the performance gap are legion, and any policy which aims at innovative change is bound to face frustration in application. However, the National Environmental Policy Act of 1969 (NEPA) is an exception to the general rule that the targets and goals of the formulators ebb away as the implementors take over. In NEPA's case the objectives were expanded during implementation and the impact of the Act was enhanced beyond initial expectations (Dreyfus and Ingram, 1976)".

The enactment of the National Environmental Policy Act of 1969 (NEPA) was the culmination of a great upsurge in public awareness throughout the country in the late 1960's concerning the importance of environmental protection in the United States. Beneficial effects of NEPA have been widely acclaimed (Peterson, 1976; Caldwell, 1979; Crampton and Berg, 1973). Lynton Caldwell noted that NEPA has changed public life in four important respects:-

"First, through its declaratory provisions and annual environmental report, it has kept the environmental issue before the American people, the Congress and the President; second, through the environmental impact statement requirement and associated stipulations regarding program planning, it has altered the decision process in the federal agencies; third, in association with the Freedom of Information Act, it has forced public disclosure of that process and opened the way to public participation to it and fourth, it has provided a model that has influenced environmental policy legislation among the several states and in a number of nations abroad (Caldwell, 1976)".

USA

The United States Congress enacted general environmental policy in the form of National Environmental Policy Act (NEPA) in 1969. Liroff (1976), was very strongly of

the opinion that a comprehensive policy accounted for in the actions of the various federal agencies in their implementation of the Act. During the first six years of the implementation of NEPA the agencies concentrated only on the procedural aspects of the action forcing agent (Sec.102 (2) (c) of NEPA and not on an overall national environmental policy. Whatever its true nature, NEPA has been an effective stimulus for a comprehensive protection and enhancement of the quality of the environment in the United States. It has also been referred to as the Magna Carta of environmental legislation in the United States.

Pakistan

In 1983, Pakistan's legislative history witnessed a major ordinance for the protection of environment, known as the "Pakistan Environmental Protection Ordinance" (PEPO). It created the National Environmental Council headed by the President of Pakistan with whose involvement it was considered that the Ordinance would have great force for its enforcement and delays would not be caused. Unfortunately PEPO (1983) did not have the intended effect on control of pollution and conservation of environment. Under the same Ordinance, a high powered Environmental Protection Agency was also created and entrusted with the task of framing National Environmental Policy and preparation of National Environmental Quality Standards.

USA

Both NEPA and PEPO are very similar in nature and their aims seem to be the same. NEPA (1969) is however, one of the most appreciated and followed laws of the world. The American National Environmental Policy Act of 1969 declares a national

policy for the protection of environment in the United States. The Act does not specifically guarantee a healthful environment to every American citizen, but it does indicate that all citizens should be entitled to a "safe, healthful, productive and aesthetically pleasing environment." Although it has been ruled specifically by courts that NEPA does not guarantee a right to healthful environment, they have given a strong and extensive support and favorable interpretation of the Act as a result of which it has become more powerful and effective than it might have been the intent of the legislative.

NEPA has been a strong source of initiating action in the area of environmental policy. Although it does not alter the constitution of America nor is it a regulation and also does not mandate the policy it declares, it has nevertheless changed public life in four important respects:

- 1) Through its declaratory provisions and annual environmental reports, it has kept the environmental issues alive before the American people, the congress, and the President;
- 2) Through the environmental impact statement and the associated stipulations regarding program planning, it has altered the decision process in the Federal agencies;
- 3) In association with the Freedom of Information Act, it has forced public disclosure of that process and opened the way of public participation in it; and ,
- 4) It has provided a model that has influenced environmental policy legislation among its several states and in a number of nations abroad as well.

In order to maintain and enhance the quality of environment through National Environmental Policy Act, the United States Congress directed various Federal Agencies to take on a number of additional responsibilities, written below:-

- 1) The agencies are to foster intergovernmental cooperation among the various state, national and international organizations.
- 2) The agencies are to administer the policies, regulations and public laws of the United States in accordance with the policies set forth in NEPA.
- 3) The agencies are to file environmental impact statements on all major actions which could significantly affect the environment.

Section 102 (2) (c) of the Act stipulates that all agencies of the Federal Government shall:-

(c) Include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting quality of the human environment, a detailed statement by the responsible official on-

- (i) The environmental impact of the proposed action,
 - (ii) Any adverse environmental effects which cannot be avoided should the proposal be implemented,
 - (iii) Alternatives to the proposed action,
 - (iv) The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
 - (v) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.
- 4) All agencies had to review their policies and procedures in order to ensure that they were in compliance with the intent of NEPA, and that NEPA was not to be construed as a substitute for their existing obligations.

Besides the additional responsibilities assigned to the various federal agencies through the National Environmental Policy Act, Congress established the Council on Environmental Quality (CEQ). As an advisory body to the president, the Council was to help the president establish national priorities with regard to environmental quality. Pursuant to this responsibility, NEPA required the CEQ to assist the president in the preparation of an annual report on the quality of environment.

Pakistan

In December 1983, Government of Pakistan passed an Ordinance known as the Pakistan Environmental Protection Ordinance (PEPO-1983) which provided for the creation of an institutional base in the form of Pakistan National Environmental Council and the Environmental Protection Agency. According to this, the Council is to be headed by the president and would provide leadership and general policy guidance for the direction and coordination of environmental programs whereas the Agency would enforce the regulations and standards for controlling pollution and protecting the environment.

Functions of the National Environmental Council:

- (a) ensure enforcement of this Ordinance;
- (b) establish comprehensive national environmental policy;
- (c) give appropriate direction to conserve the renewable and expandable resources;
- (d) ensure that environmental considerations are inter-weaved into the National Development Plans and Policies;
- (e) ensure enforcement of the National Environment Quality Standards; and

(f) give direction to any Government agency, a body or a person requiring it or him to take measures to control pollution being caused by such agency, body or person or to refrain from carrying out any particular activity prejudicial to public interest or the purposes of this Ordinance.

Functions of the Pakistan Environmental Protection Agency:

- (a) administer this Ordinance and the rules and regulations;
- (b) prepare national environmental policy for approval of the Council;
- (c) publish an annual report on the state of environment;
- (d) establish National Environmental Quality Standards with the approval of the Council;
- (e) revise the National Environmental Quality Standards as and when deemed necessary;
- (f) coordinate environmental policies and programs nationally and internationally;
- (g) establish systems of surveys, surveillance, monitoring, measurement, examination and inspection to combat environmental pollution;
- (h) take measures to promote the development of science and technology which will contribute to the prevention of environmental pollution, such as the consolidation of survey and research system, the promotion of research and development, the dissemination of results of such research work and development work, and the education and training of research experts and other governmental functionaries;
- (i) provide information and education to the public on environmental matters and

to recommend to the Council the introduction of environmental information in the syllabi of educational institutions; and

(j) coordinate and consolidate implementation of measures to control pollution with Provincial Governments and other Government Agencies.

The Ordinance also has provision for Environmental Impact Assessment. Section 8 (2) quotes "Every proponent of a project, the construction or completion of which is likely to adversely affect the environment shall file with the Agency, at the time of planning the project, a detailed environmental impact statement including information on (a) the impact on the environment of the proposed industrial activity; (b) the treatment works of the proposed project; (c) the unavoidable adverse environmental effects of the proposed project; and (d) the steps proposed to be taken by the project proponent to minimize adverse environmental effects" (Pakistan, 1983).

Although the program in declaring a national policy for the protection of the environment is similar to the National Environmental Policy Act of the United States, it does not have the same statutory significance / obligations nor a similar impact on governmental actions.

The primary difference between the policy statements is that the 1983-Ordinance was formally adopted by the Pakistan Government as a planning document. The Ordinance established several major goals to be accomplished which included:-

- 1) Establishment of a comprehensive national environmental policy;
- 2) Directions to conserve the renewable and expandable resources;
- 3) Making sure that environmental considerations are inter-weaved into the National

Development Plans and Policies;

4) Enforcement of the National Environment Quality Standards; and

5) Directions to any Government agency, a body or a person requiring it or him to take measures to control pollution being caused by such agency, body or person or to refrain from carrying out any particular activity prejudicial to public interest or the purposes of this Ordinance. The goals enumerated are very vague and not specific and therefore do not have much impact on the implementation of PEPO-1983.

USA

The development of National Environmental Policy Act in the United States congress centered around the personality of Senator Henry S. Jackson. But once the legislative proposal of a particular congressman has been enacted, he has little or no responsibility for its actual implementation. The U.S. Congress as a whole became responsible for the implementation of the National Environmental Policy Act-1969.

Pakistan

In Pakistan, the Environment and Urban Affairs Division of the Ministry of Housing and Works is the principal organization entrusted with the responsibility of environmental protection. With the initiative of this Division and the personal involvement of the then president General Mohammed Zia-ul-Haq, the Environmental Protection Ordinance of Pakistan was promulgated in December 1983. The National and the Provincial Assemblies of Pakistan did not work on it as much as the Congress in the United States did.

USA

Senator Jackson was able to bask in the glory of having sponsored one of the most far-reaching pieces of legislation in American history and not worry about whether it was capable of being implemented or not, as the Congress was to thrash out the differences in opinions of different senators and congressmen.

Pakistan

In Pakistan it was a sort of "personality politics" system. Actually it should have grown out of a series of deliberations by many project groups of experts to hammer out a compromise program acceptable to diverse groups. It is perhaps on account of this difference in policy evaluation that explains why the American Act is more specific than the Pakistan's Ordinance-83.

USA

The implementation of NEPA has been vigorous in the American courts almost from the very onset, and various federal agencies were at first hesitant to comply with the impact statement filing requirements.

Pakistan

In contrast, the Pakistan Environmental Policy Ordinance (PEPO) for the protection of environment has not been accepted by the industry. Neither the news media has ever strongly expressed disapproval of the pollution caused by industry.

This **discrepancy** might be explained by the difference in social, political and economic cultures of the two countries.

USA

The political culture of USA fosters greater acceptance of laws and governmental regulations for American citizens than the political culture of Pakistan does. In USA the compliance of NEPA is more or less automatic, being implicit in the way the system has been set up, and the way in which it has worked for years.

Pakistan

In Pakistan it simply is still an Ordinance with very negligible acceptance and implementation. Factors like lower degree of literacy among the masses, lesser environmental awareness in general, omnipresent moral corruption, the lack of political commitment, absence of accountability and extreme lack of supremacy for the law are some to be listed as obstacles and major problems facing Pakistan, in the way of any good legislation. Poverty and total lack of accountability are also major factors. People are too absorbed in their struggle for improving their lot that even if they raise their voice individually or collectively against an issue of concern to them, the Government pays no heed to them.

Environmental Pollution Control Legislation in the U.S. — HISTORY

In the United States there has been an increasing amount of Federal involvement in environmental pollution control since the 1950's. In the beginning local governments were the dominant force in pollution control matters. Those closest to the problem were expected to regulate in their own best interest. And as pollution worsened, control became a concern at higher levels of government. As the problems worsened nuisance laws and ordinances of local governments became very inadequate. Numerous regulations

emanated from the states, but that too was not enough because of the regional nature of pollution. Air and water pollution were not contained by artificially established boundary lines of states. Not even the state level of government had sufficient powers and resources to be effective against a problem of such magnitude. It is at this point that the U.S. government began to assert an ever-increasing role in the area of environmental pollution control.

The pattern of development of air and water pollution control legislation in the U.S. are both similar to each other. The first air and water pollution control laws enacted by the congress were only "temporary legislation". In the preambles to the Acts, it was indicated that pollution control would remain the responsibility of the respective governments. After eight years of the enactment of the temporary legislation for both air and water pollution control, congress enacted legislation granting the Federal Government permanent authority in these areas. By the 1970's, the Federal Government moved on to a more dominant role in the formulation and implementation of environmental pollution control policies for the entire United States. This was most evident in the Clean Air Act Amendments of 1970 and the Federal Water Pollution Control Act Amendments of 1972.

Air Pollution Control Legislation of the United States.

The Federal Government of the U.S. did not significantly get involved in air pollution matters until the enactment of a temporary law in 1955, with no official name other than Public Law 84-159. The air pollution disaster in Donora, Pennsylvania in 1948 and the smog problem of Los Angeles began to focus on the seeming inadequacy of state

and local efforts to control air pollution. It was such incidents that prompted members of the congress to enact Public Law 84-159 to get more research underway in order to discover the resources and likely consequences of continually increasing air pollution concentrations. In order to assist the various states and local governments in their efforts to control air pollution, the act authorized the Federal Government to grant them technical assistance as well. However, funding for this piece of legislation resulted in an outlay of only one million dollars annually for all the federal research and technical assistance to the states and the local government for air pollution control. It is little wonder that few significant accomplishments were generated under this legislation. The overall significance of Public Law 84-159 is the fact that it got the Federal Government officially involved in air pollution control.

Virtually speaking no federal legislation was enacted on air pollution between 1955 and 1963. The one minor exception was the authorization for the Surgeon General of the United States to conduct an investigation on the effects of the increased use of automobile on the quality of the air. This was Public Law 86-493.

In 1963, the Federal Government enacted the first piece of permanent air pollution control legislation called the Clean Air Act of 1963 or Public Law 89-206 which clearly gave the Federal Government its first permanent authority for the exercise of enforcement powers in interstate pollution cases. These powers, however, could only be exercised on invitation from the respective state governments involved -- clearly a reassertion of the sovereignty of state governments in the Air pollution control. The Act provided for the first substantial commitment of federal funds for air pollution control as well. For a

period of three years directly following the enactment of the bill, congress authorized the expenditure of ninety-five million dollars for air pollution control. The funds were partially dispersed in the form of grants to state and local governments to develop and establish air pollution control agencies. The bulk of the funds was spent for research into health effects of air pollution and development of guidelines for emission limits and ambient air quality standards.

Growing largely out of the research authorized under the public law 84-493 and the Clean Air Act of 1963, the Motor Vehicle Air Pollution Control Act was enacted by congress in 1965. This law authorized the Federal Government to regulate the emissions from new motor vehicles. It authorized funding for further research on motor vehicle emission systems and sulphur oxides emissions in addition to the granting of the regulatory authority to the Federal Government.

Realizing the need for additional assistance and expansion of its air pollution program congress passed the Clean Air Amendments of 1966 (Public Law 89-675). This law authorized an expenditure of one hundred and eighty-six million dollars over a three year period following its enactment. However, no new powers were granted to the Federal Government under these Amendments. The basic purpose of the law was to solidify support for those states and local control agencies which it helped to establish under the Clean Air Act of 1963. The substantial increase in funding attests to this support.

After the inversion disaster in New York city in November of 1966 which reputedly led to the death of over eighty persons, there was a clamor for the establishment of nationally uniform emission limits and air quality standards (Davies, J. Clarence,

1975). In response to this demand congress enacted the Air Quality Act of 1967 (Public Law 90-148) which provided for joint establishment of standards for quality control regions by the respective state governments and the Federal Government. This was a compromise feature of the act reflecting the desires of those who wanted nationally uniform standards as well as those who wanted the states to continue to set standards for their particular area. Though the Federal Government was equally responsible by law, for the development and establishment of standards, the states had the principal responsibility for the setting of standards and devising of plans for air quality control with the approval from the Department of Health, Education and Welfare (HEW).

Congress felt that the time was ripe for a full scale federal attack on the problem of air pollution and use the Air Quality Act of 1967 for a major overhaul of its program. Along with the major changes in the federal air pollution control program, congress authorized a total of four hundred and twenty-eight million dollars for the program. The range of changes included the development of a Presidential Air Quality Advisory Board, the establishment of technical advisory boards for HEW to represent industrial opinion, the initiation of various research projects into air pollution health effects, the registration of fuel additives, and authorization for the Secretary of HEW to request injunctions from the courts to halt pollution during emergencies (Public Law 90-148, 42 U.S.C.,Sec.1857).

With the realization that regulation of air pollution on a joint standard-making basis was still not adequate (Public Law 91-604), congress authorized the development of nationally uniform ambient air quality standards with the Clean Air Act Amendments of 1970 (Public Law 91-604). The responsibility to promulgate the primary and secondary

standards was assigned to the Environmental Protection Agency along with the responsibility to establish hazardous emission standards, to establish performance for new stationary sources, to promulgate the national motor vehicle emission standards, to issue controls and prohibitions on fuels, and to establish air craft emission standards. In essence, the amendments revised the Clean Air Act so completely that they constituted a new act (Bolback, 1974).

These national standards are scientific standards based on existing knowledge to control air pollution and "are not to be viewed as ... policy judgements which express value choices as to how pure or polluted the atmosphere should be" (Faith and Atkinson 1972). The emphasis was on the attainment of air quality levels that would protect the public health and welfare regardless of the availability of technology capable of achieving them (Rikleen 1975). The amendments established extremely specific time tables for the attainment of air quality levels as well.

The Clean Air Amendments of 1970 also streamlined the enforcement procedures and significantly increased appropriations in order to make federal air pollution control efforts more effective. The old, cumbersome procedure of holding conferences, established under the 1963 Act, was not deleted; but the wording of the Act was changed to say that "a conference may not be called ... with respect to an air pollution for which (at the time the conference is called) a national primary or secondary ambient air quality standard is in effect" (Public Law 91-604, Clean Air Act Amendments of 1970, Sec. 115 (b)(4). In essence, this phrase all but eliminated the conference procedure. The Amendments authorized increased spending to the tune of \$125 million for 1970, \$225

million for 1971, and a considerable amount of \$300 million for 1972 (Public Law 91-604, Clean Air Act Amendments of 1970, Sec. 116). With the passage of the 1970 Clean Air Act Amendments, it has been said that air pollution became the first environmental problem "to have a statutory base sufficient for meaningful action"(Anderson, 1973). Perhaps this is attested by the findings of the National Wildlife Federation in their "1976 Environmental Quality Index" (National Wildlife Federation, 1976).

Partially as a result of the Oil Producing and exporting Countries (OPEC) oil embargo and the deepening energy crisis, congress enacted a new law which allows for temporary relaxation of the more stringent aspects of the 1970 Amendments. In 1974, congress passed the Energy Supplies and Environmental Coordination Act. This statute has authorized Environmental Protection Agency to suspend emission limitations for stationary sources and to grant extensions for emissions limitations deadlines. Concerning direct action, the Act stipulated that the 1975 interim emission standards for motor vehicles were to be postponed until 1976 (Fanning, 1975). With further authorized postponements, it is likely that the progress gained under the 1970 Amendments would considerably be slowed by this act.

Water Pollution Control Legislation of the United States.

The United States Federal Government first became involved in water pollution control with the enactment of the Rivers and Harbors Act of 1899 under the section commonly referred to as the "Refuse Act." (30 Stat. 1152, 1899 Rivers and Harbors Act). The act was not designed specifically to deal with pollution of a hazardous or toxic

nature, but to control the dumping of large amounts of solid waste into navigable waters. At that time water transportation was in its heyday in the United States, prior to the widespread use of the internal combustion engine, a great deal of concern was exhibited over maintaining navigability of the waterways. However, the act was to become the most valuable environmental pollution control aid before it was legally circumvented in the early 1970's.

It was during the late 1960's when the American citizens became very much aware of environmental problems and desired to take action against them, that the "Refuse Act" was resurrected. Perhaps the greatest stimulus to enforcement activity was the provision within the act for rewards to informers. However, the informers were entitled, at the discretion of the court, to receive up to one half of the fine assessed by the culpable industry.²⁹ It was not until 1969 that enforcement industry really got under way with 99 cases, and by the second month of 1970 there were 110 cases pending according to the Department of Justice.

Other federal legislation which preceded the effort to specifically control environmental pollution, but dealt with water pollution, included the Public Health Service Act of 1912 and Oil Pollution Act of 1924. The former directed the Public Health Service (PHS) to conduct investigations on the health effects of water Pollution. The Public Health Service is still conducting research on water borne diseases and has established a significant record in establishing linkages between various sources of pollution and diseases. The latter was concerned with the dumping of oil by ocean-going vessels into navigable waters. Although there were other sources of oil pollution, the Act

dealt only with ocean-going vessels which greatly hampered its effectiveness. Further more, it has been said that it was not very effective even in controlling the oil pollution from the vessels.³¹ As with 1899 Act, this act was primarily concerned with maintaining the navigability of navigable waters.

In 1948, the Federal Government adopted the first interstate waters law specifically aimed at controlling water pollution in the United States. This was the Federal Water Pollution Control Act of 1948. Admittedly, it was experimental since it was to last only five years (it was subsequently extended for three more years by Congress), but it did serve as a basis for following, more permanent legislation in this area. Although it was the first significant step by the Federal Government into the area of water pollution control, the Act did not nullify the responsibility of the states for such activity. In consideration of the rights of state governments, and in order to overcome the fear of the state government officials of federal encroachment, the Act was so worded as to "recognize, preserve and protect the sovereignty" of the states in the matter of water pollution control.

It was the policy of the act to promote cooperation with state and local authority already engaged in water pollution control. As a consequence, the Act did little more than fund research and provide technical advisory assistance to the state and local governments (like the first federal air pollution law). Although the federal influence was somewhat weak and its involvement cumbersome under this Act, it did enable the Federal Government to obtain a definite toehold into this pollution control policy sphere. This is significant, because the Federal Government begins to fund a project and has the

opportunity to subject the recipients of its funds to its standards of conduct. This can readily be seen in their option of merit systems by the states in response to such a requirement by the Social Security Act Amendments of 1939.

Sensing the inability of the states to adequately control water pollution, Congress began discussions in the early 1950's of an enlarged federal role in water pollution control. One of the leading proponents of such a stance was Representative John A. Blatnik of Minnesota. Out of these deliberations and the extensive efforts of Representative Blatnik, grew the Water Pollution Act Amendments. 34 The enactment of this law marked the first comprehensive permanent piece of federal water pollution control legislation in the United States. The legislative purpose section of the Act, however, reaffirmed the earlier policy of acknowledging the sovereignty of the States of this area of responsibility. This meant that federal enforcement activities required the consent of the respective states before federal court proceedings could be initiated.

The overall thrust of the 1956 Act was to expand research assistance to the states and extend the amounts of funding for construction grants. The act authorized research and training grants for the states of a more substantial nature than the 1948 Act did. The 1956 Act provided funding to the states and interstate agencies for the control of water pollution in interstate waters for the first time. The Act also authorized grants of up to fifty million dollars to states, cities, or other government agencies for treatment plant construction as well.

Another outgrowth of the 1956 Act was the development of the conference-hearing court action process. This conference process provided a very weak procedure for

inter-state pollution abatement. However President Eisenhower opposed federal involvement in pollution abatement and very few conference hearings were ever called. Eisenhower's opposition was subsequently compounded by Kennedy's indifference which resulted in a virtual non-utilization of the enforcement conference in the fifties and early-sixties.³⁶ In fact, since the inception of the enforcement conference in 1956, only fifty-nine such conferences were held, with varying degree of impact.

In recognition of the fact that water pollution controls were not being adequately exercised by the states on waters which were solely within their boundaries, congress passed the Federal Water Pollution Control Act Amendment of 1961. This Act extended federal authority for pollution abatement from interstate waters to all navigable waters. This amendment strengthened the administrative and enforcement procedures of the Act. As in prior legislation, this Act reaffirmed the rights and responsibilities of the states in preventing and controlling water pollution.

With the 1961 Act, congress further increased the authorization for water treatment plant construction and research to the states and municipalities. Having realized that fifty million dollars was not an adequate amount, congress authorized, under this act, an increased funding up to \$80 million in 1962, \$90 million in 1963, and \$100 million in the years 1964 to 1967. Finally, Public Law 87-88 authorized funds for seven laboratories for water pollution research, three of which just happened to be located in the districts of key congressmen.

The practice of acknowledging complete sovereignty of the states in their area of water pollution control finally ceased with the passage of Water Quality Control Act of

1965 (Public Law 89-234). This Act made a national policy declaration for the regulation of water pollution for the first time in the United States. It required the states to adopt water quality standards and then classify their waters accordingly. If they failed to do so, the Federal Government was empowered to set these standards for them.

The Water Quality Control Act also created the first federal organization solely devoted to the task of water pollution abatement -- the Federal Water Pollution Control Administration (FWPCA) relieved the Public Health Service of these responsibilities. This development of the agency resulted in the institutionalization of the federal effort for financial and technical assistance, research, and enforcement activities for water pollution control. Initially, the Federal Water Pollution Control Administration was located in the Department of Health, Education and Welfare; but within five months, under Reorganization Plan No.2 of 1966, its operations were transferred to the Department of Interior and, in 1970, to the new United States Environmental Protection Agency.

The 1965 Act modified the enforcement procedure as well. The Secretary of HEW was given the authority to call a conference-hearing when substantial economic injury due to pollution occurred to the shellfish industry in interstate waters. Further more, the Secretary was given the authority to request the attorney general to take action to abate pollution when such pollution reduced the quality of Interstate waters below standards.

Sensing the need for greater support of the federal water pollution control effort, congress passed the Clean Water Restoration Act of 1966 (Public Law 89-753). The vast bulk of support that came from this Act was in the form of financial assistance. The 1966 Act authorized expenditure of three and one-half billion dollars over the following four

years. This marked a significant increase over the one-hundred and fifty-million dollars authorized for 1966 and 1967 under the previous Act. Federal support of over one-half of the costs for water pollution control was also authorized. As significant as it may appear, judgement must be tempered in that 90% of the funds went for the sewage treatment construction grant program.

The Clean Water Restoration Act extended the federal enforcement power to some extent along with a significant increase in financial support. The Secretary of the Interior was given the power to call a conference-hearing, On the request of the Secretary of the State when pollution originating in the United States resulted in damage to another country, Further more the Secretary of the Interior was authorized to require alleged polluters to file reports on the "character, kind, and quality" of their discharges.

Legislative History Relating to Natural Resources in Pakistan.

Pakistan has had a long tradition of protection and conservation of natural resources, which is mostly inherited from British India. Protection of natural resources is synonymous with protection of environment in some circles of the government. During the last three decades, however, the environmental protection issue has gained significance and acquired a political agenda status in both the developing and the developed countries. The issue has attained a sudden universality in the whole world. Degradation of natural resources has been a matter of concern in Pakistan since the colonial period. A mixture of natural resources and environmental legislation was partly inherited from British India. Land tenure and use, forestry, canal irrigation, wildlife

protection, energy development, pesticide use, and noise pollution had all been regulated to some degree in the past.

During the 19th century the British administration engaged in a number of projects relating to arboriculture and forest management. By the year 1894 the Government of India formulated an explicit policy concerning the use and control of the subcontinent's then shrinking forests. In 1927 British India was provided with its first comprehensive legislation, "The Forest Act". This statute sought to "consolidate the law relating to forest, the transit of forest produce and the duty leviable on timber and other forest produce." With two subsequent amendments, the West Pakistan Goats (Restriction) Ordinance of 1959 and the West Pakistan Goats Restrictions Rules of 1961, the Forest Act remains Pakistan's principal legislative instruments controlling forestry. The Act of 1927 empowers the government to set aside forests reserves, appoint officers charged with management of those territories, enforce rules governing the use of forests, determine the degree to which timber and other products may be exploited and regulate the movement of cattle on these lands. In 1959 and 1961 two Ordinances were issued which recognized extensive damage to rangelands by goats. Therefore the government ordered to limit the number of goats in the country and regulate their movement (Ahmad, 1975). In the year 1964 another act called Firewood and Charcoal Restriction act was passed which limited the burning of firewood and charcoal.

Legislation concerning hunting dates back to the Mughal period. The Sikh and British rulers who came after Mughals continued these policies. In 1860 the Criminal Code prohibited the killing or maiming of any animals whose value exceeded ten rupees.

The statute extended protection to domesticated animals like elephants, horses, camels, mules, bulls, buffaloes, cows, and oxen. These laws were incorporated into the criminal procedure code in 1898 and have been maintained ever since. By 20th century with faunal population coming under increasing threat of elimination, the British Government enacted the Wild Birds and Animals Protection Act of 1912. This law is still in force and has served as a model for provincial / local legislation adopted even after independence. (Annexure-C) There is a long list of legislation concerning wildlife. It limits hunting to certain areas during non-breeding seasons, to licensed individuals, and of non-endangered species.

Legislation affecting water use was shortly enacted after the construction of canals during the 1860s. The Canal and Drainage Act of 1873, and the Punjab Minor Canals Act of 1905 are the earliest statutes governing the implementation of irrigation in the Indus Basin. A complete list pertaining to pertinent legislation appears in Appendix-C. These acts governed canal use throughout the remainder of the British period and with certain amendments have continued to be in force since independence (August, 1947).

A Factory Act however unsatisfactory it may be, had also existed. Legislation for soil reclamation 1952, land reforms (Annexure-C), Noise Abatement 1965, and pesticide use were promulgated after the independence. The last of these regulate the use of pesticide in the country through an agricultural pesticide ordinance of 1971 and Agricultural Pesticide Rules of 1973 which require that all products must first be registered with the government before being marketed in the country. The law requires that in order to qualify for registration, Pesticide must first be cleared by a Federal

Pesticide Laboratory which must confirm the claims made by the applicants in respect of chemical and physical characteristics of their products. After that, field trials for two crop seasons are conducted by provincial agricultural research personnel in collaboration with promoters of the products against the claims preferred. The data thus collected is scrutinized by two committees before a product is finally approved for registration. The whole process takes about two to three years.

Environmental Pollution Legislation in Pakistan.

Acts and ordinances enacted by the British and Pakistan Government after independence did not cover all eventualities and many aspects of environmental degradation remained uncontrolled and under regulated. For example, mineral developers were not required to restore ruined lands by any of these legislations. Similarly toxic substances apart from pesticide were neither categorized nor any provision existed for their control. Like wise off-shore pollution and solid waste disposal was left without control.

The issue of environmental protection became more significant in the last couple of decades specially after the 1972 UN conference on “The Human Environment” in Stockholm. It raised environmental pollution awareness all over the world.

Environmental policy has to be seen as an essential prerequisite for environmental legislation by which objectives, areas of an adopted policy and prevailing values are transformed into codes of conduct. The environmental laws enacted before the 70s were mainly confined to a very narrow area in the sense of natural habitat and wildlife conservation. Many of them did not even have the intention to protect natural resources

but rather to regulate their utilization. They cannot thus, be regarded as an adequate basis of environmental management as they lack the kind of control mechanism which is essential for any general environmental policy.

Before the 70s only a few Asian countries like Singapore and Philippines to a certain degree had enforced some comprehensive approach to environmental protection (Pintz, 1988).

Prior to the 80s Pakistan did not have a comprehensive approach to environmental protection or at least covered important sectoral environmental problems like water pollution, air pollution, disposal of hazardous waste, etc. The complexity and breadth of environmental policy area is very colossal. It is therefore justified to narrow it down to some specific policy issues and focus on pollution control only for several reasons. Unlike soil erosion and human settlement, the issue of pollution is faced both by developed and developing countries.

The Pakistan government has been most responsive to pollution problems in the last decade. While the issues of deforestation and soil erosion have existed for a long time, the pollution issue emerged as more forceful during the last decade and stirred up environmental activities. It is a common belief that pollution is directly related to economic growth. In spite of this fear expressed by developing countries at various UNEP meetings, the number of environmental laws and agencies in Third World countries have significantly gone up during the 1970s. Pakistan could feel the force and necessity to adopt pollution laws. Therefore, there was an urgent need for enacting a comprehensive legislation to safeguard the national environment. This led to the development and

enactment of Pakistan Environmental Protection Ordinance of 1983 (Pakistan, 1983). The ordinance has provided for the creation of an institutional base in the form of Pakistan National Environmental Council and an Environmental Protection Agency.

Later in 1997, Pakistan Environmental Protection Act was formulated. Pakistan Environmental Protection Ordinance- 1983 was repealed and replaced with the Pakistan Environmental Protection Act, 1997. Appendix-D. Important provisions of the Pakistan Environmental Protection Act, 1997 are given in Appendix-E.

Institutional Development in Pakistan

The important national institutions in Pakistan which play or can play a significant role in safeguarding the environment can broadly be classified into three categories:-

a) The Government organizations, b) The political Institutions such as local bodies, and c) The non-governmental organizations (NGO's). Internationally Pakistan is member of a number of inter-governmental organizations that have been established to safeguard regional and global environment such as United Nations Environment Program (UNEP), South Asia Cooperative Environmental Program (SACEP), etc. (Appendix-I)

At government level there are two types of organizations in Pakistan. First of these are the ones that have been established solely with the responsibility of environmental protection. The Environment and Urban Affairs Division in the Ministry of Works is the principal organization of this type. It is responsible for planning activities in relation to the environment, pollution and ecology. It was through the initiative of this division that the Environmental Protection Ordinance was promulgated in Dec.1983. Among other things that the legislation has provided is the creation of a National

Environmental Council and an Environmental Protection Agency in the country. The Council is headed by the President and provides leadership and general policy guidance for the direction and coordination of environmental programs where as the Agency enforces the regulations and standards for controlling pollution and protecting the environment.

The second type of governmental organizations are concerned primarily with resource augmentation and conservation. The examples of these organizations are line departments and other agencies such as Water and Power Development Authority (WAPDA) of Pakistan, Geological Survey of Pakistan (GSP), Pakistan Forest Institute (PFI), Atomic Energy Commission, Pakistan Agricultural Research Council (PARC), Provincial Forestry and Livestock Departments, etc. Many of these institutions carry out surveys, monitoring and research work of great relevance to environmental protection.

(Appendix-F)

But, there is lack of coordination between these departments. Amongst line sectorial departments, by and large, each agency goes about pursuing isolated tasks. If one department is engaged in establishing energy plantations in an area, another is pursuing programs of sheep and goat rearing and a third introducing new horticultural crops (GOP, 1976). The policies and programs of these are sometimes conflicting and contradictory.

Attempts have been made from time to time, under a variety of programs from Rural Reconstruction to Integrated Rural Development and to coordinate functioning of different governmental agencies. But these programs have always been viewed by

existing vertically oriented technical departments and services as a threat to their power structure. Besides other things, it has been a major factor responsible for lack of coordination between research, policy making and implementation of coordinated programs, resulting in waste of resources and little achievement in environmental protection efforts. It is feared that this state of affair would continue unless the need to safe guard our scarce resources and environmental protection are established as the prime national goals, above all departmental / technical objectives.

Widespread horizontal integration is difficult to perceive unless local and regional institutions are strong enough for carrying out projects or programs of national scope and importance. There are serious difficulties involved in assigning responsibility for integrating all relevant aspects of environment within a single organization. For example if an agency responsible for Food and Agriculture or a public enterprise which has traditionally held rather a narrow job, is also entrusted with all questions pertaining to rural / urban environment, it may become very difficult for that agency to justify the old and new obligations in terms of its management. The result will be that one point of view would dominate the other. A better solution would be to establish joint responsibilities among various sector-oriented organizations representing several points of interest, and to foster cooperation among them in order to prevent serious rivalries.

Analysis of Environmental Issue Emergence in Developing and Less Developed Countries

The process of issue emergence and agenda building in LDC's is different from developed countries. While environmental agenda-building in developed countries is

dramatic and time-consuming, in developing countries it is quicker and silent because of the usual top-down dictates which are sudden. The actors and institutions involved in the process also differ. While the public and interest groups are the major advocates of environmental policy in the West, leadership, commitment and government interest are the most persuasive factors in countries like Pakistan.

The variation can be explained in the frame work of various models of agenda-building developed by (Cobb et. al. 1976). Distinguishing between the social agenda (informal, non-governmental agenda consisting of public opinions considered deserving authoritative attention) and the institutional agenda (formal, governmental agenda). Cobb et. al. identified three basic models:

(1) Outside initiative model, which accounts for the process through which issues arise in non-governmental groups and are then expanded sufficiently to reach, first, the social agenda and then, finally, the institutional agenda;

(2) Mobilization model, where issues initiated inside the government become, first, part of the institutional agenda and then are expanded to the social agenda;

(3) Inside access model, where issues are initiated within the government but need never become a part of the social agenda.

Various studies undertaken in developed countries on the emergence of environmental issues reveal that the outside initiative model cited above, was commonly followed. Downs (1976), argued that awareness among the U.S. public was a necessary condition for issues emergence. Similar findings were obtained by Reed (1981) in the

case of Japan, and by Sandbach (1978) in the case of Britain.

However, Downs's pre-policy stage does not hold true for Pakistan. The issue of developing Pakistan Environment Protection Ordinance of 1983, received treatment by authorities before the issue was taken up by the public, which means that the government initiates action. Studies on other developing countries also indicate the same (Leonard & Morell, 1981).

Statistics indicate that the LDC's follow the 2nd model. One hundred and twelve countries in 1979 had some kind of environmental laws and administrative agencies (Center for International Environment Information, 1980). This, in turn, reflects the fact that environmental issues must appear on institutional agendas of these countries however differences are there in the agenda setting mechanisms.

There are several reasons for the differences. **First** of all, the political culture in developing countries is dominated by feelings of apathy and ignorance (Elkins, 1975). Non-participation and participation through unconventional means --- such as riots, demonstrations and violence --- have little room for a healthy growth of political consciousness.

Secondly, economic hardships restrain the public from protesting against industrial growth. Politicians and political groups also find it disadvantageous to have a stand for environmental protection among the underprivileged sector of Society.

Thirdly, because technology is less advanced, the public can not realize the extent of the problem.

And **finally**, the channels of political communication are relatively weak in under

developed political systems. The channels carrying input demands to the system --- political parties and interest groups --- are often feeble while channels bringing action messages to the public are monopolized by the authorities. According to Almond and Powell (1966), "Much information remains covered and latent, and it is consequently difficult to make political estimates accurately and quickly much important information regarding the needs of the base and periphery of the society never gets explicated" (P.191). Because of these communication limitations, the environmental issue does not generate a social base sufficient to provide it with political saliency.

Public Participation and Public Policy Formulation

The process of putting proposal into a logical, workable format is known as policy formulation (Lynch, 1979). According to the classical Democratic theory public policy reflects public preferences, and public officials are responsive to citizen preferences. At the center of the theory is the assumption that individuals are well-informed rational and active participants in a political process. The elitists, however, argue that government policy reflects not public preferences, but elite perception of public preferences. Since citizens are basically unaware of their political surroundings, they are unable to actively participate in political decision-making. Similarly, certain group theorists (Schattschneider, 1960) suggest that public preference, even though it exists, may be obstructive by the political system's bias in favor of well organized groups. The political economists, by analyzing human behavior as rational and utility-maximizing, also indicate, that there will always be a problem and that diffused public preferences will not be able to influence political processes (Olson, 1965).

Many studies of public participation and mass political involvement have been undertaken in developed countries (Key, 1965; Milbrath, 1975; Verba, et al, 1971) resulting in three general models of political linkages (Luttbeg, 1974; Ippopolito, et al, 1976):

- (1) Direct Influence Model where citizens influence decision-making by protests, demonstrations and other similar means;
- (2) Mediating Influence Model where public preferences are mediated through political parties, interest groups, and other similar channels; and
- (3) Indirect Influence Model where public officials themselves interpret citizen's preferences and act accordingly.

While the first two models depend on citizen's acts, the third model depends on indirect influence pattern. However, the basic assumption in all these models remains that citizen's preferences are inputs to public policy. Public participation is seen as a purposive, instrumental behavior relevant to public policy-making (Milbrath, 1975). It is also seen as desirable for the growth of democratic norms and values.

By contrast active public participation in less developed societies is viewed as a challenge to political stability (Huntington, 1968). As more and more people enter the political arena because of the politicization process, the demands made on government also grow. If the system is not capable of handling these demands, a situation of turmoil and instability is most likely to occur. On the other hand, passive participation of the masses --- participation where citizens without actively pursuing policy goals, feel satisfied with the system --- is considered desirable in less developed societies. In these

political systems, public policy will influence citizen's preferences and not vice versa.

Public policy thus becomes means to direct public opinion and, consequently, to promote political stability. This possibility as well as the models of active public participation in the policy process are examined here in regard to Pakistan's environmental policy.

Channels of Public Expression

Protests

There are indications now that Public awareness toward environmental protection has increased during the last decade. Public demonstrations against government agencies responsible for projects causing environmental hazards and damages has increased in big cities also. Still in proportion to the scale and magnitude of environmental problems the number of these protests is insignificant.

Mass Media

The role of mass media as a stimulus to public participation in the policy process has been long recognized. The media can exert influence on the policy process (1) by shaping the general public's priorities in terms of leading the public to view certain issues as more important, and (2) by shaping the policy agendas of policy-makers directly. Media also plays a key role in stimulating environmental interest in a number of developed countries (Sandbach, 1978).

In Pakistan, public relies mainly on Newspapers, radio and television. This has a wide impact.

Interest Groups and Political Parties: Mediating Influence

Interest Groups and political parties have been associated with environmental

issue emergence in most of the developed democracies of the world (Sandbach, 1978). Sandbach noted a sharp increase in the number of environmental organization in Britain and United States during the peak of the environmental movement in the early 1970s. In Pakistan, the last two decades have seen increased activities by environmental groups as well as political parties.

Pakistan has thousands of small, non-profit non-governmental organizations (NGOs) which pursue a variety of programs like social welfare, educational activities, mother and child care, etc. Their legal status varies according to their registration. But they are poorly developed and relatively ineffective. Nevertheless they have the ability to undertake many of the functions of government more effectively and more efficiently. This can be readily seen in the field of welfare and education. The government cannot provide a service that can be more effective, more compassionate and more innovative than that provided by Abdul Sattar Eidhi, who heads an independent, non-profit and charitable organization– ‘Eidhi Foundation’. It would be far better to look for ways and means to support and supplement NGOs rather than using civil servants to try to duplicate the service they provide. (Appendix-G)

Environmental NGOs

Throughout the world, conservation movement originated with NGOs, and the implementation of conservation is directly related to the strength and viability of such groups. Environmental NGOs have two main functions: Transmitting information to their members and acquaintances about the state of the earth and the threats to its health, and transmitting to the Government the sense of popular concern about the quality of the

environment and health of the resource base. Environmental NGOs have been a major source of innovative thinking about how resources should be managed and the environment protected. Thus they serve both as distant early warning systems and as well as a source of alternate development approaches that should be encouraged, facilitated and followed.

Environmental NGOs are not well developed in Pakistan, and environmental advocacy, unlike in India is in its infancy (Malik, 1993). None of the national groups have yet established a strong advocacy capacity, although they consist of competent professionals. Still, grassroots NGOs with focus on environment and conservation are active in various cities, small towns, and villages. A comprehensive list of these is not possible, but some of the known national groups and grassroots NGOs are listed below:

NGOs doing Environmental Work at National, Regional, & Local Levels - (Pakistan)

National and Regional Levels:

- > Citizens for a Better Environment (Shehri), Karachi.
- > Energy and Environment Society of Pakistan, Lahore.
- > Environmental Conservation Forum, Lahore.
- > Environmental Management Society of Pakistan, Karachi.
- > Environmental Protection Foundation of Pakistan, Peshawar.
- > Environmental Protection Society of Pakistan, Lahore.
- > Friends of Earth and Trees, Lahore.
- > Margallah Hills Society, Islamabad.
- > Pakistan Forum of Environmental Journalists, Lahore.

- > Save Environment, Multan.
- > Society for Conservation and Protection of Environment, Karachi.
- > World Institute of Ecology and Cancer, Lahore.

Grassroots Groups:

- > Anjuman-i-Ittehad Naujawanan-e-Bandat, Ziarat.
- > Anjuman-i-Ittehad-e-Nawa Killi, Quetta.
- > Baanhn Beli, Karachi.
- > Basic Urban Services for Kutchi Abadis, Karachi.
- > Community Health Development Program, Gujrat.
- > Gunyar Youth Welfare Organization, Gunyar, Malakand.
- > Karachi Administrative Women's Welfare Society, Karachi.
- > Rural Youth Welfare Organization, Sialkot.
- > Shewa Educated Students Welfare Association, Shewa, Swabi.
- > Sind Rural Workers Co-operative, Karachi.
- > Urban Community Development Project, Mardan.
- > Youth Work Unit, Head Marala, Sialkot.

International NGOs:

From 1947 through 1980's an influx of more than three million refugees encouraged a number of refugee-oriented foreign NGOs to express concern about these people. At least thirty such organizations sprang up including the Austrian Relief Committee, Volunteers in Technical Assistance, OXFAM, and Save the Children Fund. These no longer work with refugees now but they have expanded their operations to other

fields and locations in Pakistan. For example Save the Children Fund of U.K. has started a development project in Tharparkar, Sindh.

Among international NGOs with regional/country offices in Pakistan, the most notable among them are IUCN-Pakistan and the World Wildlife Fund for Nature (WWF). Pakistan has considerable status and has been successful in building government and private-sector awareness, promoting the creation of parks and protected areas, advising government on environmental policies and also undertaking pilot scale sustainable development projects.

Women's Organizations:

There are hundreds of women's organizations in Pakistan which operate to provide services to the poor, establish development activities through projects or programs, do research and disseminate information on women and development and promote legal and social rights of women. Among organizations with a large reach are the All Pakistan's Women's Association,(APWA) the Family Planning Association of Pakistan, and the Girl-guides Association of Pakistan. Most of these NGOs are based in Urban areas but few are being expanded to communities in rural areas as well.

CRITIQUE AND ANALYSIS OF PAKISTAN ENVIRONMENT PROTECTION ORDINANCE, 1983.

(Appendix - B)

The name ordinance suggests that the legislation is a command or direction of an authoritative nature. This piece of legislation was given to the people of Pakistan by an authoritarian regime under the leadership of General Mohammed Zia-ul-Haq. Although

environmental problems had gained awareness of the public in general and specially the elites, it was not until recently that the magnitude of environmental deterioration became a hot topic of discussion. Awareness through the media lead to the creation of some private interest groups.

An analysis of the Ordinance in the following paragraphs will quickly reveal some aspects which can be very helpful in establishing and understanding the causes of environmental policy failures. Such causes provide a useful beacon towards future policy direction, which it is hoped will be more acceptable to the government, industry, private sector and the individuals from different sections of the society.

In 1983, the Pakistan Environmental Protection Ordinance (PEPO) was promulgated. It provides for the creation of Federal and Provincial Environmental Protection Agencies (EPAs) to execute policies agreed upon by the Pakistan Environmental Protection Council (PEPC) established under the Ordinance which also directs project proponents to submit EISs to projects which are likely to adversely affect the environment [PEPO, 8(21)].

Although the Ordinance has been operational since 1984, progress in its implementation has been patchy. The PEPC has yet to meet and the Federal EPA is not yet operational although some posts have been sanctioned.

Section 1.

The Ordinance was written under alarming circumstances as is evident from the opening paragraphs of the Ordinance-"circumstances render it necessary to take immediate action." On the other hand there is a negation to the fact of taking immediate

action; This is clear by the intent of the statement in sec.1.(3):-

"It shall come into force on such day as the Federal Government may, by notification in the official Gazette, specify in this behalf".

Notification No. S.R.O.129(1)/84 dated 6th. Feb.1984 from the Environment and Urban Affairs Division of the Ministry of Housing and Works made the Ordinance to come into force with effect from 6th. day of February,1984.

There is further evidence which suggests that the 1983-Ordinance was never practiced or put to action, although there have been some voluntary compliances at the Provincial levels.

Section 2.

This section is about definitions and is an effort to cover all possible aspects of pollution related matters and activities, etc. However, it is not possible to cover all aspects of a phenomena like pollution in a small piece of legislation.

The proposed addition to clause (b) of Sec.2 is an example of a suggestion to include the emissions from vehicular exhausts as a source responsible for causing air pollution. Such exhausts are a major source of air pollution in big cities.

There are other proposed additions to this section on definitions regarding clause (i)- inclusion of measures to control pollution which may occur from activities of Federal or Provincial governments or private organizations; clause (p)- to include "Noise pollution" identifying some possible sources of this kind of pollution; and clause (z) to this section 2.- requiring the definition of a Special Environmental Court which is proposed to be constituted under the proposed new section 19. of this Ordinance.

Section 3.

It authorizes establishment of the Pakistan Environmental Protection Council hereafter mentioned as "Council". This section identifies the office bearers in the council and their tenure without regard to their competence, aptitude, eligibility, familiarity with the subject, or their outstanding services with regard to the environmental problems. It makes it a prerequisite of being politically nominated for a certain administrative position in the government, and then take a second responsibility of running the affairs of the Council. This should not be the case whereas personal qualities and experience in the relevant field should have been the criteria for the people to be with responsibility in the Council. Ministers or people in politics should not have a say in the appointment of personnel for the council.

Further in the wake of political instability and the recent turmoil both in the National and Provincial assemblies, it makes the situation highly uncertain for the chairman and members of the Council to carry out their mission with any degree of consistency or devotion.

According to the sub-clause (4) in this section, the Council shall meet at least twice a year. Contrary to this, Council has not been able to meet even once in the past ten years or so (Murtaza, 1991).

Section 4.

Functions of the Council have been listed without a clear mention about delegation of powers. Sec.4(1)(a) talks about ensuring enforcement of this Ordinance; but fails to define the necessary infrastructure to carry out the purpose of this Ordinance.

•
Under clause 4.(b) The Council was to establish a comprehensive national environmental policy which has not been fully achieved, although some rules have been made to set up some standards for emissions and pollution control under Sec. 6.

Directions to conserve the renewable and expandable resources have not been enough so far. One example is that Pakistan will be completely out of natural gas by the year 2015-says a recent report (E-mail by Pakistan News Service dated April 6,1994).

Sec.4(d),(e) and (f) have not been carried out owing to the lack of delegation of police powers to the Provincial EPA's or any other agency for obtaining compliance to its standards or putting a halt to some activity deleterious to public interest.

Section 5.

This section deals with the establishment of the Pakistan Environmental Protection Agency (PEPA) to exercise the powers and perform functions assigned to it under provisions of the Ordinance.

The directions given under Sec.5.(1) are almost the same as those given to the Council under Sec.4 of the Ordinance. The members of the Council may exercise coercion and an overriding political influence over PEPA owing to its position and changing players in the political arena.

PEPA under Sec.5.(2) is to be headed by a Director General (DG), appointed by the Federal Government. The DG is to exercise full powers and functions of the Agency (PEPA)-Sec.5.(3), through the administrative, technical and legal staff appointed by the Federal Government under Sec.5.(4).

The DG may appoint his own Advisory Committees under Sec.5.(5) to help him

carry out his duties and functions. There is no guideline whatsoever regarding the criteria of making an Advisory Committee for the Director General.

Section 6.

This section is about the functions of the Agency (PEPA), giving instructions to the Agency about administering the Ordinance, preparation of environmental policy and the annual report on the state of environment, establish environmental standards, survey, monitor and combat environmental problems, coordinate and revise environmental policies, keep the public informed and help in the development of environmentally sensitive syllabi for educational institutions.

Sec.6.(2) identifies and delineates the discretionary functions of the Agency in order that it may request information or help from the Government or foreign agencies, establish and maintain laboratories, delegate its powers, identify legislative needs in the field of environment and perform any other functions that may be assigned to the Agency by the Council.

Detailed instructions and rules to carry out the provisions of this section may be needed. Allocation of some budget to do the needful will be a major requirement.

Section 7.

This Section delineates financial powers of the Agency in a manner that it may sell, purchase, lease, incur liabilities or even hire or appoint such advisors as may be required by the Agency for terms and conditions suitable to it.

Section 8.

Environmental impact statements are required by the Agency under this section.

Clause (1) defines applicability of this EIS requirement over persons, industries, air pollutants or wastes, areas and public waters as may be prescribed by regulations.

This clause lacks clarity of purpose and remains ambiguous regarding its scope of falling into the category that may require EIS. It gives a very vague direction towards achieving the purpose of EIS.

Clause 2. makes it necessary for all projects likely to affect the environment in an adverse fashion to submit environmental impact statement (EIS) which must include information on the effect of the proposed industrial activity, treatment work, unavoidable adverse effect of the proposed project and steps to minimize those effects.

The Agency is to prepare guidelines for preparation of EIS by the proponents of a project. On the basis of review of the EIS the Agency may approve or reject the project in the interest of environmental concerns.

Section 9.

Under this Section responsibility is assigned to the Agency to assist local councils, governments and other agencies in the proper disposal of their wastes. But no direction is given about different kinds of wastes and how they can be handled or recycled.

Section 10.

Sources of funding for the Agency have been identified -- grants of governments, foreign aid, and the fees and rates charged by the agency for different purposes. It would have been better if the Federal Government could seriously allocate some amount of money every year to propel the program in action. Lack of funds is a major cause for inaction by agencies.

Sources of grants, loans, advances and others may have to be identified to rid the uncertainty of financial backup.

This section of the Ordinance is unclear about the sources and management of fees, rates and charges.

Section 11.

Financial estimates about environmental problems are not easy to prepare. Help could be sought from other countries who have been through it and have useful lessons to be used by others. The section is vague about the rules governing the audit procedures of the Agency.

Section 12.

The Director-General cannot be everywhere to compound offenses. A clear cut delegation of police powers will have to be carefully dispersed and legitimized with the help of other law enforcing agencies obligated to serve the purpose of the Ordinance as one of their top concerns.

Section 13.

This section is very good in offering good security required by the working force of the Agency. Indeed it is one of the very good parts of the Ordinance.

Section 14.

This section robs away the powers to implement the ordinance from its work force to get the necessary compliance. All the complaints will have to be processed typically through the higher authority, which in this case happens to be the Agency and which may have already been over-scheduled by the burden of regulations, reforming and adjusting

policies regarding environmental pollution. Following the pattern of proper channel in a bureaucratic hierarchy is a matter of routine in the old colonies of the British. It hampers rather than helps because it results in delays caused by going through a lot of unnecessary official procedures. A fair amount of delegation of powers may solve the problem of delays in matters of environmental injustices.

Section 15.

This is a good section that allows the land revenue department (through the 'Tehsil-daar') to take up the required role of a collection agency in case of defaulters not paying the fees, rates, fines, etc.

Section 16.

Federal Government does have the power to make rules and give authority to its regulations by the due process of adjudication and legalization after debates in the senate and National Assembly. However, it would be highly acceptable if the Provincial EPAs would gather some necessary input from the private sector as well. The people affected by such rules and regulations should have a chance to be involved in proposing solutions to their local and national environmental problems. This kind of bottom-up strategy will definitely have more range of acceptability when it comes to policy implementation than what it is at present.

Section 17.

This section is very similar to its preceding section-16. The proposed addition of Section 19 to this section by EPA Punjab is indeed very much required in the wake of parallel or sometimes confusing and conflicting regulations with different agencies,

which may hamper work under provisions of this Ordinance. Establishment of special environmental courts may be a step in the right direction when other courts are teeming with unsettled case pending for almost half a century.

Environmental Impact Assessment in Pakistan

Environmental Impact Assessments (EIA / EIS) have not been practiced by government or private sectors so far. The formation of the Council or PEPA (Agency) was not enough of a catalyst to start the process of EIA / EIS. EIA is still not part of the planning and development process for any department, institution, industry or the private sector. However, the Government plans to do so and some action has been taken positively in this direction.

Government of Pakistan through its Ministry of Environment and Urban Affairs requested the assistance of IUCN (World Conservation Union) to develop an outline for EIA procedures. Three-day workshops were organized in all the Provincial capitals and the Federal capital between September, 16th and October, 2nd. 1989. The following recommendations were made at the workshops to assist in strengthening the EIA procedures in Pakistan:-

- * The federal and Provincial EPAs should be made fully functional as soon as possible.
- * Recruitment by the EPAs will focus on individuals with environmental knowledge and expertise.
- * Appropriate EIA training programs will be initiated.
- * Regulations governing the implementation of the EIA section of PEPO

will be promulgated as soon as possible.

- * Such regulations will incorporate a screening mechanism for deciding projects which would require an EIA.
- * Such regulations will determine inter alia the responsibility for EIA preparation, the method for determining the terms of reference for EIAs, form and content of EISs, the EPA review function and public participation.
- * Such regulations will ensure that there is standardization between EPAs concerning their role in EIA procedures.
- * Such regulations will specify that the EIA requirement covers both the public and the private sector and that the EISs must be produced by both according to a common format. (It has been suggested that the PC-1 proforma will be adopted to incorporate questions regarding environmental impacts and that the proponent's response may be considered to be the EIA. Participants generally felt that such a PC-1 proforma was not an acceptable substitute for an EIS).
- * The Federal Government will take a lead and implement a package or portfolio of EIAs for major projects such as those announced on 3rd. Oct.1989. Assistance with financing could perhaps be obtained from one of the donor agencies.
- * The result of EIAs will be used by the Government to publicize EIAs and demonstrate their benefits.

- * Two major seminars will be held in Islamabad and Karachi, to familiarize the participants with PEPO and any accompanying regulations.

Relevance of EIA to Pakistan

There is a great variety of habitat types in Pakistan. These range from marine habitat along the Indian Ocean, coastal lands, deserts, plains and mountains in the north like the second highest peak in the world, K-2. These habitats are fragile and changes in one can have far reaching effects on others, particularly the hilly and mountainous areas contain most of the forest. It is from here that the river Indus and its tributaries arise. Indus and the other four rivers are of great economic importance to Pakistan. The forests are being depleted while the deserts are spreading in Sind, Baluchistan and lower Punjab, thereby affecting other habitats.

Past experience indicates a strong need for development actions such as, projects, plans, programs and policies to be subject to EIA before implementation. This requirement will apply to both private and public sectors. EIA procedures should have the following objectives:-

- (i) Identification of all projects / programs whether in the commercial or social sector which can have effects on any habitat / natural resource.
- (ii) Identification of all authorities likely to be involved directly or indirectly with the initiation, approval, implementation, follow-up and support services for a project. This is necessary because of the large number of agencies working in Pakistan.
- (iii) Formulation of procedures for all parties involved with regard to their

specific tasks.

- (iv) Encouraging the private sector to undertake the EIAs by proving to them that EIA does not involve an extra capital cost but is just for effective management and operation of a project / program.
- (v) Dissemination of EISs to the public through all types of available media to insure participation by society.

EIA Required Inputs for Pakistan

1. Qualified technical staff equipped with the knowledge of engineering, economics, policy formulation, health, wildlife, agriculture, forestry and other physical and social sciences
2. A Data Bank of environmental information.
3. A strong institutional frame work which must be very well coordinated by the Environmental Protection Council because a large number of agencies are likely to be involved in EIA procedures.
4. A strong legal frame work so that the findings of EIAs can be implemented effectively.

CHAPTER V

COMPARISON OF U.S. NEPA - (1969) & PAKISTAN EPO - (1983)

The following paragraphs reflect a comparison of the environmental protection legislation in the United States of America and Pakistan. National Environmental Policy Act of the U.S. happens to be the most adopted / followed / desired environmental legislation through out the world. However, it has been changed and tailored variously to suit the needs of different countries according to their social, political and economic setups. As is true of any piece of legislation which is not divine in nature, there are times when there is a need for revision and improvement of a legislation, in order that it should better suit the changing needs of dynamic cultures and societies.

It will be noticed that Pakistan Environmental Protection Ordinance of 1983, appears to have been derived from the NEPA-1969 of USA Yet as of today there is a lot of room for improvement in order to make it more effective and socially acceptable.

System of Comparison

In order to draw a comparison between the NEPA of U.S. and PEPO of Pakistan with a view to see how far each section is similar or different to its corresponding section, an attempt has been made to take NEPA step by step and see what portion of it matches with PEPO of Pakistan and to what extent the latter is successful in dealing with the

problem of pollution in different areas. American NEPA has been followed through in a sequential manner and then the relevant section if any of the Pakistan's EPO-1983, comparable to the US section, has been listed next to the section of NEPA. If an equivalent section is not available which could be cited, the word 'SILENT' has been used.

#US# means section/part of the NEPA-1969 of the USA as sequenced in the original Act.

<PK> stands for the relevant section/part of PEPO-1983 of Pakistan pertaining to the Section of NEPA-1969.

Similarities and differences have been pointed out and wherever possible suggestions for a new model legislation have been made under prescription / suggestion. These recommendations form the basis for the survey instrument to be circulated among the Pakistani resource professionals. Statistical analysis will provide the necessary directions towards parts of legislation which need to be rectified and what the new model legislation would look like.

The National Environmental Policy Act of 1969 (as Amended) of USA

Compared With

Pakistan Environmental Protection Ordinance of 1983.

Line by line and Section by Section

#US#

An Act to establish a national policy for the environment, to provide for the

establishment of a Council on Environmental Quality, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that this Act may be cited as the "National Environmental Policy Act of 1969."

<PK>

to provide for the control of pollution and preservation of living environment
WHEREAS it is expedient to provide for the control of pollution and preservation of living environment and for matters connected therewith or ancillary thereto:

AND WHEREAS the President is satisfied that circumstances which render it necessary to take immediate action:

NOW, THEREFORE, in pursuance of the Proclamation of the fifth day of July, 1977, and in exercise of all powers enabling him in that behalf, the President is pleased to make and promulgate the following Ordinance:'

SIMILARITIES/DIFFERENCES

In both the countries pieces of legislation pronounce the purpose of their respective acts right in the beginning.

In its opening statement the NEPA-1969, states the very purpose of the act: 1. Establishment of national policy for the environment; 2. Establishment of a Council on Environmental Quality; 3. Other purposes; and cites the name of the Act as the "National Environmental Policy Act of 1969"

The Pakistani Ordinance also gives the purpose of the Ordinance to: 1. Control of pollution; 2. Preservation of the living Environment; and 3. Ancillary matters.

But whereas the US Act establishes a national policy for the environment while the Council on Environmental Quality is committed to its own duties ascribed later in the Act -- one of them being to revise policies and devise rules and regulations for environmental protection, the Pakistan Ordinance does not have it.

PRESCRIPTION/SUGGESTION

The model policy for Pakistan should have the provision of policy guidelines and provide a comprehensive national policy for the environment. It should clearly identify all the ancillary matters that may arise.

#US#

Purpose

Sec.2.

The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

<PK>

`to provide for the control of pollution and preservation of living environment

WHEREAS it is expedient to provide for the control of pollution and preservation of living environment and for matters connected therewith or ancillary thereto:

SIMILARITIES/DIFFERENCES

Both the acts aim at controlling environmental pollution and preservation of the living environment.

The purpose of the US legislation is multi-dimensional as it aims at achieving productive yet enjoyable harmony between man and his environment. Besides, it targets pollution right at its source by the use of word "prevent or eliminate damage to the environment and biosphere".

Another aspect noteworthy of the US legislation is the stimulus it contains for securing 'health and welfare of man' and to foster the 'understanding of ecological systems in nature'.

Pakistani legislation lacks this aspect.

PRESCRIPTION/SUGGESTION

Model policy plan for Pakistan should include an objective for securing the 'health and welfare of man', and at the same time be multidimensional towards understanding of ecological systems.

#US#

TITLE 1

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

SEC.101.(a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the national environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the

critical importance of restoring and maintaining the environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organization, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic and other requirements of present and future generations of Americans.

<PK>

AND WHEREAS the President is satisfied that circumstances which render it necessary to take immediate action:

NOW, THEREFORE, in pursuance of the Proclamation of the fifth day of July, 1977, and in exercise of all powers enabling him in that behalf, the President is pleased to make and promulgate the following Ordinance:

1. Short title, extent and commencement:-

- (1) This Ordinance may be called the Pakistan Environmental Protection Ordinance, 1983.
- (2) It extends to the whole of Pakistan and its territorial waters, Exclusive Economic Zone and historic waters.
- (3) It shall come into force on such day as the Federal Government may, by notification in the official Gazette, specify in this behalf.

SIMILARITIES/DIFFERENCES

US legislation shows a concern of the Congress which recognizes the impacts of man's activity on various components of natural environment and the importance of restoring and maintaining environmental quality for the overall welfare and development of man.

As compared to the collective realization and action by the US Congress for environmental protection, Pakistani legislation reflects a unilateral concern of the President, who appears to be satisfied personally and exclaims that 'circumstances which render it necessary to take immediate action.' In the case of Pakistan, unlike the US law, these 'circumstances' have not even narrowly been identified.

The importance of restoring and maintaining environmental quality has been connected to the overall welfare and development of man in the U.S. whereas these aspects - 'welfare and development of man' in Pakistan are the most neglected areas in national planning and have not been mentioned at all.

Directions have been given in the US legislation about the relationship between man and nature. Both must co-exist in productive harmony in order that the social, economic and other requirements are fulfilled both for the present and future generations of Americans. Pakistani legislation silently ignores all these aspects.

The US legislative focus in Sec.101.(a) is not found in the equivalent Sec. of the Pakistani legislation. However, it does focus on the title, extent and commencement of the 1983 Ordinance and nothing else.

PRESCRIPTION / SUGGESTION

Environmental legislation / model policy of Pakistan should adopt human welfare as an issue of top concern.

#US#

Sec.101.(b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy to improve and coordinate Federal plans, functions, programs and resources to the end that the Nation may--

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

<PK>

"In the case of Pakistan this aspect is silent"

SIMILARITIES/DIFFERENCES

Each generation of Americans have been given a trust for the upkeep of the environment so that the future generations may be able to enjoy the same quality of environment. To achieve all this, the Federal Government is charged with the responsibility of doing all that is required in consistence with other national plans and policies, to have nationally coordinated plans, programs, functions and resources that the nation may take responsibility of protecting the environment for the future generations as well.

PRESCRIPTION/SUGGESTION

Pakistani legislation says nothing about it and should be strong enough to take

care of at least the present generation.

#US#

Sec.101.(b)

(2) assure for all Americans safe, healthful, productive and aesthetically and culturally pleasing surroundings;

<PK>

"SILENT"

SIMILARITIES/DIFFERENCES

PRESCRIPTION/SUGGESTION

Model policy should guarantee a healthy as well as aesthetically and culturally pleasing surroundings for its citizens.

#US#

Sec.101.(b)

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety or other undesirable and unintended consequences;

<PK>

"SILENT"

SIMILARITIES/DIFFERENCES

N/A

PRESCRIPTION/SUGGESTION

Another aim of the Pakistani model policy plan should be to secure the widest range of beneficial uses of environment without damage to it or cause any risks to health

or create any undesirable outcomes.

#US#

Sec.101.(b)

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;

<PK>

"SILENT"

SIMILARITIES/DIFFERENCES

In Pakistan the department of archeology is trying to preserve the important historic and cultural past of the country. In the US the environmental protection agency is taking care of preserving the cultural and historic past of the country.

PRESCRIPTION/SUGGESTION

Agencies in Pakistan should have a multidimensional role and preservation of environment should be one of their topmost concern which they all need to share.

#US#

Sec.101.(b)

(5) achieve a balance between population and resource use which will permit high standard of living and a wide sharing of life's amenities;

<PK>

"SILENT"

SIMILARITIES/DIFFERENCES

N/A

PRESCRIPTION/SUGGESTION

Stricter measures should be taken to educate the masses on family planning to keep a check on uncontrolled population growth and depletion of natural resources in Pakistan. A good deal of coordination is required between family planning agencies and the natural resource management agencies which must work together for a better future.

Model policy plan must provide or at least strongly encourage opportunities for an equal standard of living and sharing of life's amenities so that the gap between the have's and have-nots is shortened.

#US#

Sec.101.(b)

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

<PK>

SEC.4. Functions of the Council:

- (c) "give appropriate direction to conserve the renewable and expandable resources";

SIMILARITIES/DIFFERENCES

U.S. legislation puts emphasis on the enhancement of the quality of renewable resources, compared to the emphasis on conservation of renewable and expandable resources, with little or less concern over the quality of natural resources. Conservation mildly negates the concept of expandable resources.

Pakistani Ordinance on the other hand lacks the very mention and concept of recycling.

PRESCRIPTION/SUGGESTION

1. Pakistani Legislation should incorporate emphasis on enhancement and improvement of both the quality and quantity of natural renewable resources.

2. The concept of recycling of everything recyclable has to be introduced in Pakistan in an organized manner.

#US#

Sec.101.

(c) The Congress recognizes that each person should enjoy a healthy environment and each person has a responsibility to contribute to the preservation and enhancement of the environment.

<PK>

SEC.4. Functions of the Council:

(f) "give direction to any Government agency, a body or a person requiring it or him to take measures to control pollution being caused by such agency, body or person or to refrain from carrying out any particular activity prejudicial to public interest or the purposes of this Ordinance".

SIMILARITIES/DIFFERENCES

Each person in the U.S. should enjoy a healthy environment and at the same time have a responsibility to protect it. But Pakistani legislation is reactionary in nature as it examines the state of pollution and directs everyone (government agency, a body or a

person) to control it.

U.S. legislation gives each person a kind of right to enjoy a healthy environment plus an understanding to contribute to the preservation and enhancement of the environment.

In the U.S. people recognize their rights and duties of the government / Congress and are interconnected in a dynamic and interactive democratic way.

PRESCRIPTION/SUGGESTION

The model environmental policy should make the Government of Pakistan realize and demonstrate the duty/responsibility of providing a healthy environment and raise an awareness among her citizens to be actively involved in the care for their environment.

Clear and detailed directions should have been issued to control pollution.

#US#

Sec.102.

The Congress authorizes and directs that, to the fullest extent possible; (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and

<PK>

SEC.4. Functions of the Council:

- (d) "ensure that environmental considerations are inter-weaved into the National Development Plans and Policies";

SIMILARITIES/DIFFERENCES

In the U.S. interpretation and administration of policies, regulations and public

laws have to be fully in accordance with the NEPA,1969. Its authorization comes from the Congress. Whereas, in Pakistan a Council of much lower level gives directions about environmental considerations to be inter-weaved into national development plans and policies. Weakness of this can be judged from the fact that much of the planned policies which have already been proposed have not been implemented. To give the policies a good start not only the central government but other tiers of government and target groups must enthusiastically take up the challenge posed by the environment.

The US legislation reflects a major reversion and at the same time a reinterpretation of all the existing policies, regulations and laws in the light of NEPA, 1969.

PRESCRIPTION/SUGGESTION

In Pakistan much of the planned policies which have already been proposed have not been implemented. This means that information concerning the development of environmental quality is incomplete, (particularly in the longer term).

#US#

Sec.102.(2) all agencies of the Federal Government shall--

(A) Utilize a systematic, interdisciplinary approach which will insure man's integrated use of the natural and social sciences and the environmental design arts in planning and decision making which may have an impact on mans environment;

<PK>

SEC.4. Functions of the Council:

(b) "establish comprehensive national environmental policy";

- (d) "ensure that environmental considerations are inter-weaved into the National Development Plans and Policies";

SIMILARITIES/DIFFERENCES

Both the US and Pakistan Sections are similar in their objectives except that the US legislation is more elaborate in defining the means for planning and decision making.

PRESCRIPTION/SUGGESTION

Pakistan's legislation must give appropriate directions for comprehensive environmental policy which would allow environmental considerations to be intervened in national plans and policies.

#US#

Sec.102.(2)

(B) Identify and develop methods and procedures in consultation with the Council on Environmental Quality established by title II of this Act, which will insure that presently un-quantified Environmental Amenities and values may be given appropriate consideration in decision making along with the economic and technical consideration;

<PK>

SEC.4. Functions of the Council:

- (f) "give direction to any Government agency, a body or a person requiring it or him to take measures to control pollution being caused by such agency, body or person or to refrain from carrying out any particular activity prejudicial to public interest or the purposes of this Ordinance".

SEC.6.(1)

- (f) "coordinate environmental policies and programs nationally and internationally";
- (g) "establish systems of surveys, surveillance, monitoring, measurement, examination and inspection to combat environmental pollution";
- (h) "take measures to promote the development of science and technology which will contribute to the prevention of environmental pollution, such as the consolidation of survey and research system, the promotion of research and development, the dissemination of results of such research work and development work, and the education and training of research experts and other governmental functionaries";

SIMILARITIES/DIFFERENCES

Both U.S. and Pakistani councils aim at controlling pollution and helping agencies make right decisions for their environmental problems. Pakistani legislation gives direction to all to refrain from activities which may be against the purposes of the 1983 Ordinance.

The U.S. legislation directs CEQ to insure environmental safety not only in the present but also in the future. It accommodates the possibility of overlooking some environmental values presently but at the same time secures appropriate considerations in decision making in the future inclusive of economic and technical considerations.

PRESCRIPTION/SUGGESTION

The model environmental policy must give directions to rectify any omissions

regarding environmental values and considerations which were not included or taken care of so far, but have been promised to be taken into consideration as early as possible.

#US#

Sec.102.(2)

(c) Include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on-

(i) The environmental impact of the proposed action,

(ii) Any adverse environmental effects which cannot be avoided should the proposal be implemented,

(iii) Alternatives to the proposed action.

(iv) The relationship between local short term uses of man's environment and the maintenance and enhancement of long-term productivity, and

(v) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

<PK>

SEC.8. Environmental impact statement, etc. to be submitted to the Agency:

(1) The provision of this section shall apply to such--

(a) persons or class of persons, or

(b) industrial activity or class of industrial activity, or

(c) category, type or volume of discharges of air pollutants or wastes,

or

- (d) area or class of area, or
 - (e) classes of public waters as may be prescribed by regulations.
- (2) Every proponent of a project, the construction or completion of which is likely to adversely affect the environment shall file with the Agency, at the time of planning the project, a detailed environmental impact statement including information on:
- (a) the impact on the environment of the proposed industrial activity;
 - (b) the treatment works of the proposed project;
 - (c) the unavoidable adverse environmental effects of the proposed project; and
 - (d) the steps proposed to be taken by the project proponent to minimize adverse environmental effects.

SIMILARITIES/DIFFERENCES

Both the countries agree on preparing some kind of an EIS. Directions given on the requirement and preparation of EIS in the US are much more detailed and comprehensive. The EIS in the United States has an important role in that it is an action-forcing requirement of NEPA and allows environmental groups to challenge government projects that may degrade the environment. The US legislation focuses on every recommendation, report or proposals for legislation as well as other major federal actions which may have an impact on the quality of human environment. Whereas Pakistani legislation focuses on different classes and categories of persons, waters and industry, and there is literally no mention of human environment in the Pakistani legislation. It has only

been mentioned in general.

The U.S. Sec.102(2)(C)(i) demands a report on the general impact (both good and bad) of the proposed action on the environment. Later in Sec.102(2)(C)(ii) it seeks for unavoidable adverse effects and other possible alternatives to the proposed action.

Pakistani legislation does not apparently require alternatives to the proposed action. EIS under Sec.8(2)(b) of PEPO-83 needs only a list of adverse effects and their treatment work necessary to render their effects as safe.

Proposed action means any kind of action in the US, not necessarily industrial. The proposed activity is generally understood and mentioned as industrial activity in the case of Pakistan. Focus of Pakistani legislation is quite narrow in that respect.

The relationship between short and long term environmental effects is not a matter of concern in the case of Pakistani legislation as compared to U.S.

Irreversible and irretrievable commitments to resources is a matter of concern in the US legislation but is not found in the Pakistani legislation.

PRESCRIPTION/SUGGESTION

There is no need to address the different classes and categories of persons, waters and industry in the policy direction.

Unlike the US Sec.102(2)(C) the model policy for the environment need not be restricted only to major Federal actions. There can be any big or small action from the level of state, federal, a person or society, which may affect the quality of human environment.

#US#

Sec.102.(2)

(c) Prior to making any detailed statement the responsible federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate federal, state and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes;

<PK>

SEC.8. Environmental Impact Statement, etc., to be submitted to the Agency.

- (3) The Agency may prescribe guidelines for the preparation of environmental impact statements and, where such guidelines have been prescribed, the proponents of projects shall prepare environmental impact statements according to the said guidelines.
- (4) The agency may itself or through the appropriate government agency review the environmental impact statement and, where it deems appropriate, it may also involve public participation in the assessment of the environmental impact statement.

SIMILARITIES/DIFFERENCES

Both the countries offer guidelines for the preparation of EIS by involvement of the related agencies. The Agency offers guidelines for the preparation of the EIS in

Pakistan. To review the EIS, Agency may get involved or it may ask some other concerned agency to be involved and also ask the public to participate in the review process for the EIS.

The dissimilarity is that in the US, the agency responsible for enforcing environmental standards is very much involved and must get copies of the EIS and the comments of the different agencies involved. All these are also made available to the President and the CEQ which is not the case in Pakistan.

PRESCRIPTION/SUGGESTION

Just as it is in the US, the President and the Council in Pakistan must get involved in the EIS. The review process is also exemplary in the U.S. which Pakistan should adopt.

#US#

Sec.102.(2)

(D) Any detailed statement required under subparagraph (c) after January 1, 1970, for any major Federal action funded under a program of grants to States shall not be deemed to be legally insufficient solely by reason of having been prepared by a State agency or official, if:

(i) the State agency or official has state wide jurisdiction and has the responsibility for such action,

(ii) the responsible Federal official furnishes guidance and participate in such preparation,

(iii) the responsible Federal official independently evaluates such statement prior to its approval and adoption, and

(iv) after January 1, 1976, the responsible Federal official provides early notification to, and solicits the views of, any other State or any Federal Land Management entity of any action or any alternative thereto which may have significant impacts upon such state or affected Federal land management entity and, if there is any disagreement on such impacts, prepares a written assessment of such impacts and views for incorporation into such detailed statement.

The procedures in this subparagraph shall not relieve the Federal official of his responsibilities for the scope, objectivity, and content of the entire statement for any other responsibility under this act; and further, this subparagraph does not affect the legal sufficiency of statements prepared by state agencies with less than statewide jurisdiction.

<PK>

SEC.9. "Agency to assist local councils, etc., in disposal of wastes.-- the Agency shall assist the local councils, local authorities or other Government Agencies and persons to implement schemes for the proper disposal of wastes in line with the standards and procedures prescribed by the Agency".

SIMILARITIES/DIFFERENCES

Pakistani legislation is silent about the topic related to in the counterpart of US legislation. Basically there is no comparison between the foregoing part (d) of the US Sec. and Sec.9 of Pakistan which tells about the disposal of waste water according to prescribed directions of the Agency.

PRESCRIPTION/SUGGESTION

In the US if there are any differences and disagreements about the EIS prepared by the state or federal agency official, they have to be written down and incorporated in the EIS. This has to be adopted in Pakistan.

#US#

Sec.102.(2)

(E) Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.

<PK>

"SILENT"

SIMILARITIES/DIFFERENCES

N/A

PRESCRIPTION/SUGGESTION

In the event of unresolved conflicts concerning the recommended courses of action, alternatives should be developed and proposed.

#US#

Sec.102.(2)

(F) Recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world

environment;

<PK>

SEC.6.(1)(f) "coordinate environmental policies and programs nationally and internationally";

SEC.6.(2)(b) "with approval of the Federal Government, initiate request for foreign assistance in support of the objectives of this Ordinance and enter into arrangements with foreign agencies or organizations for the exchange of material or information and participate in international seminars or meetings";

SIMILARITIES/DIFFERENCES

Both the countries look forward to international cooperation for protection of mankind's world environment. Both agree on working together with other countries to support initiatives, programs, seminars, resolutions, etc.

PRESCRIPTION/SUGGESTION

If the worldwide and long-range character of environmental problems have been recognized the world over, then the solutions to these problems may never be connected to any country's 'short-range' and 'short-lived' foreign policies, seeking bureaucratic approvals from the federal/state government or letting any other obstacle come in the way to prevent it from doing what is safe and good for the environment.

#US#

Sec.102.(2)

(G) Make available to States, counties, municipalities, institutions and

individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

<PK>

SEC.6.(1)(h) "take measures to promote the development of science and technology which will contribute to the prevention of environmental pollution, such as the consolidation of survey and research system, the promotion of research and development, the dissemination of results of such research work and development work, and the education and training of research experts and other governmental functionaries";

SEC.6.(1)(i) "provide information and education to the public on environmental matters and to recommend to the Council the introduction of environmental information in the syllabi of educational institutions'; and

SIMILARITIES/DIFFERENCES

The US legislation is very direct, clear and comprehensive in the dissemination of environmental information down to the grassroots level; whereas in the case of Pakistan it is yet in the state of educating personnel and research workers without involving the individual citizens. Here things are kept confidential for no reason.

Sec.6.(1)(i) of PEPO is good provided the bureaucratic element is taken out. It is paradoxical to note that a piece of legislation originating from the highest office of the president goes back to the president for his acceptance and due recommendations to the Council for the introduction of environmental information in the syllabi of educational institutions. Red-tapism and bureaucratic delays is matter of routine.

PRESCRIPTION/SUGGESTION

Findings and recommendations of the Council for environmental protection should be binding on the concerned agencies failing which the defaulter should be penalized. Powers for implementation should be decentralized and the polluter-pays principal enforced.

Environmental education should be a compulsory subject up to the high school level.

#US#

Sec.102.(2)

(H) Initiate and utilize ecological information in the planning and development of resource-oriented projects; and

<PK>

SEC.4. Functions of the Council:

(1)(b) "establish comprehensive national environmental policy";

(1)(c) "gave appropriate direction to conserve the renewable and expandable resources";

(1)(d) "ensure that environmental considerations are inter-weaved into the National Development Plans and Policies";

SIMILARITIES/DIFFERENCES

No attention, has in the past, been paid to incorporate ecological information in the development of national plans and policies in spite of Sec.4.(1)(c) of PEPO which gives appropriate direction to conserve renewable and expandable resources.

PRESCRIPTION/SUGGESTION

Concrete delegation of jobs to various agencies need to be given to inter-weave environmental considerations into national development plans and policies.

#US#

Sec.102.(2)

(i) Assist the Council on Environmental Quality established by title II of this Act.

<PK>

SEC.4.(1)(e) "ensure enforcement of the National Environment Quality Standards"; and

SEC.4.(1)(f) "give direction to any Government agency, a body or a person requiring it or him to take measures to control pollution being caused by such agency, body or person or to refrain from carrying out any particular activity prejudicial to public interest or the purposes of this Ordinance".

SEC.4.(2) "The Council may or if so required by the Government agency shall, direct the Agency to prepare submit and promote projects for the prevention of environmental pollution or to undertake research in any specified aspect of environment".

SEC.5.(5) "To assist him in the discharge of his functions, the Director-General may, establish such Advisory Committees as he may deem fit and appoint as members thereof eminent representatives of universities, research institutes, the business community and other professions and fields of knowledge".

SIMILARITIES/DIFFERENCES

All agencies in the US assist the CEQ for meeting the standards and achieving the goals set by the EPA; whereas in Pakistan the Agency for environmental protection has

been assigned a policeman's role of enforcing the national environmental quality standards (NEQS).

There are vague directions on the promotion of projects and research on prevention of environmental pollution in Pakistan. The element of budget can not be ignored.

The agency seeks assistance from different kind of experts / professionals in Pakistan for environmental pollution control.

PRESCRIPTION/SUGGESTION

All agencies in Pakistan should be made liable for pollution and responsible for achieving NEQS and be also capable of issuing directions on controlling pollution.

#US#

Sec. 103.

All agencies of the Federal Government shall review their present statutory authority, administrative regulations, and current policies and procedures for the purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of this Act and shall propose to the President not later than July 1, 1971, such measure as may be necessary to bring their authority and policies into conformity with the intent, purpose, and procedures set forth in this Act.

<PK>

SEC.4.(d) 'ensure that environmental considerations are inter-weaved into the National Development Plans and Policies;'

SEC.7.(c) 'execute instruments, incur liabilities and do all acts or things necessary for proper management of conduct of its business;'

SIMILARITIES/DIFFERENCES

The US legislation is very direct and clear to all the agencies in the country about making sure that there is nothing contrary that exists in the different policies of any agency which is not in conformity with the intent and purpose of carrying out the goals set forth in the NEPA-69.

As is typical of a highly centralized bureaucracy, the Pakistani CEQ is to make sure that all the national plans and policies have inter-weaved the environmental considerations. By what mechanism and how - it is yet to be made clear and is very evident from the state of affairs that after 11 years of having the Ordinance into effect, it is yet not an Act.

PRESCRIPTION/SUGGESTION

From the very beginning it should be made clear to all agencies that within a stipulated time limit, all their policies and plans have to be in conformity with the intent and purpose of the environmental policy and NEQS of Pakistan.

#US#

Sec.104.

Nothing in Section 102 or 103 shall in any way affect the specific statutory obligations of any Federal agency (1) to comply with criteria or standards of environmental quality, (2) to coordinate or consult with any other Federal or State, or (3) to act, or refrain from acting contingent upon the recommendation or certification of any

other Federal or State agency.

<PK>

SEC.4. Functions of the Council.

(1)(e) `ensure enforcement of the National Environment Quality Standards;'

SEC.6. Functions of the Agency.

(a) `administer this Ordinance and the rules and regulations;'

(j) `coordinate and consolidate implementation of measures to control pollution with Provincial Governments and other Government Agencies.'

SIMILARITIES/DIFFERENCES

The US Sec.104 of NEPA-69 is very comprehensive in its scope and depth of implementation. It sets the ground work for all agencies to orchestrate their actions, plans and policies in conformity with NEPA yet giving the agencies full liberty of choice to function as they were used to with their fullest statutory obligations in tact. This brings in the element of trust, automatic voluntary compliance with the environmental quality standards and at the same time easy cooperation and integration of federal, state, agency and individual actions.

Sec.4 and 6 of Pakistani legislation leaves all the above task to be chased up for compliance etc. as a life time responsibility of the Council and Agency which are deeply embedded in the federal bureaucracy.

PRESCRIPTION/SUGGESTION

Same as prescribed in the previous Section above.

#US#

Sec.105.

The policies and goals set forth in this Act are supplementary to those set forth in existing authorizations of Federal agencies.

<PK>

SEC.4. Functions of the Council.

- (2) 'The Council may or if so required by the Government agency shall, direct the Agency to prepare submit and promote projects for the prevention of environmental pollution or to undertake research in any specified aspect of environment.'

SIMILARITIES/DIFFERENCES

US legislation makes NEPA-69 objectives and policies as supplemental to all the existing policies, goals and objectives of all the agencies.

Pakistani legislation keeps striving for issuing directions for prevention and control of environmental pollution.

US legislation attempts to make every agency responsible for environmental pollution control, whereas it is not the case with PEPO-83 of Pakistan.

PRESCRIPTION/SUGGESTION

Attempt should be made to get to the grassroots of compliance by making environmental policies mandatory and supplementary to the existing policies and plans of agencies, departments and institutions.

#US#

TITLE II

Council on Environmental Quality

Sec.201.

The president shall transmit to the Congress annually beginning July 1, 1970, an Environmental Quality Report (hereinafter referred to as the "report") which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dry land, wet land, range, urban, suburban and rural environment;

<PK>

SEC.6. Functions of the Agency.

(1) The Agency shall--

- (b) 'prepare national environmental policy for approval of the Council;'
- (c) 'publish an annual report on the state of environment;'

SIMILARITIES/DIFFERENCES

An equivalent of CEQ in the US appears to be the Agency in Pakistan. US president represents the CEQ and is bound to face the Congress with his annual report on the state of environment.

In Pakistan it is the job of the Agency to submit the annual report, but who is going to discuss it? Nobody perhaps, certainly not the National assembly. The legislation is silent about it.

The US legislation gives directions to all the areas that particularly need to be

mentioned in the report. Pakistani legislation is silent about any kind of such direction.

PRESCRIPTION/SUGGESTION

The head of the state must be involved in the above mentioned report and made answerable to the national assembly.

#US#

Sec.201. (2) current and foreseeable trends in the quality, management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the nation;

<PK>

"SILENT"

SIMILARITIES/DIFFERENCES

In the case of Pakistan, the legislation is apparently silent on topics of trend analysis and reporting matters related to the environment and how these would affect the quality of economic and social life of the nation.

PRESCRIPTION/SUGGESTION

The report must address issues related to analysis of the past trends and extrapolate them in the near and distant future and how it could affect the socio-economic conditions of the people.

#US#

Sec.201.(3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures;

<PK>

SEC.6. Functions of the Agency.

(1) The Agency shall--

- (f) 'coordinate environmental policies and programs nationally and internationally;'**
- (g) 'establish systems of surveys, surveillance, monitoring, measurement, examination and inspection to combat environmental pollution;'**
- (h) 'take measures to promote the development of science and technology which will contribute to the prevention of environmental pollution, such as the consolidation of survey and research system, the promotion of research and development, the dissemination of results of such research work and development work, and the education and training of research experts and other governmental functionaries;'**

SIMILARITIES/DIFFERENCES

The US legislation directly undertakes to explore the adequacy of available natural resources for fulfilling human and economic requirements of a growing nation.

Pakistani legislation takes care of that aspect indirectly by coordinating environmental policies nationally and internationally. Obviously food crops, tree crops and animal crops are taken into consideration.

The system of surveys, monitoring, further promotion of research and benefitting from the results thereof, is another way of dealing with the human and economic requirements of the nation.

PRESCRIPTION/SUGGESTION

Legislation should be explicit in dealing with the socio-economic requirements of a growing and hungry population.

#US#

Sec.201.(4) A review of the programs and activities (including regulatory activities) of the Federal Government, the State and local governments, and non-governmental entities or individuals with particular reference to their effect on the environment and on the conservation, development and utilization of natural resources; and

<PK>

SEC.6. Functions of the Agency.

(1) The Agency shall--

- (d) 'establish National Environmental Quality Standards with the approval of the Council;'
- (g) 'establish systems of surveys, surveillance, monitoring, measurement, examination and inspection to combat environmental pollution;'
- (h) 'take measures to promote the development of science and technology which will contribute to the prevention of environmental pollution, such as the consolidation of survey and research system, the promotion of research and development, the dissemination of results of such research work and development work, and the education and training of research experts and other governmental functionaries;'

SIMILARITIES/DIFFERENCES

Both the countries have their own way of monitoring their ongoing activities in the area of environment. Actions of individuals, non-governmental entities, state and Federal Government and their effects on the environment, are reviewed in the Report submitted by the US president. Emphasis is also laid on the conservation, development

and utilization of the natural resources.

Pakistani legislation aims at development of National Environmental Quality Standards (NEQS), system of surveys, monitoring and promotion of research and dissemination of its results for education, information and training of the experts.

PRESCRIPTION/SUGGESTION

The above should be part of the annual Report by the president.

#US#

Sec.201.(5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.

<PK>

SEC.6. Functions of the Agency.

(1) The Agency shall--

(e) 'revise the National Environmental Quality Standards as and when deemed necessary;'

(2) The Agency may--

(e) 'identify the needs for legislation in the environmental field;'

SIMILARITIES/DIFFERENCES

Both countries have a system of revision and remedying the deficiencies of existing programs, activities, together with the recommendations for legislation.

The difference is that the president in the US is proposing all these changes in front of the congress in his annual report whereas in the case of Pakistan it remains a job at lower level entrusted to the agency as a matter of routine.

PRESCRIPTION/SUGGESTION

The President must get involved directly in the annual report of the Agency and be responsible for the changes to be made in legislation or establishment of standards.

#US#

Sec.202.

There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the president to serve at his pleasure, by and with the advice and consent of the Senate. The President shall designate one of the members of the Council to serve as Chairman. Each member shall be a person who, as a result of his training, experience, and attainments, is exceptionally well qualified to analyze and interpret environmental trends and information of all kinds to appraise programs and activities of the Federal Government in the light of the policies set forth in Title I of this Act; to be conscious of and be responsive to the scientific, economic, social, aesthetic, and cultural needs and interests of the Nation and to formulate and recommend national policies to promote the improvement of the quality of the environment.

<PK>

SEC.3. Establishment of the Council:-

“(1) The Federal Government shall by notification in the official Gazette, establish a Council to be known as the Pakistan Environmental Protection Council and consisting of;

- (i) The President of Pakistan--Chairman
- (ii) The Minister in charge of the subject of Environment-- Vice Chairman
- (iii) Minister in charge of the subject of Environment in the Provinces--
Members
- (iv) Such other persons as the Federal Government may appoint-- Members
- (v) the Secretary to the Government of Pakistan dealing with the subject--
Secretary

(2) The members of the Council other than ex-officio members shall hold office for a term of three years.

(3) The Council shall frame its own rules and procedures.

(4) The council shall hold meetings as and when necessary; provided that not less than two meetings shall be held in a year.

(5) The Council may by general or special order and subject to such conditions as it may consider fit, delegate any of its functions under this Ordinance to a Committee or any member of the Council.'

SIMILARITIES/DIFFERENCES

There is a lot difference between the Councils of the two countries. The council in the US is established in the executive office of the president. Three of its members are appointed by the president based on a fixed criteria and qualifications of the persons- training, experience, attainments, ability to analyze and interpret environmental trends and activities in the light of NEPA-69. One of the members acts as chairman for the tenure of the president. The next president may continue with the same chairman or use

the criteria to nominate fresh members for the CEQ.

The case in Pakistan is quite different. The chairman of the Council is a self-appointed president of the country who may remain very much preoccupied with the politics of the nation rather than ever get involved in human environment. Besides, other office holders of the Council are the persons who happen to be in the position just by virtue of their being in some ministry, irrespective of their personal qualifications, interest, or even concern/consciousness about environmental problems.

The Council is very unstable and its existence unpredictable. It can be robbed off overnight by a military coup or otherwise in the wake of political instability. It is thus not possible for it to have a firm footing and establish meaningful functions. It may by general or special order and subject to such conditions as it may consider fit, delegate any of its functions under PEPO-83 to a committee or any one member of the council. This can be attributed to its non-functioning till today. Under Sec.3.(3) it has to frame its own rules of conduct. As of today it has not been able to meet even once during the past eleven years of its coming into being. It is very weak and non-serious about its job.

PRESCRIPTION/SUGGESTION

The Council in Pakistan need to be stabilized by a suitable legislative amendment so that the right kind of leadership once given to the Council stays immune to political upheavals. It should be able to employ such officers and employees as may be considered suitable and necessary to carry out its functions.

#US#

SEC.203.

The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard sentence thereof).

<PK>

SEC.3.Establishment of the Council.

'(5) The Council may by general or special order and subject to such conditions as it may consider fit, delegate any of its functions under this Ordinance to a Committee or any member of the Council.'

SIMILARITIES/DIFFERENCES

Councils in both the countries have powers to employ experts, scientists and professionals to carry out the job but in the case of Pakistan the Ordinance is silent about giving compensation to such experts.

PRESCRIPTION/SUGGESTION

The Council should be empowered to hire services of experts and consultants to do the job in a befitting manner and be able to give them appropriate compensations as is the practice in the USA This could perhaps give strength and stability to the Pakistani Council. Clear guidelines which should be comprehensive and more explicit need to be given about the compensation to be given to the experts employed by the Council.

#US#

Sec.203.(b)

Notwithstanding section 1342 of Title 31, the Council may accept and employ voluntary and uncompensated services in furtherance of the purposes of the Council.

<PK>

"SILENT"

SIMILARITIES/DIFFERENCES

PRESCRIPTION/SUGGESTION

A model policy should encourage both voluntary and compensated services for the cause of human environment. Besides, these services should be nationally recognized. Positive reinforcement, encouragement and even cash payment as compensation for services by the Council / government will definitely encourage more participation in the environmental affairs of the country.

#US#

Sec.204.

It shall be the duty and function of the Council-

(1) to assist and advise the President in the preparation of the Environmental Quality Report required by section 201 of this title;

<PK>

'SILENT'

SIMILARITIES/DIFFERENCES

The report on environmental status is submitted by the Agency as considered earlier.

PRESCRIPTION/SUGGESTION

The president must get involved and present a report on the state of the environment before the national assembly each year like the USA

#US#

Sec.204.

(2) to gather timely and authoritative information concerning the conditions and trends in the quality of the environment, both current and perspective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in title I of this Act, and to compile and submit to the President studies relating to such conditions and trends;

<PK>

'SILENT'

SIMILARITIES/DIFFERENCES

PRESCRIPTION/SUGGESTION

The model policy must address the issues discussed in Sec.204.(2) of the NEPA-69.

#US#

Sec.204.

(3) to review and appraise the various programs and activities of the Federal Government in the light of the policy set forth in title I of this Act for the purpose of determining the extent to which such programs and activities are contributing to the

achievement of such policy, and to make recommendations to the President with respect thereto;

<PK>

SEC.4. Functions of the Council:

- (d) 'ensure that environmental considerations are inter-weaved into the National Development Plans and Policies;'

SIMILARITIES/DIFFERENCES

Both the US and Pakistani sections focus on reviewing and evaluating programs and activities of the government in the light of NEPA and PEPO respectively.

The US legislation goes a bit further and directs to make recommendations to the President with respect to the findings of the review of programs and activities which is not the case in Pakistan.

PRESCRIPTION/SUGGESTION

The president must be kept informed and involved in the environmental affairs of the nation.

#US#

Sec.204.(4) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet the conservation, social, economic, health, and other requirements and goals of the Nation;

<PK>

SEC.4. Functions of the Council:

- (f) 'give direction to any Government agency, a body or a person requiring it or him

to take measures to control pollution being caused by such agency, body or person or to refrain from carrying out any particular activity prejudicial to public interest or the purposes of this Ordinance.'

SIMILARITIES/DIFFERENCES

The President of the US remains involved and on recommendations of the Council he must declare national policies to benefit the environment, conservation of natural resources, socio- economic, health and other requirements of the nation.

Pakistani legislation gives directions to individuals, agency or government to refrain from any activity that may be prejudicial to public interest or the purpose of PEPO-83.

PRESCRIPTION/SUGGESTION

In the model policy a concern should be expressed for socio-economic and general welfare of the nation.

#US#

Sec.204.(5) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

<PK>

SEC.4. Functions of the Council:

- (2) 'The Council may or if so required by the Government agency shall, direct the Agency to prepare submit and promote projects for the prevention of environmental pollution or to undertake research in any specified aspect of environment.'

SIMILARITIES/DIFFERENCES

By default Council in the US is entrusted with the duty of conducting investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality.

In the case of Pakistan the Council sheds away the responsibility and delegates it to an Agency to do research and promote projects for the prevention of environmental pollution which should not be the case.

PRESCRIPTION/SUGGESTION

Good examples need to be demonstrated at the highest level of the government. The Council in Pakistan must do the same job as done by its counterpart in the US.

#US#

Sec.204.(6) to document and define changes in the natural environment including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes and trends and interpretation of their underlying causes;

<PK>

SEC.6. Functions of the Agency:

- (g) 'establish systems of surveys, surveillance, monitoring, measurement, examination and inspection to combat environmental pollution;'
- (h) 'take measures to promote the development of science and technology which will contribute to the prevention of environmental pollution, such as the consolidation of survey and research system, the promotion of research and development, the

dissemination of results of such research work and development work, and the education and training of research experts and other governmental functionaries;'

SIMILARITIES/DIFFERENCES

Relevant sections in both the countries direct monitoring, trend analysis and research for environmental problems. Pakistani Sec. does not have provisions for these and even does not give directions on accumulation of data for future analysis and information system.

PRESCRIPTION/SUGGESTION

Data must be accumulated and an information system established for continuous monitoring of trends and analyses of environmental problems.

US#

Sec.204.

(7) to report at least once each year to the President on the state and condition of the environment; and

<PK>

SEC.6. Functions of the Agency.

(1) The Agency shall--

(c) 'publish an annual report on the state of environment;'

SIMILARITIES/DIFFERENCES

The Report published in Pakistan is for the use of the president and the national assembly, but it should also be for every body else in the country and should not be a secret document as is the case at present.

PRESCRIPTION/SUGGESTION

The president should present the annual report to the national assembly each year and make it public.

#US#

Sec.204.(8) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the president may request.

<PK>

SEC.6. Functions of the Agency.

(2) The Agency may--

(e) 'identify the needs for legislation in the environmental field;'

SIMILARITIES/DIFFERENCES

The sections in both the countries are the same except that the job is done by the Council in the US while in Pakistan it is the Agency which is responsible for making recommendations about the need for any new legislation.

PRESCRIPTION/SUGGESTION

The job of legislative review should be done by the Council and passed by the national assembly. This involves less channels of red-tapism and would take less time to accomplish results.

#US#

Sec. 205. In exercising its powers, functions, and duties under this act, the Council shall-

(1) Consult with the Citizen's Advisory Committee on Environmental Quality established by Executive Order Number 11472, dated May 29, 1969, and with such

representatives of science, industry, agriculture, labor, conservation organizations, State and local governments and other groups, as it deems advisable; and

<PK>

SEC.5. Establishment of the Agency.

- (5) 'To assist him in the discharge of his functions, the Director-General may, establish such Advisory Committees as he may deem fit and appoint as members thereof eminent representatives of universities, research institutes, the business community and other professions and fields of knowledge.'

SIMILARITIES/DIFFERENCES

In the US the Council can consult with the Citizen's Advisory Committee already established by an executive order. The Council is also allowed to meet with the representatives of industry, science, agriculture, labor, conservation, state, local government and other groups while in the case of Pakistan citizen's participation is nil and the scope of consultants for the Agency which is the equivalent of the Council in the US, appears to be very narrow. Some sectors of society apparently seem to have been ignored.

PRESCRIPTION/SUGGESTION

People from all walks of life must be involved to get valuable suggestions which should be conveyed to the Council for any legislative improvement and implementation.

#US#

Sec.205.(2) Utilize, to the fullest extent possible, the services, facilities and information (including statistical information) of public and private agencies and organizations, and

individuals, in order that duplication of effort and expense may be avoided, thus assuring that the Council's activities will not unnecessarily overlap or conflict with similar activities authorized by law and performed by established agencies.

<PK>

'SILENT'

SIMILARITIES/DIFFERENCES

Not comparable.

PRESCRIPTION/SUGGESTION

Establishment A National Information and Data Base system if established can exclude unnecessary duplication of effort and expense for a lot of environment related activities in Pakistan.

#US#

Sec. 206.

Member of the Council shall serve full time and the Chairman of the Council shall be compensated at the rate provided for Level II of the Executive Schedule Pay Rates (5 U.S.C.5313). The other members of the Council shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C.5315).

<PK>

SEC.3. Establishment of the Council:-

- (2) 'The members of the Council other than ex-officio members shall hold office for a term of three years.'

SIMILARITIES/DIFFERENCES

Members of the Council in the US serve for a term as long as the president remains in position, whereas in Pakistan the members are politicians who may or may not be very much educated. The system does not guarantee very knowledgeable ministers, members or chairman of the council or agency and hence a comprehensive and good outcome cannot be expected from the working of the Council which should comprise of professionals and knowledgeable personnel.

PRESCRIPTION/SUGGESTION

In Pakistan pollution needs to be fought not only at the level of air, water, soil and noise, but at the political and moral fronts as well.

#US#

Sec. 207. The Council may accept reimbursements from any private nonprofit organization or from any department, agency, or instrumentality of the Federal Government, any State, or local government, for the reasonable travel expenses incurred by an officer or employee of the Council in connection with his attendance at any conference, seminar, or similar meeting conducted for the benefit of the Council.

<PK>

'SILENT'

SIMILARITIES/DIFFERENCES

Not comparable.

PRESCRIPTION/SUGGESTION

There should be clear guidelines for reimbursement of compensation to the staff

of the Council and Agency at the federal and provincial levels. Workers at the district and 'tehsil' level need be reimbursed according to their skill and work load.

#US#

Sec. 208.

The Council may make expenditures in support of its international activities, including expenditures for: (1) international travel; (2) activities in implementation of international agreements; and (3) the support of international exchange programs in the United States and in foreign countries.

<PK>

'SILENT'

SIMILARITIES/DIFFERENCES

N/A.

PRESCRIPTION/SUGGESTION

Provisions similar to the US Council under Sec.208 may be made available to the staff of the Council as well as to the staff of Agencies in the provinces.

#US#

Sec. 209.

There are authorized to be appropriated to carry out the provisions of this chapter not to exceed \$300,000 for fiscal year 1970, \$700,000 for fiscal year 1971 and \$1,000,000 for each fiscal year thereafter.

<PK>

'SILENT'

SIMILARITIES/DIFFERENCES

N/A.

PRESCRIPTION/SUGGESTION

Clear cut budget allocations should be made available to the Council and Agencies for carrying out purposes of the model policy.

CHAPTER VI

MODEL ENVIRONMENTAL POLICY PLAN FOR ISLAMIC REPUBLIC OF PAKISTAN

Islam and Conservation of Environment

Islam has always had a great influence on the formation of individual Muslim communities and the policy making of Muslim states. Environment policy has been influenced by Islam and this influence has remained the same throughout the history of the Islamic faith.

The Concept of *hima* (protection of certain zones) has existed since the time of the Prophet Muhammad. *Hima* involved the ruler or the government's protection of specific unused areas. No one may build on them or develop them in any way. Maliki school of Islamic law described the requirements of *hima* to be the following: First, the need of the Muslim public for the maintenance of land in an unused state. Protection is not granted to satisfy an influential individual unless there is a public need. Second the protected area should be limited in order to avoid inconvenience to the public. Third, the protected area should not be built on or cultivated. And fourth, the aim of protection is the welfare of the people, for example, the protected area may be used for some restricted

grazing by animals of the poor (Zuhayli, 1985).

The concept of *hima* (protection of certain zones) can still be seen in many Muslim countries like Saudi Arabia, where it is practiced by the government to protect wildlife. In a less formal way it is still practiced by some 'bedouin' tribes as a custom or tradition inherited from their ancestors. *Hema / hima* means 'reserved pasture land' in Arabic and these areas provide a land conservation system with controlled land use (Duba and David, 1979).

The *harim* is another ancient institution which can be traced back to the time of the prophet Muhammad. It is an inviolable zone which may not be used or developed except with the specific permission of the state. The *harim* is usually found in association with wells, natural springs, underground water channels, rivers and trees planted on barren land or *mawat* (Zuhayli, 1985). There is careful administration of the *harim* zones based on the practice of the Prophet Muhammad and the precedent of his companions as recorded in the sources of the Islamic law.

Islam is the basis for justice, mercy, and cooperation between all mankind; and there is need for an increase in scientific and technological assistance to help conserve natural and human resources, combat pollution and support sustainable development projects. It is imperative to acknowledge that the new morality required to conserve the environment which the World Conservation Strategy (Section 13.1) emphasizes, needs to be based on a more solid foundation. It is not only necessary to involve the public in conservation policy but also to improve its morals and alter its attitude. In Muslim countries like Pakistan, such changes should be brought about by identifying

environmental policies with Islamic teachings. To do this the public education system will have to supplement a scientific approach to environmental education with serious attention to Islamic belief and environmental awareness.

Nature of Islamic Ethics

Islam means, a "*state of health or of nature*". The name of the system, Islam, and the name of the followers, Muslims, are derived from the term *ASLAMA* meaning, he submitted himself or he entered into peace."

The whole realm of nature is the revelation of the will of God (Othman, 1960). It is evident from the verses of the Holy Qur'an that the Divine Will is manifest in the creation of the heavens and earth, the alternation of day and night, and in the variety of plants and animals.

There is intrinsic goodness, beauty, harmony, and orderliness in creation. Everything in it - the sun, the moon, the stars - have been created for the benefit of man. The Universe was created with a purpose, as the requisite environment in which man might fulfill the Divine trust which he had accepted (Husaini, 1980).

Muslims must realize that their very faith and way of life prescribes that they each be activists for the environmental cause. A Muslim is a member of the universal structure in which the Creator has ordained a delicate balance of operations. The sole purpose of celestial clock-work as well as the tiniest molecule is to surrender in peace to Allah (swt).

"Seest thou not that it is Allah Whose praises all beings in the heavens and on earth do celebrate, and the birds (of the air) with wings outspread? Each one knows its own (mode of) prayer and praise. And Allah knows well all that they

do"-Qur'an 24:41.

People who follow Islam sincerely and are committed to it, therefore are in the constant making of peace. In order to make this peace with Allah, the Muslim must also recognize that this relationship depends on his having peace with himself, his community, and his environment.

With regard to the peace between the human and nature, Allah explains, *Have you not seen how Allah has made serviceable unto you whatsoever is in the earth?* (Qur'an 31:20). The Ayah (verse) does not imply the subordination of earth but a harmonious interaction in which humanity draws benefits from the gifts of creation. This trust - 'that the human is Allah's vicegerent' - can only mean that he is responsible for maintaining tranquility and not causing imbalance by claiming power over the environment that is not his. Man is reminded in the Qur'an that he is of the earth and will return to it in time.

The postulates of God's ownership of the whole universe and the moral trusteeship of man, without distinction between Muslims and non-Muslims, imply communal or common ownership of all environmental resources (Husaini, 1980). In the pastoral civilization of the seventh century Prophet Mohammed has nationalized pastures, forests and water. Those who live in peace and harmony with nature, making them instrumental to and congruous with God's moral law and purpose for mankind are co-workers with God.

The ultimate redemption of the whole creation is referred to in the Qur'an (VI:38) *"there is not an animal (that lives) on the earth, nor a being that flies on it's wings, but (forms part of) the communities, like you. Nothing have We omitted*

from the Book, and they (all) shall be gathered to their Lord in the end".

Islamic ethics is based on two principles -- human nature, and religious and legal basis. The **first principle**, natural instinct (*fitrah*), was imprinted in the human soul by God at the time of creation (Surah 91: 7-8). Having natural instinct, the ordinary individual can, at least to some extent, distinguish not only between good and bad, but also between these and that which is neutral, neither good nor bad (Darz, 1973). However an ethical conscience is not a sufficient personal guide. Due to the complexities of life an ethical conscience alone cannot define the correct attitude to every problem. Moreover, a person does not live in a vacuum but is affected by outside influences which may corrupt his ability to choose between good and evil. Outside influences include customs, personal interests, and prevailing concepts concerning one's surroundings (Darz, 1973).

The **second principle** is the religious and legal grounds upon which Islamic ethics is founded were presented by the messengers of God. These messengers were possessed of a special nature, and since they were inspired by God they were able to avoid outside influences which may affect other individuals. Legal instructions have been revealed in such a way that the conscience approves and acknowledges them to be correct. Thus the law itself becomes a part of human conscience, thereby guaranteeing its application and its success (Deen, 1990).

An imported, alien law cannot work because, while it may be possible to make it legally binding, it cannot be made morally binding upon Muslims. Muslims willingly pay the poor-tax (*zakah*) because they know that if they fail to do so they will be both legally and ethically responsible. Managing to avoid the legal consequences of failure to pay

what is due will not help them to avoid the ethical consequences, and they are aware of this. Although a Muslim poacher may be able to shoot elephants and avoid park game wardens, if a frame work based on Islamic principles for the protection of the environment has been published, he knows that he will not be able to avoid the ever-watchful divine Warden. The Muslim knows that Islamic values are all based on what God loves and wants: *'And when he turns away (from thee) his effort in the land is to make mischief therein and to destroy the crops and the cattle; and Allah loveth not mischief'* (Qur'an 2:205) (Deen, 1990).

According to Islam man has a religious as well as social responsibility to protect the environment, preserve nature and wildlife. He is considered God's disciple on earth. It is thus his duty to conserve God's creations. Conservation of environment emanates from Islamic teachings. Islam's position on environmental management and conservation of nature is of profound significance because the Holy Qur'an and the Shar'iah (Islamic Law) provide basic guidelines of a Muslim society anywhere in the world. Islam presents a way of life that encompasses an overall view of the Universe, nature and man, and the relationship between them. As a distinct part of the Universe, whose elements are complimentary to one another in an integrated whole, man has a special duty towards nature.

A paper submitted by the Department of Islamic Studies of King Abdul Aziz University (of Saudi Arabia) to the International Union for Conservation of Nature and Natural Resources (IUCN) in 1989 contained the following observations about man's responsibilities to nature in Islam:- "God's Wisdom has ordained to grant man inheritance

on earth. Therefore in addition to being part of the earth and part of the universe, man is also the executor of God's injunctions and commands. As such he is only a mere manager of the earth and not a proprietor; a beneficiary and not a disposer or ordainer. Man has been granted inheritance to manage and utilize the earth for his benefit and for the fulfillment of his interests. He, therefore has to keep, maintain and preserve it honestly and act within the limits dictated by honesty" (Saudi Arabia, Vol.11, No.3, 1994).

Ethics in Islam is not based on a variety of separate scattered virtues, with each virtue, such as honesty or truth, standing isolated from others. Rather virtue in Islam is a part of a total, comprehensive way of life which serves to guide and control all human activity (Qutb, 1985).

The Qur'an does not contain separate scattered ethical values. Rather it contains instructions for a complete way of life. There are political, social, and economic principles side by side with instructions for the construction and preservation of the earth.

Though Islam recognizes man's right to utilize natural resources, it emphasizes his duty to do so in a sustainable manner that would preclude abuse or misuse. More importantly, Islam requires man to make every effort possible to ensure that his use of the natural environment and resources be conducted in a manner that does not permanently alter the ecological balance and preserves such resources for use by future generations. Islam permits the utilization of the natural environment but this utilization should not involve unnecessary destruction. Squandering is rejected by God: 'O Children of Adam! Look to your adornment at every place of worship, and eat and drink, but be not prodigal. Lo! He loveth not the prodigals' (Qur'an 7:31). In this Qur'anic passage, eating and

drinking refer to the utilization of the sources of life. Such utilization is not without controls. The component elements of life have to be protected so that their utilization may continue in a sustainable way. Yet even this preservation must be undertaken in an altruistic fashion, and not merely for its benefits to human beings. The Prophet Mohammed said: 'Act in your life as though you are living for ever and act for the Hereafter as if you are dying tomorrow.' (Al-Bayhaqi, n.d.)

Furthermore, Islam advocates the concept of restoration and recovery, an idea that in a modern context applies to restoring damaged ecosystems to their pristine condition. Islamic position with regard to the environment is that humans must intervene in order to protect the Earth. They may not stand back while it is destroyed. 'He brought you forth from the earth and hath made you husband it' (Qur'an 11:61). Environmental Impact Statements required under NEPA, 1969 of USA and the Model Environmental Policy Plan set forth for Pakistan are in conformity with this principle.

Islam also places great emphasis on taking measures to ensure the survival and perpetuation of animals so that they can continue to perform the functions assigned to them by God. During the reign of Caliph Hazrat Umar Farooq, he announced that, "If even a dog remains hungry and dies of thirst at the banks of the river Dujla, then I am accountable for its death on the day of judgement." In the light of this principle therefore Islam encourages conservation of wildlife both for its own sake and for the benefit of mankind. Along with this comes the basic needs principle for the survival of human beings as well. Not only it is the responsibility of any Islamic government to take care of the needs of the animal population within its sovereign boundaries, Islam imposes strict

and serious duty on the shoulders of the rulers to plan and provide for the basic necessities of life for their people --- food, clothing, shelter, education, health-care, etc. Qualitative aspect of these basics cannot be separated from the quantitative aspect. This implies to the importance of pure food, water and air and hence endeavors are required to see that their supplies are not polluted.

Another aspect of Islam's unique view on nature and the environment is that it subscribes concerns for the prevention of lasting damage to the environment from outside factors. Islamic jurisprudence forbids mankind from engaging in acts that cause damage or corruption --- which when applied to nature and the environment can be construed as pollution. The juristic rule places greater value on measures to prevent corruption than on reversing the damage after it has been done. Therefore all human endeavors aimed at achieving benefit such as satisfying human wants ensuring services and developing agriculture, industry and means of communication, should be carried out without causing damage or corruption. Taking this concept further, Islam requires that before engaging in any such acts, man should take necessary precautions in the process of planning and implementation to ensure that they do not result in any form of lasting damage or corruption to the environment. Therefore the Government of Pakistan must always be aware and adhere to the teachings of Islam on mankind's proper conduct in relation to nature and environment. It must have a policy of achieving a balance between development and environmental conservation. Natural resources should be explored in a manner that would satisfy the needs of the current generation without harming the rights of future generations for whom we have got to work.

The government of Pakistan is changing economic policies in order to bring general prosperity and foster growth. It is showing a strong commitment towards industrialization and high technology and is also granting more freedom to private sector. Roads are being constructed, more land being brought under cultivation and factories installed, cities being expanded by a mushroom of housing projects, all of which bring immense benefits to its citizens. But in terms of environmental policy, the emphasis on economic growth may provide adverse climate. Because development causes a potentially damaging effect on the natural environment. Motorcycles, rickshaws, diesel wagons and buses that ply on the roads create extreme noise besides much of the smog that smothers the cities. Industrial and chemical effluents associated with agriculture and industry, airborne pollutants from cities and greater encroachment on previously isolated habitats made possible by modern modes of transportation, are among the many factors that have brought about rapid environmental degradation in many parts of the world. Pakistan is no exception but it must learn from the mistakes of other countries and get enlightenment from Islamic attitude towards God's creation, coupled with the respect for nature. The government must strive to further its national environmental conservation plan and preserve the nation's religious and natural heritage for generations to come. It must direct a top priority campaign to protect the environment. Economic and social development should not be achieved at the expense of natural environment. Rather, it should incorporate environmental conservation into its development planning. It should impose strict pollution control measures to protect extensive environmental damage. But the 'time horizon' of governments in Pakistan is often short and the politicians do not seem to

find environment as a politically beneficial issue.

Well implemented policies make a big difference in a country's performance which is paralyzed by internal factors such as small country size and poor natural resource endowments. Strikes, 'hartals', natural disasters e.g. floods, wars and internal unrest are also the factors which hamper in the way of such performance.

Just as a nation's internal context and policies are important determinants of its ability to achieve human development gains for its citizens so do the external influences affect. They serve as an important impediment or stimulus to human development performance.

External influences, for example are forces outside a nation's borders or beyond its control that affect its human development performance. For instance poor human development occurs from natural disasters like droughts or floods. War and frequent military interventions are disastrous besides rendering a country victim of unfavorable terms of trade with neighbors. Unfortunately Pakistan is under a constant threat of war and military intervention from its bordering country, India, on account of the unsettled dispute of Kashmir issue. The on come of frequent floods is also not uncommon. The present unrest and blood-shed between different rival groups is adding fuel to fire.

One must look beyond the frontiers and see what the other top developing countries economic and social performers did to achieve their progress. Perhaps there may be found deeper common threads that led to their improved human development-- the process by which people expand their life choices by gaining greater access to economic resources, improving their ability to acquire knowledge and increasing their

chances of a long and healthy life.

Good policies, sound implementation, and strong social support matter a lot. It depends on those charged with the responsibility of improving the immediate well-being of their nation's population. For a country to be successful it must use its policy tools wisely over a long period of time to invest in the well-being of its people. Such policy commitments can only be possible if the country enjoys some measure of political stability. Unfortunately Pakistan does not have it. Time after time the country faces Martial Law and democracy is not able to find roots. Elections after elections are held and the result is that the same group of corrupted people take hold of the country to lead it from bad to worst. The whole tenure of the government is wasted in throwing mud on their rivals and predecessors in power. The goal of a government should be to improve the lives of people. Regime after regime comes and starts criticizing and quarreling with the previous regime instead of paying heed to nation's problems and finding a solution.

The rapidly growing industrial centers are overwhelming the capacity of ecological systems to assimilate heavy waste loads. There is a dire need to deal with the severity of air pollution control legislation. Under such a legislation if enacted, an individual should be able to lodge with the courts or civil jurisdiction a complaint for damages or nuisances in their neighborhood. The citizen should be able to file for an injunction and establish facts substantiating his claim for the injunction.

Ministry of Environment may find it difficult to cope with all this because economic development would necessarily increase its scope and responsibility. It could mobilize political support and can enhance its expertise, it is likely to play a key role in

the future policy decisions. Environmental policies and programs already exist, only their effective implementation is needed. Model environmental policy is proposed to be more effective in implementing these policies and programs.

PREAMBLE

In the year 1983 an Ordinance called Pakistan's Environmental Protection Ordinance was established but it did not accomplish the purposes for the control of environmental pollution. It has yet to set up an organizational frame work for its execution.

There is need to review the progress of the environmental policy made over the past decades and the measures that were applied for its implementation. In order to do so it needs to preview future plans and programs for environmental policy. Its re-evaluation is of great importance and needs to be improved and expanded. But it is strange to see that ever since its publication in 1983, it has not yet become an act. Once done, it should rapidly be incorporated in the Pakistan legislation and contain directives relating to better environment. The process needs to be speeded up.

There is always an interaction between policy formulation, legislation and its enforcement. The need is for their evaluation and enforcement which in fact is a key element of environmental policy and administration.

Pakistan's PEPO-1983 was very similar to NEPA-1969 of America but it did not have the same statutory significance/obligations nor a similar impact on governmental actions.

The primary difference between the policy statements is that the 1983-Ordinance

was formally adopted by the Pakistan Government as a planning document. The Ordinance established several major goals to be accomplished which included:-

- 1) Establishment of a comprehensive national environmental policy;
- 2) Directions to conserve the renewable and expandable resources;
- 3) Making sure that environmental considerations are inter-weaved into the National Development Plans and Policies;
- 4) Enforcement of the National Environment Quality Standards; and
- 5) Directions to any Government agency, a body or a person requiring it or him to take measures to control pollution being caused by such agency, body or person or to refrain from carrying out any particular activity prejudicial to public interest or the purposes of this Ordinance. The goals enumerated are very vague and not specific and therefore did not have much impact on the implementation of PEPO-1983.

These goals should include:-

- 1) Promotion of efforts to do what is environmentally sound, especially in the development of technology;
- 2) Promotion of general environmental consciousness;
- 3) Establishment of a competent and all powerful Environmental Court of Justice and,
- 4) Promotion of international cooperation.

Pakistan should choose in more specific terms, a program to deal with specific environmental problems. In line with this program, research should be carried out and tentative legal standards developed in the following areas:-

The protection of nature, solid waste disposal, chemicals and biocides,

radioactivity and radiation protection, water management, protection of ground water, rivers, ocean and coastal waters, pure air maintenance, noise abatement, the impact of technology, and land use and urbanization. Pakistan must develop a program of polluter-pays-principle whereby the costs involved in correcting pollution damages should be payable by the polluter.

Under the act special resources like the municipalities, provinces, police, the public prosecution service and the mosques should all be committed and involved in keeping, enhancing and preserving the quality of environment and also in achieving a satisfactory level of enforcement action on their part. It should not solely be the task of government but citizens and industry should also have to make their own contribution. The municipalities and provinces would have to make strenuous efforts to build up their organizational arrangements for enforcement of action. The police must be empowered to enforce action on environmental offenses and an infrastructure needs to be set up within the police department to develop environmental training. The public prosecutors should also set up offices at the district courts and appoint special public prosecutors to deal with cases of environmental offenses. All this needs an integrated approach and structure at five levels of government-the water management agencies, the police, the air management agencies, natural resource management agencies, municipalities entrusted with programs of sanitation and environment, environmental protection agencies, the courts and even the mosques. More regional and stricter cooperation is required in the field of local environmental action.

The national environmental policy plan of Pakistan needs to be stepped up in a

number of respects in order to be able to realize as quickly as possible the sustainable development objectives of the national environmental policy plan. The environmental problems should not be left to be solved by future generations. The objectives can only be achieved if our present patterns of production and consumption are altered. This requires a departure from the existing trends from our behavior which must bear fruit now and not later.

Environmental policy needs to be the main element in our government policy. While deciding on its policy intentions, the government should take into account the possible effects of these intentions on sustainable development. The government statement of policy should indicate which aspect of environmental policy requires additional action:-

- * reducing emissions of various kinds;
- * combating acidification;
- * protecting and developing nature;
- * controlling the entire waste flow, including the way in which it is affected by product policy;
- * cleaning up soil including groundwater sediment layers;
- * combating the twin menace of salinity and water logging;
- * energy saving;
- * controlling population growth;
- * improving social and economic conditions;
- * enriching the understanding of ecological systems and natural resources

important to mankind.

Measures should be taken in a way that the long term objectives necessary for sustainable development can be achieved more quickly. It is only a matter of accelerating the implementations of measures rather than changing direction.

Our future plan of national environmental policy must deal with such aspect as the implementation of policy and the development of the necessary instruments, notably the use of financial incentives, further development of the environmental protection Ordinance and funding instruments.

National environmental policy plan indicates which measures are to be accelerated in comparison with original environmental policy plan, and what additional measures are necessary to be entailed. The objective is to bring sustainable development within reach in Pakistan.

Intensification and broadening of environmental policy are urgently needed to safeguard environmental quality. Tentative directions must be provided in the process.

A scientifically based and integrated environmental survey is essential to formulate a long term perspective of the environment. These surveys must be expanded to guide future environmental policies.

Model Environmental Policy Act of the Islamic Republic of Pakistan, As suggested.

This Act may be called the "Model Environmental Policy Act of 2003".

PURPOSE

Purposes of the Act will be: -

1 to recognize the legal, ethical and religious reasons for protecting the environment of Pakistan based on the following Islamic principles:

- i) environment is God's creation and to protect it is to preserve its values as a sign of the Creator,
- ii) component parts of nature are entities in continuous praise of their Creator and the fact that Qur'an describes it, is an additional reason for environmental preservation:

The seven heavens and the earth and all that is therein praise Him and there is not such a thing but hymneth His praise; but yeh understand not their praise. Lo! He is ever Clement, Forgiving (Surah 17:44). (Pickthall)

- iii) all laws of nature are laws made by the Creator and based on the concept of the absolute continuity of existence, attempts to break the laws of God must be prevented,

Hast thou not seen that unto Allah prayeth adoration whosoever is in the heavens and whosoever is in the earth, and the sun, and the moon, and the stars, and the hills, and the trees, and the beasts, and many of mankind (Surah 22:18).

iv) the Qur'an acknowledges that mankind is not the only community to live in this world:

'There is not an animal in the earth, nor a flying creature flying on two wings, but they are peoples like unto you' (Surah 6:38)

'All living creatures are worthy of protection (hurmah) and kind treatment' - Prophet Mohammed (peace be upon him).

v) all human relationships are based on justice ('adl) and equity (ihsan):
'Lo! Allah enjoineth justice and kindness' (Surah 16:90)

vi) the balance of the universe created by God must be preserved,
'For Everything with Him is measured' (Surah 13:8).

vii) the environment is not for the service of the present generation alone,
rather, it is the gift of God to all ages, past, present and future;

viii) God entrusted humans with the duty of vicegerency, a duty so onerous and burdensome that no other creature would accept it:

'Lo! We offered the trust unto the heavens and the earth and the hills, but they shrank from bearing it and were afraid of it. And man assumed it' (Surah 33:72).

2 to have concern for the environment as one of the pillars of government policy;

3 to enforce and enhance the purposes established under Pakistan Environmental Protection Ordinance-1983, and achieve environmental law enforcement by the maximum use of the available array of policy instruments in the form of legislation and regulations, voluntary agreements, financial incentives, information campaigns and educational programs;

- 4 to rectify the environmental mistakes of the past and look ahead to the environmental policy in the near and distant future;
- 5 to adjust patterns of production and consumption to the requirements of equitable and sustainable development;
- 6 to discourage, prevent and eliminate damage to the environment and biosphere at the source, enforce accountability and stimulate the health, welfare, and moral well-being of the present and future generations of the Islamic Republic of Pakistan;
- 7 to provide for the establishment of a Council on Environmental Quality (CEQ) at the Federal level, in the light of values based on Islamic ethics;
- 8 to provide for the establishment of Environmental Protection Agency (EPA) at the provincial level for execution of the environmental policy as set forth in this Act;
- 9 to provide for the establishment of an Environmental Court of Justice (ECJ) for settlement of cases related to environmental pollution;
- 10 to provide for the establishment of Environmental Education Policy to educate people on environmental hygiene and cleaning by introducing curricula in schools and colleges;
- 11 to elevate the standards of literacy, social and economic conditions between the masses and give family planning education for the overall welfare and development of mankind;
- 12 to enrich the understanding of the ecological systems and natural resources important to mankind;

- 13 to encourage productive and enjoyable harmony between man and his environment;
- 14 to provide for the establishment of policies related to Clean Air, Water, Earth, Natural Resources, Noise and other hazards;
- 15 to promote efforts which will prevent or eliminate damage to the moral and physical environment of the biosphere;
- 16 to encourage public participation in the development, revision and enforcement of any policy or regulation;
- 17 to encourage and utilize a participatory, systematic and interdisciplinary approach to planning, decision-making and administration of natural resources of Pakistan.

TITLE I

DECLARATION OF PAKISTAN'S ENVIRONMENTAL POLICY

Sec.101

(a) The government is aware of the impact of man's activity and its connectivity to all components of natural resources. The influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining the environmental quality to the overall welfare and development of man cannot be ignored.

(b) Government alone cannot make the air, soil and water clean and solve the solid or hazardous waste disposal problem. Every citizen, private group, industry and organization must do its part. Therefore it is further declared that it will be the continuing

policy of the Federal Government, in cooperation with provincial and local governments, religious elites and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare of the nation, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the environmental, social, religious, economic, cultural and other requirements of the present and future generations of the Islamic Republic of Pakistan.

(c) It is well known that man depends on his biological and physical surroundings for food, shelter and other needs, and for cultural enrichment as well, and recognizing further that in order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy to improve and coordinate Federal plans, functions, programs and resources to the end that the government may--

- (1) fulfill its moral and religious obligation to provide for satisfying the basic needs of her inhabitants by enriching their knowledge through education and equipping them with the necessary capacity to live with honor, dignity and a better economy which will promise food, transportation, clothing and shelter;
- (2) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- (3) assure for all the people safe, healthful, productive, morally, aesthetically and culturally pleasing surroundings;
- (4) attain the widest range of beneficial uses of the environment without its

degradation, risk to health or safety or other undesirable and unintended consequences;

(5) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;

(6) achieve a balance between population and resource use which will permit high standard of living and a wide sharing of life's amenities;

(7) incorporate environmental education at different levels in the system of education;

(8) establish effective control over moral pollution and pollution caused by noise and other kinds of hazards;

(9) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources; and

(10) establish a board of environmental quality advisors represented from all over the country.

(d) The government of Pakistan recognizes that each person has a fundamental and inalienable right to enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

Sec.102

The government of Pakistan authorizes and directs that, to the fullest extent possible; (1) the policies, regulations, and public laws of the Islamic Republic of Pakistan will be interpreted and administered in accordance with the policies set forth in this Act,

and (2) all agencies of the Federal Government will--

(a) Utilize to the fullest extent possible a systematic, interdisciplinary approach which will insure an integrated use of the natural and social sciences and the environmental design arts in planning and decision-making which may have an impact on man's environment, well documented in an Environmental Impact Statement (EIS) prepared under Sub-Section 102(c) of this Act;

(b) Identify and develop methods and procedures in consultation with the Council on Environmental Quality established under Title II of this Act, which will insure that presently un-quantified Environmental Amenities and values may be given appropriate consideration in decision making along with economic and technical consideration;

(c) Include in every recommendation or report on a proposal for a public project, or major Federal or Provincial action, significantly affecting the quality of the human environment, a detailed Environmental Impact Statement (EIS) by a responsible official on: -

- (i) The environmental impact of the proposed action,
- (ii) Any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) Alternatives to the proposed action,
- (iv) The relationship between local short term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- (v) Any irreversible and irretrievable commitments of resources which

would be involved in the proposed action should it be implemented.

Prior to making any detailed Environmental Impact Statement (EIS), the responsible Federal official will consult with and obtain comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such EIS and the comments and views of the appropriate federal, provincial and local agencies, authorized to develop and enforce environmental standards, will be made available to the Director General, Environmental Protection Agency of the Province and the Chairman of Council on Environmental Quality and to the public through the press, along with the proposal through the existing agency review processes;

(d) Submit detailed statements (EIS), required under the subparagraph (c) for any provincial public action funded by the development program of the Federal Government will not be deemed to be legally sufficient solely by reason of having been prepared by a provincial agency or official, if:

- (i) the provincial agency or official has province wide jurisdiction and has the responsibility for such an action,
- (ii) the responsible Federal official furnishes guidance and participates in such preparation,
- (iii) the responsible Federal official independently evaluates such statements prior to its approval and adoption, and
- (iv) after January 1, 2003, the responsible Federal official provides early notification to, and solicits the views of, any other Provincial or any

Federal Land Management entity of any action or any alternative thereto which may have significant impacts upon such provincial or affected Federal land management entity and, if there is any disagreement on such impacts, prepares a written assessment of such impacts and views for incorporation into such a detailed statement.

The procedures in this subparagraph will not relieve the Federal official of his responsibilities for the scope, objectivity, and content of the entire statement for any other responsibility under this act; and further, this subparagraph does not affect the legal sufficiency of statements prepared by provincial agencies with less than a province wide jurisdiction.

(e) Study, develop, and describe appropriate alternatives to the recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.

(f) Make available to Provinces, districts, municipalities, institutions and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(g) Initiate and utilize ecological information in the planning and development of resource-oriented projects; and

(h) Assist the Council on Environmental Quality established by Title II of this Act.

(i) Enforce the National Environmental Quality Standards (NEQS) and limits as prescribed by the Council on Environmental Quality (CEQ).

(j) Carry into effect, fulfill and accomplish complete implementation of the judgements pronounced by Environmental Court of Justice (ECJ) established under title IV of this Act.

(k) As much as possible seek opportunities to further, advance and promote the education of the general public, within the capacity and jurisdiction of an organization or agency.

(l) Recognize the worldwide and long-range characters of environmental problems and free from linkages to foreign policy constraints of Pakistan, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in environmental quality on the following basis:

- 1) all humanity must share the global village and be responsible for its upkeep;
- 2) recognition that each person has a universal right to a favorable, clean environment for health and enjoyment of life;
- 3) obey all principles of international law;
- 4) open exchange of information as it relates to protection of environment;
- 5) fulfillment of international obligation undertaken in protection of the environment, liability for their infringement and causation of harm to natural resources of other states;
- 6) other principles, established by the laws of the Islamic Republic of Pakistan or by international agreements, in which Pakistan participates.

Sec.103

All agencies of the Federal Government will review their present statutory authority, administrative regulations, and current policies and procedures for the purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of this Act and will propose to the President not later than July 1, 2003, such measures as may be necessary to bring their authority and policies into conformity with the intent, purpose, and procedures set forth in this Act and National Environmental Quality Standards (NEQS) of Pakistan.

Sec.104

Nothing in Section 102 or 103 will in any way affect the specific statutory obligations of any Federal agency (1) to comply with criteria or standards of environmental quality, (2) to coordinate or consult with any other Federal or Provincial agency, (3) to act, or refrain from acting contingent upon the recommendation or certification of any other Federal or Provincial agency.

Sec.105

The policies and goals set forth in this Act are supplementary to those set forth in the existing authorizations of the Government.

Sec.106

The provisions of this Act will have effect notwithstanding anything contained in this Act or any other law in force for the time being.

Sec.107

The Federal Government may if necessary, under recommendations of the CEQ,

EPA, ECJ, provincial agencies and NGOs, by notification in the official gazette, make further rules and regulations necessary for carrying out the purposes of this Act.

TITLE II

COUNCIL ON ENVIRONMENTAL QUALITY

Sec.201

In the Office of the President there will be created a Council on Environmental Quality (hereinafter referred to as the "Council") which will consist of five members appointed by the President to serve at his pleasure, and with the advice and consent of the National Assembly.

A. The President will:

- i) designate one of the members of the Council to serve as Chairman. Each member will be a person who, as a result of his training, experience, and attainments, will be exceptionally well qualified to analyze and interpret environmental trends and information of all kinds, and to appraise programs and activities of the Federal Government in the light of the policies set forth in Title I of this Act; to be conscious of and be responsive to the scientific, economic, social, aesthetic, and cultural needs and interests of the Nation and to formulate and recommend national policies to promote the improvement of the quality of the environment;
- ii) guarantee and confirm environmental safety to the nation and adopt all measures to safeguard the rights of her citizens;
- iii) confirm the 'Model Environmental Policy Act' for the 21st. Century;

iv) annually present to the National Assembly a report on the environment and new directions and measures being adopted for rational use of resources and environmental protection;

v) appoint and remove members in the Council;

vi) represent Pakistan in international relations, carry out negotiations, sign agreements with other nations and realize compliance with international agreements to which Pakistan is a signatory as they relate to environment.

B. The ministers in the federal and provincial governments responsible for environment will:

i) assist the Council in carrying out its duties;

ii) have no powers to appoint, recommend or appointing any personnel of the Council or its organization.

Sec.202

The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix compensation of such experts and consultants as considered necessary for carrying out its functions under the Act.

Sec.203

The President will transmit to the National Assembly annually beginning July 1, 2003, an Environmental Quality Report (hereinafter referred to as the "report") which will set forth:

(1) the status and condition of the major natural, manmade, or altered

environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dry land, wet land, range, urban, suburban and rural environment, but also about the progress and failures towards eliminating corruption and establishment of law and order situation;

(2) current and foreseeable trends in the quality, management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the nation;

(3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures;

(4) A review of the programs and activities (including regulatory activities) of the Federal Provincial and local governments, and non-governmental entities or individuals with particular reference to their effect on the environment and on the conservation, development and utilization of natural resources; and

(5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.

Sec.204

It will be the duty and function of the Council:

(1) to assist and advise the President in the preparation of the Environmental Quality Report required under Sec.203 of this title, after consolidating the provincial reports under Sec 302(1)(c);

(2) to gather timely and authoritative information concerning the conditions and

trends in the quality of the environment, both current and perspective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in Title I of this Act, and to compile and submit to the President studies relating to such conditions and trends;

(3) to review and appraise various EIS's, programs and activities of the Federal Government in the light of the policy set forth in title I of this Act for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(4) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet conservation, social, economic, health, education and other requirements and goals of the Nation;

(5) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(6) to document and define changes in the natural environment including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes and trends and interpretation of their underlying causes;

(7) to report at least once each year to the President on the state and condition of the environment; and

(8) to make and furnish such studies, reports thereon, and recommendations with

respect to matters of policy and legislation as the president may request.

(9) nothing under section 204(8) may be legislated by any order/ordinance of a president which may be contradictory to the purposes and policies of this Act.

(10) data must be accumulated and an information system established for continuous monitoring of trends and analyses of environmental problems.

Sec. 205

In exercising its powers, functions, and duties under this act, the Council shall-

(1) Consult with the Advisory Committee on Environmental Quality established under the Act by Sec.301(5), Sec.303(d) and with such representatives of science, industry, agriculture, labor, conservation organizations, State and local governments and other groups, as it may deem advisable; and

(2) Utilize, to the fullest extent possible, the services, facilities and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided, thus assuring that the Council's activities will not unnecessarily overlap or conflict with similar activities authorized by law and performed by established agencies.

(3) Have the final authority and power so that it can approve or disapprove a project on the basis of an EISs.

(4) CEQ may suggest modifications and indicate concerns that remain to be addressed with respect to an EIS.

Sec.206

Members of the Council shall serve full time and Chairman of the Council shall

be compensated according to his qualifications and experience in pay scales as admissible to civil servants. Other members of the Council shall also be paid according to their qualifications and experience. Members of the Council shall hold office for a term of three years, extendable only for another term on the basis of exceptional and outstanding performance.

Sec.207

The Council may accept reimbursements or donations from any private nonprofit organization or from any department, agency, or instrumentality of the Federal Government, any Provincial government, or local government, for the reasonable travel expenses incurred by an officer or employee of the Council in connection with his attendance at any conference, seminar, or similar meeting conducted for the benefit of the Council.

Sec.208

The Council may make expenditures in support of its international activities, including expenditures for: (1) international travel; (2) activities in implementation of international agreements; and (3) the support of international exchange programs in foreign countries.

Sec. 209

The Council is authorized to establish Environment Fund to pool its resources for financing the solutions of environmental problems, restoration of losses in nature, environmental and ecological research, distribution to the provincial EPA's and other similar projects.

Sec. 210

Contributions to the Environmental Fund of the Council are legal entities in the form of:

- a) funds and grants from government and international agencies;**
- b) grants from the industry and private entities;**
- c) fines, collections, dues, claims and other payments for compensation of harm and other infringements to environment as imposed by the Environmental Court of Justice;**
- d) proceeds from the sale of confiscated instruments of hunting and fishing, and of illegally gained products;**
- e) sums received as profit from banks and shares from other investment projects;**
- f) donations from local and foreign entities and citizens.**

Sec. 211

Assets of the Environmental Fund of the Council are intended to be secondary and supplementary in relation to federal support. They may be used and distributed in the following order:

- a) 60% for the realization of the environmental protection measures of local, urban and regional significance;**
- b) 30% for environmental education, research and development;**
- c) 10% for environmental and ecological concern of federal significance;**
- d) compensatory payments as established by ECJ for harm, adverse effects, pain and suffering, loss of wages, etc., to the citizens which may have resulted from**

environmental or moral pollution;

e) other purposes related to environmental protection.

Sec. 212

To carry out provisions of this Act Rs.29, 000,000 should be authorized to be spent for the fiscal year 2003, Rs.37,000,000 for year 2004 and Rs.50,000,000 or more for each year thereafter respectively.

Sec.213

The Council shall continue to seek international cooperation with respect to environment and funding resources from the developed world.

TITLE III

ENVIRONMENTAL PROTECTION AGENCY

To assist the CEQ in the discharge of its functions, it is necessary for all provinces to establish EPAs at provincial capitals.

Sec.301

Establishment of the Agency (EPA).

- (1) The Federal Government shall establish Environmental Protection Agency (EPA), at all provincial levels, for the execution of policies and regulations, and to perform functions and exercise powers assigned to it by the Council under the provision of this Act.
- (2) The Agency shall be headed by a Director-General appointed by the Governor on such terms and conditions as it may determine.
- (3) The powers and functions of the Agency shall be exercised and performed

by the Director-General.

- (4) The Agency shall have such administrative, technical and legal staff as the Provincial Government may deem necessary to appoint.
- (5) To assist him in the discharge of his functions, the Director-General may, establish such Advisory Committees as he may consider fit and appoint as members thereof eminent religious scholars, community representatives, representatives of universities, research institutes, police department, the business community and other professions and fields of knowledge.
- (6) Local police stations can house initial proceedings of ECJ and coordinate enforcement efforts as required under this act and directed by the Director General.

Sec.302

Functions of the Agency:-

- (1) The Agency shall--
 - (a) administer this Act and the rules and regulations thereof;
 - (b) prepare national environmental policy for approval of the Council;
 - (c) publish an annual report on the provincial state of environment;
 - (d) with the approval of the Council, Cabinet of Ministers and Ministry of Health, establish National Environmental Quality Standards (NEQS) for the evaluation of chemical, physical and biological condition of the natural environment to ensure the protection of health of the people, animal and plant world and

other objects:

- i) technical standards on pollutant emissions;
 - ii) specifications on the quality of natural environment;
 - iii) specifications on the use of nature and natural resources;
 - iv) specifications on allowable limits and permissible harmful effects on the natural environment;
 - v) limits and standards for use of hormones, chemicals, fertilizers, insecticides, fungicides and pesticides in the production of agricultural, meat, poultry, horticultural produce, etc.;
 - vi) standards for protection, sanitization, sterilization, pasteurization, etc.;
 - vii) establish other standards with the help of respective industry and department, as, when and where required;
- (e) submit proposals to the CEQ to revise the NEQS as and when necessary;
 - (f) coordinate environmental policies and programs nationally and internationally;
 - (g) establish systems of surveys, surveillance, monitoring, measurement, examination and inspection to combat all kinds of environmental pollution;
 - (h) review chemicals already in production, inventory lists of toxic chemicals, review the ingredients and intended uses to determine

potential health or environmental hazards, identify measures aimed at reducing exposures to chemicals, regulate the chemicals and rank them for further review or testing;

- (i) suggest ways and means to implement pollution prevention, waste minimization, recycling, eliminate or greatly reduce dependence on toxic substances;
- (j) take measures to promote the development of science and technology which will contribute to the prevention of environmental pollution, such as the consolidation of survey and research system, the promotion of research and development, the dissemination of results of such research work and development work, and the education and training of research experts and other governmental functionaries;
- (k) establish a hot line and information office for the public to answer concerns and problems regarding environment and pollution prevention;
- (l) provide information and education to the public on environmental matters and to recommend to the Council the introduction of environmental information in the curriculum of educational institutions; and
- (m) coordinate and consolidate implementation of measures to control pollution in collaboration with Provincial Governments and other

Government Agencies.

- (2) The Agency may--**
- (a) request any Government Agency to furnish any information or data relevant to the functions of the Agency;**
 - (b) with approval of the Federal Government, initiate request for foreign assistance in support of the objectives of this Ordinance and enter into arrangements with foreign agencies or organizations for the exchange of material or information and participate in international seminars and meetings;**
 - (c) establish and maintain laboratories to conduct research in various aspects of environment and provide grants to institutions for specific projects;**
 - (d) delegate any of its powers under this Act and the regulations to any Government Agency;**
 - (e) utilize a participatory approach to identify the needs for legislation in the environmental field;**
 - (f) at the request of the Federal or Provincial Government or any agency, provide advice and assistance in environmental matters; and**
 - (g) perform any other function which the Council may assign to it.**

Powers of the Agency:-

1. Subject to provisions of this Act, the Agency may:-

- (a) lease, purchase, acquire, own, hold, improve, use or otherwise deal in and with any property, both movable and immovable;**
- (b) sell, convey, mortgage, pledge, exchange or otherwise dispose of its property and assets;**
- (c) execute instruments, incur liabilities and do all acts or things necessary for proper management of conduct of its business; and**
- (d) appoint such advisors and consultants as it may consider necessary for efficient performance of its functions on such terms and conditions as may be prescribed by regulations.**

2. In pursuit of Sec.102, the Agency may exercise its powers to review the Environmental Impact Statements (EISs) process at the provincial level and if at any time there comes a stage of indecision about a project, the Agency may if required, forward the EIS in question to the Council for final review. In the case of further indecision or litigation, all cases shall fall under the jurisdiction of the Environmental Court of Justice established under Title IV of this Act.

- (a) The Agency may prescribe guidelines for the preparation of Environmental Impact Statement.**
- (b) The Agency may itself or through the appropriate government agency and involvement of public in the assessment process,**

review the environmental impact statement.

- (c) After the review under subsection (2), the Agency may either approve the environmental impact assessment or recommend to the Council on Environmental Quality in the Federal Government that the project be modified or rejected in the interest of environmental objectives.
- (d) The newly installed industries, irrespective of their relativity to the public or private sector should compulsorily obtain 'no objection certificate' (NOC) from the Agency failing which the Agency shall have the prerogative to make a definite entry into the premises of such defaulting industry ensuring further that the projects are being carried out in compliance with the environmental policy outlined in this Act. Besides the Agency may direct the management of existing industries pertaining to both public and private sectors to ensure compliance of the EIS in toto within a maximum period not exceeding one year but with mutual agreement therewith.

(3) Power to make Rules and Regulations:-

- (a) The Agency, by notification in the official gazette, with the approval of the Federal Government, can make changes and amendments to suit its own conduct and duties, provided they are in consistence with carrying out the intent and purpose of this Act.
- (b) In particular and without prejudice to the generality of the

foregoing power, such regulations may provide for the levy of fees, rates and charges regardless of services rendered, actions taken and schemes implemented by the Agency.

Sec.304

Assistance of the Agency:

a) The agency shall assist the local councils, industry, local authorities or other government and private sector agencies and individuals to implement schemes for the proper disposal of wastes in line with the standards and procedures prescribed by the Agency/NEQS.

b) The agency shall assist the industrial and manufacturing facilities to conduct their own 'environmental audits' and outline procedures to combat pollution at source.

c) The agency shall not impose fines on the manufacturing sector especially if they conducted their own environmental audits and had requested help from the EPA.

Sec.305

Funds of the Agency:-

The funds of the Agency shall be derived from the following sources:

- (a) grants made and loans advanced by the Federal Government or the Provincial Governments;
- (b) grants, loans, advances and other moneys received from local or international agencies;
- (c) fees, rates and charges received by the Agency, under the provisions of this Act;

- (d) costs and taxes imposed by legislation on industries;
- (e) credits of banks;
- (f) voluntary contributions to the ecological / environmental fund;
- (g) payments for clean-up costs of the natural environment;
- (h) compensations for harm and/or fines for infringements of environmental / ecological requirements;
- (i) sale of confiscated instruments for hunting and fishing, and of illegally gained products;
- (j) dividends and profits on special deposits, stocks, bank deposits and other investments;
- (k) currency receipts, grants and donations from foreign legal entities and citizens;
- (l) all other sums received by the Agency into its general funds.

Sec.306

Audit and accounts:-

- (a) The Agency shall submit its annual budget estimates for approval of the Federal Government through the Council.
- (b) The Agency shall maintain proper accounts and other relevant records and prepare an annual statement of accounts in such form as may be prescribed by rules.
- (c) The accounts of the Agency shall be audited in such a form as may be prescribed by rules.

Sec.307

Penalty:-

- (a) Whoever contravenes or fails to comply with any provisions of this Act or any rule, regulation or any direction issued by the Agency thereunder, shall be punishable with imprisonment for a term which may extend to two years, or fined which may extend to one hundred thousand rupees, or both, and in case of continuing contravention or failure to comply with the Act, with an additional fine which may extend to ten thousand rupees for each day after such contravention or failure continues.
- (b) The Director-General or an officer authorized by him on his behalf may compound any offence under this Act or send the case to the Environmental Court of Justice for proper settlement.

Sec.308

Dues of Agency Recoverable as Arrears of Land Revenue:-

Any dues recoverable by the Agency under the provisions of this Ordinance or any rules or regulations shall be recoverable as arrears of land revenue.

Sec.309

Indemnity:-

No suit, prosecution or other legal proceeding shall lie against the Council, the Agency, the Director-General, or the members, officers, employees, experts or consultants of the Agency for anything in good faith done or intended to be done under this Act or any rule or regulation.

Sec.310

Bar of Jurisdiction:-

No court shall take cognizance of any offence punishable under this Act except on a complaint in writing made by the Agency.

TITLE IV

ENVIRONMENTAL COURT OF JUSTICE

Islam exhorts its followers to create a kingdom of heaven in their hearts but this kingdom of hearts must be externalized in a just social, political and economic system. The ruler and the state has thus important responsibilities to shoulder. It is the bounden duty of the ruler to see that he acquits himself creditably of the responsibilities saddled on him. He should see that the life and honor of the people are protected. He should also see that no one falls victim to the high-handedness of another. He should also take care that none amongst his subjects is deprived of the basic needs of life and there is God consciousness and piety amongst the people. In short, it is the duty of the Muslim ruler to ensure the welfare of the citizens (Muslims and non-Muslims), both material and moral.

“Any man whom Allah has given the authority of ruling some people and he does not look after them in an honest manner, will never have even the smell of Paradise.” (9:264) Sahih Al-Bukhari

“If any ruler having the authority to rule Muslims subjects dies while he is deceiving, Allah will forbid Paradise for him.” (9:265) Sahih Al-Bukhari

Sec. 401

The Government of Pakistan recognizes --

(a) that it is necessary to establish an Environmental Court of Justice (ECJ) and make rules thereof, with free and easy approachability to settle disputes, attitudes, conflicts, interpretations, fines and costs of cleanups regarding environment.

(b) that judges may actively participate in environmental policy process in several ways by:

- 1) their continuous interpretation of environmental law, an inevitable task in the light of the ambiguities and silences common to environmental legislation;
- 2) offering new policy directions in the light of statutory interpretation;
- 3) ensuring that environmental laws and their administrative implementations comply with constitutional standards and at the same time are consistent in their standards of assessment towards defining environmental harm and protection of public interests.

(c) that judges may ensure that various departments and agencies discharge their administrative obligations and mandated responsibilities under environmental legislation.

(d) the importance of adopting prevention of significant deterioration policy in the light of NEQS and interpretation by ECJ.

(e) courts can be the best evaluator of pollution control standards set by the CEQ, EPA or NEQS.

(f) courts can be extremely instrumental in enforcing strict procedural compliance and reasonable adherence to the intent of this model environmental policy plan in

enforcing Sec.102 and others under different titles.

(g) ECJ can house preliminary hearings and proceedings at:

- 1) local police stations for prompt and convenient decisions;
- 2) protection of infringed or challenged environmental / ecological rights is to be carried out by court arbitration;
- 3) protection of infringed or challenged environmental / ecological rights may also be carried out by administrative procedures;

(h) A decision accepted by administrative procedure, can be appealed against in court.

Sec. 402

Government and Administration:

i) Not even a ruler of an Islamic state is above the law. Prophet Mohammed at one time replied:

"The nations that lived before you were destroyed by God because they punished the common-man for their offences and let their dignitaries go unpunished for their crimes; I swear by Him Who holds my life in His hands that even if Fatima, the daughter of Mohammed, had committed a crime like theft, I would have amputated her hand."

ii) The security of life and property is one of the sacred missions in an Islamic

Government. In his address given on the occasion of the Farewell Hajj, the Prophet said:

"Your lives and properties are forbidden to one another till you meet your Lord on the Day of Resurrection" adding, *"One who kills a man under a covenant, will*

not even smell the fragrance of Paradise. ”

iii) The security of personal freedom in Islam has laid down the principle that no citizen can be imprisoned unless his guilt has been proved in an open court. To arrest a man only on the basis of suspicion and to throw him into a prison without proper court proceedings and without providing a reasonable opportunity to produce his defense is not permissible in Islam.

iv) The right to protest against government's tyranny is one of the rights that Islam has conferred on human beings. Referring to it, the Qur'an says:

“God does not love evil talk in public unless it is by someone who has been injured thereby. ”

v) Islam gives the right of freedom of thought and expression to all citizens of the Islamic state on the condition that it should be used for the propagation of virtue and not for spreading evil and wickedness. Evil and wickedness being anything morally wrong; sin, causing harm, pain, misery, disaster (Webster's, 1976). The Islamic concept of freedom of expression is much superior to the concept prevalent in the West. Under no circumstance will Islam allow evil and wickedness to be propagated. It also does not give anybody the right to use abusive or offensive language in the name of criticism. It will not allow blasphemy. It was the practice of the Muslims to enquire from the Holy Prophet (pbuh) whether on a certain matter a divine injunction had been revealed to him. If he said he had received no injunction, the Muslims freely expressed their opinion on the matter.

vi) On freedom of conscience and conviction, the Qur'an says:

"O ye who believe! Stand out firmly for justice, as witnesses to Allah, even as against yourselves, or your parents, or your kin, and whether it be (against) rich or poor: for Allah can best protect both. Follow not the lusts (of your hearts), lest ye swerve, and if ye distort (justice) or decline to do justice, verily Allah is well-acquainted with all that ye do."(4:135)

vii) Islam does not only prescribe how people should deal with one another but also how to treat other living things around us. As a vicegerent of Allah on earth, man should be responsible for all that is around him as all these things are held in trust. It has been reported by Bukhari and Muslim on the authority of Abdullah, who said: The Messenger of Allah (pbuh) says:

"A woman was tormented because of a cat which she had confined and starved until it died. She did not allow it to eat or drink while it was confined, nor did she free it so that it might eat the insects of the earth. As a result of her evilness, she was condemned to hell."

viii) Human and International relations can be safeguarded by following Islamic principles. Islam establishes good relations between humankind as well as between nations. Believers are said to be in a single bond of brotherhood in Islam. Prescriptions of Allah in the Qur'an not only strengthened these bonds of brotherhood among humankind but also among nations if followed in its true spirit:

"O ye who believe! Avoid suspicion as much (as possible): for suspicion in some cases is a sin: and spy not on each other, nor speak ill of each other behind their backs. Would any of you like to eat the flesh of his dead brother? Nay, you would

abhor it . . . But fear Allah: for Allah is oft-returning, Most Merciful. ” (49:12)

So suspicion and spying are the main causes of fighting between humankind and nations and Allah has warned us to stay away from suspicion and spying.

Sec. 403

Government agency, private parties or any other individual responsible for pollution shall be held responsible for the costs of cleanups involved. 'The polluter pays' principal will always be upheld as it follows the spirit of Islam. The Islamic society is required to adhere very strictly to justice in all affairs.

Sec. 404

Justice is a Divine command. Without justice, peace cannot be sustained. Therefore establishing justice right now is important, justice on earth. Allah says: “We sent Our prophets with Clear Signs and we have sent with them the Book of Revelation and Balance (balance of rights and duties, balance of right and wrong) so that people may stand up for justice.” (Qur’an 57:25) Prophet Mohammed (pbuh) has been commanded to say: “I have been commanded by Allah to establish justice among you.” (Qur’an 42:15)

Sec. 405

Justice is not just the obligation of prophets. It is a command to all of us as we read the Qur’an:

“Say to them: Allah has commanded justice” (Qur’an 7:29).

“Allah commands justice, righteous deeds, goodness to kith and kin and forbids all abominable, shameful deeds and oppression. Allah forbids oppression. He admonishes you that you may take heed.” (Qur’an 16:90)

Sec. 406

“Whoever is to speak, say the truth, be just even when close relatives are involved and fulfill the Covenant of Allah.” (Qur’an 6:152)

“O believers! Stand out firmly for justice as witness to Allah though it be you, your parents or your close kin.” (Qur’an 4:135)

“O believers! Stand out firmly for Allah’s sake and be just witnesses and let not enmity and hatred of others make you depart from or avoid justice. Be just, which is near to piety and fear Allah. Verily Allah is well acquainted with what you do.” (Qur’an 5:9)

Sec. 407

Legislative review is to be done by the Council by involving participation of all the representative groups of affected people, and passed by the National Assembly.

Sec. 408

Regarding Special Environmental Protection Agency Courts and their Contempt:

The government may, by notification in the official gazette, establish for the whole or any part of the province one or more special environmental courts;

- (i) A special environmental court shall take on a deputation from the Government a qualified person to act as Additional District and Session Judge.
- (ii) A special environmental court shall act at such places as the Agency may, by order, specify in this behalf.
- (iii) Contempt of Court: Whoever commits contempt of the special

environmental court constituted under this Ordinance shall be awarded punishment provided by the Contempt of Court Act, 1976.

Sec. 409

Regarding Summary Disposal of Cases. A special environmental court shall adopt the summary procedure in disposal of cases in the manner prescribed in Chapter XXII of the Code of Criminal Procedure, 1972".

Sec. 410

Regarding recovery, ECJ may appoint a 'Recovery Officer' as it deems necessary or the services of a Tehsildar may be taken on deputation from the Provincial Government as a Recovery Officer whose duty shall be to affect recoveries as arrears of land revenue, from the defaulters, as they are imposed by the special courts.

Sec. 411

Decisions of the ECJ are to be held supreme as long as they are not in conflict with the basic teachings of Islam.

- i) the Qur'an acknowledges that mankind is not the only community to live in this world:

'There is not an animal in the earth, nor a flying creature flying on two wings, but they are peoples like unto you' (Qur'an-6:38)

'All living creatures are worthy of protection (hurmah) and kind treatment' - Prophet Mohammed (peace be upon him).

- ii) all human relationships are based on justice ('adl) and equity (ihsan):

'Lo! Allah enjoineeth justice and kindness' (Qur'an-16:90)

iii) the balance of the universe created by God must be preserved,

'For Everything with Him is measured' (Qur'an-13:8).

Sec. 412

Protection of ecological, environmental, social, economic, human, plant and animal rights by the courts is carried out by:

- a) recognition of the right;
- b) restoration of the condition / situation, existing before infringement of the rights, and putting an end to actions, infringing the rights or creating the threat of their infringement;
- c) imposing fulfillment of the obligation in kind;
- d) indemnification of moral harm;
- e) compensation of losses, exaction of a penalty;
- f) termination or change of legal relations;
- g) banning the abuse, use or activity of subjects by ECJ or arbitration court, the acts of an individual / subject / species, organization, department, provincial government or other bodies contradicting legislative acts;
- h) self-defense of ecological / environmental rights;
- i) establishment of legislative guarantees, new laws and procedures for protection of environment or in any special situation as considered by the ECJ;
- j) preparation of a comprehensive list of cases, guidelines and procedures in recognition of ecological and environmental rights;
- k) establishment of legislative guarantees for protection of ecological /

environmental rights, in case of their termination;

l) other methods as stipulated by legislative acts.

Sec. 413

Islam is tolerant of other religions and beliefs therefore, there is complete freedom of choice for a religion to be followed by anyone. The Qur'an states unequivocally:

"There is no compulsion in religion." (Qur'an-2:256)

"To you be your religion, and to me my religion." (Islamic Monotheism) Qur'an-109:6)

Therefore sectarian violence should not happen in an Islamic society.

Sec. 414

Protection of rights of non-Muslims to worship is an intrinsic part of Islamic law.

It is also stated in the Qur'an:

"God does not forbid you, with regard to those who do not fight you for (your) faith nor drive you out of your homes, from dealing kindly and justly with them; for God loves those who are just." (Qur'an-60:8)

Sec. 415

Indemnification of moral harm caused by breach of environmental, ecological or moral laws, is carried out by civil legislation of the country so long as it is in conformity with the Islamic law and jurisprudence.

Sec. 416

Infringements or threats to violation of environmental/ecological rights of citizens, legal entities or various species within the political boundaries of the Islamic

Republic of Pakistan, should be dealt with or terminated by:

a) suspension, restriction or prohibition of industrial, civil and other construction, the working of deposits of economic minerals and peat, operation of projects, execution of agro-chemical, improvement works related to infrastructure, geological exploratory, search, geodetic and other work which if carried out will violate ecological rights and requirements established in the regime of nature and may result in pollution, contamination or damage of the natural resources, causation of harm to health of mankind;

b) undergoing scrutiny by government experts, provincial EPA appraisal, or having received the negative conclusion of an EIS;

c) other methods subject to the law of the Islamic Republic of Pakistan.

Sec. 417

Citizens and legal entities have the right to present claim requirements in court about the termination of ecological harmful activity causing harm to the natural environment, health and property of citizens, legal entities and the national economy.

Sec. 418

Before ECJ starts its case proceedings and by agreement of the parties involved, environmental disputes may be resolved by administrative procedures, although within competence of ECJ or arbitration court, but transferred to administrative bodies having jurisdiction and a conflict of interest over the resources under consideration.

Sec. 419

Environmental disputes can be addressed by concerned citizens or parties in a

plain application or complaint addressed to the administrative department, the EPA, ECJ or the CEQ or the concerned entity in accordance with the legislation of the Islamic Republic of Pakistan.

Sec. 420

Liability for breach of environmental and ecological laws will a burden for people and organizations found guilty of:

a) infringement of NEQS norms and other ecological requirements for environmental protection, and also for giving instructions/permission for breaking those standards/increasing the limits;

b) sale of food products containing chemical, toxic, carcinogenic substances and biological contaminants;

c) failure to follow environmental requirements for handling, transportation, use, storage or dumping of radioactive and other hazardous chemicals;

d) failure to follow environmental requirements when disposing of wastes from production and consumption;

e) failure to follow environmental requirements when planning, designing, confirming, placing, constructing, commissioning, operating and liquidating any enterprise, structures and other objects by any means;

f) import or export of environmentally dangerous products;

g) breach of norms and rules on protection of the animal and plant world and other natural resources;

h) failure to adopt measures for the restoration of natural environment;

i) failure to provide timely, complete and authentic information about condition of natural environment, use of natural objects, and also sources and volumes of pollution;

j) failure to meet provincial NEQS for emissions and effluents;

k) failure to meet requirements of Provincial EIS/EIA or any other environmental regulation;

Sec. 421

The fines for infringements or breach of environmental legislation are imposed by the ECJ after due consultations with the administrative departments involved and considering the damages done, costs of clean-ups and restoration.

Sec. 422

Individuals, organizations or other legal entities that cause harm to the natural environment, health and property of others and the national economy by pollution, damage, destruction or non-rational use of the natural resources, are obligated to reimburse in full the cost for restoration of conditions before such damage occurred, including any missed profits.

Sec. 423

Calculations for the size of the claim for the loss to any party is done according to universal rates, methods and scales, according to the rules established by the ECJ or a commission nominated thereof for the purpose.

Sec. 424

Fines imposed must be appealed against within 10 days or else they become payable within two months by special collection procedures as outlined by the provincial

government to be credited to: i) the Environmental Fund of the Government; ii) compensate the individual or organization that suffered; iii) extra ecological fund for the natural object/resource in use.

Sec. 425

With the consent of the parties involved ECJ may implement compensation to be in kind, cash, or services provided:

- i) to full restoration of the natural environment prior to the damage;
- ii) to fully treat and restore the health of the sufferers taking into account the degree of loss of labor capacity of the sufferer, costs of treatment, restoration of health, other costs, and also appointed pensions or benefits in accordance with the civil legislation of the Islamic Republic of Pakistan;
- iii) to compensate the survivors of the deceased or the sufferer, his close relatives, legal representatives, trade union bodies or the public prosecutor.

Sec. 426

During transfer of property rights, a declaration to the ecological condition and any environmental concerns be declared with the sale or transfer deeds. ECJ with the consent of the parties involved may implement its decision for cleanups or compensation to be in kind, cash, or services to be provided by the polluters.

Sec. 427

Indemnification of moral harm caused by environmental pollution is carried out in accordance with the procedures laid out by the civil legislation and the Islamic Jurisprudence.

Government of the Islamic Republic of Pakistan is obligated to initiate through its law enforcing agencies and EPA, criminal proceedings against people, government, public and private organizations found guilty of:

- a) pollution of natural environment above the permitted standard;
- b) infringement of rules as they relate to warehousing, transportation, means of use, storage and burial of chemicals, potentially toxic and carcinogenic agents, hazardous and radioactive materials and wastes thereof, herbicides, pesticides, fertilizers, vaccines, pathogens and a variety of other bio-hazards;
- c) breach of rules for fighting epidemics;
- d) illegal use of natural resources;
- e) cruel treatment of animals;
- f) illegal felling of trees, deliberate destruction or damage of forest expanses or their resources;
- g) deliberate destruction or damage of agricultural land and crops;
- h) careless or deliberate destruction and damage of forest resources by careless handling and use of fire;
- i) illegal tree felling in urban and rural areas;
- j) destruction, hunting, capture, transport or export of rare and endangered plants and animals;
- k) not using the public facilities for proper sanitation;
- l) infringement of any other requirements as promulgated under this

Environmental Protection Policy Plan of the Islamic Republic of Pakistan.

Sec. 429

The heads of organizations, institutions, government departments, chief executive officers and the like, bear the responsibility of operations conducted by their officials found to be guilty of default, ignorant of environmental legislation and regulations, or other irresponsible actions having a negative effect on the environment. As such they bear full:

- a) liability for their administrative corrections, criminal punishment, fines and other disciplinary actions as deemed necessary by the ECJ or any other agency authorised and assigned to take such decisions;**
- b) legal responsibility for compensation of loss in terms of life and property, damage to health and welfare, pain and suffering, any other kind of harm to the citizens of the Islamic Republic; and**
- c) cost of clean up for the natural environment, spoiling, destruction, damage, non-rational use of natural resources or other breach of law.**

Sec. 430

The compensation for harm and calculations for the size of the claims for loss will be made:

- a) voluntarily, by decision of the arbitration court according to authorized rates, cost of treatments, restoration of health, other costs, actual costs of restoration of the natural conditions of the natural environment, with allowance for the caused losses to life and property, including the missed profits or salaries, pensions and**

other benefits as may be applicable;

b) according to the universal rates (methods and scales);

c) in the light of rules established by the civil code of the Islamic Republic of Pakistan;

c) with the consent of parties involved, damages may be paid in kind and services imposed on the defendant for restoration at the expense of his means and resources with clear instructions about the standards to be achieved and other terms of fulfillment;

d) with consent and complete satisfaction of the sufferer, his close relatives, legal representatives, trade-union bodies or the public prosecutor.

Sec. 431

The amount of damages extracted by decision of the ECJ or others authorized, is made payable and readily available to the legal organization or the individuals that suffered.

Sec. 432

The department of justice to do all that may be necessary to:

1) educate people about the role of legislature, and the function and responsibilities of legislators.

2) develop and maintain a system of justice that is free of any costs to the individual, free of procedural encumbrances, honest, easy and free to follow with a spirit to serve the citizens of Pakistan in particular and the global village in general.

3) give the freedom to her citizens free of any fears and threats, free from police brutalities, free of bureaucracies and red-tapism, the right to sue for any criminal action against them and the right to question any kind of injustice or malpractice.

4) prevent and discourage frivolous lawsuits by all practicable means.

TITLE V

ENVIRONMENTAL EDUCATION POLICY

Government of Pakistan recognizes that free and quality education is an essential right of children.

Sec. 501

It is the responsibility of the government of Islamic Republic of Pakistan to provide for education focusing on ideas of peace, justice, environment, drug addiction, family planning, ethics and morality in the light of Islamic teachings in general for all her people.

Sec. 502

Islamic teachings to incorporate and expand the morphological meaning of the term 'Islam', meaning to achieve peace with Allah, peace within oneself; and peace with others through the willing and committed submission to Allah.

- (a) Peace with Allah is attained by knowing Allah, acknowledging Him as the sole Creator, Sustainer and Cherisher of the universe including mankind and worshiping Him and Him alone in the broader meaning of the term 'worship' in Islam.
- (b) Inner peace, is peace with oneself.

- i) All of us need to be discouraged from committing sin, evil and disregarding the rights of others. Fear of the punishment from Allah because of our infractions and the evil deeds, for Allah is truly the just God.
 - ii) Hope in His reward and blessings in this life and entry into paradise called in the Qur'an 'the abode of peace' in the Hereafter.
 - iii) In our relationship with Allah is the element of mutual love and closeness which is the source of comfort and foundation of all applications of the concept of peace.
- (c) Peace with others including humans and non-humans.
- i) Peace in the family: mutual love, care and fellowship between husband and wife; the complementarity of their roles without superiority or inferiority; the solution of their disputes privately with the help of family elders, through Islamic courts of law or board of Islamic Arbitration where there is no Islamic court or through divorce as the last resort. In all these cases, however, no abuses or violent measures are allowed . . . being due to misbehavior or gross, gross out-of-context misinterpretation. Even if divorce is inevitable, the Qur'an instructs that it should be done peacefully (Qur'an 65:2).
 - ii) Peace with neighbors; Muslims and non-Muslims, relatives and non-relatives, as Allah says, "Among those who are entitled to good treatment and kindness are neighbors, who are relatives or not, and even the casual companion sitting by you, like in travel." (Qur'an 4:36).
 - iii) Peace with social economy is a major fruit of peace and social justice through

‘zakat’ - a purification of the giver from selfishness, apathy and lack of concern; purification of the receiver from envy and hatred; and purification of society from class struggle and destructive revolution.

iv) Peace with humans: Peace within society and beyond by accepting pluralism, peaceful coexistence and tolerance toward others who refuse the guiding message of Islam. Allah decrees in the Qur’an, “Let there be no compulsion in religion; Truth stands out clear and distinct from Error.”(Qur’an 2:256) Allah does not forbid nor restrain relations with non-Muslims. “With respect to those who do not fight you because of your religion or drive you out of your homes, you should deal with them in kindness and justice for Allah loves those who do good.” (Qur’an 60:8) “Fight in the way of Allah those who fight against you but commit no aggression for Allah loves not those who are transgressors.” (Qur’an 2:190)

v) Peace with animals. We find the teachings of mercy to animals in the Qur’an and the Sunnah of Prophet Mohammed (pbuh), who forbade shooting animals other than for food, who told that during pilgrimage, in every living being there is reward for kindness. He spoke of a woman who was punished because of torturing a cat and a woman who was forgiven for her sins because of giving water to a thirsty dog.

vi) Peace with vegetation. Islam forbids destruction, cutting of trees, plants without necessity even in warfare unless there is a strategic need for that. The Qur’an invites us to appreciate the aesthetic element and beauty in the creation of animals and plants. The prophet (pbuh) said: “anyone who plants a tree from

which a bird or an animal eats, he will get reward for it as a charity.” (Bukhari, 3:513)

Sec. 503

Government of Pakistan recognizes the strong potential of religious scholars and preachers which can be tapped to educate the nation about Islamic values, ruling about the use of alcohol, narcotics and drugs, family values and the care of environment. Therefore, religious scholars and ‘Imams’ of ‘Masajid’ can have a very effective role in the preservation of the environment and in enhancing the quality of life in their respective areas. They are encouraged to get actively engaged in the preservation of the environment around their areas by incorporating Islamic teachings in their sermons.

Sec. 504

Education must be imparted in a way to help the individual face the economic realities and social requirements of a poor, hungry, and a morally polluted nation with a growing population.

Sec. 505

Environmental education is to be part of the curriculum for all the schools in the country, starting from kindergarten with the purpose of inculcating a careful attitude towards nature, rational use and protection of its resources, propagation of knowledge about ecology and legislation about environmental protection.

Sec. 506

In order to maintain environmental culture and awareness of related issues among the people of Pakistan, the government is obligated to arrange for a comprehensive,

continuous and ongoing education of the public in general and specifically of teachers, members of the industry and other experts, to add to their knowledge, the latest in the field of environmental and ecological education by seminars, short courses, through use of mass media and other means.

Sec. 507

Population needs to be educated about concerns with poverty and distributive justice, human rights, environmental devastation, environmental legislation and national visions about future development as it encapsulates core moral and philosophical problems.

Sec. 508

Scientific and educational institutions, regardless of their profile shall develop and approve programs and plans for scientific research on environmental protection, environmental protection legislation, ecological specifications, standards and rules.

Sec. 509

Ministries, governmental, public and private institutions for scientific, educational and industrial research shall create the necessary conditions for providing research opportunities in the field of environment, publish their results and recommend innovative ways and means to implement the results of such research.

Sec. 510

An awareness will be inculcated that Government alone cannot make the air and water clean and solve the solid waste disposal problems. Every citizen, private group and industry must do its part.

Sec. 511

Nationalization of private educational institutions will never be experimented again. In an effort to decentralize education, Government of Pakistan to propose and launch “Adopt a School Program”. In cooperation with the provincial Department of Education, encourage and invite concerned citizens, NGOs and philanthropists to adopt government-run schools in an appalling state. In cooperation with the parents and other means of support and public involvement, complaints need to be addressed along with providing clean drinking water, toilets and sewage.

Sec. 512

Department and Ministry of education to be held accountable for lapses in grants and scholarships, for corruption, bureaucracy, rigmarole and red tape. Concerned officials to serve jail sentences and pay fines for lack of responsibility and inefficiency within their jurisdictions.

Sec. 513

Efforts should be made so that Pakistan’s present literacy rate (28-30%) should double by the year 2005. This can be achieved by making sure that the educational budget is spent to the fullest in a timely manner with complete and full accountability at all levels of administration. The devastating and ravaging scourge of corruption must be rooted out by all means possible.

Sec. 514

After public involvement and the necessary inputs from the private sector, the government and its affiliated functionaries for the Department of Education to do a self

assessment on ways and means to eliminate corruption at all levels.

Sec. 515

Government to set up standards of service to people and make sure that government induced corruption is taken care of. Severe punishments can then be announced for all who do not abstain from corruption.

Sec. 516

Government to do all that may be necessary to rid the country of child labor and abuse. Education be provided free along with books, food, clothing and healthcare necessary to prevent the dropout rate of 50% in schools.

Sec. 517

Existence of 'Ghost Schools' to be completely abolished and all those chains of people involved and responsible for such a national disaster and shame be severely punished both for committing a crime equivalent to mass infanticide and under the defense of Pakistan rules.

Sec. 518

All efforts on the other hand need to be focused on restoring the respect and dignity of teachers by paying them their due salaries on time and enhancing their standard of living.

Sec. 519

The Department of Education must stick to a strict merit based policy in selection of teachers, instructors, lecturers and professors for recruitment into the profession of teaching. Political appointments of teachers is abolished with immediate effect. Volunteer

teachers be encouraged to teach wherever necessary and extra fringe benefits where applicable.

Sec. 520

Educational institutions will serve for the pure cause of quality education only and can not be allowed to become wrestling grounds for political parties of the country. Those involved should be punished by fines and imprisonment.

Sec. 521

Government of Pakistan commits itself to extend and promote education in the under-privileged and remote areas of the country.

TITLE VI

CLEAN AIR POLICY

Sec.601

The Government of Pakistan recognizes --

(a) that industrial development, urbanization, and the increasing use of motor vehicles, has resulted in mounting dangers to public health and welfare, including hazards to the health of livestock and agricultural crops, deterioration of property, and hazards to air and ground transportation;

(b) that air pollution prevention (that is, the reduction or elimination, through any measures of the amount of pollutants produced or created at a source) and air pollution control at its source is the primary responsibility of the producer of that pollution, provincial and local governments; and

(c) that Federal financial assistance and leadership are essential for the

development of cooperative Federal, Provincial, regional and local programs to prevent and control air pollution.

(d) the need for making a National Center for Vehicle Emissions Control and Safety (NCVECS), for monitoring, researching, legislating, proposing National Air Quality Standards and coordinating their implementation with the help of provincial EPAs.

(e) its commitment to protect and enhance the quality of outdoor air resource. This commitment extends all over the Islamic Republic in accordance with the limits and standards established by NEQS.

Sec.602

The purposes of this title are --

(a) to protect and enhance the quality of Pakistan's air resources to promote the public health and welfare and the productive capacity of its population;

(b) to encourage national research and development programs to achieve the prevention and control of air pollution;

(c) to provide technical and financial assistance to Provincial and local governments in connection with the development and execution of their air pollution prevention and control programs;

(d) to encourage and assist the development and operation of regional air pollution prevention and control programs;

(e) to establish a legal framework for enforcing NEQS; and

(f) to implement tighter air quality standards for smog-causing ozone and

microscopic particulates such as soot, dust, cow and horse dung in an effort to cut down toxic air pollution by 90%.

Sec.603

All provinces, local governments, agencies, and communities are:

(a) to share greater responsibility and are encouraged to enact improved laws, uniform in inter- Provincial applicability, practicable in the light of varying conditions and needs to prevent and control air pollution.

(b) to help Environmental Protection Agency in order to establish and implement all clean air regulations expressed in the NEQS, established by the CEQ in order to protect public health and the environment.

(c) encouraged to cooperate their activities for the prevention and control of air pollution and achieve NEQS by 2007.

(d) to develop Provincial Implementation Plans (PIPs) applicable and appropriate to all sources of air pollution in the province.

Sec.604

Automotive vehicles regardless of their engine design and type (two stroke / four stroke, diesel, natural gas or petrol) must obey their respective exhaust limits and are required to comply with all clean air regulations and standards established by NEQS.

Sec.605

Federal Government to establish a national research and development program for the prevention and control of air pollution and as part of such program shall --

(a) conduct, and promote the coordination and acceleration of, research,

investigations, experiments, demonstrations, surveys and studies relating to causes, effects (including health and welfare effects), extent, prevention and control of air pollution;

(b) encourage, cooperate with, and render technical services and provide financial assistance to air pollution control agencies and other appropriate public or private agencies, institutions, and organizations, and individuals in the conduct of such activities;

(c) conduct investigations and research and make surveys concerning any specific problem of air pollution in cooperation with any air pollution control agency to recommend a solution of such problem;

(d) establish technical advisory committees composed of recognized experts in various aspects of air pollution to help in the examination and evaluation of research progress and proposals and to avoid duplication of research, and

(e) conduct and promote coordination and acceleration of training for individuals relating to the cause, effects, extent, prevention and control of air pollution.

Sec.606

In carrying out the provisions of the preceding section on research and development, heads / administrators of Provincial EPAs are authorized to --

(a) collect and make available, through publications and other appropriate means, the results of and other information, including appropriate recommendations in connection therewith, concerning such research and other activities;

(b) make grants to air pollution control agencies, to other public or nonprofit private agencies, institutions and organizations, and to individuals, for purposes stated in

section 605 (a);

(c) establish and maintain research fellowships, in the Environmental Protection Agency and at public or nonprofit private educational institutions or research organizations;

(d) collect and disseminate, in cooperation with other federal departments and agencies and with other public or private agencies, institutions, and organizations having related responsibility, basic data on chemical, physical, and biological effects of varying air quality and other information pertaining to air pollution and the prevention and control thereof;

(e) develop effective and practical processes, methods, and prototype devices for the prevention and control of air pollution; and

(f) construct facilities, provide equipment, and employ staff as necessary to carry out the provisions under this section.

Sec.607

Definitions for the purpose of this section:

(1) The term “standard of performance” means a standard for emissions of air pollutants which reflects the degree emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements) the Director General determines, has been adequately demonstrated.

(2) The term “new source” means any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier,

proposed regulations) prescribing a standard of performance under this section which will be applicable to such source.

(3) The term “stationary source” means any building, structure, facility, or installation which emits or may emit any air pollutant. Any thing related to non-road engines will be construed to apply to stationary internal combustion engines.

(4) The term “modification” means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

(5) The term “owner or operator” means any person who owns, leases, operates, controls, or supervises a stationary source.

(6) The term “existing source” means any stationary source other than a new source.

(7) The term “technological system of continuous emission reduction” means --
(A) a technological process for production or operation by any source which is inherently low-polluting or non polluting, or
(B) a technological system for continuous reduction of pollution generated by a source before such pollution is emitted into the ambient air, including pre-combustion cleaning or treatment of fuels.

Sec. 608

List of categories of stationary sources:

The Director General shall:

(A) within 90 days after the publication of this policy (and from time to time thereafter shall revise) a list of categories of stationary sources. He shall include a category of sources in such list if in his judgement it causes or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.

(B) within one year after the inclusion of a category of stationary sources in a list under subparagraph (A) above, the Director General shall publish proposed regulations, establishing Provincial / Federal Standards of performance for new sources within such category.

(C) afford interested persons an opportunity for written comment on such proposed regulations. After considering these comments, he shall promulgate within one year after such publication, such standards with the modifications as he deems appropriate.

(D) at least after every eight years, review and, if appropriate revise such standards following the procedure required by this subsection for promulgation of such standards. Standards of performance or revisions thereof shall become effective upon promulgation.

(E) distinguish among classes, types, and sizes within categories of new sources for the purpose of establishing such standards.

(F) from time to time issue information on pollution control techniques for categories of new sources and air pollutants subject to the provisions of this section.

(G) shall apply the provisions of this section to any new source owned or operated by the government.

(H) except as otherwise authorized under subsection (h) of this section, nothing in this section shall be construed to require or to authorize the Director general to require, any

new or modified source to install and operate any particular technological system of continuous emission reduction to comply with any new source standard of performance.

Sec. 609

In response to provincial implementation and enforcement of standards of performance the Director General may:

(A) delegate and submit to the province, if deemed necessary, any authority that he may have under this title to implement and enforce such standards, a procedure for implementing and enforcing standards of performance for new sources located in such province if the Director General finds that the provincial procedure is adequate.

(B) enforce any applicable standards of performance under this section, and nothing shall prohibit him from doing so.

(C) prescribe regulations which shall establish a procedure under which Province shall submit to him a plan which:

(1) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been issued or which is not included on a list published under this title or emitted from a source category but (ii) to which a standard of performance under this section would apply if such existing source were a new source, and

(2) provides for the implementation and enforcement of such standards of performance.

(3) shall permit the Province in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into

consideration, among other factors, the remaining useful life of the existing source to which such standard applies.

(D) prescribe a plan for a province in cases where it fails to submit a satisfactory plan as he would have under this title in the case of failure to submit an implementation plan, and

(E) enforce the provisions of such plans in cases where a province fails to enforce them as he would have under this section with respect to an implementation plan.

(F) After the effective date of standards of performance promulgated under this section, it shall be unlawful for any owner or operator of any new source to operate such source in violation of any standard of performance applicable to such source.

Sec. 610

Categories of major stationary sources that the Director General has listed as new and also for those existing stationary sources for which regulations had not been proposed, the Director General shall --

(A) propose regulations establishing standards of performance for at least 25 percent of such categories of sources within two years after 1st. Jan. 2003;

(B) propose regulations establishing standards of performance for at least 50 percent of such categories of sources within four years after 1st Jan. 2003; and

(C) propose regulations for the remaining categories of sources within six years after 1st. Jan. 2003.

(D) determine priorities for promulgating standards of categories of major stationary sources under this section after considering-

(1) the quantity of air pollutant emissions which each category will emit, or will

be designed to emit;

(2) the extent to which each such pollutant may reasonably be anticipated to endanger public health or welfare; and

(3) the mobility and competitive nature of each such category of sources and the consequent need for nationally applicable new source standards of performance.

(E) shall consult with appropriate representatives of the Governors and of Provincial air pollution control agencies before promulgating any regulations under this section or listing any category of major stationary sources.

Sec. 611

Upon application / notification by the Governor of a province showing that the Director General has failed to specify in regulations under Sec.610 of this title, any category of major stationary sources required to be specified under such regulations, the Director General shall:

(1) revise such regulations to specify any such category.

(2) revise such regulations (notwithstanding that such category is not a category of major stationary sources), which may reasonably be anticipated to endanger public health or welfare and contributes significantly to air pollution.

(3) revise the regulations and standard of performance for such category accordingly.
when:

(A) a new, innovative, or improved technology or process which achieves greater continuous emission reduction has been adequately demonstrated for any category of stationary sources, and

(B) as a result of such technology or process, the new source standard of performance in effect under this section for such category no longer reflects the greatest degree of emission limitation achievable through application of the best technological system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impact and energy requirements) has been adequately demonstrated.

(4) unless deadlines for action of the Director General are otherwise prescribed under this section, the Director General shall, no later than three months following the date of receipt of application by a Governor of a Province, either --

(A) find that such application does not contain the requisite showing and deny such application, or

(B) grant such application and take the action required under this subsection.

(5) shall provide notice and opportunity for public hearing.

Sec. 612

(A) Any person proposing to own or operate a new source may request the Director General for one or more waivers from the requirements under this title for such source or any portion thereof with respect to any air pollutant to encourage the use of an innovative technological system or systems of continuous emission reduction. The Director General may, with the consent of Governor of the Province in which the source is to be located, grant a waiver under this paragraph, if the Director General determines after notice and opportunity for public hearing, that:

- (i) the proposed system or systems have not been adequately demonstrated,
- (ii) the proposed system or systems will operate effectively and there is a substantial likelihood that such system or systems will achieve greater continuous emission reduction than that required to be achieved under the standards of performance which would otherwise apply, or achieve at least an equivalent reduction at lower cost in terms of energy, economic, or non-air quality environmental impact,
- (iii) the owner or operator of the proposed source has demonstrated to the satisfaction of the Director General that the proposed system will not cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation, function, or malfunction, and
- (iv) the granting of such waiver is consistent with the requirements of Sec. 609

(B) A waiver under this section shall be granted on such terms and conditions as the Director General determines to be necessary to assure --

- (i) emissions from the source will not prevent attainment and maintenance of any national ambient air quality standards, and
- (ii) proper functioning of the technological system or systems authorized.

(C) The number of waivers granted under this paragraph with respect to a proposed technological system of continuous emission reduction shall not exceed such number as the Director General finds necessary to ascertain whether or not such system will achieve the conditions specified in clauses (ii) and (iii) of subparagraph (A).

(D) A waiver under this paragraph shall extend to the sooner of --

(i) the date determined by the Director General, after consultation with the owner or operator of the source, taking into consideration the design, installation, and capital cost of the technological system or systems being used, or

(ii) the date on which the Director General determines that such system has failed to --

(I) achieve at least an equivalent continuous emission reduction to that required to be achieved under the standards of performance which would otherwise apply, or

(II) comply with conditions specified in paragraph (A)(iii), and that such failure cannot be corrected.

(E) In carrying out subparagraph (D)(i), the Director General shall not permit waiver for a source or a portion thereof to extend beyond the date whichever is earlier:

(i) seven years after the date on which any waiver is granted to such source or portion thereof,

(ii) four years after the date on which such source or portion thereof commences operation.

(F) No waiver under this subsection shall apply to any portion of a source other than the portion on which the innovative technological system or systems of continuous emission reduction is used.

(G)(i) If a waiver is terminated under clause (ii) of paragraph (D), the Director General shall grant an extension of requirements of this section for such source for such minimum period as may be necessary to comply with the applicable standard of performance under

this section. Such period shall not extend beyond the date three years from the time such waiver is terminated.

(ii) An extension granted under this paragraph shall set forth emission limits and a compliance schedule containing increments of progress which require compliance with the applicable standards of performance as expeditiously as practicable and include such measures as are necessary and practicable in the interim to minimize emissions. Such schedule shall be treated as a standard of performance for purposes of Sec. 609 of this title.

TITLE VII

CLEAN WATER POLICY

Sec.701

The Government of Pakistan recognizes--

(a) that the nation's surface and underground waters are able to assimilate innumerable potential pollutants: organic and inorganic chemicals, suspended solids, metabolic wastes and other biological contaminants, heavy metals, agricultural and urban runoff, and more;

(b) that both surface and underground water must be monitored and that it is unlawful to discharge any pollutant from a point source into navigable waters unless a permit is obtained;

(c) that water pollution prevention and control at its source is the primary responsibility of the provincial and local governments through the enactment of improved laws uniform in inter-provincial applicability and practicable in the light of varying conditions and needs;

(d) that continuous proliferation of new chemicals due to industrialization and urbanization means protecting the nations water is a continuous race against technological innovation to achieve water quality standards before new hazardous substances become widely distributed; and

(e) its commitment to protect and enhance the quality of nation's water resources, develop and preserve aquatic systems guaranteeing sustainable use. This concerns all surface water systems, ground water bodies and the marine waters within her jurisdiction.

(f) her duty to provide for all citizens, community facilities for safe water supply systems, toilets, bathing and laundry facilities, sewage disposal facilities, and other similar facilities, and educational and informational facilities and programs relating to health and hygiene in a cooperative effort by the department of health, education, environment protection, other concerned agencies and municipalities.

Sec.702

a) Definitions

For the purpose of this title:

1) The term "standard of performance" means a standard for the control of discharge of pollutants which reflect the greatest degree of effluent reduction which the Director General determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

2) The term "new source" means any source, the construction of which is commenced after the publication of proposed regulations prescribing a standard of performance under

this policy.

3) The term “source” means any building, structure, facility, or installation from which there is or may be the discharge of pollutants.

4) The term “owner or operator” means any person who owns, leases, operates, controls, or supervises a source.

5) The term “construction” means any placement, assembly, or installation of facilities or equipment (including contractual obligations to purchase such facilities or equipment) at the premises where such equipment will be used, including preparation work at such premises.

6) The term “living environment” means the spatial entity with all its objects, biotic and abiotic entities, which influence the continuance of life for man and other living organisms.

7) The term “Industrial pollution” means pollution as a result of industrial activities responsible for the decline in the quality of the living environment by the addition of pollutants like solid wastes, liquid wastes, gaseous emissions, noise vibration, odor, dust, aesthetic and other concerns.

8) The term “recycling” means the utilization of disposed or waste material as energy or a useful resource to obtain other products through certain processes.

b) Categories of sources

The Director General shall, within ninety days after July 2000, publish (and from time to time thereafter shall revise) a list of categories of sources, which shall, at the minimum, include:

pulp and paper mills;
paperboard, chip-board, builders paper and board mills;
meat product, rendering processing and slaughter houses;
leather tanning and finishing;
grain mills;
canned and preserved fruits and vegetables processing;
canned and preserved seafood processing;
food processing industry;
vegetable and animal oil industry;
sugar processing;
textile mills and processing;
cement manufacturing;
electrical devices and metal industry;
feedlots (cattle, poultry, etc.);
electroplating;
organic chemical manufacturing;
inorganic chemical manufacturing;
plastics and synthetic materials manufacturing;
soap and detergent manufacturing;
fertilizer manufacturing;
petroleum refining;
natural gas liquefaction;

mining of metallic and non-metallic ores;
processing of precious metals;
iron and steel manufacturing;
non-ferrous metals manufacturing;
phosphate manufacturing;
industrial gasses manufacturing;
steam electric powerplants;
ferro alloy manufacturing;
glass and asbestos manufacturing;
rubber processing;
building material;
alkaloids, vaccines or pharmaceutical manufacturing;
general industry and
timber products processing.

Sec. 703

Apart from the positive contribution of the industrial sector towards national economic growth, the by-products and other effluents and emissions from the industries may create negative impacts to the sustenance of living environment and therefore:

- a) if left uncontrolled may cause hazardous, damaging, destructive and irreversible pollution damage to the living environment;
- b) to control such industrial pollution it will be necessary to internally regulate the scope and duties of the Department of Industries for controlling pollution caused

by the industries

Sec. 704

Declaration of national policy:

- (1) Discharge of toxic pollutants to be prohibited;**
- (2) Federal leadership and financial assistance be provided to construct publicly owned waste water treatment works;**
- (3) Area-wide waste treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each province;**
- (4) A major research and demonstration effort be made to develop technology necessary to eliminate the discharge of pollutants in to the navigable waters, ground water systems and the ocean; and**
- (5) Programs for the control of non-point sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this title to be met through the control of both point and non-point sources of pollution.**
- (6) Federal Government is to recognize, preserve and protect the primary responsibilities and rights of Provinces to prevent , reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the CEQ in the exercise of their authority under this title.**
- (7) To support and aid research relating to the prevention, reduction and elimination of pollution and to provide Federal technical services and financial aid to Provincial and inter-provincial agencies and municipalities in connection with the prevention, reduction**

and elimination of pollution.

(8) Public participation in the development, revision and enforcement of any regulation, standard, effluent limitation, plan or program established by the CEQ or any province under this title will be provided for, encouraged, and assisted by the Director Generals of EPAs and provinces. The Director General, in cooperation with the provinces, shall develop and publish regulations specifying minimum guidelines for public participation in such processes.

(9) To the maximum extent possible the procedures utilized for implementing this title shall encourage the drastic minimization of paperwork and interagency decision procedures, and the best use of available manpower and funds, so as to prevent needless duplication and unnecessary delays at all levels of government.

(10) Authority of each province to allocate quantities of water within its jurisdiction shall not be superceded, abrogated or otherwise impaired by this title.

Sec. 705

In order to achieve the objectives and commitments in Sec. 701 & 703, and to restore and maintain the chemical, physical and biological integrity of the nation's waters, following national goals are hereby declared:

(1) The discharge of pollutants into the navigable waters be eliminated by the year 2006;

(2) Wherever attainable by the year 2004, an interim goal be provided for water quality which provides for the protection and propagation of fish and wildlife, and provides for recreation on water.

Sec. 706

The Director general of EPA in the province of Sind to:

- (1) Coordinate efforts with the Coast Guard, Navy, Department of Forestry, Wildlife, Fisheries and Tourism, other organizations involved;**
- (2) With full public participation, develop a set of regulations, unanimously accepted by all concerned, to control pollution of marine waters;**
- (3) Monitor, uphold and implement legal provisions for the control of air, water and noise pollution over marine waters; and**
- (4) Develop and establish quality standards by a system of permitting for dumping any kind of waste in the sea.**

Sec. 707

The Director General EPA shall, after careful investigation, and in cooperation with other Federal agencies, provincial water pollution control agencies, inter-provincial agencies, and the municipalities and industries involved, prepare or develop comprehensive implementation programs for preventing, reducing, or eliminating the pollution of the navigable waters and ground waters and improving the sanitary condition of surface and underground waters. In the development of such comprehensive programs due regard shall be given to the improvements which are necessary to conserve such waters for the protection and propagation of fish and aquatic life and wildlife, recreational purposes, and the withdrawal of such waters for public water supply, agricultural, industrial and other purposes. For the purpose of this section, the Director General is authorised to make joint investigations with any such agencies of the condition of any

waters in any province or provinces, and of the discharges of any sewage, industrial wastes, or substances which may adversely affect such waters.

Sec. 708

The Director Generals in all provinces, after consultation with the provincial water management agencies, shall submit a report to the government on or before 1st. of July every year, which analyses the relationship between programs under this title and the programs by which Provincial and Federal agencies allocate quantities of water. Such report shall include recommendations concerning the policy under Sec. 704 of this title to improve coordination of efforts to reduce and eliminate pollution of water resources.

Sec. 709

The Director General shall encourage cooperative activities by the Provinces for the prevention, reduction, and elimination of pollution, encourage the enactment of improved, so far as practicable, uniform Provincial laws relating to the prevention, reduction and elimination of pollution; and encourage compacts between provinces for the prevention and control of pollution.

Sec. 710

The consent of the Federal Government is hereby given to two or more provinces to negotiate and enter into agreements or compacts, not in conflict with any law or treaty with the Federal Government, for:

- 1) cooperative effort and mutual assistance for the prevention and control of pollution and the enforcement of their respective laws relating thereto;
- 2) the establishment of such agencies, joint or otherwise, as they may deem desirable

for making effective such agreements and compacts. No such agreement or compact shall be binding or obligatory upon any province or a party thereto unless and until it has been approved by the National Assembly.

Sec. 711

The CEQ shall establish national guidelines and programs for the prevention, reduction, and elimination of pollution and as part of such programs shall:

- 1) Delegate EPAs for permitting, administration and enforcement aspects of this title;
- 2) In cooperation with other Federal, Provincial, and local agencies, conduct and promote the coordination and acceleration of research, investigation, experiments, training, demonstrations, surveys and studies relating to the causes, effects, extent, prevention, reduction, and elimination of pollution;
- 3) Encourage, cooperate with, and render technical services to pollution control agencies, institutions, and organizations, and individuals including the general public, in the conduct of activities referred to in subparagraph 1) of this section;
- 4) Conduct, in cooperation with provincial water pollution control agencies and other interested agencies, organizations and persons, public investigations concerning the pollution of any navigable waters, and report on the results of such investigations;
- 5) Establish advisory committees composed of recognized experts in various aspects of pollution and representatives of the public to assist in the examination and evaluation of research progress and proposals and to avoid duplication of research;
- 6) In cooperation with the provinces and their political subdivisions, and other federal agencies, establish, equip, and maintain a water quality surveillance system for the

purpose of monitoring the quality of navigable waters and ground waters and the contiguous zone and the ocean and the Director General CEQ shall, to the extent practicable, conduct such surveillance by utilizing the resources of the Civil Aviation Authority, National Upper Atmospheric and Oceanographic Research Administration, Geological Survey of Pakistan, Soil Survey of Pakistan, Agricultural Research Council, Pakistan Coast Guard, Pakistan Navy, and the Pakistan Air Force, and shall report on such quality in the annual report required by the Federal Government.

7) Initiate and promote the coordination and acceleration of research designed to develop the most effective practicable tools and techniques for measuring the social and economic costs and benefits of activities which are subject to regulation under this title, and shall transmit a report on the results of such research to the National Assembly not later than January 1, every year.

Sec. 712

In carrying out the provisions (of establishment of national programs, cooperation, investigations, water quality surveillance system), the Director General shall conduct research on, and survey the results of other scientific studies on, the harmful effects on the health or welfare of persons caused by pollutants. In order to avoid duplication of effort, the Director General shall, to the extent practicable, conduct such research in cooperation with and through the facilities of the Secretary of health.

Sec. 713

In carrying out the provisions of this title the Director General shall develop and demonstrate under varied conditions (including conducting such basic and applied

research, studies and experiments as may be necessary):

- 1) Practicable means of treating municipal sewage, and other waterborne wastes to implement the requirements under this title;
- 2) Improved methods and procedures to identify and measure the effects of pollutants, including those pollutants created by new technological developments;
- 3) Methods and procedures for evaluating the effects on water quality of augmented stream flows to control pollution not susceptible to other means of prevention, reduction or elimination;
- 4) The responsibility of the Government of the Islamic Republic of Pakistan to secure for its citizens a healthy, risk-free living environment, clean supplies of drinking water, and also to ensure the same for her future generations;
- 5) The basic structure for regulating discharges of pollutants to waters of Pakistan. Agencies (Provincial EPAs) to set effluent standards on an industry-by-industry basis (technology-based);

Sec. 714

The Director General shall establish, equip, and maintain field laboratory and research facilities, for the conduct of research, investigations, experiments, field demonstrations and studies, and training relating to the prevention, reduction and elimination of pollution. Insofar as practicable, each such facility shall be located near institutions of higher learning in which graduate training in such research might be carried out. In conjunction with the development of criteria under NEQS, the Director general shall construct the facilities for the Marine Water Quality Laboratory established

under this title.

Sec. 715

The Director General is authorized:

1) To impose the responsibility for the treatment of industrial and municipal effluent upon the initial users and polluters of such waters, in order to uphold “polluter pays principle” and that the limits set by NEQS are satisfied;

2) To enforce water quality standards for all contaminants in surface waters.

3) To encourage, assist, guide, support and enforce the industrial, public and private sector to develop effective and practical processes for the recycling of their byproducts and end products.

4) To finance pilot programs, for the purpose of providing an adequate supply of trained personnel to operate and maintain existing and future treatment works and related activities, and for the purpose of enhancing substantially the proficiency of those engaged in such activities, in cooperation with provincial and inter-provincial agencies, municipalities, other organizations and individuals, educational institutions and others involved with manpower development and training in the field of operations and maintenance of treatment works and related activities;

5) to enter into agreements with public and private agencies and institutions, and individuals to develop and maintain an effective system for forecasting the supply of, and demand for, various professional and other occupational categories needed for the prevention, reduction and elimination of pollution in each region, province or area of Pakistan and, from time to time, to publish the results of such forecasts;

6) to make grants, establish and maintain research fellowships, stipends and allowances, including traveling and subsistence expenses, and provide training in technical matters relating to the causes, prevention, reduction and elimination of pollution for personnel of public agencies and other persons with suitable qualifications;

7) to develop effective and practical processes, methods and prototype devices for the prevention, reduction and elimination of pollution;

8) to conduct research on, and survey the results of other scientific studies on, the harmful effects on the health and welfare of persons caused by pollutants.

Sec. 716

In carrying out the provisions under this title, the Director General shall develop, demonstrate and issue necessary directions to all concerned under varied conditions as may be necessary:

1) To prevent degradation of the environment from the disposal of waste oil, conduct a study of:

(a) the generation of used engine, machine, cooling, and similar waste oils including quantities generated, the nature and quality of such oil, present collecting methods and disposal practices, and alternate uses of such oil;

(b) the long term, chronic biological effects of the disposal of such waste oil; and

(c) the potential market of such oils, including the economic and legal factors relating to the sale of products made from such oils, the level of subsidy, if any, needed to encourage the purchase by public and private non-profit agencies of products from such oil, and the practicability of Federal procurement, on a priority

basis of products made from such oils.

2) Methods for the prevention, removal, reduction and elimination of pollution in lakes including the undesirable effects of nutrients and vegetation.

3) Comprehensive studies of the effects of pollution, including sedimentation, in the estuaries and estuarine zones of Pakistan on fish and wildlife, on sport and commercial fishing, on recreation, on water supply and water power, and on other beneficial purposes.

4) In cooperation with Pakistan Navy and Coast Guard, engage in studies relative to the removal of oil from any waters and prevention, control and elimination of pollution caused by oil and other hazardous substances.

5) Engage in research, studies, experiments, and demonstrations about equipment to be installed on board vessels for solid waste disposal and is designed to receive, retain, treat, or discharge human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes with particular emphasis on equipment to be installed on small or big sea vessels.

6) Develop and issue to provinces the latest scientific knowledge available in indicating the kind and effects on health and welfare which may be expected from the presence of pesticides in the water in varying quantities. Also conduct studies and investigations of methods to control the release of pesticides into the environment which study shall include examination of the persistency of pesticides in the water environment and alternatives thereto.

7) Publish from time to time the results of such studies and activities for the benefit of the public in general and the provincial Boards of Education in particular.

Sec. 717

The Director General shall establish, equip, and maintain field laboratory and research facilities for the conduct of research, investigations, experiments, field demonstrations and studies, and training related to prevention, reduction and elimination of pollution. Insofar as practicable, each such facility shall be located near institutions of higher learning in which graduate training in such research might be carried out.

Sec. 718

In carrying out the provisions of Sec. 713 relating to the conduct of research and demonstration projects and the development of field laboratories and the research facilities, the Director General may acquire land and interests therein by purchase, with appropriated or donated funds, by donation, or by exchange for acquired or public lands under his jurisdiction which he classifies as suitable for disposition.

Sec. 719

Research and investigations shall be conducted on:

1) devices, systems, incentives, pricing policy, and other methods of reducing the total flow of sewage, including but not limited to, unnecessary water consumption in order to reduce the requirements for, and the costs of, sewage and waste treatment.

2) improved methods of preventing, reducing, storing, collecting, treating, or otherwise eliminating pollution from sewage in rural and other areas where collection of sewage in conventional, community wide sewage collection systems is impractical, uneconomical, or otherwise infeasible, or where soil conditions or other factors preclude the use of septic tank and drainage field systems.

3) comprehensive studies of the effects and methods of control of thermal discharges and their total impact on the environment, considering not only water quality but also air quality, land use, and effective utilization and conservation of fresh water and other natural resources. Such studies shall consider methods of minimizing adverse effects and maximizing beneficial effects of thermal discharges.

4) comprehensive approaches to the elimination or control of acid or other mine water pollution resulting from active or abandoned mining operations or other environmental pollution affecting water quality within all or part of a watershed or river basin, including siltation from surface mining.

5) projects to restore affected lands to usefulness for forestry, agriculture, recreation, or other beneficial purposes.

Sec.720

EPA's to make grants to any Province, municipality, or inter-municipal or inter-Provincial agency for the purpose of assisting in the development of --

a) any project which will demonstrate a new or improved method of preventing, reducing, and eliminating the discharge into any waters of pollutants from sewer which carry storm water or both storm water and pollutants; or

b) any project which will demonstrate advanced waste treatment and water purification methods (including the temporary use of new or improved chemical additives which provide substantial immediate improvements to existing treatment processes), or new or improved methods of joint treatment systems for municipal and industrial wastes;

c) any project which will demonstrate in river basins or portions thereof advanced

treatment and environmental enhancement techniques to control pollution from all sources, within such basins or portions thereof, including non-point sources, together with in stream water quality improvement techniques;

d) any project which will demonstrate advanced techniques to reduce, reuse, recycle resources and treat polluted land;

and to include in such grants such amounts as are necessary for the purpose of reports, plans and specifications in connection therewith.

Sec. 721

Federal grants under Sec.715 shall be subject to the following limitations:

1) No grant shall be made for any project unless such grant have been approved by the appropriate provincial water pollution control agency or agencies and by the Director General EPA;

2) No grant shall be made for any project unless the Director General determines that such project will serve as a useful demonstration for the purpose set forth under section 715; and

3) No grant shall exceed 75 percent of the cost of project as determined by the Director General.

Sec. 722

A comprehensive study and research program should be carried out to determine new and improved methods and the better application of existing methods of preventing, reducing and eliminating pollution from agriculture, including the legal, economic, and other implications of the use of such methods.

Sec. 723

The office of the Director General of EPA shall –

1) conduct or commission studies deemed necessary for the strengthened implementation of the comprehensive pollution control and management plan including but not limited to --

(A) population growth and the adequacy of the wastewater treatment facilities,

(B) the use of biological methods for nutrient removal in sewage treatment plants,

(C) contaminated sediments, and dredging activities,

(D) non-point source pollution abatement and land use in a given watershed,

(E) wetland protection and restoration,

(F) atmospheric deposition of acidic and other pollutants into a given area,

(G) water quality requirements to sustain fish and wildlife populations, and use of indicator species to assess environmental quality,

(H) Provincial water quality programs, for their adequacy pursuant to implementation of the environmental policy, and

(I) options for long-term financing of wastewater treatment projects and water pollution control programs.

2) coordinate the grants, research and planning programs authorized under this title;

3) coordinate activities and implementation responsibilities with other Federal agencies which have jurisdiction over provincial water resources and with national and regional marine monitoring and research programs;

- 4) provide administrative and technical support to conferences;
- 5) collect and make available to the public, publications and other information conferences considered appropriate, relating to the environmental quality;

Sec. 724

The Director General is authorized to make grants for projects and studies which will help implement the policies set forth under this title. Special emphasis shall be given to implementation, research and planning, enforcement and citizen involvement and education.

Sec. 725

Areas with substantial water quality problems:

(1) The Director General within ninety days after July 2000, and after consultation with appropriate Federal, Provincial and local authorities shall by regulation publish guidelines for the identification of those areas which, as a result of urban-industrial concentration or other factors have substantial water quality control problems.

(2) The Governor of each Province within sixty days after publication of the guidelines issued pursuant to subsection (1), shall:

- a) identify each area within the Province which, as a result of urban-industrial concentrations or other factors, have substantial water quality control problems;
- b) not later than one hundred and twenty days following such identification and after consultation with appropriate elected and other officials of local governments having jurisdiction in such areas, the Governor shall designate:
 - i) the boundaries of each area, and

ii) a single representative organization, including elected officials from local government for their designees, capable of developing effective area-wide waste treatment management plans for such area.

c) continue later in the same manner to identify any additional areas for which he determines area-wide waste treatment management to be appropriate as under Sec.725 (2) b).

Sec. 726

With respect to an area, which pursuant to the guidelines published under Sec. 721 under this title, is located in two or more provinces, the Governors of the respective provinces shall consult and cooperate in carrying out provisions of Sec. 725 (2).

Sec. 727

If a Governor fails to act in accordance with Sec. 725 under this title, either by designating or otherwise, within the time required, or if in case of an inter-Provincial area, the Governors of the Provinces involved do not designate a planning organization within the time provisions, the chief elected officials of local governments within an area may by agreement designate a) the boundaries for such an area and b) a single representative organization including elected officials from such local governments, or their designees, capable of developing an area-wide waste treatment management plan for such area.

Sec. 728

Not later than one year after designation of any organization under Sec. 725 of this title, such organization shall have in operation a continuing area-wide waste treatment

management and planning process and be ready with alternatives for waste treatment management and be applicable to all waste generated within the area involved. The alternatives thus prepared shall be certified by the Governor and approved by the Director General of the EPA not later than two years after the planning process is in operation.

Sec. 729

Spoil Disposal and Landfill Facilities --

The Governor of a province after due consultation and careful consideration with the head of various departments and the Director General of the EPA, may delineate an area for disposal of spoils from pollution and establish contained landfill areas according to approved standards, wherever necessary in a province.

Sec. 730

Study and Monitoring --

The Secretary of Health and Urban development jointly in consultation with the Director General of EPA is authorized to:

- 1) determine the extent of time allowed for the spoils and dredged materials to be allowed in any given contained landfill area, till the time they consider it to be full and closed for further dumping;
- 2) conduct a study of materials disposed off in contained spoil disposal facilities constructed under this title for the purpose of determining whether or not toxic pollutants are present in such facilities and for the purpose of determining the concentration levels of each such pollutants in such facilities;
- 3) no later than November of each subsequent year after the establishment of such

facilities, the Director General EPA shall transmit to the CEQ a report on the results of the study conducted sub-para 2) of this section;

4) shall conduct inspections to monitor contained spoils disposal facilities constructed under this section for the purpose of determining whether or not toxic pollutants are leaking from such facilities.

5) "toxic pollutant" means as defined by the secretary of health and as declared toxic and hazardous for health by the international community.

Sec. 731

Illegality of Discharges:

Except as in compliance with the sections under this policy, the discharge of any pollutants by any person shall be unlawful, unless permits have been acquired for the accepted limits of pollutants to be discharged, dredged or filled in water systems.

Sec. 732

Timetable for achievement of objectives:

In order to carry out the objectives under this title there shall be achieved --

- 1) not later than 1st. July 2005, effluent limitations for all point sources, other than publicly owned treatment works shall meet the requirements set forth by the NEQS;
- 2) not later than 1st. July 2005, all pollution control and treatment facilities shall require the application of the best practicable control technology currently available as defined by the Director General of EPA; and
- 3) no later than a year after declaration of more stringent limitations, including those necessary to meet water quality standards, treatment standards, or schedules of

compliance, established pursuant to any Federal or Provincial law or regulations.

Sec. 733

Notwithstanding any other provision under this title or model policy, it shall be unlawful to discharge any radiological, chemical or biological warfare agent, radioactive waste, or any medical waste into the waters of Pakistan.

Sec. 734

Listing additional pollutants --

- a) upon petition by any person the Director general has the general authority to add any pollutant to the list of pollutants for which modification is authorized under this section;
- b) the person petitioning for listing of an additional pollutant shall submit to the Director General sufficient information to make the determinations required under this section;
- c) the Director General shall determine whether or not the pollutant meets the criteria (NEQS, Department of Health) for listing as a toxic pollutant;
- d) the burden of proof for making the determinations shall be on the petitioner.

Sec. 735

Innovative technology--

In case of a facility replacing an existing capacity with an innovative production process which will result in an effluent reduction significantly greater than that required by the limitation otherwise applicable under the permit to such facility; and as such moves toward the national goal of eliminating the discharge of pollutants, or with the installation of an innovative control technique that has a substantial likelihood for

enabling the facility to comply with the applicable effluent limitation and at lower cost, the Director General may establish a date for compliance no later than two years with such effluent limitations, if it is also determined that such innovative system has the potential for industry wide application.

Sec.736

In investigating and planning for any federal, provincial, local or private projects related to water, flood control, reclamation, navigation, hydroelectric, or multiple use water resource project, full consideration shall be given, if any, which the project affords for outdoor recreation and for fish and wildlife enhancement.

Sec. 737

All Governors of provinces to coordinate activities and implementation strategies and to do all that may be necessary for interprovincial coordinated efforts with active involvement of all departments in order to carry out the provisions of this policy plan.

Sec. 738

All federal ministers in cooperation with their provincial ministers, federal and provincial secretaries shall develop an integrated plan for the implementation and enforcement of provisions of the Environmental Policy Plan.

TITLE VIII

LAND MANAGEMENT POLICY

Sec. 801

Declaration of Policy

As a vicegerent of Allah on earth, man should be responsible for all that is around him as

all these things are held in trust. Therefore:

(A) It is the policy of the Government of Pakistan that --

(1) the public lands will remain in Federal ownership, unless as a result of the land use planning procedure provided for in this Act, it is determined that disposal of a particular parcel will serve the national interest;

(2) the national interest will be best realized if the public lands and their resources are periodically and systematically inventoried and their present and future use is projected through a land use planning process coordinated with other Federal and State planning efforts;

(3) public lands not previously designated for any specific use and all existing classifications of public lands may be reviewed in accordance with the provisions of this title.

(4) Federal Government may exercise its constitutional authority to withdraw or otherwise designate or dedicate Federal lands for specified purposes and delineate the extent to which Government may withdraw lands without legislative action;

(5) in administering public land statutes and exercising discretionary authority granted by them, the concerned secretary be required to establish comprehensive rules and regulations after considering the views of the public and religious leaders; and to structure the adjudication procedures to assure adequate third party participation, objective administrative review of initial decisions, and expeditious decision making;

(6) judicial reviews of public land adjudication decisions be provided by law;

(7) goals and objectives be established by law as guidelines for public land use planning, and that management be on the basis of multiple sustainable use unless otherwise specified by law;

(8) the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, geological, ecological, environmental, air and atmospheric, water resource, and archeological values; that where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use;

(9) the Government to receive fair market value of the use of the public lands and their resources unless otherwise provided for by statute;

(10) uniform procedures for any disposal of federal land, acquisition of non-Federal land for public purposes, and the exchange of such lands be established by statute, by requiring each disposal, acquisition, and exchange to be consistent with the prescribed mission of the department or agency involved, and reserving to the Federal Government concerned review of disposals in excess of a specified acreage;

(11) regulations and plans for the protection of public land areas of critical environmental concern be developed promptly;

(12) the public lands be managed in a manner which recognizes the nations need for domestic sources of minerals, food, timber, and fibre from the public lands, and

(13) the Federal Government should, on a basis equitable to both the Federal Government and the local tax payer individual, provide for payments to compensate Provincial and local governments for burdens created as a result of the immunity of Federal lands from Provincial and local taxation.

(B) The policies under this title shall become effective for their implementation and shall be construed as supplemental to and not in derogation of the purposes for which public lands are administered under other provisions of law.

(C) The tasks of provincial environmental management are:

- (1) Organization towards fulfillment of legislation and other normative-legal acts regarding environmental protection;
- (2) Developing and ensuring the fulfillment of programs, plans and measures providing environmental protection;
- (3) Organization, development and observance of ecological requirements (norms, rules, standards and specifications);
- (4) Provincial ecological management is carried out in relation and coordination with all provincial bodies, legal entities irrespective of their subordination and forms of ownerships on which they are based, and also in relation to officials and citizens.

Sec. 802

Definitions:

The meaning of the following terms as used in this Title are:

- (a) The term “areas of critical environmental concern” means areas within the

public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.

(b) The term “holder” means any provincial or local government entity, individual, partnership, corporation, association, or other business entity receiving or using a right-of-way under this title.

(c) The term “multiple use” means the management of public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the people; making the most judicious use of the land for some or all of these resources and related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of the future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.

(d) The term “ public involvement” means the opportunity for participation by

affected citizens in rule making, decision making, and planning with respect to the public lands, including public meetings or hearings held at locations near the affected lands, or advisory mechanisms, or such other procedures as may be necessary to provide comment in a particular instance.

(e) The term “public lands” means any land and interest in land owned by the Government of Pakistan within the provinces and administered by the Secretary of the Interior through its representative departments, except --

(1) lands located in the tribal belt for self rule; and

(2) lands administered by FATA (Federally Administered Tribal Areas)

(f) The term “right of way” includes an easement, lease, permit, or license to occupy, use, or traverse public lands granted for a specified purpose.

(g) The term “Secretary”, unless specifically designated otherwise, means the Secretary of the Interior.

(h) The term “sustained yield” means the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use.

(i) The term “wilderness” means a large area of land which is essentially without human influence. An area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain, an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvement of human habitation.

(j) The term “sustainable yield” means taking no more from an ecosystem than it

can create and at the same time remain healthy, diverse and self-perpetuating.

(k) The term “allotment management plan” means a document prepared in consultation with the lessees or permittees involved, which applies to livestock operations on the public lands or on lands within National Forests and which:

- (1) prescribes the manner in, and extent to, which livestock operations will be conducted in order to meet the multiple-use, sustainable use, economic and other needs and objectives as determined for the lands by the Secretary concerned; and
- (2) describes the type, location, ownership, and general specifications for the range improvements to be installed and maintained on the lands to meet the livestock grazing and other objectives of land management; and
- (3) contains such other provisions relating to livestock grazing and other objectives found by the secretary concerned to be consistent with the provisions of this title and other applicable law.

(l) The term “principal or major uses” includes, and is limited to, domestic livestock grazing, fish and wildlife development and utilization, mineral exploration and production, rights-of-way, outdoor recreation, and timber production.

(m) The term “department” means a unit of the executive branch of the Federal Provincial Government headed by a member of the President’s Cabinet and the term “agency” means a unit of the executive branch of the Federal Government which is not under the jurisdiction of a head of a department.

(n) The term “grazing permit and lease” means any document authorizing use of public lands or lands in National Forests for the purpose of grazing domestic livestock.

Sec. 803

Inventory, identification, preparation and maintenance of public lands.

(a) The secretary shall prepare and maintain on a continuing bases an inventory of all public lands and their resource and other values (including, but not limited to, outdoor recreation and scenic values), giving priorities to areas of critical environmental concern. This inventory shall be kept current and up-to-date so as to reflect changes in conditions and to identify new and emerging resource and other values. The preparation and maintenance of such inventory or the identification of such areas shall not, of itself, change or prevent change of the management or use of public lands.

(b) As funds and manpower are made available, the Secretary shall ascertain the boundaries of the public lands; provide means of public identification thereof including where appropriate, signs and maps; and provide Provincial and local governments with data from the inventory for the purpose of planning and regulating the uses of non-Federal lands in proximity of such public lands.

Sec. 804

Land use policy.

(a) Development, maintenance, and revision by Secretary.

The Secretary shall with public involvement and consistent with the terms and conditions under this title develop, maintain, and, when appropriate, revise land use plans. Land use plans shall be developed for the public lands regardless of whether such lands have previously been classified, withdrawn, set aside, or otherwise designated for one or more uses.

(b) Coordination of plans for National Forest System lands with land use planning and management programs for the purposes of development and revision.

In the development and revision of land use plans, the Secretary of Agriculture shall coordinate land use plans for lands in the National Forest System with the land use planning and management programs of and for the local communities and tribes by, among other things, considering the policies of approved tribal land resource management programs.

(c) Criteria for development and revision.

In the development and revision of land use plans, the Secretary shall--

(1) use and observe the principles of multiple and sustainable use set forth in this and other applicable policies and laws;

(2) use a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences;

(3) give priority to the designation and protection of areas of critical environmental concern and safeguard protection and development of relatively unpolluted areas.

(4) rely, to the extent it is available, on the inventory of public lands, their resources, and other values;

(5) consider present and potential uses of the public lands;

(6) weigh long-term benefits to the public against short term-benefits;

(7) provide for compliance with applicable pollution control laws, including Provincial and Federal air, water, noise, or other pollution standards or

implementation plans; and

(8) to the extent consistent with the laws governing the administration of public lands, coordinate land use inventory, planning and management activities for such lands, keeping in view the policies of approved Provincial and tribal land resource management programs with the land use planning and management programs of other Federal and Provincial departments and agencies within which the lands are located. In implementing this directive, the Secretary shall as far as practical, keep apprized of Provincial, local and tribal land use plans and assure that those Provincial, local, and tribal plans are germane in the development of land use plans for public lands. As far as possible he shall assist in resolving inconsistencies if any between Federal and non -Federal Government plans, and shall provide for meaningful public involvement of Provincial and local government officials, both elected and appointed, in the development of land use programs, regulations, and land use decisions for public lands, including early public notice of proposed decisions which may have a significant impact on non-Federal lands. Such officials in each province are authorized to furnish advice to the Secretary with respect to the development and revision of land use guidelines, land use rules, and land use regulations of public lands within such Provinces and with respect to other land use matters as may be referred to them by him. Under this section land use plans of the Secretary shall be in consistent with the Federal, Provincial and local plans to the maximum extent.

Sec. 805

Sales of public land tracts.

(a) Criteria for disposal

A tract of public land may be sold if the Secretary determines that the sale of such tract meets the following disposal criteria:

- (1) such tract because of its location or other characteristics is difficult and uneconomic to manage as part of public lands and is not suitable for management by any other Federal department or agency; or**
- (2) such tract was required for a specific purpose and is no longer required for that or any other Federal purposes; or**
- (3) Disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including but limited to, recreation and scenic values, which could be served by maintaining such tract in Federal ownership.**

(b) Conveyance of land of agricultural value and desert in character

Where the Secretary determines that a tract of land is of agricultural value but is desert in character, such tracts shall be authorized to be sold in accordance with some existing law.

(c) Procedure applicable to tracts in excess of two thousand five hundred acres.

Where a tract of public land in excess of two thousand acres has been designated

for sale, such sale may be made only at the end of discussion and decision of the National Assembly after the Secretary has submitted a notice to the Provincial and National Assembly for approval of such sale.

(d) Sale price.

Sale of public lands shall be made at a price not less than their fair market value as determined by the Secretary.

(e) Maximum size of tracts.

The Secretary shall determine and establish the size of tracts of public lands to be sold on the basis of the land use capabilities and development requirements of the land; and, where any such tract which is judged by the Secretary to be chiefly valuable for agriculture is sold, its size should be no larger than necessary to support a family-sized farm.

(f) Competitive bidding requirements.

Sales of public lands under this section shall be conducted under competitive bidding procedures to be established by the Secretary. However, where the Secretary determines it necessary and proper in order:

- (i) to assure equitable distribution among purchasers of lands, or**
- (ii) to recognize equitable considerations or public policies, including but not limited to, a preference to users, he may sell those lands with modified competitive bidding or without competitive bidding. In recognizing public policies, the Secretary shall give consideration to the following potential purchasers:**

- (1) the Province in which the land is located;
 - (2) the local government entities in such Province which are in the vicinity of the land;
 - (3) adjoining land owners;
 - (4) individuals; and
 - (5) any other person.
- (g) Acceptance or rejection of offers to purchase.

The Secretary shall accept or reject, in writing, any offer to purchase made through competitive bidding at his invitation no later than thirty days after the receipt of such offer or, in case of a tract in excess of two thousand five hundred acres. The Secretary may refuse to accept any offer or may withdraw any land or interest in land for sale under this section when he determines that consummation of the sale would not be consistent with this Title or other applicable law.

Sec. 806

Withdrawals of lands

- (a) Authorization and limitations; delegation of authority

On and after the effective date of this Title the Secretary is authorized to make, modify, extend or revoke withdrawals but only in accordance with the provisions and limitations of this section. The Secretary may delegate this withdrawal authority only to individuals in the office of the Secretary who have been appointed by the Governor / President, by and with the advice and consent of the Provincial / National Assembly.

- (b) Application and procedures applicable subsequent to submission of

application

(1) Within thirty days of receipt of an application for withdrawal, and whenever he proposes a withdrawal on his own motion, the Secretary shall publish a notice in the District Gazetteer stating that the application has been submitted for filing or the proposal has been made and the extent to which the land is to be segregated while the application is being considered by the Secretary. Upon publication of such notice the land shall be segregated from the operation of the public land laws to the extent specified in the notice. The segregative effect of the application shall terminate upon (i) rejection of the application by the Secretary, (ii) withdrawal of lands by the Secretary, or (iii) the expiration of two years from the date of the notice.

Sec. 807

Enforcement authority

(a) Regulations for implementation of management, use, and protection requirements; violations; criminal penalties

The Secretary shall issue regulations necessary to implement the provisions of this Title with respect to the management, use and protection of the public lands, including the property located thereon. Any person who knowingly and willfully violates any such regulation which is lawfully issued pursuant to this Title shall be fined no more than RS. 10,000 or imprisoned no more than twelve months, or both. Any person charged with a violation of such regulation may be tried and sentenced by any magistrate or judge

designated for that purpose by the court by which he was appointed.

(b) Civil actions by Attorney General for violations of regulations

At the request of the secretary, the Attorney General may institute a civil action in any district court for an injunction or other appropriate order to prevent any person from utilizing public lands in violation of regulations issued by the Secretary under this Title.

(c) Contracts for enforcement of Federal laws and regulations by local law enforcement officials; procedure applicable; contract requirements and implementation

(1) When the Secretary determines that assistance is necessary in enforcing

Federal laws and regulations relating to the public lands or their resources he shall offer a contract to appropriate local officials having law enforcement authority within their respective jurisdictions with the view of achieving maximum feasible reliance upon local law enforcement officials in enforcing such laws and regulations. The Secretary shall negotiate on reasonable terms with such officials who have authority to enter into such contracts to enforce such Federal laws and regulations. In the performance of their duties under such contracts such officials and their agents are authorized to carry firearms; execute and serve any warrant or other process issued by a court or officer of competent jurisdiction; make arrests without warrant or process for a misdemeanor he has reasonable grounds to believe is being committed in his presence or view, or for a felony if he has reasonable grounds to believe that the person to be arrested has committed or is committing such felony; search without warrant or process any person, place, or conveyance according to any Federal law or rule of law; and seize without warrant

or process any evidentiary item as provided by Federal law. The Secretary shall provide such law enforcement training as he deems necessary in order to carry out the contracted for responsibilities. While exercising the powers and authorities provided by such contract pursuant to this section, such law enforcement officials and their agents shall have all the immunities of Federal law enforcement officials.

(2) The Secretary may authorize Federal personnel or appropriate local officials to carry out his law enforcement responsibilities with respect to the public lands and their resources. Such designated personnel shall receive the training and have the responsibilities and authority provided for in paragraph (1) of this subsection.

(d) Cooperation with regulatory and law enforcement officials of any Province or political subdivision in enforcement of laws or ordinances:

Concerning the administration and regulation of the use and occupancy of the public lands, the Secretary is authorized to cooperate with the regulatory and law enforcement officials of any Province or political subdivision thereof in the enforcement of the laws or ordinances of such Province or subdivision. Such cooperation may include reimbursement to a province or its subdivision for expenditures incurred by it in connection with activities which assist in the administration and regulation of use and occupancy of the public lands.

(e) Applicability of other Federal enforcement provisions

Nothing in this Title shall be construed as reducing or limiting the enforcement authority vested in the Secretary by any other statute.

(f) Unlawful activities

The use, occupancy, or development of any portion of the public lands contrary to any regulation of the Secretary or other responsible authority, or contrary to any order issued pursuant to any such regulation, is unlawful and prohibited.

Sec. 808

Heavily polluted areas to be given greater attention in the physical planning process and execution of environmental policies

Sec. 809

Maintain a safe and habitable country as a primary condition guaranteeing sustainable use, a concept containing the criteria to weigh ecological, economic and socio-cultural factors.

Sec. 810

Policy on waste to be aimed at preventing its generation, promoting recycling and ensuring that waste is processed with due care.

Sec. 811

Develop and use financial instruments to reverse patterns of behavior in households and industry so as to benefit the environment. Market-oriented price mechanisms for this purpose, such as regulatory levies and fiscal measures, may greatly influence behavior in certain cases.

Sec. 812

The amount of waste to be disposed of in landfills by the year 2009 must be reduced by one tenth of what is now.

Sec. 813

NEQS to determine waste quality standards and give extensive guidelines on the disposal and or storage of hazardous and radioactive wastes.

Sec. 814

Import or export of hazardous and radioactive wastes/chemicals to be strictly monitored and controlled by concerned government agencies and as far as possible eliminate such business in the light of Geneva Protocol of 1971.

Sec. 815

The Director General of provincial EPAs to monitor and uphold the legal provisions in controlling pollution of water, air, land and the impacts of small scale activities and domestic waste.

Sec. 816

It is the responsibility of the Government of Islamic Republic of Pakistan to provide clean and accessible public toilets or restrooms and essential services for her citizens to suit the dynamic needs of all sections of society.

Sec. 817

Oil spills, hazardous materials, etc. must be cleaned up to the standards of the NEQS at a cost to importers, producers, consumers, transporters and owners of such chemicals.

Sec. 818

The role of the Government of Pakistan to shift from dominant controller and environmental trouble shooter to one of the actors in a network to facilitate public debate

in early stages of policy development and make trade, industry and society in general to assume responsibility to achieve publicly formulated objectives.

Sec. 819

The Government along with trade and industry to assume primary responsibility for solving the environmental problems through maintaining an adequate research and development network.

Sec. 820

The Government to monitor and evaluate implementation of policies and wherever necessary devise rules and regulations or financially regulating instruments if implementation is lagging far behind compared with intended policy outcomes.

Sec. 821

Federal Government will confine itself to providing a framework containing policy targets and reviewing in outline the outcomes of interaction between government, farmers, environmental organizations, and representatives of trade and industry.

TITLE IX

NATURAL RESOURCE POLICY

Sec.901

Declaration of Policy

(A) The Government of Pakistan declares that --

(1) the decline in the populations of rare plants and animals continues, there is an overall decline and that the rate of decline has not slowed down;

(2) the acreage of areas of high ecological value and the habitats for wild plant

and animal species continues to decline which endangers their continuous existence;

(3) the increasing impact of pollutants on areas of high ecological value via soil, water and air is a matter of concern;

(4) the steady and insidious increase of poisonous substances in the natural environment poses a special threat;

(5) the sustainability of ecological and landscape values be ensured.

(B) The main objective of the Natural Resources Policy is --

(1) sustainable development and sustainable restoration of ecological and landscape values;

(2) to preserve important historic, cultural, geological and natural aspects of our national heritage, and all agencies or individuals to maintain, wherever possible, an environment which supports diversity, and variety of individual choice; with regard to geological values, focus will be on structures and processes that are (inter)nationally rare, highly irreplaceable and taking place at the present moment;

(3) to preserve and develop national ecological network consisting of core areas, nature development areas and ecological corridors.

(4) to strengthen and expand the National Parks and preserve national heritage for our children.

(C) The policies of this act shall become effective as specific statutory authority for their implementation and be construed as supplemental to and not in derogation of the purposes for which public lands are administered under other provisions of law.

Terms and Definitions

The meaning of the following terms used in this Title are:

(a) The term “natural environmental” means - the totality of natural objects and natural resources both animate and inanimate, including the atmosphere, water, earth, soil, animal and plant life, as well as the climate and each in their relationship with one another;

(b) The term “environmental protection” means - an activity directed towards the achievement and maintenance of the quality of the natural environment, with which the maintenance, protection and recovery of a healthy state and the entirety of the ecosystem of the Earth, the protection of the diversity of flora and fauna is carried out in order to satisfy the interests and demands of society, in accordance with ecological requirements;

(c) The term “quality of natural environment” means - a state of the natural environment that corresponding to requirements (norms, rules, standards) set by legislation, guarantees and supports

(i) health of mankind and his living in harmony with nature,

(ii) working of natural resources to ensure economic growth and steady development of society,

(iii) maintenance, protection and restoration of the healthy state and entirety of ecosystems, protection of the diversity of flora and fauna;

(d) The term “nature” means - a state provided by nature without man-made changes as it refers to conditions of the existence of life of organisms and their

associations, of mankind and society, on which they directly or indirectly have effect in the course of their living activity;

(e) The term “natural object” means - a structural part of nature, which is characterized by: having come into existence in a natural way; the absence of cost of public labor on the creation of this object; being located in the system of natural ecological ties;

(f) The term “natural resource” means - part of a natural object, consumed and used for the satisfaction of economic, social and ecological needs of mankind and society or set aside for such use;

(g) The term “ecological cleanup” means - complex of organizational, economic, technical, technological and other measures for cleaning up and sterilization of affected parts of environment and other objects, with the objective towards fulfilment of ecological requirements;

(h) The term “general use of nature” means - the use of the natural resources by people for satisfying their ecological and social needs without special permission and without the application of special technical structures. This shall include the atmosphere, water for consumption & daily communal use, for recreational and health-treatment uses, land under common usage in the cities and communities, forests for health-treatment purposes and/or for the non-industrial collection of mushrooms, nuts, berries, other such products, or other wild plants or their parts, and other such uses of natural resources without a detriment to their capacity or sustainability.

Sec. 903

Natural resource legislation is based on certain priorities and principles:

(a) Priority of protection of life, property, honor and health of the people of Pakistan at any cost by the government recognizing that people are the greatest resource for the country. Prevent and reduce the negative effects of environment on human health at every cost;

(b) Principle of preservation of the natural environment, maintenance and improvement of the general quality of nature and landscape, protection and restoration of healthy conditions and integrity of the ecosystems, development of particular natural and landscape values, and maintenance of the ecological safety of mankind and his fruitful ability to live in harmony with nature;

(c) Principle of public involvement, participation of the affected citizens and associations in making of the ecological, environmental and important natural resource management decisions as often as required.

(e) Principle of sustainable use of natural resources to benefit the present and future generations;

(f) Principle of availability of environmental information such that it is available for public use in a simple, clear, authentic, timely and complete manner as opposed to being a state secret;

(g) Principle of prevention of damage to the natural environment by economic or other activity, under which the proponents and operators are morally and legally obligated to undertake appropriate measures to prevent, reduce and mitigate the harmful effects;

(h) 'The polluter pays' principle according to which any entity responsible for environmental damage must pay for the cost of clean-up and restoration;

(i) The principle of responsibility according to which any entity, local management, individuals involved, provincial government, other government agencies or groups of independent businesses, must all share and bear the responsibility for the adverse consequences of their decisions and actions as they negatively affect the social, economic, health, moral and psychological well being of people, besides the living environment.

Sec.904

Achieve a balance between population and resource use which will permit equitable distribution of resources, high standard of living and a wide sharing of life's amenities.

Sec.905

Enhance the quality of renewable natural resources and approach the maximum attainable recycling of depletable resources. Recycling and reusing minerals can reduce the need for new and larger mines and the associated impact on environment and dependency on other countries.

Sec.906

Preserve, conserve and protect the naturalness and wild character of roadless and wild lands and their intact indigenous cultures, which have been primarily affected by the forces of nature, have outstanding opportunities for solitude or a primitive and unconfined type of recreation and may also contain ecological, geological, cultural or

other features of scientific, educational, scenic, or historical value;

Sec. 907

Preserve, conserve and protect the naturalness, wild character and organic nature of regional farm production, crop, feed, meat, fruit and other food and consumer products so that genetic pollution is not allowed.

Sec. 908

Genetically engineered produce with terminator genes will be considered unethical and unlawful. The Department of Agriculture will do all that is necessary to implement this policy.

Sec. 909

Establish a system of nation-wide surveys to audit ecological, environmental, geological, social and economic conditions to prepare suitable management plans aimed at betterment of conditions.

Sec. 910

Fragmentation and isolation of nature conservation areas be reduced by creating a national ecological network. This can be done through the acquisition of reserves and conservation areas.

Sec. 911

National ecological network should be implemented within the next 25 years, and wherever possible preserve ecological corridors which may connect ecological networks..

Sec. 912

Provinces to adopt a system of territorial plans to establish optimal levels of

socio-economic development in relation to the priorities dictated by ecological and environmental values. Thus zoning of industrial, commercial, residential, recreational, and other areas to be accomplished for optimal development of different sections of public economy in consideration of environmental and ecological requirements.

Sec. 913

Establish a National Wilderness Preservation System of federally owned wild, protected and preserved territories to be known and listed as wilderness areas. These lands shall be located after a system of surveys.

Indigenous tribal communities must be recognized with full respect and encouraged to develop eco-tourism.

Sec. 914

Hunting of wild animals can be allowed if it is dictated by the necessity for food or for the control of pests. Sport hunting to be abolished immediately.

Sec. 915

Recommendations of the President for wilderness preservation can be recognized only after due approval of the Parliament and National Assembly.

Sec. 916

Once wilderness areas are established, it will be the responsibility of the Forest Department to manage them according to standards established internationally or those prescribed by International Union for Conservation of Nature.

Sec. 917

Legislation regarding management of forestry, wildlife, fisheries, tourism, and

other departments involving natural resources in their business should be in agreement with the sections under this policy.

Sec. 918

Role of natural resource management agencies cannot be overemphasized in fostering environmental education, regulating the use and protection of separate and respective types of natural resources under their jurisdiction. Such agencies and departments among others may include the following:

- a) Ministry and Department of Food and Agriculture;
- b) Water and Power Development Authority;
- c) Department of Forests, Wildlife, Fisheries and Tourism;
- d) Ministry of Interior;
- e) Department of Defense;
- f) Ministry of Housing and Urban Affairs;
- g) Department of Archeology;
- h) Ministry of Mining;
- i) Gem Stone Corporation of Pakistan;
- j) Ministry for Industries;
- k) Ministry of Health;
- l) Oil and Gas Development Corporation of Pakistan;
- m) Soil Survey of Pakistan;
- n) Geological Survey of Pakistan.

Sec. 919

Alongside with State and Provincial bodies of management, local executive bodies, private industrial sector and other independent organizations having direct or indirect affect on the environment, bear full responsibility and competence in the sphere of environmental protection.

Sec. 920

It is the responsibility of the Government to maintain Information Data Banks about provisions for protecting the natural environment and the ecological information may be connected with data on:

- a) the state of water, air, soil, fauna, flora, natural landscapes and complexes;
- b) the threat or risk to health and life of different species and humans;
- c) the chemical, physical and biological effects of the state of the environment and their sources;
- d) measures which negatively affect points 'a' and 'b' of this Sec;
- e) measures which positively offer environmental protection for points 'a' and 'b' of this Sec. - including administrative measures and programs;

Sec. 921

Environment related information is required to be kept by the Provincial and Federal Governments such that it is:

- a) complete for the concerned organization or public seeking it;
- b) timely provided within the shortest possible time without unnecessary bureaucratic delays or red-tapism of any kind;

c) authentic and in compliance with Federal, Provincial, NEQS, other scientific laboratory standards and other specialists hired for establishing related procedures and factual information as it relates to the law;

d) not considered to be secretive on the basis that such information may have a prioritized significance for defense and integrity of the country.

Sec. 922

Requests for providing environmental, ecological and other statistical information should be honored and provided to all legal entities which are users of natural resources, irrespective of the organizational subordination and the form of ownership on which they are based.

Sec. 923

Information data banks related to public health and safety should remain open to public scrutiny.

TITLE X

NOISE POLLUTION POLICY

Sec.1001

Declaration of policy.

(a) Government of Pakistan finds and declares that noise in excess of limits provided under this title is a major source of environmental pollution which presents a threat to the serenity and quality of life in Pakistan.

(b) It is also declared that excess noise levels have an adverse physiological and psychological effect on human beings, thus contributing to an economic loss to an

individual or community.

(c) Provinces are hereby empowered to adopt ordinances for control of matters of purely local concern, including performance of all acts and making all regulations that may be necessary to regulate noise on public and private property.

Sec.1002

The following definitions will apply under this title:

(a) “Commercial Activity” means any activity related to business or commerce; any activity engaged in for attracting customers to engage in the commercial and/or business transactions.

(b) “Construction Activities” means any and all activity incidental to the erection, demolition, assembling, altering, installation or equipping of buildings, structures, roads, land clearing, grading, excavating, and filling.

(c) “Device” means any equipment or mechanism which is intended to produce or actually produces sound when installed, used or operated.

(d) “Explosive Noise” means any sound, the hearing of which places an individual or ordinary sensitivity in at least momentary apprehension of a supposed explosion capable of doing damage to either body or property.

(e) “Indoor Sound Amplification Device” means any equipment or machine for the amplification of speech, music or other sound within any roofed building or structure having more than fifty percent (50%) of its interior floor plan enclosed about with walls.

(f) “Noise Disturbance” means any sound which is or may be:

- 1) Harmful or damaging to the health, safety or welfare of any

individual; or

- 2) Of such a volume and/or intensity that it unreasonably interferes with the enjoyment of life, quiet, comfort or outdoor recreation of an individual of ordinary sensitivity and habits; or
- 3) Endangers or injures real or personal property or the conduct of business.

(g) “Outdoor Sound Amplification Device” means any equipment or machine for the outdoor amplification of speech, music or other sound.

(h) “Person” means any individual, association, partnership or corporation, and includes any officer, employee, department, agency or instrumentality of any association, partnership or corporation, or the province or any political subdivision of the province.

(i) “Property Boundary” means an imaginary line along the ground surface and its vertical extension, which separates the real property owned by one person from that owned by another person.

(j) “Public Right of Way” means any street, avenue, boulevard, highway, sidewalk/footpath or alley or similar place which is owned or controlled by a governmental entity.

(k) “Public Space” means any real property or structures thereon which are owned or controlled by a governmental entity.

(l) “Residential Property” means any parcel of ground occupied as a single or multiple family residence.

(m) “Sound” means an oscillation in pressure, stress, particle displacement,

particle velocity or other physical parameter, in a medium with internal forces. The description of sound may include any characteristic of such sound, including duration, intensity and frequency.

(n) “Sound Level” means the weighted sound pressure level obtained by use of the sound level meter and frequency weighing network, as specified in the NEQS / Sec.1005 under this title.

(o) “Sound Pressure” means the instantaneous difference between the actual pressure and the average or barometric pressure at a given point in space as produced by sound energy.

(p) “Sound Producing Device” means any equipment for the production, reproduction or amplification of speech, music, or other sound, including, but not limited to, radios, television, phonographs, tape players, musical instruments, compact disc or tape cassette players, walkie-talkies, CD radios or synthesizers.

(q) “Vehicle” means any machine in, upon or by which any individual or property is or may be transported or drawn upon or over any highway, thoroughfare or ground, except those machines by human power or used exclusively upon stationary rails or tracks.

Sec.1003

The aim of this policy is:

(a) to achieve and maintain good environmental quality in the home and direct living environment in relation to noise which unreasonably interferes with the enjoyment of life, quiet, comfort at home or outdoor recreation of an individual of ordinary

sensitivity and habits.

(b) to establish control on noise pollution from a variety of public address systems, industry, vehicles, air, rail and road traffic through effective legislation and accountability.

(c) Businesses with amplified sound systems to seek a permit annually, to allow them to have amplified sound up to decibel levels allowed by the EPA.

(d) to encourage Government and relevant industry to invest into research for less noisy industrial, rail, road and air traffic equipment.

Sec.1004

No person shall permit, make, cause to be made or continue any: a) Noise disturbance; b) unauthorized explosive noise; or c) unauthorized indoor or outdoor amplification devices while engaging in commercial activity, whether stationary or placed on any vehicle; nor shall any person or individual make any unreasonable noise in excess of the levels provided in Sec. 1005 and measured as provided in Sec. 1006 under this title.

Sec.1005

Maximum Permissible Noise Levels:

(a) A noise measured or registered in the manner provided in Sec. 1006 below from any source at a level which is in excess of the 50 db during 7:00 p.m. to 7:00 a.m, and 55 db during 7:00 a.m. to 7:00 p.m., is established for the time period in residential areas is hereby declared to be excessive and unusually loud and is unlawful.

(b) During the hours between 7:00 a.m. and 7:00 p.m., the noise levels permitted

in this section may be increased by ten db for a period not to exceed fifteen minutes in anyone hour period.

Sec.1006

Classification and Measurement of Noise:

For the purpose of determining and classifying any noise as excessive or unusually loud, and as such, in violation of Sec.1005, the following test measurements and requirements shall be applied; provided, however, that a violation of Sec.1004 may occur without the following measurements being made:

(a) Noise shall be measured at a distance of at least 25 feet from the noise source located within the public right-of-way, and if the noise source is located on private property or public property other than the public right-of-way, the noise shall be measured at or within the property boundary of the residential property where the measurement is taken.

(b) The noise shall be measured on a weighing scale on a sound level meter of standard design and quality.

(c) For the purpose of this title, measurements with sound level meters shall be made when a wind velocity at the time and place of such measurement is not more than five miles per hour or not more than twenty-five miles per hour with a windscreen appropriately attached to the microphone.

(d) For the purpose of this title, a noise not in violation of the parameters specified in Sec.1005, constitutes a noise disturbance in violation of Sec.1004 when, in the reasonable discretion of EPA officers/administrators, the noise constitutes an

unreasonable interference with enjoyment of life, quiet, comfort or outdoor recreation of an individual or individuals of ordinary sensitivity or habits present at the time the noise is made.

Sec.1007

Provisions under this title shall not apply for the following exceptions and excludabilities:

(a) Any noise resulting from any authorized emergency vehicle responding to an emergency call or acting in times of emergency.

(b) The operation of air craft or other activities which are subject to federal law with respect to noise control.

(c) Operation of agricultural equipment.

(d) Regular amplified calls for congregational prayers from religious organizations (churches, Masajids and temples) within the limits provided under this title.

(e) Sponsored athletic events.

(f) Notwithstanding any other provision under this title, construction or demolition projects shall not exceed a noise limit of 80 db (7:00 a.m. to 7:00 p.m.) and should not be conducted between the hours of 7:00 p.m. and 7:00 a.m.

Sec.1008

Permits may be obtained for commercial activity involving the use of indoor or outdoor sound amplification devices and activity regarding explosive noise provided, however:

(a) The respective EPA shall have authority to grant special permits under the

provisions of this title. Any person seeking a special permit shall file an application containing the date, time, location and duration of activity for which the permit is requested.

(b) In determining whether to grant or deny the application, EPA shall balance the hardships to the applicant of not granting the special permit against known circumstances showing the adverse impact on the health, safety and welfare of persons affected, the adverse impact on property affected and any other adverse impacts of granting the special permit.

- (i) Special permit decision may be appealed in the Environmental Court of Justice (ECJ).
- (ii) Special permits shall be granted by notice to the applicant containing all necessary information, including a time limit on the permitted activity.
- (iii) Upon receipt of the permit application, the EPA shall provide reasonable notice to potentially interested parties by either:
 - 1) Posting notice in the mail: or
 - 2) Providing for publication of the notice about the intended activity in a newspaper of general circulation two weeks prior to the time requested in the permit application; or
 - 3) In case of an application for a permit to engage in use of indoor or outdoor sound amplification devices associated with commercial activity, by mailing a copy of the application to all property owners within 500 feet of the location specified in the permit application.

(iii) Denial of any permit application shall be made in writing wherein EPA shall specify the reasons therefore; provided, however, that in no case may a permit be granted when the noise levels specified in Sec. 1005 of this title.

(c) Under no circumstances shall the noise level or an activity for which a special permit is granted exceed ninety (90 db) decibels for a period of time in excess of eight (8) hours in any twenty-four (24) hour period.

(d) Noncompliance with any condition of the special permit shall terminate the permit and subject the person holding it, to compliance with the provisions of this title regulating maximum permissible noise levels.

Sec.1009

Automobile Sound Levels:

It is unlawful to operate or cause to be operated a public or private motor vehicle, motorcycle, rickshaw, truck or an automobile of another description on a public right-of-way anytime so that the sound level emitted by an automobile exceeds 80 db at speed limit of 35 mph or less and 84 db at a speed limit greater than 35 mph. Automobiles with a manufacturer's gross vehicle weight rating (GVWR) of 10,000 lbs. or more should not exceed a sound level of 86 db when operated at a speed limit of 35mph or less, and a sound level of 90 db when the same is operated at a speed limit of greater than 35 mph.

(a) Noise shall be measured at a distance of at least twenty-five (25) feet from the traffic lane being monitored and at a height of four (4) feet above the immediate surrounding surface.

(b) The repeated sounding of any horn or other auditory signaling device on or in any automobile on public right-of-way or public space except as a warning of danger is declared to be a violation under this title.

(c) No person shall operate or cause to be operated any automobile off a public right-of-way in such a manner that the sound level emitted exceeds the limits set forth in Sec. 1005 under this title except in areas otherwise designated for such activity.

Sec.1010

Violations of this title shall constitute an offence that may be enforced through the penalty assessment procedures.

(a) The graduated fine schedule for the penalty assessment procedure is:

Rs. 300 for the first violation.

Rs. 600 for the second violation within thirty (30) days of the first violation.

Rs. 3,000 for each successive violation within thirty (30) days of the prior violation.

(b) In addition to any other penalty, persons convicted of a violation under this title shall be subjected to a surcharge of Rs.100.00 to be paid to the Environmental Court of Justice (ECJ).

(c) Whoever repeatedly gets convicted of offences under this title shall be punished with simple imprisonment for a term which may extend to seven days along with the penalties prescribed.

(d) Any law enforcement officer, EPA officer, or a government officer of the local

municipal corporation are authorized to issue tickets / 'challans' and complaints for violations under this title.

Sec.1011

Prosecutions for all offences under this title shall be by the Environmental Court of Justice and according to the Rules of Criminal Procedure. Trials shall not be before a jury.

Sec.1012

EPA and the Commissioner of the respective division may seek injunction, mandamus or other appropriate civil relief to enforce the provisions under this title.

Sec.1013

The title shall become effective 180 days after adoption by the Provinces.

Sec.1014

If any provision of this title is determined to be unconstitutional by any court of competent jurisdiction, the remaining provisions shall be deemed unaffected by the said determination.

TITLE XI

ODOR, VIBRATION NUISANCE AND MAJOR HAZARD POLICY

Sec. 1101

Policy under this title is aimed to achieve and maintain, to the maximum extent possible, environment at home and the direct living environment, as free as possible from odor, vibration and major hazards which unreasonably interfere with the comfort, enjoyment and safety of life at home or outdoor recreation of an individual of ordinary

sensitivity and habits; and threatens the health and safety of a nations' people and the durability of their everyday living or work related environment. It is a clear understanding of the government that planning and positive action, as the basis of hazard mitigation is the best way to encounter the inevitability of many hazards.

Sec. 1102

The Government of the Islamic Republic of Pakistan considers it necessary to formulate specifications and issue guidelines for further development and refinement of a policy plan to inhibit, control and to any extent possible eliminate the pollution in the form of odor, vibration nuisance and possible structural damage; widespread cycle of avalanches, landslides and floods; the risks associated with biological, chemical, poisonous substances, emissions and effluents; and electromagnetic fields, radiation, radioactivity and hazards associated with a nuclear fallout due to an accident or warfare which pose a constant threat to the health and welfare of not only her own people but also to those beyond her borders in the global village.

Sec. 1103

Develop legislation and effective implementation strategy for a complete ban on the manufacture, transportation, storage and use of hazardous substances. A hazardous substance may be defined as a substance posing a potential risk, threat or danger to human life, health and safety. For the purpose of this title such substances may not be necessarily limited to the following categories of substances: radioactive, nuclear, explosive, corrosive, addictive drugs and a variety of other lethal substances known to be detrimental to human health and safety.

Sec. 1104

With the help of law enforcement agencies Government is committed to eliminate the business of drug trafficking by announcing and implementing severe punishments to those involved at any level of the network. Drugs, tobacco, narcotics and alcohol are completely forbidden in an Islamic state.

Sec. 1105

Federal and provincial departments of water and power development and all others concerned and dealing with hazardous materials, to be responsible for the management, containment, clean-up, transportation and safety from all kinds of hazardous and nuclear wastes, and to device ways and means for storage, suitable alternatives and recycling of their wastes.

Sec. 1106

Provincial EPAs in cooperation with the CEQ and the guidelines offered by NEQS, should compile and determine waste quality standards for every type of activity and establish requirements for disposal of hazardous, poisonous and radioactive waste products.

Sec. 1107

Federal and provincial departments, agencies, legal entities, officials and global citizens are obliged to observe environmental, ethical and moral requirements with respect to:

a) the production, import, export, storage, transportation, trade, use, rendering harmless and burial of chemical substances, radioactive substances, materials and wastes;

b) the production, import, export, storage, transportation, trade and use of biological species, pathogens, microorganisms, materials and wastes;

c) the production, import, export, storage, transportation, trade, use, rendering harmless and burial of industrial wastes, communal garbage, and other wastes;

d) the production of harmful levels of noise, vibrations, electromagnetic fields and other physical factors.

Sec.1108

Conduct legislative research for effective control of odor and vibration pollution at a source.

Sec.1109

Municipal corporations to be held responsible and liable for odor generated from neglected dumpsters, areas of service and while such trash is under transit to the landfills within their respective jurisdictions.

Sec.1110

Burning of trash within city limits or chemicals which are non-biodegradable is hereby strictly prohibited because of the offensive odor and other hazards to the ecosystem.

Sec. 1111

Municipal corporation and other designated offices of the EPA to maintain open telephone lines for receiving reports, complaints and other information exchange regarding excessive smoke, odor or other aspects of environment.

Sec.1112

Develop legislation and regulatory building codes to make roads, housing and construction projects safer and durable in case of natural disasters like floods, avalanches, mudslides and earthquakes.

Sec. 1113

Governors of each province to make sure that all major towns and cities in cooperation with the EPA's, local police stations and paramedics develop a very functional and effective Emergency Response System to tackle situations caused by the hazards mentioned under this title.

Sec. 1114

In cooperation with EPA, Ministry of Health, Ministry of Housing and Urban Development, location of landfills, warehousing and burial of wastes from industrial production and human consumption is determined jointly by the decision of local executive bodies of authority and ministries involved.

Sec. 1115

The import or export of wastes from industrial production and consumption for storage is forbidden in general and in particular hazardous wastes for which the government does not have the technology to render them harmless and for salvaging after use is strictly forbidden.

Sec. 1116

Environmental requirements and other aspects of this model policy are fully applicable to the Navy, Air Force and Army of the Islamic Republic of Pakistan.

Sec. 1117

Use or research on biological weapons of mass destruction or other means of rendering harmful effects on humans, crops, animals, food and other natural resources is strictly forbidden.

TITLE XII

POLICY ON MORAL POLLUTION

Sec. 1201

The Government of Pakistan is concerned not only about the health and safety issues but also for the moral well being of her citizens. The Government of the Islamic Republic of Pakistan recognizes the fact that:

- a) Life can become miserable when living conditions are unhealthy and heavily polluted, and even worst when a nation becomes plagued with the cancer of ever increasing moral pollution and corruption.
- b) Pakistan has been listed as the second most corrupt country in the world by a renowned journal in Germany. Complete lawlessness and a sense of life's insecurity prevails.
- c) There is an atmosphere of extreme corruption and lack of accountability in general.
{News clip (June 13, 1997) about domination of injustice, corruption and bribery in Pakistan; News clip (Aug. 22, 1997) about corruption and terrorism in Pakistan}
- d) Within the past 50 years, three wars have been fought between Pakistan and India. A constant threat of nuclear warfare lurks in the region besides political and economic instability. There is poverty, there is pollution, there is corruption and social injustice.

Thus, the future is heavily marred.

e) Since her gaining independence from the British in 1947, Pakistan was created in the name of Islam and was supposed to follow the Islamic State model of the Prophet Mohammad (pbuh), rather than the British Congress' Hindu-Secular miniature. It has yet to institute a true Islamic state.

f) The change of guards in the political arena, is yet to solve the problems of economic classes, ethnicity, religious community, illiteracy, and the plight of the poor and uneducated living in the rural areas, as well as the eighteenth century feudalistic land tenure system. All these divisions are eating up the roots of the Islamic, economic, and political foundation of the country.

g) Pakistan needs to address the problems of unemployment and the question of equity in terms of the distribution of national wealth or income.

h) Pakistan's larger population growth can become a strength and not a weakness if it is used effectively to generate wealth, industrial advancement, and foster agricultural development.

i) Islam allows the pursuit of private property and possession of wealth but it vehemently negates greed and selfishness.

j) Islam has always helped Pakistan but Pakistan has not been faithful to Islam. The paradox lies in the lack of a genuine Islamic government, economic system, fast free and an independent system of justice in the light of Qur'an, Hadith and Fiqh.

k) Muslims believe that the Qur'an is the very word of God, Almighty: A complete record of the exact words revealed by God through the Angel Gabriel to the Prophet

Mohammad. The Qur'an is the principal source of every Muslim's faith and practice. It deals with all subjects that concern us as human beings, including wisdom, doctrine, worship and law; but its basic theme is the relationship between God and His creatures. At the same time, the Qura'an provides guidelines for a just society, proper human conduct and equitable economic principles.

1) The *sunnah*, sometimes referred to as the *hadith*, the practice and example of the Prophet, is the second source of inspiration and instruction for Muslims. Belief in *sunnah* is part of the Islamic faith. A few examples of the Prophet's sayings (*Hadith*):

- *"God has no mercy on one who has no mercy on others."*
- *"None of you truly believes until he wishes the same for his brother what he wishes for himself."*
- *"He who eats his fill while his neighbor goes without food is not a believer."*
- *"God does not judge you according to your bodies and appearances but He looks into your hearts and observes your deeds."*
- *"One Muslim should do six acts of kindness to another: he should greet him when he meets him; accept his invitation when he gives one; say 'God have mercy on you' when he sneezes; visit him when he is ill; follow his bier when he dies; and like for him what he likes for himself."*
- *"There is a reward for kindness to every living being."*
- *"O people, listen to me in earnest, worship God, perform your five daily prayers, fast during the month of Ramadan, and give your wealth in Zakah. Perform Hajj if you can afford to. Know that every Muslim is the brother of another Muslim."*

You are all equal. Nobody has superiority over others except by piety and good action." (from The Prophet's Last Sermon).

- "The most perfect in faith amongst believers is he who is best in manner and kindest to his wife."

Only God can decide who is pious and who is superior in piety and good actions.

m) Social justice and equity are the corner stones on which the structure of a society should be raised. Wide disparities in all aspects of social and economic life necessitates special attention to those who fall into the category of the under-privileged, deprived or handicapped.

n) Development mechanism must ensure the prosperity of the present and future generations of the poor and deprived masses.

o) Every unserved and unreached child is the moral responsibility of the government. Policies must integrate universalization of primary education, early childhood welfare, healthcare, funding, education and above all empowering the family to accelerate the pace of its contribution and capacity for society's development.

Sec. 1202

The religion of Islam has no place for bureaucracy - an unwieldy administrative system practiced by the Central Superior Services of Pakistan. Master and slave type of relationship being practiced by the bureaucracy and government functionaries in power, with complete immunity to any kind of accountability, can never be accepted and allowed by the people of Pakistan. Central Superior Services of Pakistan must completely yield, be humble and accountable to the common people of Pakistan.

Sec. 1203

There are about more than 6,000 verses in the Holy Qur'an and out of these are more than 2,000 verses are laws and regulations which deal directly with a complete way of life as has been recommended for all humanity by its Creator. It is written in the Qur'an:

- *"Your Lord has commanded that you worship none but Him, and be kind to your parents. If either or both of them reach old age with you, do not say 'uff' to them or chide them, but speak to them in terms of honor and kindness. Treat them with humility, and say, My Lord! Have mercy on them, for they did care for me when I was little."*(Qur'an 17:23-4)
- *"And we enjoined upon man (to be good) to his parents. With difficulty upon difficulty did his mother bear him and wean him for two years. Show gratitude to Me and to your parents; to Me is your final goal."*(31:14)
- *"And we have revealed unto thee the Book as an exposition of every thing and as a guidance and mercy and glad tidings to the faithful."* (89:16)

Sec. 1204

A Muslim State like Pakistan will not allow bribery and nepotism to become a national philosophy. Bribery exists in every level of government, in the police department, in the military, in the departments of forestry, education, health and even in the department of justice. It is written in the Qur'an:

- *"And eat up not one another's property unjustly (in any illegal way e.g. stealing, robbing, deceiving, etc.), nor give bribery to the rulers or judges before*

presenting your cases, that you may knowingly eat up a part of the property of others sinfully." 2:188

- "The one who gives a bribe and the one who receives it are both doomed for Hell fire." - Bokhari

Sec. 1205

Civil servants to play a leading role in creating transparency and efficiency by reorienting their priorities towards service, professionalism and at the same time be open to accountability. All civil servants have a duty to explain their conduct.

Sec. 1206

A fair and effective system of accountability or answerability can only prevail in an environment of constitutionalism and where Rule of Law prevails.

Sec. 1207

Government to strengthen the independence of judges and allow complete freedom of expression and speech, freedom and independence of press and media for a very vigilant and informed public. However, judges are accountable to the constitution and law of the country.

Sec. 1208

Judiciary and the legal system to work together to streamline the judicial system, speed up the disposition of cases and implement the Rule of Law.

Sec. 1209

Judiciary, philosophers, religious leaders, department of health and social welfare system to work together to develop 'Human Embryology and Fertility Act' to address

ethical questions as they relate to sex selection, abortions, human rights of the embryo, policing the science of human cloning and other related issues.

Sec. 1210

Public accounts committees, Comptroller and Auditor Generals be strengthened within government with greater independence from the executive branch and oversight of legislature.

Sec. 1211

Parliamentary ethics committee to oversee party procedures for screening of the candidates with regard to probity. This will go a long way in raising public confidence in the integrity and accessibility of the political system.

Sec. 1212

Successive rulers of Pakistan have so far failed to come up with a uniform ideology that reflects the needs and aspirations of their people. The government has realized the need to rediscover the fundamental phenomenon, that is, its strength and advancement lies in Islam which was used to create Pakistan and to unite the Muslims.

Sec. 1213

Islam will serve not only as a guide for political and economic development but also as yardstick for equity and social justice which will strengthen Pakistan as a nation of Muslims and an example to be followed by others.

Sec. 1214

Role of the government is to help share the fruit of growth and economic prosperity widely and equitably across all sectors of society while role of the civil society

is to keep government focused and geared towards the needs of the poor.

Sec.1215

Freedom of religion and conscience for non-Muslims living in the Islamic state is a fundamental principle of Islam, including the freedom to practice the rites of their respective faiths. The Qur'an commands explicitly:

"Let there be no compulsion in religion." (2:256)

One's religious beliefs are obviously a matter of inner conviction and cannot be imposed from outside, nor does anyone have the right to impose them since God gives each human individual freedom to choose them for himself.

Sec. 1216

Consciousness and fear of God (Taqwa) are to govern all a Muslim's behavior; the acts of worship are a means to this end. A Muslim is never supposed to lose sight of his relationship and responsibility to God, nor to act in violation of it.

Sec. 1217

In the interest of world peace and a living environment free from the hazards of nuclear, biological and chemical warfare, Government of Pakistan to work together with the global community in urging her people and the neighboring countries to be a signee on the 1970 Nuclear Non-proliferation Treaty offered by the International Atomic Energy Agency, Vienna. 'Nuclear Safety Act' to be tightened.

Sec. 1218

Government of Pakistan to fully cooperate with the community of nations to stop international crime including but not limited to terrorism, drug trafficking, violence in the

area of computers, electronic commerce, internet, counterfeiting and forgery, arms trade, nuclear, chemical and biological warfare, prostitution, trade related to human organs, embryos for breeding and cloning, and do all that may be necessary to curb crime by sharing information between allies in fighting corruption and strengthening law and order at home and across the borders.

Sec. 1219

Government of Pakistan will not allow violations to the Universal Declaration of Human Rights, which was proclaimed by the United Nations in 1948. Police, army, security forces, law enforcement agencies and others to completely abstain from physical torture, disappearances, extra-judicial executions, deliberate and arbitrary killings in the name of security operations, ill-treatment, hostage taking, violent shaking, freezing, sleep robbing, electricity, rape, fire and other forms of cruel, inhumane and degrading torture and to fully implement the United Nations charter as it relates to interrogation techniques, treatment of inmates, prisoners of any kind, slaves, servants, subordinates, tenants and others.

Sec. 1220

Protection of human rights cannot be other than the protection of peace, trade, investments, economic prosperity, environment of trust in international relations, limiting environmental degradation and above all optimism and confidence for the next century.

Sec. 1221

Government of Pakistan to guarantee and do all that may be necessary to extend to her people the basic religious right of '*hijrat*' (immigrate) which is a freedom of travel to

any place in the world when according to an individuals perception as opposed to the opinion and claim held by the Government, conditions of misery and suffering prevail, where it is no longer safe to practice one's religion, there is danger to life, property, self-esteem, honor, individual human dignity and peace of mind.

Sec. 1222

Universal Declaration of Human Rights, article 13 gives the freedom to every citizen of a country to leave his own country at any time and also allows him to return back to his own country. Government of Pakistan commits herself to honor that provision.

CHAPTER VII

METHODOLOGY AND RESULTS

Methodology

The Study begins with a general examination of the nature of environmental problems in Pakistan in order to indicate the necessity for effective pollution control policies. Various Environmental Legislation of Pakistan are listed in Appendix-C. The present study deals with the Pakistan Environmental Protection Ordinance-1983 since it established environmental consciousness at the level of the Federal Government. Pakistan Environmental Protection Ordinance-1983 did the ground work and laid foundations for later environmental legislation. It was though repealed and replaced in 1997 by the Pakistan Environmental Protection Act. Appendix-D.

The primary research effort was aimed at obtaining and analyzing information in the following areas:

1. National environmental pollution control policies in United States of America;
2. National pollution control policies in Pakistan;
3. Institutional arrangements and environmental administration in USA
4. Institutional arrangements and environmental administration in Pakistan;
5. Comparison and analysis of the main environmental legislation (NEPA-

1969) of USA and Pakistan Environmental Protection ordinance-1983.

6. Development of a Model Environmental Policy Plan for Pakistan.
7. Running an opinion survey for acceptability, approval and adoption of the Model Environmental Policy Plan from various levels of Government and tiers of society.
8. Statistical analysis of the data collected from the questionnaire and subsequent testing of the Hypothesis as it relates to the Model Environmental Policy.

Further information was obtained by means of analysis of secondary sources; -- public records, library facilities, electronic mail, Pakistan News Service through computer internet, unpublished materials, and a variety of correspondence.

The purpose of the analysis of environmental policies of Pakistan was not to attack the system and bring forth problems but face the realities and recommend remedial measures by reordering of available resources to achieve maximum advantages for the benefit of all the users. But when a system already in operation is to be improved, the necessary reordering of the resources may be looked upon as major disadvantage by many users already committed to think as they are. Environmental policy in Pakistan is already in operation for better or worse and the purpose of this analysis is to change details of the system where needed. Efforts were made not to waste time and energy in attacking the systems rather than defining and preparing for the basic changes that lie ahead. For this, priorities have to be fixed and attention focused on the causes of 'policy' failures (discussed in the analysis) and potential remedies for them.

The basic data for this study was acquired through the use of a variety of methods. The study reviews development of environmental management in Pakistan during the 80's and analyses short-comings of the environmental policies. It also gives an overview of environmental pollution and damages in order to judge the success or failure of environmental policies, and analyses some of the indirect causative factors of environmental pollution (Ch.II).

Pakistan Environmental Protection Ordinance (1983) does not have a comprehensive approach to environmental protection or at least covers important sectoral environmental problems, such as water pollution, air pollution, disposal of hazardous waste, etc. The study develops inter-country (U.S. & Pakistan) comparison of legislative schemes for the protection of environment and examines how far these can be adopted in Pakistan if not already in existence.

Another purpose of the study is to establish citizen power --- to the extent that when citizens become involved with a specific agency about a specific issue, they would be better equipped to make their efforts count. All this cannot be accomplished by any single-focus law which the Government may have to apply. National Environmental Policy Act (NEPA) of 1969 was the first conservation law to deal not only with specific conservation projects or systems, but to serve with the basic need for an all-encompassing "national policy for the environment". In NEPA, the author finds the necessary potential to serve as a basic framework for the new Model Environmental Policy Plan for Pakistan to adopt.

A questionnaire was developed which investigated four areas: Part 'A' solicited

personal opinions about the level and awareness of environmental pollution in Pakistan. Part 'B' gathered information about the nature of the Pakistani society. Part 'C' strictly focused on the Model Environmental Policy and its acceptability. Part 'D' was more focused towards gathering the opinions of those connected to manufacturing, businesses and industries. The questionnaire was taken to the statistical lab on campus for: minor adjustments, uniformity of scales in soliciting opinions / responses, standardizing codes for questions, responses, ease of data entry and statistical analysis.

Identical sets of information packages were sent to all respondents along with the questionnaire: 1. A covering letter with a set of information about the study and questionnaire was uniformly distributed in the package to all respondents. 2. A guide for respondents was also included in the package which gave background information and layout about the two enclosed legislations. 3. Copy of the Pakistan's Environmental Protection Ordinance-1983. 4. Copy of the Model Environmental Policy Act of the Islamic Republic of Pakistan, as suggested. 5. Self addressed envelope.

To elicit views about the Model Policy Plan, the questionnaire was distributed to officials of the relevant ministries, ordinary citizens and industries in Pakistan through mail, personal channels and also through a sub-sample of Pakistani resource professionals residing in the USA. Convenience non-probability sampling method was used as it was cheaper and easier to carry out. Wherever possible, interviews or discussions were held in order to gather opinions, offer clarifications if any and follow-up. For the illiterate, uniform set of instructions were translated in the local language by the same person every time, to maintain uniformity and consistency with all the respondents.

80 questionnaire were sent out by mail. Some of the respondents were asked to make copies and of all the materials to solicit more responses. A total of 127 responses were received back. 29 were Domestic i.e. from within the US and the rest of the 98 responses came from Pakistan. Statistical lab at the Department of Statistics at Colorado State University was used to analyze the responses. As a first step early on in the process, the questionnaire was standardized so as to assign a set of numbers and codes to all of the questions and all of the possible answers. Responses collected back were submitted to the statistical lab for data entry and further analysis. The statistical analytical program SPSS for Unix, Release 6.1 was used to get simple percentages and means. Levines test for equality of variances was used to decide whether to use the equal or unequal significant values from the t-test. SPSS results can be viewed in (Appendix-K in CD-ROM). Responses from the domestic and international data did not have significant differences large enough to keep the groups separate. Collective and cumulative percentage figures were used to draw inferences regarding approval ratings for different questions, sections and issues as they pertained to the Model Environment Policy Plan for Pakistan.

A cross-tabulation and further analysis was done to evaluate and interpret the possible significance of any differences in the understanding and perception between two groups: Common or ordinary citizens vs. Industrialists. Results identified certain areas where the perceptions were different.

Following table shows a spectrum of educational background of the people who took the survey:

<u>Educational Background</u>	<u>Number of Respondents</u>
Zero	02
Elementary	07
High School	29
College (FA or MS)	40
University (MA/BA)	23
Professional (Lawyers, Engineers, Doctors, etc.)	26
Total number of respondents:	127

Following table shows occupational profile of the people who took the survey.

<u>Occupation</u>	<u>Number of Respondents</u>
Bankers	2
Businessmen	12
Carpenter	1
Cook	1
Councilor, M.C.	1
Customs Clearing + Forwarding	2
Electricians	1
Entertainer	1
Farmers	5
Government (EPA, City Development Corp. etc.)	17
Guard	1
Homemakers	7
Industrialists	11
Journalist	1
Lawyers, Magistrate, Barristers, Advocate	7
Mechanics	4
Motor Vehicle Examiner	1
Nurse, Dispenser	5

Office Secretary	1
Peon	1
Police Constable	1
Professional (Chemist, Doctors, Engineers, etc)	11
Realtor, Landlord	3
Restaurant owner	1
Retiree	2
Sailor	1
Salesperson	1
Servant/Slave	1
Shopkeeper	7
Student	6
Sweeper	1
Teachers, Professors	8
Timber Merchant	1
Tribal Chief	1
Total number of respondents	= 127

Study Limitations and Inherent Weakness

The study is limited to environmental protection legislation in the US and Pakistan. It is narrowly focused on two pieces of legislation: NEPA-1969 of the US and Pakistan Environment Protection Ordinance 1983. The establishment of these two acts form the basis for further guidance of actions to control pollution and direct further policies. There are other laws and regulations which have been formulated to manage natural resources, either before or after the enactment of the two key pieces of legislations in both Pakistan and the US, but they fall out of the scope of this study.

The main weakness of the study is size of the sample and the sampling method used. Adequacy of a sample size of 127 and the confidence in it was purely subjective. It is difficult to estimate population parameters from sample statistics. It becomes harder to evaluate the accuracy of the sample. It is also subjective to determine how much representative the sample is of the larger population of Pakistan. The study does provide illustrative and thoughtful insights to serve as the basis for further exploratory studies. Possibility of generalizing results remains subjective, although the study does identify issues of potential concern to a much larger population. However, under the geographical and political circumstances at the time of the study, it was both economical and appropriate.

Results

Appendix-K on a CD-ROM has all the necessary data and the statistical tests that were conducted. A discussion on the results of analyses as it relates to the Model Environmental Policy Plan follows. It proceeds the sequence of the questions in the questionnaire as they follow the flow of the Model Environmental Policy Plan. The percentages represents the number of respondents out of the surveyed population. Following pages explain the results of the SPSS - analysis (Appendix-K)

Part A: Personal Opinion

1. Environmental Degradation in Pakistan

A. Air Pollution

48.8 % believe that air pollution is very serious in Pakistan. 51.2% believe that it is serious. It shows that almost everyone thinks that pollution of air is serious in nature.

B. Water Pollution

64.3% believe water pollution is very serious in nature and 34.1% believe that it is serious. 1.6% believe that it is not a serious problem.

C. Solid Waste Pollution

59.2% believe that Solid Waste Pollution is very serious, 36.0% believe that it is a serious problem and 4.8% believe it is not a serious problem.

D. Noise Pollution

47.2% believe that Noise Pollution is very serious, 48.0% believe that it is a serious problem and 4.9% believe it is not a serious problem.

2. Performance in Protecting the Environment

A. Government

3.2% believe the performance of the Government to be very satisfactory, 18.5% believe it is satisfactory and 78.2% believe that it is not satisfactory.

B. Political Parties

0.8% believe that performance of the political parties is very satisfactory, 3.3% believe that it is satisfactory and 95.9% believe it is not satisfactory at all. This clearly indicates lack of political commitment.

C. Environmental Groups

10.4% believe that performance of the environmental groups is very satisfactory, whereas 46.4% believe it is satisfactory, and 43.2% believe it is not satisfactory.

D. Industries

3.3% believe that performance of the Industrial group is very satisfactory, 13.0%

believe it is satisfactory and 83.7% believe it is not satisfactory.

E. Media

12.1% believe that performance of the Media is very satisfactory, 37.9% believe that it is satisfactory, and 50.0% believe it is not satisfactory.

3. Is Government Improving Environment

6.4% believe the government is doing something to improve the environment, or at least, is trying to. 49.5% believe that probably the government is doing something. 44% believe the government is not doing anything to improve the environment. Analyzing this statistical data, one can see that the 49.5% of the population is in doubt. So, adding up the 44% and the 49.5%, 93.5% are not completely happy with the government's performance.

4. Ability of the Common Man to Influence Government into Pollution Reduction

16.2% believe they can influence the government into doing something about pollution. 25.6% seem to be in a doubt. 58.1% answer a definite "no." Therefore, it will be safe to conclude almost 75% of the population feels powerless in influencing the government to take action against pollution.

5. Government's Priority List Vs. Environmental Protection

0.8% believe environmental protection is amongst the top 5 in the government's list of priorities. 5.5% believe it is amongst the top 10 priorities. 15.7% believe it is amongst the top 20 priorities. While 77.2% believe it is much lower than that on the government's priority list.

6. Increase in Pakistani Environmental Awareness over the Last Decade

34.5% believe there was an increase of environmental awareness in Pakistan over the last decade. 50.4% believe probably, there was an increase. While 15.1% believe there was no increase.

7. Government's Commitment now compared to 10 yrs. Ago.

12.5% believe, yes it is more committed to environmental protection now compared to 10 years ago. 51.9% believe that it is probably so. 35.6% believe that she is not. Overall half of the population tested is in a doubt about government's commitment. Combined with the rest of 35.6% who believe that the Government is not thoroughly serious, 87.5% mistrust government's commitment to tackle the environmental ills even today.

8. Sources of Environmental Awareness

A. Media

2.4% believe that Media had the least important role to play in terms of environmental awareness. 28% believe that media did play an important role in creating the environmental awareness. The rest fall in between.

B. Political Parties

33.6% believe that political parties had the least to play the role for environmental awareness. 10.4% believe that their role was most important. Clearly enough, environmental issues are not important to be on the political agenda. The rest fall in between.

C. Environmental Groups

3.2% believe that environmental groups were least important whereas 14.5% believe that they did a good job for environmental awareness. The rest fall in between.

D. International Conferences

2.5% believe that international conferences created environmental awareness. 10.8% believe that the conferences helped to create environmental awareness. The rest fall in between.

E. Role of Elites

18.2% believe that the elites of the country had the least to do with environmental awareness. 7.4% believe that they had the most important role to play. The rest fall in between.

F. Public Demonstrations

13.3% believe that public demonstrations had the least important role to create environmental awareness, whereas 15.8% believe that they had the most important role. The rest fall in between.

Part B: About the Pakistani Society

9. Society, Economic Growth, Environmental

76.8% believes that economic growth is more important than protecting the environment. About 10.4% believe that protecting the environment is more important than economic growth. 12.8 % are either neutral, indifferent or give equal emphasis to

both positions.

10. Society, Preserving Nature

23.2% emphasize preserving nature for its own sake. 60% believe in using nature to produce goods and services. 16.8 % are either neutral, indifferent or give equal emphasis to both positions.

11. Society, Planning for Good

21% emphasize foresight and planning for the public good. 73.4% relies on the supplies and demand market to maximize the public good. 5.6 % are either neutral, indifferent or give equal emphasis to both positions.

12. Society/Sources of Benefit for the Future

22.8% of the society would like to save its resources to benefit the future generations. 69.1% of the society likes to use resources to benefit the present generations. 8.1% are either neutral, indifferent or give equal emphasis to both positions.

13. Avoid Risks in Wealth Production

32% of the population emphasizes planning to avoid risks in the production of wealth. 66.4% recognized the risks are unavoidable in the production of wealth. 1.6 % are either neutral, indifferent or give equal emphasis to both positions.

14. Kind of Change Most Needed

12% of the population believes in greater scientific and technical development to solve our environmental problems. 79.2% of the society hopes for a basic or revolutionary change in the nature of society. It reflects on a state of hopelessness with the political and legal system. 8.8% are either neutral, indifferent or give equal emphasis

to both positions.

15. Constraints Against Effective Enforcement

An overwhelming majority of the surveyed population has acknowledged all the major constraints against effective enforcement of environmental policy - a) Political commitment, b) Financial resources, c) Lack of accountability, d) Information, e) Expertise, f) Corruption and among others they have included lack of education, greed, etc.

Part C: Policy Questions

16. Adequacy of Pakistan Environmental Protection Ordinance-1983

13.7% believe that the PEPO-1983 is adequate to take care of the environmental problems in Pakistan. 14.5% stayed neutral. 71.8% believed that PEPO-1983 is not at all adequate.

17. Need for a Stricter Policy Plan

92.9% are in favor of having a stricter policy plan. 5.6% are neutral, and 1.6% disagree. The results clearly show an overwhelming demand for a policy change within the meanings of enforcing rules with great care and rigid maintenance.

18. Government's Liability Toward its People

96% agree that the Government of Pakistan is morally liable and legally accountable to her people for their well being. People have right to enjoy a healthful environment. 3.2% stayed neutral while 0.8% strongly disagreed. The bottom line is that Government is responsible and should take care of the environment.

19. Requirement of Environmental Impact Statement

93.5% believe that the requirement of Environmental Impact Statement is a good action forcing mechanism in the 'Model Environmental Policy Plan' for all departments and agencies to be followed. 5.6% stayed neutral, whereas 0.8% disagreed.

20. Beneficial Effect of the Environmental Impact Statement

85.5% believe that the requirement for the Environmental Impact Statement will have a beneficial effect on the coordination and communication of scientific and technical information among various government departments and agencies. 13.7% stayed neutral and 0.8% disagreed.

21. Environmental Impact Statement Results in Better Planning

89.4% believe that the requirement of the Environmental Impact Statement results in better planning and decision making. 8.9% stayed neutral, while 1.6% disagreed.

22. Ignoring Foreign Policy for the Sake of Humanity and the Environment

79.7% believe that Sec.102(1) of the 'Model Environmental Policy' is a good feature which recognizes the world wide and long range character of environmental problems and justifiably ignores the foreign policy and bureaucracy of the country for the sake of humanity and the environment. This is especially true between two neighboring nations, such as Pakistan and India, armed with nuclear weapons and a host of other existing environmental problems. A resolve to tackle environmental issues should open up the possibilities for the less developed nations to develop a coalition to fight the scourge of poverty, lawlessness, and corruption, which, indirectly causes environmental problems to begin with. 12.2% were neutral and 8.1% disagreed.

23. Sufficient Time is Given to Adjust Existing Policies

82.1% believe that the Model Environmental Policy gives sufficient time to all agencies and parties to adjust their existing policies and working guidelines to adjust in conformity with the intent and purpose of the Model Environmental Policy. 14.6% remained neutral while 3.2% disagreed.

24. 'Model Environmental Policy' to Supplement Existing Policies

86.9% believe that the Model Environmental Policy supplements and compliments the existing policies of the different agencies involved. 12.3% stayed neutral while 0.8% disagreed. Therefore, it is easy to adopt the Model Environmental Plan for different agencies and in other words it gets to the grassroots of compliance.

25. President's Involvement with the Environmental Future of the Country

70.6% believe that the Model Environmental Policy gets the President and the political leaders involved in taking the leadership on environmental issues through its section 201. The president gives an annual speech on the state of affairs regarding environmental issues. 19.0% stayed neutral, while 10.3% disagreed.

26. Location of the Council on Environmental Quality

69.8% believe that the Model Environmental Policy suggests an excellent location for the Council on Environmental quality in the office of the President and its recruitment process. This gives the Council on Environmental Quality its necessary immunity from political dictates and external interferences. All of this is very vital and essential for its normal and efficient functioning. 27.0% of the population stayed neutral, while 3.2% disagreed.

27. Concern for the Social and Economic Welfare

84.8% believe that the Model Environmental Policy via section 204(4) takes care of the social and economic welfare of the nation. It is a recognition that environment affects all levels of life and is of prime importance to country's welfare. 14.4% stayed neutral while 0.8% disagreed.

28. Establishment of Environmental Protection Agency

86.5% believe that the Model Environmental Policy clearly and thoroughly outlines the establishment and functioning of the Environmental Protection Agency. 11.1% stayed neutral while 2.4% disagreed.

29. The Need for an Environmental Court of Justice

92.9% believe that the Model Environmental Policy strongly and rightfully justifies the need for an Environmental Court of Justice. 4.8% stayed neutral while 2.4% disagreed.

30. Speedy Settlements through the Environmental Court of Justice

85.5% believe that through the Environmental Court of Justice as proposed by the Model Environmental Policy a speedy settlement of environmental disputes can be achieved. Regular courts being lethargic and overly burdened by a variety of legal cases, Environmental Court of Justice offers a relief to the existing legal system. 7.3% stayed neutral while 7.2% disagreed.

31. The Polluter pays Principle

94.4% believe that Sec. 403 in the Model Environmental Policy rightfully holds the polluter to be responsible for the cleanup of the mess he or she is responsible for.

4.0% of the people stayed neutral while 1.6% disagreed.

32. Environmental Court of Justice - for enforcement and accountability

85.7% believe that the provision and establishment of the Environmental Court of Justice in the Model Environmental Policy is an action forcing mechanism for accountability, implementation and justice. 11.9% stayed neutral while 2.4% disagreed.

33. Peoples Right to Acquire Environmental and Moral Education.

91.3% believe that the Model Environmental Policy outlines the responsibility of the Government and recognizes the right of the people to acquire basic education with reference to environment and Islam. 7.1% stayed neutral while 1.6% disagreed.

34. Clean Air Policy

92.9% believe that the Model Environmental Policy gives sufficient guidelines for the implementation of the policy for the restoration of a highly deteriorated air quality. 6.3% stayed neutral while 0.8% disagreed.

35. Implementation of National Environmental Quality Standards.

86.4% believe that the Model Environmental Policy can effectively implement the National Environmental Quality Standards by giving provincial EPAs prescriptions under Sec. 609. 12.8% stayed neutral while 0.8% disagreed.

36. Safe and Secure Drinking Water.

85.6% believe that the Model Environmental Policy offers long term security and safety of the nations water resources. 13.6% stayed neutral while 0.8% disagreed.

37. Land Resource

91.3% believe that the Model Environmental Policy offers a well outlined policy

for the protection and management of the Land Resource. 7.9% stayed neutral while 0.8% disagreed.

38. Natural Resources Protection and Conservation

90.5% believe that the Model Environmental Policy guarantees the protection, naturalness and conservation of the natural resources through interagency coordination offered under Title IX . 6.3% stayed neutral while 3.2% disagreed.

39. Noise Pollution

90.5% believe that the Model Environmental Policy outlines a practical guide for the control of noise pollution and the implementation of the legislation. 8.7% stayed neutral while 0.8% disagreed.

40. Pollution from Odor, Health, Vibration and Hazardous Materials

89.7% believe that the Model Environmental Policy through its Title XI takes care of the pollution caused by bad odors, dangerous drugs, vibration nuisance, health and safety issues and hazardous substances. 9.5% stayed neutral while 0.8% disagreed.

41. Moral Pollution

85.6% believe that the Model Environmental Policy through its Title XII offers serious advice to the Government and her people about the dangerous situation in Pakistan as it relates to pollution caused by a general derailment of the moral standards. 10.4% stayed neutral while 4% disagreed.

42. Integrated Policy Approach

83.9% believe that the Model Environmental Policy has an integrated policy approach and at the same time it incorporates the religious and cultural beliefs of the

country. 13.7% stayed neutral while 2.4% decided to disagree.

43. Rectify Past and Future Mistakes

88% believe that the Model Environmental Policy offers an opportunity to rectify the mistakes of the past and prepare us better to tackle environmental mistakes in the future. 11.2% stayed neutral while 0.8% disagreed.

44. Model Environmental Policy vs. Pakistan Environmental Protection Ordinance 1983

94.4% believe that the Model Environmental Policy is more comprehensive in its scope, applications and adaptability as compared to the Pakistan Environmental Protection Ordinance of 1983. 4.8% stayed neutral while 0.8% disagreed.

45. Approval and Adoption of Model Environmental Policy

91.9% believe that the Model Environmental Policy be approved and adopted. 8.1% of the surveyed people believe that the Model Environmental Policy should not be adopted.

Part D: Responses from the Industrial Sector

46. Government's Pressure to Adopt Pollution Control Devices

21.4% from the industrial sector feel that there is governmental pressure to have pollution control devices. 28.6% from the industrial sector believe that there is not enough government pressure and 50% of the surveyed population believe that the pressure from the government is not at all there.

47. Existence of Pollution Control Devices

7.7% from the industrial sector admit to having some sort of a pollution control

device in their industrial or manufacturing facility. 61.5% feel that it is not enough and 30.8% admit to having nothing at all.

48a. Financial Hindrance to Pollution Control Devices

75% from the industrial sector admit to having financial hindrances towards having a pollution control device at their facility. The rest of the 25% did not consider finances to be a problem.

48b. Technological Hindrances to Pollution Control Devices

83.3% from the industrial Sector admit to having technological difficulties towards having a pollution control device at their facility. The rest of the 16.7% did not consider technological hindrances to be a problem.

48c. Informational Hindrances to Pollution Control Devices

66.7% from the industrial Sector admit to having informational difficulties towards having a pollution control device at their facility. The rest of the 33.3% did not consider informational hindrances to be a problem for controlling pollution.

49. Government Pressure Now vs. Ten Years Ago.

48.1% from the industrial sector admit to the fact that there is growing pressure from the Government now to have a pollution control device compared to ten years ago. 14.8% stayed neutral while 37% of the population disagreed.

50. Promise for Enforcement and Accountability.

83.3% from the industrial sector admit to the fact that the Model Environmental Policy holds a promise for enforcement, accountability and a better environmental future in Pakistan. 13.3% stayed neutral while 3.3% disagreed.

51. Model Environmental Policy modification of Pakistan Environmental Protection Ordinance

70% from the industrial sector admit to the fact that Model Environmental Policy is a modification of the Pakistan Environmental Protection Ordinance of 1983. 20% stayed neutral while 10% do not believe so.

52. Comprehensive and Islamic Approach.

77.4% from the industrial sector admit to the fact that the Model Environmental Policy offers a more comprehensive and Islamic approach towards solving environmental problems. 16.1% stayed neutral while 6.4% disagreed.

53. Broader guidelines for Conservation of Natural Resources.

80.6% from the industrial sector admit to the fact that the Model Environmental Policy assures quality and quantity for the conservation of natural resources in Pakistan by giving broader policy guidelines. 19.4% stayed neutral and none disagreed.

54. Better Health and Welfare

90% from the industrial sector admit to the fact that the Model Environmental Policy secures better health and welfare of the present and future generations of Pakistan. 10% stayed neutral and none disagreed.

55. Reflection of your Opinion

75.9% from the industrial sector admit to the fact that the answers to the questionnaire reflected their own opinion about the Model Environmental Policy. 10.3% stayed neutral while 13.8% disagreed.

56. Approval to adopt the Model Environmental Policy.

78.6% from the industrial sector approve the Model Environmental Policy Plan to be adopted. 21.4% did not approve it.

Cross Tab. Analysis between Industrialists and the Ordinary Citizens:

Following is a cross tab analysis for questions 1 through 45 of the questionnaire (Appendix-J), as it was interpreted by two different groups: Common or ordinary citizens vs. Industrialists. Citizens who answered Part A, B & C (questions 1 through 46) but did not answer Part-D, were assigned a code of zero (0). Industrialists who answered part A, B, C, + D (specially for industrialists), were assigned a code of one (1).

A total of 95 responses were identified as being from the citizens and 32 responses were identified by the program & system as being the group of industrialists, businessmen and others based on the criteria-- 'whoever attempted Part-D' of the questionnaire. SPSS for Unix, Release 6.1 was used to analyze the data. In order to check if there was a difference in responses between the two groups, P-values of .05 was used. P-value of $< .05$ means that there is significant differences in the responses for the two groups i.e. ordinary citizens vs. industrialists. P-value of $\geq .05$ means that the two groups are not significantly different in their responses.

For the sake of brevity, responses to those questions are taken up for further discussion where the differences between the groups is highlighted, based on the P-value being $< .05$, i.e. the two groups are significantly different in their interpretation of the certain issue or situation as the case may be. In a number of cases there seems to be no differences as it appears from a visual analysis of the data. Statistically however, the

differences are big enough given the .05 P-value.

In response to question 2–d, which deals with performance of the industrial sector in protecting the environment, those who are from the industrial sector hold a slightly different position as compared to public perception. Citizens evaluation is more towards unsatisfactory at a mean value of 2.86. Value of 1 being very satisfactory, value of 2 being satisfactory and 3 being not satisfactory. The industrial sector hold themselves to be more responsible in doing a good job of protecting the environment. The general feeling is still towards unsatisfactory at mean value reading of 2.63 which leans more towards unsatisfactory but not as much as the perception of the ordinary citizens do.

Likewise about the ability of the ordinary citizens to influence the Government into doing something to improve the environment is almost a no at a mean value of 2.48. Those in the industrial sector are a little bit hopeful and yet still in a doubt with the mean value at 2.2, being more close to ‘probably’. There is a little bit of an element of doubt in there (2.2), about the ability and capacity of the industrial sector to bring about a change. To a lesser or greater degree, both sectors are hopeless about influencing government.

Pointing at an agency responsible for environmental awareness (Q.#8), the group of citizens is different in its evaluation of the role of Media as compared to the opinion of the people from the industrial sector. Industrial sector is more in favor of giving credit to the media at a mean reading of 4.64 as compared with 4.55 of the ordinary citizens.

Statistically there are differences in opinion between the two groups of public when it comes to an understanding of the Pakistani society. Both the ordinary citizens as well as the industrialists believe that the prevalent trend emphasizes using nature to

produce goods and services for ultimate benefit of Pakistani people. Industrialist hold a relatively milder position on that issue at a mean reading of 1.06 as compared to ordinary citizens at a mean value of 1.40.

The opinion of the citizens and the industrialists are very different in their perception to recognize the risks that are unavoidable in the production of wealth. In response to question #13, the ordinary citizens hold the opinion that risks can not be avoided in the production of wealth, as shown by the mean value of 1.23. The industrial sector holds a completely neutral position by the mean value of 0.00.

A great majority in the industrial sector do not consider corruption as strongly as do the ordinary citizens, to be a compelling constraint in the effective enforcement. Perception of citizens (mean value .89) is much more stronger than the perception of industrialists (mean value .78). Industrialist have identified several other factors responsible for lack of effective enforcement in the area of environmental policy: “instant gratification, laziness, non-serious behavior of government, greed and chaos, government & unawareness”.

Difference of opinion is also significant between the two groups about the need of a stricter and more effective environmental policy plan (Q#17). Majority of industrialists recommend a stricter and more effective environmental policy, (mean value of 1.59), as compared to the ordinary citizens (mean value of 1.63).

Regarding the responsibility of the Government of Pakistan towards the rights and welfare of the her people (Q#18), both industrialists and the ordinary citizens agree for Governments responsibility. However, industrialists are more stronger in their

recommendation at a mean value of 1.21 vs. 1.62 for ordinary citizens.

About overriding the foreign policy issues in favor of environmental issues (Q#22), industrialists are more on the neutral side of the position at 2.10, as compared to the ordinary citizens (mean value 1.96), who recognize the global nature of pollution and want the Government to ignore foreign policy dictates in favor of environmental considerations for the sake of humanity.

Environmental Court of Justice is viewed very favorably (Q#30) by the ordinary citizens at a mean value of 1.74. Industrialists however, show a tendency to assume a more neutral position with a mean value at 2.13.

Both the groups: industrialists and ordinary citizens agree that something needs to be done about the issue regarding 'moral pollution' (Q#41). Industrialists are more strongly in favor of doing something (mean value 1.84) as compared to the ordinary citizens (mean value at 1.94).

The overall approval of the 'Model Environmental Policy Plan' is highly acceptable to industrialists as well as the ordinary citizens. The new policy gets a more stronger response however at a mean value of 1.04 from the ordinary citizens as compared to a mean value of 1.19 by the industrialists.

General Consensus

The general consensus after having conducted the survey is based on the answers to the questions 45 & 56. Both the questions are the same, asking if you would approve the Model Environmental Policy? The difference between Q.45 & Q.56 is that they are

targeted to a different public, Q. 45 being to the common citizenry and Q.56 to the industrialists.

In response to Q. 45, 91.9% believe that the Model Environmental Policy be approved and adopted. 8.1% of the surveyed people believe that the Model Environmental Policy should not be adopted.

In response to Q. 56, 78.6% from the industrial sector approve the Model Environmental Policy Plan to be adopted. 21.4% did not approve it.

The approval rate among the common citizenry is 13.3% higher and quite obviously the disapproval among the industrial sector is 13.3% higher compared to the common people of Pakistan. It seems like that the industrial sector has a general distaste for any kind of control or legislation when it comes to controlling pollution. Therefore relatively speaking the approval rate (78.6%) from the industrial sector for the adoption of the Model Policy is a bit lower as compared to the approval rate (91.9%) from the general public. The bottom line is that ordinary citizens as well as the industrialists approve the Model Environmental Policy Plan.

CHAPTER VIII

DISCUSSION AND CONCLUSION

The present study is based on the hypothesis that *"Pakistan's environmental and related legislation can be modified to incorporate an integrated policy approach as well as religious and cultural beliefs in order to improve the effectiveness of Pakistan's EPA, and to set a model or precedence for other Muslim countries of the world."*

Model Environmental Policy was constructed keeping in mind the religious and cultural beliefs of the general public. For Muslims there is hardly anything in the Model Environmental policy that goes against the value system that governs the minds and lifestyles of the Pakistani people. All is under the guidance and teachings of Islam. It will not be wrong to add that there is nothing in the new model policy which can be construed to be against the Islamic teachings.

The new Model Environmental Policy Plan has Titles which strongly reflect the religious and cultural beliefs of the people. This entails acceptance and hence offers a promise for the effectiveness of Pakistan's EPA. The simple statistical tools used to analyze the data suggest an overwhelming support for the Model Environmental Policy Plan.

Over the years during the course of development of the Model Environmental

Policy, submission of its prototype in the mid 90's to the Ministry of Housing, Environment and Urban Affairs, portions of Titles IV & V, of the Model Environmental Policy Plan were readily adopted by the Government of Pakistan in other pieces of legislation to come later.

The Model Environmental Policy Plan is divided into twelve titles as they relate to the major kinds of pollution. Subsequent sections deal with variety of issues and rules to regulate and implement the general policy as it relates to the control of a specific kind of pollution. Titles I through III relate strictly to general Environmental Policy, establishment of the Council on Environmental Quality and the establishment of Environment Protection Agency in all provinces - their duties and functions, respectively.

Some sections may sound controversial and too blunt. They are formulated in the light of the teachings of Islam without regard to anything else. For example Section 102 (I) ignores the foreign policy issues which may keep the government from talking and cooperating with another government or international agency, when it comes to solving environmental problems. In the interest of basic human rights, this section has suggested an overriding power over foreign policy. Some government officials may not have liked that aspect of it.

Title IV establishes the Environmental Court of justice and offers guidelines. Title V gives directions towards Environmental Education.

Titles VI, VII, VIII, IX and X give policy directions on air, water, land management, natural resources and noise pollution, respectively. Title XI is primarily focused on issues that relate to pollution caused by odor, vibration nuisance and other

major hazards.

Our part of the world is plagued by corruption of all sorts. Cost of resolving environmental dispute, a clean-up for hazardous spill or finding basic humanitarian justice could be astronomical. Political might, resourceful connections and the power of money should not be allowed to over-ride true, speedy and honest environmental justice. Sections under Titles IV and V are an endeavor in that direction as they focus on independent system of justice and reforms in the system and syllabi of education.

Title XII is unique in addressing a kind of pollution which has long been ignored. A nation may fall apart if moral pollution remains uncorrected.

The survey instrument was a questionnaire with four distinct parts – A, B, C, & D. A profile of respondents to the questionnaire, for the testing of the Model Environmental Policy Plan is available in Appendix-P. It shows the representation of a rich diversity of people, with their backgrounds and education (from zero to Ph.D.'s), their trades and occupations (cab drivers, homemakers, educationists, bankers, industrialists, lawyers, businessmen, religious leaders, elites, policy makers, foresters, politicians, doctors, engineers, shop-keepers, EPA managers, sweepers and cleaners, ordinary people on the street, etc. Unfortunately enough, a majority of those who represented the government departments, rarely replied back. If they did reply back, they did it partially and purposely left some portions of the questionnaire blank. Their big concern was keeping their privacy and anonymity for fear of persecution. Respondents in service to the Government did not answer some questions from Part-C, related to Title XII of the Model Environmental Policy and avoided them with good excuses.

Part A gathered personal opinions of people about the pollution in general and the role of government and the media. It was revealed that majority of people (95-100%) believed pollution of air, water, solid waste and noise to be from serious to very serious. Similarly people do not believe or trust that the Government is serious about controlling pollution. Some of them are not even aware of it.

Part B gathered opinion about the Pakistani society in general. About 77% believe that economic growth is more important than protecting environment. 60% believe in using nature to produce goods and services. 73% rely on the supply and demand market to maximize the public good. Almost 69% would like to use the natural resources to benefit the present generation of consumers and believe that risks are unavoidable in the production of wealth. It gives the impression that people are more concerned with their economic welfare and care less about the future.

The worrisome outcomes are: Firstly, an overwhelming majority expressed lack of trust in politicians. Other constraints in way of effective enforcement of laws and regulations was identified to be lack of accountability, information, expertise and education. Secondly, corruption and greed is so high that 79% of the respondents hope and aspire for a basic and fundamental change in the nature of society. That alone, very clearly, serves a red flag to anyone in power — be it a military or a civilian government! It is an acknowledgment of all the realities and yet a desire for the cure of the moral sickness and disease faced by the nation.

Part C of the questionnaire dealt with the Model Environmental Policy Plan. There are 12 main Titles and several sections and sub-sections in each one of them.

71.8% of the surveyed population has rejected Pakistan Environmental Protection Ordinance-1983. A new stricter policy plan was favored by 92.9% of the respondents. Over all there is an acceptance for the Model Environmental Policy Plan as it tackles to control a much wider variety of pollution. Uniquely so is Title XII, under which the Model Policy Plan deals with a new concept and kind of pollution: 'Moral Pollution'. For the author it was absolutely necessary to deal with the topic of corruption. In the opinion of the author, corruption is somewhat government induced. The opinion of the author is that 'Moral Pollution' has increased to the extent that corruption is now a norm for an overwhelming majority of the populace. According to a very senior government servant:

“Title XII deals with Moral Pollution. Although it does depict the true picture prevailing in the country but does not confine itself to the main topic of the Policy. The respondents may fully endorse the bitter, bold, and sometimes blunt expressions but may not feel comfortable to comment in their official capacity both as retired and serving ones. This will be so despite the fact that strict confidentiality has been guaranteed.” -(Name withheld, 2003).

The questionnaire boldly asked about the environment of massive corruption and how best to control it. Answers were not fully received from the official circles. At best they stayed neutral. However, a great majority of the respondents boldly answered and those were the common people of Pakistan.

A few argued in their remarks that corruption and the level of morality of a nation has nothing to do with control of pollution. Title XII should not have been part of a pollution control legislation.

-“Moral Pollution should not be mixed up with environmental pollution. It is a separate problem. Don’t mix up morals w/the environment though.” (Resp.#4)

-“This section has nothing to do with the environment. The government has no charter or capability to legislate morality. This section becomes a tool for oppression in the hands of a corrupt government of which Pakistan has had many.”(Resp.#5)

-“The principles are well stated and correct. This rely’s on an educated , committed public that supports their leadership people. How is this to be achieved from where Pakistan is now?” (Resp.#3)

-“A policy on ‘Moral pollution’ does not belong on a part of an environmental policy. It is better addressed through strong institutions in Pakistan which at the moment are non-existent.” (Resp.#10)

Regarding Title XII of the Model Environmental Policy a great majority of respondents to the survey are absolutely supportive. Some of the respondents remarked:

-“Enforcement of laws and policies is a major problem. Depends on the political will of the country. There are laws already, but no action taken to enforce.”
(Resp.#32)

-“If the same amount of money can be spent on this plan, as was spent on creating atomic weapons, Pakistan would be a shining example, not only on the subcontinent but to the world. Plus it could be an example of Islam-working.”
(Resp.#35)

-“Western views of Environmental concerns are fragmented as Western society is

based on the analytical approach (requiring compartmentalizing). Therefore, these models are wholly inadequate for solving complex problems. Islamic doctrine emphasizes the unitarian approach, based on synthesis and holism. Title XII explains Islam's holistic views." (Resp.#8)

-“Praise be to God. With this plan Pakistan has a golden opportunity to show the world a true example of Islam and the Islamic way to solve problems and line us as true Muslims respecting and caring for the beautiful resources given us by our Creator.” (Resp.#1)

It can safely be hoped and prayed for at this point and time, that in near and distant future the Governments to come and Pakistan's Environmental Protection Agencies will remain committed to providing a healthier environment for their people. The legislative tools are there. Model Environmental Policy Plan-2003, provides the practical guide and a road map for implementation, only if the missing ingredients of political will, fairness, honesty, dedication and sincerity could be instilled along with it.

With everything in place, the Model Environmental Policy even pushes in the catalyst for political commitment by getting the President and the National Assembly to get involved with taking care of the environment. The very location of the Council on Environmental Quality in the office of the President is yet another step towards encouraging political engagement. Model Environmental Policy requires annual reports on Environmental Quality from all the provinces. Based on the four such annual reports on the environment from each of the provinces, the President himself has to deliver to the National Assembly a mandatory annual report on the state of nations environment. All of

this is designed to have a strong political commitment geared up towards the ultimate welfare of the people and environment of Pakistan.

In order to make implementation easier with clear directions for enforcement and accountability, a Model Environmental Policy Plan was developed on the framework of moral and religious values. Being morally correct, the hope is that it offers a more practical approach. It is a policy document developed for the Islamic Republic of Pakistan. With little regional adjustments it can easily be adopted by other countries in South East Asia and the Middle East.

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Appendix A

The National Environmental Policy Act of 1969, as amended.

An Act to establish a national policy for the environment, to provide for the establishment of a Council on Environmental Quality, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Environmental Policy Act of 1969."

PURPOSE

The purposes of this Act are:- To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

SEC.101.(a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the national environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining the environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organization, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic and other requirements of present and future generations of Americans.

(b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy to improve and coordinate Federal plans, functions, programs and resources to the end that the Nation may--

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive and aesthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high

standard of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(c) The Congress recognize that each person should enjoy a health environment and each person has a responsibility to contribute to the preservation and enhancement of the environment.

SEC.102.

The Congress authorizes and directs that, to the fullest extent possible; (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall--

(a) Utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and decisionmaking which may have an impact on mans environment;

(b) Identify and develop methods and procedures in consultation with Counsel on Environmental Quality established by title II of this Act, which will insure that presently unquantified Environmental Amenities and values may be given appropriate consideration in decision making along with economic and technical consideration;

(c) Include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on-

(i) The environmental impact of the proposed action,

(ii) Any adverse environmental effects which cannot be avoided should the proposal be implemented,

(iii) Alternatives to the proposed action,

(iv) The relationship between local short term uses of man's environment and the maintenance and enhancement of long-term productivity, and

(v) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement the responsible federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate federal, State and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, The Counsel on Environmental Quality and to the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes;

(d) Any detailed statement required under subparagraph (c) after January 1, 1970, for any major Federal action funded under a program of grants to States shall not be deemed to be legally insufficient solely by reason of having been prepared by a State agency or official, if:

(i) the State agency or official has state wide jurisdiction and has the responsibility for such action,

(ii) the responsible Federal official furnishes guidance and participate in such preparation,

(iii) the responsible Federal official independently evaluates such statement prior to its approval and adoption, and

(iv) after January 1, 1976, the responsible Federal official provides early notification to, and solicits the views of, any other State or any Federal Land Management entity of any action or any alternative thereto which may have significant impacts upon such state or affected Federal land management entity and, if there is any disagreement on such impacts, prepares a written assessment of such impacts and views for incorporation into such detailed statement.

The procedures in this subparagraph shall not relieve the Federal official of his responsibilities for

the scope, objectivity, and content of the entire statement for any other responsibility under this act; and further, this subparagraph does not affect the legal sufficiency of statements prepared by state agencies with less than statewide jurisdiction.

(e) Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.

(f) Recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;

(g) Make available to States, counties, municipalities, institutions and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(h) Initiate and utilize ecological information in the planning and development of resource-oriented projects; and

(i) Assist the Council on Environmental Quality established by title II of this Act.

Sec. 103.

This section aims at determining for all agencies, possible deficiencies or inconsistencies within the present statutory authority, administrative regulations and the current policies and procedures which might be conflicting with full compliance of the purposes and provisions of this act. It further gives a dead line for proposing possible solutions or remedies that may be helpful in bringing their authority and policies in conformity with the intent, purpose, and procedures set forth in this Act.

SEC.104.

Nothing in Section 102 or 103 shall in any way affect the specific statutory obligations of any Federal agency (1) to comply with criteria or standards of environmental quality, (2) to coordinate or consult with any other Federal or State, or (3) to act, or refrain from acting contingent upon the recommendation or certification of any other Federal or State agency.

SEC.105.

The policies and goals set forth in this Act are supplementary to those set forth in existing authorizations of Federal agencies.

TITLE II COUNCIL ON ENVIRONMENTAL QUALITY

SEC.201.

The president shall transmit to the Congress annually beginning July 1, 1970, an Environmental Quality Report (hereinafter referred to as the "report") which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban and rural environment; (2) current and foreseeable trends in the quality, management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the nation; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures; (4) A review of the programs and activities (including regulatory activities) of the Federal Government, the State and local governments, and non-governmental entities or individuals with particular reference to their effect on the environment and on the conservation, development and utilization of natural resources; and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.

SEC.202.

There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the president to serve at his pleasure, by and with the advice and consent of the Senate. The President shall designate one of the members of the Council to serve as Chairman. Each member shall be a person who, as a result of his training, experience, and attainments, is exceptionally well qualified to analyze and interpret environmental trends and information of all kinds to appraise programs and activities of the Federal Government in the light of the policies set forth in Title I of this Act; to be conscious of and be responsive to the scientific, economic, social, aesthetic, and cultural needs and interests of the Nation and to formulate and recommend national policies to promote the improvement of the quality of the environment.

SEC.203.

The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard sentence thereof).

SEC.204.

It shall be the duty and function of the Council-

(1) to assist and advise the President in the preparation of the Environmental Quality Report required by section 201 of this title;

(2) to gather timely and authoritative information concerning the conditions and trends in the quality of the environment, both current and perspective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in title I of this Act, and to compile and submit to the President studies relating to such conditions and trends;

(3) to review and appraise the various programs and activities of the federal Government in the light of the policy set forth in title I of this Act for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(4) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet the conservation, social, economic, health, and other requirements and goals of the Nation;

(5) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(6) to document and define changes in the natural environment including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes and trends and interpretation of their underlying causes;

(7) to report at least once each year to the President on the state and condition of the environment; and

(8) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the president may request.

Sec. 205.

In exercising its powers, functions, and duties under this act, the Council shall-

(1) Consult with the Citizen's Advisory Committee on Environmental Quality established by Executive Order Number 11472, dated May 29, 1969, and with such representatives of science, industry, agriculture, labor, conservation organizations, State and local governments and other groups, as it deems advisable; and

(2) Utilize, to the fullest extent possible, the services, facilities and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided, thus assuring that the Council's activities will not unnecessarily overlap or conflict with similar activities authorized by law and performed by established agencies.

Sec. 206.

Member of the Council shall serve full time and the Chairman of the Council shall be compensated at the rate provided for Level II of the Executive Schedule Pay Rates (5 U.S.C.5313). The other members of the Council shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C.5315).

Sec. 207.

The Council may accept reimbursements from any private nonprofit organization or from any department, agency, or instrumentality of the Federal Government, any State, or local government, for the reasonable travel expenses incurred by an officer or employee of the Council in connection with his attendance at any conference, seminar, or similar meeting conducted for the benefit of the Council.

Sec. 208.

The Council may make expenditures in support of its international activities, including expenditures for: (1) international travel; (2) activities in implementation of international agreements; and (3) the support of international exchange programs in the United States and in foreign countries.

Sec. 209.

There are authorized to be appropriated to carry out the provisions of this chapter not to exceed \$300,000 for fiscal year 1970, \$700,000 for fiscal year 1971 and \$1,000,000 for each fiscal year thereafter.

Appendix - B

THE GAZETTE OF PAKISTAN
EXTRAORDINARY
PUBLISHED BY AUTHORITY
ISLAMABAD, Saturday 31st December 1983.

PART - 1

Acts, Ordinance, President's orders and Regulations including Martial Law
Orders and Regulations
Government of Pakistan
Ministry of Law and Parliamentary Affairs
(Law Division)
Islamabad, 31st December 1983.

No.F.17(1)/83-PUB--- The following Ordinance made by the President of Pakistan is hereby published for general information:-

ORDINANCE NO. XXXVII OF 1983

AN ORDINANCE

to provide for the control of pollution and preservation of living environment WHEREAS it is expedient to provide for the control of pollution and preservation of living environment and for matters connected therewith or ancillary thereto:

AND WHEREAS the President is satisfied that circumstances which render it necessary to take immediate action:

NOW, THEREFORE, in pursuance of the Proclamation of the fifth day of July, 1977, and in exercise of all powers enabling him in that behalf, the President is pleased to make and promulgate the following Ordinance:

1. Short title, extent and commencement:-
 - (1) This Ordinance may be called the **Pakistan Environmental Protection Ordinance, 1983.**
 - (2) It extends to the whole of Pakistan and its territorial waters, Exclusive Economic Zone and historic waters.
 - (3) It shall come into force on such day as the Federal Government may, by notification in the official Gazette, specify in this behalf.
2. Definitions:- In this Ordinance, unless there is anything repugnant in the subject or context,-
 - (a) "Agency" means the Pakistan Environmental Protection Agency (PEPA) established under section 5;
 - (b) "Air pollutant" means any substance that causes alteration in chemical, physical, biological or radiological integrity of air and includes soot, smoke particles, combustion exhausts, exhausts gasses, obnoxious gasses and radioactive substances;
 - (c) "Council" means the Pakistan Environmental Protection Council established under section;
 - (d) "discharge" means spilling, leaking, pumping, pouring, emitting, emptying or dumping;
 - (e) "effluent" includes any material in solid, slurry, suspension, liquid, vapor, fumes or any other source;
 - (f) "effluent standards" means the permissible limits prescribed by the Agency regarding the quality and quantity of effluents and wastes;
 - (g) "emission standards" means the permissible standards for emission of air pollutants prescribed by the Agency;
 - (h) "Exclusive Economic Zone" shall have the same meaning as in Territorial Waters and Maritime Zones Act, 1976 (LXXXII of 1976);
 - (i) "Government Agency" includes a division, department, bureau, section, commission, board, office or unit of the Federal Government or a Provincial Government;
 - (j) "historic waters" means such limits of the waters adjacent to the land territory of Pakistan as are

for the time being specified by notification under section 7 of the Territorial Waters and Maritime Zones Act, 1976 (LXXXII OF 1976);

- (k) "industrial activity" means any process for manufacturing making, altering, repairing, ornamenting, fishing, packing or otherwise treating any article or substance with a view to its use sale, transport, delivery or disposal or for pumping oil, water or sewage or for generating, transforming or transmitting power;
- (l) "industrial waste" means waste resulting from industrial activity;
- (m) "local authority" includes any agency set up or designated by the Federal government or a Provincial Government to be a local authority for the purpose of this Ordinance;
- (n) "local council" means a local council constituted or established under a law relating to local government;
- (o) "municipal waste" includes sewage, refuse, sludge, and human excreta and the like;
- (p) "pollution" means any matter which, on being discharged into the air, soil or public water, alters unfavorably the chemical, physical, biological or radiological integrity of the air, soil or public waters or, by itself or in combination with other discharges is likely to make the air, soil or public waters unclean, noxious or impure or injurious or disagreeable or detrimental to the health, safety, welfare or property of persons or harmful to aquatic life, animals, birds, fish, plants or other forms of life;
- (q) "prescribed" means prescribed by rules or regulations;
- (r) "public waters" means water areas in public use and includes streams, nullahs, canals, seepage drains, natural or artificial water courses, rivers, wells, ponds, ditches, lakes, reservoirs, underground or artesian water, territorial waters, the Exclusive Economic Zone and historic waters;
- (s) "regulations" means regulation made under this Ordinance;
- (t) "rules" means rules made under this Ordinance;
- (u) "Sewage" means liquid wastes from sanitary conveniences, kitchens, laundries, washing and the like;
- (v) "standards" means effluent standards and emission standards;
- (w) "territorial waters" shall have the same meaning as in the Territorial Waters and Maritime Zones Act, 1976 (LXXXII OF 1976);
- (x) "treatment works" means the various processes and devices used in the treatment of wastes; and
- (y) "wastes" includes liquid wastes, suspended wastes, municipal wastes, wastes from mining processes and wastes from farm and agricultural activities such as poultry, cattle, animal husbandry, abattoirs under use of fertilizers and pesticides.

3. Establishment of the Council:-

(1) The Federal Government shall by notification in the official Gazette, establish a Council to be known as the Pakistan Environmental Protection Council and consisting of:

- (i) The President of Pakistan--Chairman
- (ii) The Minister in charge of the subject of Environment-- Vice Chairman
- (iii) Minister in charge of the subject of Environment in the Provinces-- Members
- (iv) Such other persons as the Federal Government may appoint-- Members
- (v) the Secretary to the Government of Pakistan dealing with the subject-- Secretary

(2) The members of the Council other than ex-officio members shall hold office for a term of three years.

(3) The Council shall frame its own rules and procedures.

(4) The council shall hold meetings as and when necessary; provided that not less than two meetings shall be held in a year.

(5) The Council may by general or special order and subject to such conditions as it may consider fit, delegate any of its functions under this Ordinance to a Committee or any member of the Council.

4. Functions of the Council:

(1) The functions of the Council shall be to--

- (a) ensure enforcement of this Ordinance;
- (b) establish comprehensive national environmental policy;
- (c) gave appropriate direction to conserve the renewable and expandable resources;
- (d) ensure that environmental considerations are inter-weaved into the National Development Plans and Policies;

- (e) ensure enforcement of the National Environment Quality Standards; and
- (f) give direction to any Government agency, a body or a person requiring it or him to take measures to control pollution being caused by such agency, body or person or to refrain from carrying out any particular activity prejudicial to public interest or the purposes of this Ordinance.

(2) The Council may or if so required by the Government agency shall, direct the Agency to prepare submit and promote projects for the prevention of environmental pollution or to undertake research in any specified aspect of environment.

5. Establishment of the Agency:-

- (1) The Federal Government shall, by notification in the official Gazette, establish an Agency to be called the Pakistan Environment Protection Agency to exercise the powers and perform the functions assigned to it under the provision of this Ordinance or the rules and regulations.
- (2) The Agency shall be headed by a Director-General who shall be appointed by the Federal Government on such terms and conditions as it may determine.
- (3) The powers and functions of the Agency shall be exercised and performed by the Director-General.
- (4) The Agency shall have such administrative, technical and legal staff as the Federal Government may appoint.
- (5) To assist him in the discharge of his functions, the Director-General may, establish such Advisory Committees as he may deem fit and appoint as members thereof eminent representatives of universities, research institutes, the business community and other professions and fields of knowledge.

6. Functions of the Agency:-

- (1) The Agency shall--
 - (a) administer this Ordinance and the rules and regulations;
 - (b) prepare national environmental policy for approval of the Council;
 - (c) publish an annual report on the state of environment;
 - (d) establish National Environmental Quality Standards with the approval of the Council;
 - (e) revise the National Environmental Quality Standards as and when deemed necessary;
 - (f) coordinate environmental policies and programs nationally and internationally;
 - (g) establish systems of surveys, surveillance, monitoring, measurement, examination and inspection to combat environmental pollution;
 - (h) take measures to promote the development of science and technology which will contribute to the prevention of environmental pollution, such as the consolidation of survey and research system, the promotion of research and development, the dissemination of results of such research work and development work, and the education and training of research experts and other governmental functionaries;
 - (i) provide information and education to the public on environmental matters and to recommend to the Council the introduction of environmental information in the syllabi of educational institutions; and
 - (j) coordinate and consolidate implementation of measures to control pollution with Provincial Governments and other Government Agencies.
- (2) The Agency may--
 - (a) request any Government Agency to furnish any information or data relevant to the functions of the Agency;
 - (b) with approval of the Federal Government, initiate request for foreign assistance in support of the objectives of this Ordinance and enter into arrangements with foreign agencies or organizations for the exchange of material or information and participate in international seminars or meetings;
 - (c) establish and maintain laboratories to conduct research in various aspects of environment and provide grants to institutions for specific projects;
 - (d) delegate any of its powers under this Ordinance and the regulations to any Government Agency;
 - (e) identify the needs for legislation in the environmental field;
 - (f) at the request of the Federal Government or a Provincial Government or any Government Agency, provide advice and assistance in environmental matters; and

- (g) perform any other function which the Council may assign to it.
7. Powers of the Agency--Subject to the provisions of this Ordinance Agency may:-
 - (a) lease, purchase, acquire, own, hold, improve, use or otherwise deal in and with any property, both movable and immovable;
 - (b) sell, convey, mortgage, pledge, exchange or otherwise dispose of its property and assets;
 - (c) execute instruments, incur liabilities and do all acts or things necessary for proper management of conduct of its business; and
 - (d) appoint such advisors and consultants as it considers necessary for efficient performance of its functions on such terms and conditions as may be prescribed by regulations.
8. Environmental impact statement, etc. to be submitted to the Agency:
 - (1) The provision of this section shall apply to such--
 - (a) persons or class of persons, or
 - (b) industrial activity or class of industrial activity, or
 - (c) category, type or volume of discharges of air pollutants or wastes, or
 - (d) area or class of area, or
 - (e) classes of public waters as may be prescribed by regulations.
 - (2) Every proponent of a project, the construction or completion of which is likely to adversely affect the environment shall file with the Agency, at the time of planning the project, a detailed environmental impact statement including information on:
 - (a) the impact on the environment of the proposed industrial activity;
 - (b) the treatment works of the proposed project;
 - (c) the unavoidable adverse environmental effects of the proposed project; and
 - (d) the steps proposed to be taken by the project proponent to minimize adverse environmental effects.
 - (3) The Agency may prescribe guidelines for the preparation of environmental impact statements and, where such guidelines have been prescribed, the proponents of projects shall prepare environmental impact statements according to the said guidelines.
 - (4) The agency may itself or through the appropriate government agency review the environmental impact statement and, where it deems appropriate, it may also involve public participation in the assessment of the environmental impact statement.
 - (5) After the review under sub-section (4), the Agency may either approve the environmental impact assessment or recommend to the Federal Government that the project be modified or rejected in the interest of environmental objectives.
9. Agency to assist local councils, etc., in disposal of wastes.-- the Agency shall assist the local councils, local authorities or other Government Agencies and persons to implement schemes for the proper disposal of wastes in line with the standards and procedures prescribed by the Agency.
10. Funds of the Agency.-- the funds of the Agency shall be derived from the following sources, namely:-
 - (a) grants made and loans advanced by the Federal Government or the Provincial Government;
 - (b) grants, loans, advances and other monies received from local or international agencies;
 - (c) fees, rates and charges received by the Agency, under the Agency, under the provisions of this Ordinance; and
 - (d) all other sums received by the Agency.
11. Audit and accounts:-
 - (1) The Agency shall submit its annual budget estimates for approval of the Federal Government through the Council.
 - (2) The Agency shall maintain proper accounts and other relevant records and prepare annual statement of accounts in such form as may be prescribed by rules.
 - (3) The accounts of the Agency shall be audited in such form as may be prescribed by rules.
12. Penalty:-
 - (1) Whoever contravenes or fails to comply with any provisions of this ordinance or of any rule or regulation or any direction issued by the Agency thereunder, shall be punishable with imprisonment for a term which may extend to two years, or fine which may extend to one hundred thousand rupees, or with both, and in the case of a continuing contravention or failure, with an additional fine which may extend to ten thousand rupees for every day after the first during such contravene

or failure continues.

- (2) The Director-General or an officer generally or specially authorized by him in his behalf may compound any offence under this Ordinance.
13. Indemnity.--- No suit, prosecution or other legal proceeding shall lie against the Council, the Agency, the Director-General, or the members, officers, employees, experts or consultants of the Agency for anything in good faith done or intended to be done under this Ordinance or any rule or regulation.
14. Bar of jurisdiction.--- No court shall take cognizance of any offence punishable under this ordinance except on a complaint in writing made by the Agency.
15. Dues of Agency recoverable as arrears of land revenue.--- Any dues recoverable by the Agency under the provisions of this Ordinance or any rules or regulations shall be recoverable as arrears of land revenue.
16. Power to make rules.--- The Federal Government may, by notification in the official gazette make rules for carrying out the purposes of this Ordinance.
17. Power to make regulations.--
- (1) The Agency, by notification in the official gazette, with the approval of the Federal Government, make regulations, not in consistence with the provisions of this ordinance, or the rules, for carrying out the purposes of this Ordinance.
- (2) In particular and without prejudice to the generality of the foregoing power, such regulations may provide for the levy of fees, rates and charges regardless of services rendered, actions taken and schemes implemented by the Agency.
- (i) A special environmental court shall consist of a person to be taken on deputation by the agency from the Government who is qualified to be an additional District and Session Judge.
- (ii) A special environmental court shall act at such places as the Agency may, by order, specify in this behalf.
- (iii) Contempt of Court: Whoever commits contempt of the special environmental court constituted under this Ordinance shall be awarded punishment provided by the Contempt of Court Act, 1976.

GENERAL,
M. ZIA-UL-HAQ
President.

GOVERNMENT OF PAKISTAN
MINISTRY OF HOUSING AND WORKS
(Environment and Urban Affairs Division)
Islamabad, the 6th February, 1984.

S.R.O.129(1)/84.- In exercise of the powers conferred by the sub-section (3), of section 1 of the Pakistan Environmental Protection Ordinance, 1983 (XXXVII of 1983), the Federal Government is pleased to specify the 6th day of February, 1984, to be the date on which the said Ordinance will come into force.

S.R.O.130(1)/84.- In pursuance of sub-section (1), of section 5 of the Pakistan Environmental Protection Ordinance, 1983 (XXXVII of 1983), the Federal Government is pleased to establish the Pakistan Environmental Protection Agency.

S.R.O.131(1)/84.- In pursuance of sub-section (1), of section 5 of the Pakistan Environmental Protection Ordinance, 1983 (XXXVII of 1983), the Federal Government is pleased to appoint Mr. S.A.N. Gardezi, Additional Secretary in charge, Ministry of Housing and Works, to be the Director-General of the Pakistan Environmental Protection Agency.

ZIA-UL-HAQ
Deputy Secretary.

GOVERNMENT OF PAKISTAN
MINISTRY OF HOUSING AND WORKS
(Environment and Urban Affairs Division)
Islamabad, the 13th February, 1984.

S.R.O.157(1)/84.- In pursuance of sub-section (3) of the Pakistan Environmental Protection Ordinance, 1983 (XXXVII of 1983), the Federal Government is pleased to establish the Pakistan Environmental Protection Council.

ZIA-UL-HAQ
Deputy Secretary.

GOVERNMENT OF PAKISTAN
MINISTRY OF HOUSING AND WORKS
(Environment and Urban Affairs Division)
Islamabad, the 5th June, 1984.

S.R.O.546 (1)/84.- In pursuance of sub-section (2) of section 5 of the Pakistan Environmental Protection Ordinance, 1983 (XXXVII of 1983), and in supersession of this Ministry's Notification No. S.R.O.131(1)/84, dated 6th February 1984, the Federal Government is pleased to appoint Mr. Abdur Rahim Maqsood, Additional Secretary Incharge, Ministry of Housing and Works, to be the Director-General of the Pakistan Environmental Protection Agency.

ZIA-UL-HAQ
Deputy Secretary.

APPENDIX - C

Environmental Legislation of Pakistan

Land Tenure and Land Use

1. The Land Improvement Loans Act, 1883
2. Land Settlement Act, 1885
3. Land Alienation(Restriction of Rights) Act, 1890
4. Land Acquisition Act, 1894
5. The Punjab Development of Damaged Areas Act, 1952
6. The Punjab Soil Reclamation Act, 1952
7. The Punjab Protection and Restriction of Tenancy Rights Act, 1952
8. The West Pakistan Agricultural Pests Ordinance, 1959 and Rules, 1960
9. The Islamabad (Preservation of Land Scope) Ordinance, 1966
10. Land Reforms Act, 1973-75
11. The Punjab Development of Cities Act, 1976
12. The Balochistan, NWFP, Punjab and Sindh Local Government Ordinances, 1979-80.
13. The NWFP Salinity Control and Reclamation of Land Act, 1988
14. The Punjab Land Preservation Act (No. 11), 1990

Water Quality (Surface Water Pollution)

1. Pakistan Penal Code, 1864 (Section 277)
2. Canal and Drainage Act, 1873 with amendments in 1952, 1965, 1968, 1970
3. Ports Act, 1908
4. Industries Act, 1934
5. Territorial Waters and Maritime Zones Act, 1976
6. The Balochistan Ground Water Rights Administration Ordinance, 1978
7. The Balochistan, NWFP, Punjab and Sindh Local Government Ordinances, 1979-80.
8. The Provincial Local Government Ordinance, 1979
9. On-Farm Water Management and Water User's Associations Ordinance, 1981
10. Pakistan Environmental Protection Act, 1997

Air Quality

1. Pakistan Penal Code, 1864
2. Motor Vehicles Act, 1939
3. Motor Vehicles Rules, 1940
4. The West Pakistan Prohibition of Smoking in Cinema Houses Ordinance, 1960
5. West Pakistan Regulations on the Control of Loudspeakers and Sound Amplifiers, 1965

6. Provincial motors Vehicles, Ordinance, 1965 and Rules, 1969
7. The Balochistan, NWFP, Punjab and Sindh Local Government Ordinances, 1979-80.
8. Pakistan Environmental Protection Act, 1997

Forests and Wildlife Conservation

1. The NWFP (Conservation and Exploitation of Forests in Hazara Division) Ordinance, 1881
2. The Punjab Forest (Sale of Timber Act), 1913
3. The Forest Act, 1927
4. Jammu and Kashmir Forest Regulations, 1930
5. The NWFP Hazara Forest Act, 1936
6. The West Pakistan Firewood and Charcoal (Restriction) Act, 1964
7. The AJK Logging and Sawmilling Corporation Ordinance, 1969
8. The Sindh Wildlife Protection Ordinance, 1972
9. The Punjab Wildlife (Protection, Preservation, Conservation and Management) Act, 1973
10. The Punjab Plantation and Maintenance of Tress Act, 1974
11. Balochistan Wildlife Protection Act, 1974
12. NWFP Wildlife (Protection, Preservation and Management) Act, 1975
13. Northern Areas Wildlife Preservation Act, 1975
14. Azad Jammu and Kashmir Wildlife Preservation Act, 1975
15. The Cutting of Trees (Prohibition) Act, 1975
16. Cholistan Development Authority Act, 1976
17. The NWFP Forest Development Corporation Act, 1977
18. The Balochistan, NWFP, Punjab and Sindh Local Government Ordinances, 1979-80.
19. The NWFP (Conservation and Exploitation of Certain Forests in Hazara Division) Ordinance, 1980
20. The NWFP Forest Development Corporation Ordinance, 1980
21. Murree Kahuta Development Authority Act, 1986
22. Sind Arid Zone Development Authority Act, 1986

Fisheries, Marine and Coastal Zone Management

1. Fisheries Regulation, 1902
2. Ports Act, 1908
3. The West Pakistan Fisheries Ordinance, 1961
4. Balochistan Sea-Fisheries Ordinance, 1970 and Rules, 1971
5. The NWFP Fisheries Rules, 1976
6. The Pakistan Territorial Waters and Maritime Zones Act, 1976

Minerals

1. Minerals Act, 1926
2. The Regulation of Mines and Oil-fields and Mineral Development (Government Control) Act, 1948

Toxic and Hazardous Wastes

1. Pakistan Penal Code, 1864
2. The Explosives Act, 1884
3. Factories Act, 1934
4. Destructive Insect and Pests Act, 1964
5. Agricultural Pesticides Ordinance, 1971 and Rules, 1973 - (amended in 1997)

Solid Waste

1. The Factories Act, 1934
2. The Balochistan, NWFP, Punjab and Sindh Local Government Ordinances, 1979-80.
3. The Pakistan Environmental Protection Ordinance, 1983
4. The Pakistan Environmental Protection Act, 1997

Cultural Heritage

1. Archeological Excavation Rules, 1969
2. Antiquities Act, 1976
3. The Punjab Special Premises Preservation Ordinance, 1985

Parks and Wildlife

- 1s. The Kohat Mazri Control Act, 1954
2. The Sindh Wildlife Protection Ordinance, 1972 and Rules, 1972
3. The Punjab Wildlife (Protection, Preservation, Conservation, and Management) Act, 1974 and Rules, 1974
4. The Balochistan Wildlife Protection Act, 1974 and Rules, 1975
5. The NWFP Wildlife (Protection, Preservation, Conservation, and Management) Act, 1975 and Rules, 1976
6. The Pakistan Plant Quarantine Act, 1976
7. Islamabad Wildlife (Protection, Preservation, Conservation, and Management) Ordinance, 1979-80
8. The Balochistan, NWFP, Punjab and Sindh Local Government Ordinance(s), 1979-80
9. Export and Control Order, 1982

Livestock

1. West Pakistan Goats (Restriction) Ordinance, 1959
2. West Pakistan Punjab Animal Slaughter Control Act, 1963
3. The Grazing of Cattle in the Protected Forests (Range Lands) Rules, 1978

4. Pakistan Animal Quarantine (Import and Export of Animals and Animal Products) Ordinance, 1979-80
5. The Balochistan, NWFP, Punjab and Sindh Local Government Ordinance(s), 1979-80

Public Health and Safety

1. The Pakistan Penal Code, 1860
2. The Boilers Act, 1923
3. The Public Health (Emergency Provisions) Ordinance, 1944
4. The West Pakistan Factories Canteen Rules, 1959
5. The Balochistan, NWFP, Punjab and Sindh Local Government Ordinance(s), 1979-80
6. The West Pakistan Epidemic Diseases Act, 1979-80

PAKISTAN'S ENVIRONMENTAL PERSPECTIVE

1. 1974: Establishment of Environment Division in the Center
2. 1979: The Punjab Local Government Ordinance, 1979
3. 1983: Pakistan Environmental Protection Ordinance (PEPO)
4. 1984: Pakistan Environmental Protection Council (PEPC)
5. 1984: Pakistan Environmental Protection Agency (PEPA)
6. 1987: Environmental Protection Agencies. EPA (Punjab) followed by other provinces.
7. 1992: National Conservation Strategy (NCS) adopted
8. 1994: National Environmental Quality Standards (NEQS) effective from 01.07.94 for new industrial units & from 01.07.96 for existing industrial units
9. 1995: Azad Jammu & Kashmir Environmental Protection Ordinance
10. 1996: Establishment of Environment Protection Department Punjab
11. 1997: Pakistan Environmental Protection Act

Source: The Pakistan National Conservation Strategy, 1991-92
Environment & Urban Affairs Division, Government of Pakistan

APPENDIX - D

PART 1

Acts, Ordinances, President's Orders and Regulations

SENATE SECRETARIAT

Islamabad, the 6th December, 1997

No. F.9(46)/97-Legis— The following Acts of Majlis-e-Shoora (Parliament) received the assent of the Acting President on the 3rd December, 1997, are hereby published for general information :—

ACT NO. XXXIV OF 1997

An Act to provide for the protection, conservation, rehabilitation and improvement of the environment, for the prevention and control of pollution, and promotion of sustainable development

WHEREAS, it is expedient to provide for the protection, conservation, rehabilitation and improvement of the environment, prevention and control of pollution, and promotion of sustainable development, and for matters connected therewith and incidental thereto;

It is hereby enacted as follows:—

1. **Short title, extent and commencement.**—(1) This Act may be called the Pakistan Environmental Protection Act, 1997.
 - (2) It extends to the whole of Pakistan.
 - (3) It shall come into force at once.
2. **Definitions.**—In this Act, unless there is anything repugnant in the subject or context,—
 - (i) “adverse environmental effect” means impairment of, or damage to, the environment and includes—
 - (a) impairment of, or damage to, human health and safety or to biodiversity or property ;
 - (b) pollution ; and
 - (c) any diverse environmental effect as may be specified in the regulations ;
 - (ii) “agricultural waste” means waste from farm and agricultural activities including poultry, cattle farming, animal husbandry, residues from the use of fertilizers, pesticides and other farm chemicals ;
 - (iii) “air pollutant” means any substance that causes pollution of air and includes soot, smoke, dust particles, odor, light, electro-magnetic, radiation, heat, fumes, combustion exhaust, exhaust gases, noxious gases, hazardous substances, and radioactive substances ;
 - (iv) “biodiversity” or “biological diversity” means the variability among living organisms from all sources, including *inter alia* terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems;

- (v) "Council" means the Pakistan Environmental Protection Council established under section 3;
- (vi) "discharge" means spilling, leaking, pumping, depositing, seeping, releasing, flowing out, pouring, emitting, emptying or dumping;
- (vii) "ecosystem" means a dynamic complex of plants, animal and microorganism communities and their nonliving environment acting as a functional unit;
- (viii) "effluent" means any material in solid, liquid, or gaseous form or combination thereof being discharged from industrial activity or any other source and includes a slurry, suspension, or vapor;
- (ix) "emission standards" means the permissible standards established by the Federal Agency or a Provincial Agency for emission of air pollutants and noise and for discharge of effluents and waste;
- (x) "environment" means—
 - (a) air, water and land;
 - (b) all layers of the atmosphere;
 - (c) all organic and inorganic matter and living organisms;
 - (d) the ecosystem and ecological relationships;
 - (e) buildings, structures, roads, facilities and works;
 - (f) all social and economic conditions affecting community life; and
 - (g) the inter-relationships between any of the factors in sub- clauses (a) to (f);
- (xi) "environmental impact assessment" means an environmental study comprising collection of data, prediction of qualitative and quantitative impacts, comparison of alternatives, evaluation of preventive, mitigatory and compensatory measures, formulation of environmental management and training plans and monitoring arrangements, and framing of recommendations and such other components as may be prescribed;
- (xii) "Environmental Tribunal" means the Environmental Tribunal constituted under section 20;
- (xiv) "Exclusive Economic Zone" shall have the same meaning as defined in the Territorial Waters Maritime Zones Act, 1976 (LXXXII of 1976);
- (xv) "factory" means any premises in which industrial activity is being under-taken;
- (xvi) "Federal Agency" means the Pakistan Environmental Protection Agency established under section 5, or any Government Agency, local council or local authority exercising the powers and functions of the Federal Agency;
- (xvii) "Government Agency" includes—
 - (a) a division, department, attached department, bureau, section, commission, board, office, or unit of the Federal Government or a Provincial Government;
 - (b) a development or a local authority, company or corporation established or

- controlled by the Federal Government or Provincial Government;
- (c) a Provincial Environmental Protection Agency; and
 - (d) any other body defined and listed in the Rules of Business of the Federal Government or a Provincial Government.
- (xviii) "hazardous substance" means—
- (a) a substance or mixture of substances, other than a pesticide as defined in the Agricultural Pesticides Ordinance, 1971 (II of 1971), which, by reason of its chemical activity or toxic, explosive, flammable, corrosive, radioactive or other characteristics causes, or is likely to cause, directly or in combination with other matters, an adverse environmental affect; and
 - (b) any substance which may be prescribed as a hazardous substance;
- (xix) "hazardous waste" means waste which is or which contains a hazardous substance or which may be prescribed as hazardous waste, and includes hospital waste and nuclear waste;
- (xx) "historic waters" means such limits of the waters adjacent to the land territory of Pakistan as may be specified by notification under section 7 of the Territorial Waters and Maritime Zones Act, 1976 (LXXXII of 1976);
- (xxi) "hospital wastes" includes waste medical supplies and materials of all kinds, and waste blood, tissue, organs, and other parts of the human and animal bodies, from hospitals, clinics, and laboratories;
- (xxii) "industrial activity" means any operation or process for manufacturing, making, formulating, synthesizing, altering, repairing, ornamenting, finishing, packing or otherwise treating any article or substance with a view to its use, sale, transport, delivery or disposal, or for mining, for oil and gas exploration and development, or for pumping water or sewage or for generating, transforming or transmitting power, or for any other industrial or commercial purposes;
- (xxiii) "industrial waste" means waste resulting from an industrial activity;
- (xxiv) "initial environmental examination" means a preliminary environmental review of the reasonably foreseeable qualitative and quantitative environment of a proposed project to determine whether it is likely to cause an adverse environmental effect for requiring preparation of an environmental impact assessment;
- (xxv) "local authority" means any agency set-up or designated by the Federal Government or a Provincial Government by notification in the official gazette to be a local authority for the purposes of this Act;
- (xxvi) "local council" means a local council constituted or established under a law relating to local government;
- (xxvii) "motor vehicle" means any mechanically propelled vehicle adapted for use upon land whether its power of propulsion is transmitted thereto from an external or internal source, and includes a chassis to which a body has not been attached, and a trailer, but does not include a vehicle running upon fixed rails;
- (xxviii) "municipal waste" includes sewage, refuse, garbage, waste from abattoirs, sludge and

human excreta and the like;

- (xxix) "National Environmental Quality Standards" means standards established by the Federal Agency under clause (e) of sub-section (1) of section 6 and approved by the Council under clause (c) of sub-section (1) of section 4;
- (xxx) "noise" means the intensity, duration and the character of sounds from all sources, and includes vibration;
- (xxxi) "nuclear waste" means waste from any nuclear reactor or nuclear plant or other nuclear energy system, whether or not such waste is radioactive;
- (xxxii) "person" means any natural person or legal entity and includes an individual, firm, association, partnership, society, group, company, corporation, co-operative society, Government Agency, non-governmental organization, community-based organization, village organization, local council or local authority and, in the case of a vessel, the master or other person having for the time being the charge or control of the vessel;
- (xxxiii) "pollution" means the contamination of air, land or water by the discharge or emission of effluents or wastes or air pollutants or noise or other matter which either directly or indirectly or in combination with other discharges or substances alters unfavorably the chemical, physical, biological, radiational, thermal or radiological or aesthetic properties of the air, land or water or which may, or is likely to make the air, land or water unclean, nauseous or impure or injurious, disagreeable or detrimental to the health, safety, welfare or property of persons or harmful to biodiversity;
- (xxxiv) "prescribed" means prescribed by rules made under this Act;
- (xxv) "project" means any activity, plan, scheme, proposal or undertaking involving any change of the environment and includes—
 - (a) construction or use of buildings or other works;
 - (b) construction or use of roads or other transport systems;
 - (c) construction or operation of factories or other installations;
 - (d) mineral prospecting, mining, quarrying, stone-crushing, drilling and the like;
 - (e) any change of land use or water use; and
 - (f) alternation, expansion, repair, decommissioning or abandonment of existing buildings or other works, roads or other transport systems, factories or other installations;
- (xxxvi) "proponent" means the person who proposes or intends to undertake a project;
- (xxxvii) "Provincial Agency" means a Provincial Environmental Protection Agency established under section 8;
- (xxxviii) "regulations" means regulations made under this Act;
- (xxxix) "rules" means rules made under this Act;
- (xl) "sewage" means liquid or semi-solid wastes and sludge from sanitary conveniences, kitchens, laundries, washing and similar activities and from any sewage system or

sewage disposal works;

- (xli) "standards" means qualitative and quantitative standards for discharge of effluents and wastes and for emission of air pollutants and noise either for general applicability or for a particular area, or from a particular production process, or for a particular product, and includes the National Environmental Quality Standards, emission standards and other standards established under this act and the rules and regulations made thereunder;
- (xlii) "sustainable development" means development that meets the needs of the present generation without compromising the ability of future generations to meet their needs;
- (xliii) "territorial waters" shall have the same meaning as defined in the Territorial Waters and Maritime Zones Act, 1976 (LXXXII of 1976);
- (xliv) "vessel" includes anything made for the conveyance by water of human beings or of goods; and
- (xlv) "waste" means any substance or object which has been, is being, or is intended to be, discarded or disposed of, and includes liquid waste, solid waste, waste gases, suspended waste, industrial waste, agricultural waste, nuclear waste, municipal waste, hospital waste, used polyethylene bags and residues from the incineration of all types of waste.

3. **Establishment of the Pakistan Environmental Protection Council.-**

- (1) The Federal Government shall, by notification in the official Gazette, establish a Council to be known as the Pakistan Environmental Protection Council consisting of -
 - (i) Prime Minister or such other person as the Prime Minister may nominate in this behalf. *Chairperson*
 - (ii) Minister In-charge of the Ministry or Division dealing with the subject of environment. *Vice-Chairperson*
 - (iii) Chief Ministers of the Provinces. *Members*
 - (iv) Ministers In-charge of the subject of environment in the Provinces. *Members*
 - (v) Such other persons not exceeding thirty-five as the Federal Government may appoint, of which at least twenty shall be non-official including five representatives of the Chambers of Commerce and Industry and Industrial associations and one or more representatives of the Chambers of Agriculture, the medical and legal professions, trade unions, and non-governmental organizations concerned with the environment and development, and scientists, technical experts and educationists. *Members*
 - (vi) Secretary of the Government of Pakistan, in-charge of the Ministry or Division dealing with the subject of environment. *Member / Secretary*
- (2) The Members of the Council, other than *ex-officio* members shall be appointed in accordance with the prescribed procedure and should hold office for a term of three years.
- (3) The Council shall frame its own rules of procedure.

- (4) The Council shall hold meetings as and when necessary, but not less than two meetings shall be held in a year.
- (5) The Council may constitute committees of its members and entrust them with such functions at it may deem fit, and the recommendations of the committees shall be submitted to the Council for approval.
- (6) The Council or any of its committees may invite any technical expert or representative of any Government Agency or non-governmental organization or other person possessing specialized knowledge of any subject for assistance in performance of its functions.

4. Functions and powers of the Council.—(1) The Council shall—

- (a) co-ordinate and supervise enforcement of the provisions of this Act;
 - (b) approve comprehensive national environmental policies and ensure their implementation within the framework of a national conservation strategy as may be approved by the Federal Government from time to time;
 - (c) approve the National Environmental Quality Standards;
 - (d) provide guidelines for the protection and conservation of species, habitats, and biodiversity in general, and for the conservation of the renewable and non-renewable resources;
 - (e) coordinate integration of the principles and concerns, of sustainable development into national development plans and policies; and
 - (f) consider the National Environment Report and give appropriate directions thereon.
- (2) The Council may, either itself or on the request of any person or organization, direct the Federal Agency or any Government Agency to prepare, submit, promote or implement projects for the protection, conservation, rehabilitation and improvement of the environment, the prevention and control of pollution, and the sustainable development of resources, or to undertake research in any specified aspect of environment.

5. Establishment of the Pakistan Environmental Protection Agency .—

- (1) The Federal Government shall, by notification in the official Gazette, establish the Pakistan Environmental Protection Agency, to exercise the powers and perform the functions assigned to it under the provisions of this Act and the rules and regulations made thereunder.
- (2) The Federal Agency shall be headed by a Director-General, who shall be appointed by the Federal Government on such terms and conditions as it may determine.
- (3) The Federal Agency shall have such administrative, technical and legal staff as the Federal Government may specify, to be appointed in accordance with such procedure as may be prescribed.
- (4) The powers and functions of the Federal Agency shall be exercised and performed by the Director-General.
- (5) The Director-General may, be general or special order, delegate any of these powers and functions to staff appointed under sub-section (3).
- (6) For assisting the Federal Agency in the discharge of its functions, the Federal

Government shall establish Advisory committees for various sectors and appoint as members thereof eminent representatives of the relevant sector, educational institutions, research institutes, and non-governmental organizations.

6. Functions of the Federal Agency.—(1) The Federal Agency shall—

- (a) administer and implement the provisions of this Act and the rules and regulations made thereunder;
- (b) prepare in coordination with the appropriate Government Agency and in consultation with the concerned sector Advisory Committees, national environmental policies for approval by the Council;
- (c) take all necessary measures for the implementation of the national environmental policies approved by the Council;
- (d) prepare and publish an annual National Environmental Report on the state of the environment;
- (e) prepare or revise, and establish the National Environmental Quality Standards with approval of the Council:

Provided that before seeking approval of the Council, the Federal Agency shall publish the proposed National Environmental Quality Standards for public opinion in accordance with the prescribed procedure; and

- (f) ensure enforcement of the National Environmental Quality Standards;
- (g) establish standards for the quality of the ambient air, water and land, by notification in the official Gazette, in consultation with the Provincial Agency concerned:

Provided that

- (i) different standards for discharge or emission from different source and for different areas and conditions may be specified;
 - (ii) where standards are less stringent that the National Environmental Quality Standards prior approval of the Council shall be obtained;
 - (iii) certain areas, with the approval of the Council, may exclude from carrying out specific activities, projects from the application of such standards;
- (h) co-ordinate environmental policies and programs nationally and internationally;
 - (i) establish systems and procedures for surveys, surveillance, monitoring, measurement, examination, investigation, research, inspection, and audit to prevent and control pollution, and to estimate the cost of cleaning up pollution and rehabilitating the environment in various sectors;
 - (j) take measures to promote research and the development of science and technology which may contribute to the prevention of pollution, protection of the environment, and sustainable development;
 - (k) certify one or more laboratories as approved laboratories for conducting tests and analysis and one or more research institutes as environmental research institutes for conducting research and investigation, for the purposes of this Act;

- (l) identify the needs for, and initiate legislation in various sectors of the environment;
- (m) render advice and assistance in environmental matters, including such information and data available with it as may be required for carrying out the purposes of this Act:

Provided that the disclosure of such information shall be subject to the restrictions contained in the proviso to sub-section (3) of section 12;

- (n) assist the local councils, local authorities, Government Agencies and other persons to implement schemes for the proper disposal of wastes so as to ensure compliance with the standards established by it;
 - (o) provide information and guidance to the public on environmental matters;
 - (p) recommend environmental courses, topics, literature, and books for incorporation in the curricula and syllabi of educational institutions;
 - (q) promote public education and awareness of environmental issues through *mass media* and other means, including seminars and workshops;
 - (r) specify safeguards for the prevention of accidents and disasters which may cause pollution, collaborate with the concerned person in the preparation of contingency plans for control of such accidents and disasters, and co-ordinate implementation of such plans;
 - (s) encourage the formation and working of non-governmental organizations, community organizations, and village organizations to prevent and control pollution and promote sustainable development;
 - (t) take or cause to be taken all necessary measures for the protection, conservation, rehabilitation and improvement of the environment prevention and control of pollution and promotion of sustainable development; and
 - (u) perform any function which the Council may assign to it.
- (2) The Federal Agency may—
- (a) undertake inquiries or investigation into environmental issues, either of its own accord or upon complaint from any person or organization ;
 - (b) request any person to furnish any information or data relevant to its functions ;
 - (c) initiate with the approval of the Federal Government, requests for foreign assistance in support of the purposes of this Act and enter into arrangements with foreign agencies or organizations for the exchange of material or information and participate in international seminars or meetings ;
 - (d) recommend to the Federal Government the adoption of financial and fiscal programmes, schemes or measures for achieving environmental objective and goals and the purposes of this Act, including—
 - (i) incentives, prizes awards, subsidies, tax exemptions, rebates and depreciation allowances ; and
 - (ii) taxes, duties, cesses, and other levies ;
 - (e) establish and maintain laboratories to help in the performance of its functions under this

Act and to conduct research in various aspects of the environment and provide or arrange necessary assistance for establishment of similar laboratories in the private sector ; and

- (f) provide or arrange, in accordance with such procedure as may be prescribed, financial assistance for projects designed to facilitate the discharge of its functions.

7. Powers of the Federal Agency.—Subject to the provisions of this Act, the Federal Agency may—

- (a) lease, purchase, acquire, own, hold, improve, use or otherwise deal in and with any property both movable and immovable ;
- (b) sell, convey, mortgage, pledge, exchange or otherwise dispose of its property and assets ;
- (c) fix and realize fees, rates and charges for rendering any service or providing and facility information or data under this Act or the rules and regulations made thereunder ;
- (d) enter into contracts, execute instruments, incur liabilities and do all acts or things necessary for proper management and conduct of its business ;
- (e) appoint with the approval of the Federal Government and in accordance with such procedures as may be prescribed, such advisers, experts, and consultants as it considers necessary for the efficient performance of its functions on such terms and conditions as it may deem fit ;
- (f) summon and enforce the attendance of any person and require him to supply any information or document needed for the conduct of any enquiry or investigation into any environmental issue ;
- (g) enter and inspect and under authority of a search warrant issued by the Environmental Tribunal or Environmental Magistrate, search at any reasonable time, any land, building, premises, vehicle or vessel or other place where or in which, there are reasonable grounds to believe that an offence under this Act has been or is being committed ;
- (h) take samples of any materials, products, articles or substances or of the effluents, wastes or air pollutants being discharged or emitted or of air, water or land in the vicinity of the discharge or emission ;
- (i) arrange for test and analysis of the samples at a certified laboratory ;
- (j) confiscate any article used in the commission of the offence where the offender is not known or cannot be found within a reasonable time :

Provided that the power under clauses (f), (h), (i) and (j) shall be exercised in accordance with the provisions of the Code of Criminal Procedure, 1898 (Act V of 1898), or the rules made under this Act and under the direction of the Environmental Tribunal or Environmental Magistrate ; and

- (k) establish a National Environmental Coordination Committee comprising the Director-General as its chairman and the Director-Generals of the Provincial Environmental Protection Agencies and such other persons as the Federal Government may appoint as its members to exercise such powers and perform such functions as may be delegated or assigned to it by the Federal Government for carrying out the purposes of this Act and for ensuring inter provincial co-ordination in environmental policies.

8. Establishment, powers and functions of the Provincial Environmental Protection

Agencies.—(1) Every Provincial Government shall, by notification in the official Gazette, establish and Environmental Protection Agency, to exercise such powers and perform such functions as may be delegated to it by the Provincial Government under subsection (2) of section 26.

(2) The Provincial Agency shall be headed by a Director-General who shall be appointed by the Provincial Government on such terms and conditions as it may determine.

(3) The Provincial Agency shall have such administrative, technical and legal staff as the Provincial Government may specify, to be appointed in such accordance with such procedure as may be prescribed.

(4) The powers and functions of the Provincial Agency shall be exercised and performed by the Director-General.

(5) The Director-General may, by general or specific order, delegate any of these powers and functions to staff appointed under sub-section (3).

(6) For assistance of the Provincial Agency in the discharge of its functions, the Provincial Government shall establish sectoral Advisory Committees for various sectors and appoint members from amongst eminent representatives of the relevant sector, educational institutions, research institutes and non-governmental organizations.

9. Establishment of the Provincial Sustainable Development Funds.—(1) There shall be established in each Province a Sustainable Development Fund.

(2) The Provincial Sustainable Development Fund shall be derived from the following sources, namely :—

- (a) grants made or loans advanced by the Federal Government or the Provincial Government ;
 - (b) aid and assistance, grants, advances, donations and other non-obligatory funds received from foreign governments, national or international agencies, and non-governmental organizations ; and
 - (c) contributions from private organizations, and other persons.
- (3) The Provincial Sustainable Development Fund shall be utilized in accordance with such procedure as may be prescribed for—
- (a) 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
 - (b) any other purpose which in the opinion of the Board will help achieve environmental objectives and the purposes of this Act.

10. Management of the Provincial Sustainable Development Fund.—(1) The Provincial Sustainable Development Fund shall be managed by a board known as the Provincial Sustainable Development Fund Board consisting of—

- (i) Chairman, Planning and Development Board/Additional Chief Secretary Planning and Development Department.

Chairperson

- | | | |
|-------|--|-------------------------|
| (ii) | such officers of the Provincial Governments not exceeding six as the Provincial Government may appoint, including Secretaries in charge of Finance, Industries and Environment Departments. | <i>Members</i> |
| (iii) | such non-official persons not exceeding ten as the Provincial Government may appoint including representatives of the Provincial Chamber of Commerce and Industry, non-governmental organizations, and major donors. | <i>Members</i> |
| (iv) | Director-General of the Provincial Agency. | <i>Member/Secretary</i> |

(2) In accordance with such procedure and such criteria as may be prescribed, the Board shall have the power to—

- (a) sanction financial assistance for eligible projects;
- (b) invest moneys held in the Provincial Sustainable Development Fund in such profit-bearing Government bonds, savings schemes and securities as it may deem suitable ; and
- (c) takes such measures and exercise such powers as may be necessary for utilization of the Provincial Sustainable Development Fund for the purposes specified in sub-section (3) of section 9.

(3) The Board shall constitute committees of its members to undertake regular monitoring of projects financed from the Provincial Sustainable Development Fund and to submit progress reports to the Board which shall publish an Annual Report incorporating its annual audited accounts, and performance evaluation base on the progress reports.

11. Prohibition of certain discharges or emissions.—(1) 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.

(2) The Federal Government 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 rate, and collected in accordance with such procedure as may be prescribed.

(3) Any person who pays the pollution charge levy under sub-section (2) shall not be charged with an offense with respect to that contravention of failure.

(4) The provisions of sub-section (3) shall not apply to projects which commenced industrial activity on or after the thirtieth day of June, 1994.

12. Initial Environmental Examination and Environmental Impact Assessment.—(1) No proponent of a project shall commence construction or operation unless he has filed with the Federal Agency and Initial Environmental Examination or, where the project is likely to cause an adverse environmental effect, an environmental impact assessment, and has obtained from the Federal Agency approval in respect thereof.

(2) The Federal Agency shall—

- (a) review the initial environmental examination and accord its approval, or require submission of an environmental impact assessment by the proponent ; or

- (b) review the environmental impact assessment and accord its approval subject to such conditions as it may deem fit to impose, or require that the environmental impact assessment be re-submitted after such modifications as may be stipulated, or reject the project as being contrary to environmental objectives.
- (3) Every review of an environmental impact assessment shall be carried out with public participation and no information will be disclosed during the course of such public participation which relates to—
 - (i) trade, manufacturing or business activities, processes or techniques of a proprietary nature, or financial, commercial, scientific or technical matters which the proponent has requested should remain confidential, unless for reasons to be recorded in writing, the Director-General of the Federal Agency is of the opinion that the request for confidentiality is not well-founded or the public interest in the disclosure outweighs the possible prejudice to the competitive position of the project or its component ; or
 - (ii) international relations, national security or maintenance of law and order, except with the consent with the Federal Government ; or
 - (iii) matters covered by legal professional privilege.

(4) The Federal Agency shall communicate its approval or otherwise within a period of four months from the date the initial environmental examination or environmental impact assessment is filed complete in all respects in accordance with the prescribed procedure, failing which the initial environmental examination or, as the case may be, the environmental impact assessment shall be deemed to have been approved, to the extent which it does not contravene the provisions of this Act and the rules and regulations made thereunder.

(5) Subject to sub-section (4) the Federal Government may in a particular case extend the afore mentioned period of four months if the nature of the project so warrants.

(6) The provision of sub-sections (1), (2), (3), (4), and (5) shall apply to such categories of projects and in such manner as may be prescribed.

(7) The Federal Agency shall maintain separate Registers for initial environmental examination and environmental impact assessment projects, which shall contain brief particulars of each project and a summary of decisions thereon, and which shall be open to inspection by the public at all reasonable hours and disclosure of information in such Registers shall be subject to the restrictions specified in sub-section (3).

13. Prohibition of import of hazardous waste.—No person shall import hazardous waste into Pakistan and its territorial waters, Exclusive Economic Zone and historic waters.

14. Handling of hazardous substances.—Subject to the provisions of this Act, no person shall generate, collect, consign, transport, treat, dispose of, store, handle or import any hazardous substance except—

- (a) under a license issued by the Federal Agency and in such manner as may be prescribed ;
or
- (b) in accordance with the provisions of any other law for the time being in force, or any international treaty, convention, protocol, code, standard, agreement or other instrument to which Pakistan is a party.

15. Regulations of Motor Vehicles.—(1) Subject to the provisions of this Act and the rules and regulations made thereunder, no person shall operate a motor vehicle from which air pollutants or noise

are being emitted in an amount, concentration or level which is in excess of the National Environmental Quality Standards, or where applicable, the standards established under clause (g) of sub-section (1) of section 6.

(2) For ensuring compliance with the standards mentioned in sub-section (1), the Federal Agency may direct that any motor vehicle or class of vehicles shall install such pollution control devices or other equipment or use such fuels or undergo such maintenance or testing as may be prescribed.

(3) Where a direction has been issued by the Federal Agency under sub-section (2) in respect of any motor vehicles or class of motor vehicles, no person shall operate any such vehicle till such direction has been complied with.

16. Environmental protection order.—(1) Where the Federal Agency or a Provincial Agency is satisfied that the discharge or emission of any effluent, waste, air pollutant and noise, or the disposal of waste, or the handling of hazardous substances, or any other act or omission is likely to occur, or is occurring or has occurred in violation of the provisions of this Act, rules or regulations or of the conditions of a license, and is likely to cause, or is causing, or has caused an adverse environmental effect, the Federal Agency or, as the case may be, the Provincial Agency may, after giving the person responsible for such discharge emission, disposal, handling, act or omission an opportunity of being heard, by order direct such person to take such measures that the Federal Agency or Provincial Agency may consider necessary within such period as may be specified in the order.

(2) In particular and without prejudice to the generality of the foregoing power, such measures may include—

- (a) immediate stoppage, preventing, lessening, or controlling the discharge, emission, disposal, handling, act or omission, or to minimize or remedy the adverse environmental effect ;
- (b) installation, replacement, or alteration of any equipment or thing to eliminate or control or abate on a permanent or temporary basis, such discharge, emission, disposal, handling, act or emission ;
- (c) action to remove or otherwise dispose of the effluent, waste, air pollutant, noise, or hazardous substances ; and
- (d) action to restore the environment to the condition existing prior to such discharge, disposal, handling, act or omission, or as close to such condition as may be reasonable in the circumstances, to the satisfaction of the Federal Agency or, Provincial Agency.

(3) Where the person, to whom directions under sub-section (1) are given, does not comply therewith, the Federal Agency or Provincial Agency may, in addition to the preceding initiated against him under this Act or the rules and regulations, itself take or cause to be taken such measures specified in the order as it may deems necessary, and may recover the costs of taking such measures from such person as arrears of land revenue.

17. Penalties.—(1) Whoever contravenes or fails to comply with the provisions of sections 11, 12, 13 or section 16 or any order issued thereunder shall be punishable with fine which may extent to one million rupees, and in the case of a continuing contravention or failure, with an additional fine which may extend to one hundred thousand rupees for every day during which such contravention or failure continues or where such contravention or failure continues :

Provided that if contravention of the provisions of section 11 also constitutes contravention of the provisions of section 15, such contravention shall be punishable under sub-section (2) only.

(2) Whoever contravenes or fails to comply with the provisions of section 14 of 15 or any rule

or regulation or conditions of any licence, any order or direction issues by the Council or by the Federal Agency or Provincial Agency shall be punishable with fine which may extend to one hundred thousand rupees, and in case of continuing contravention, or failure with an additional fine which extend to one thousand rupees for every day during which such contravention continues.

(3) Where an accused has been convicted of an offence under sub-section (1) and (2), the Environmental Tribunal and Environmental Magistrate shall, in passing sentence, take into account the extent and duration of the contravention or failure constituting the offence, and the attendant circumstances.

(4) Where an accused has been convicted of an offence under sub-section (1) and the Environmental Tribunal is satisfied that as a result of the commission of the offence monetary benefits have accrued to the offender, the Environmental Tribunal may order the offender to pay, in addition to the fines under sub-section (1), further additional fine commensurate with the amount of the monetary benefits.

(5) Where a person convicted under subsection (1) or sub-section (2) ; and had been previously convicted for any contravention under this Act, the Environmental Tribunal or, as the case may be, Environmental Magistrate may, in addition to the punishment awarded thereunder—

- (a) endorse a copy of the order of conviction to the concerned trade or industrial association, if any, or the concerned Provincial Chamber of Commerce and Industry or the Federation of Pakistan Chambers of Commerce and Industry ;
- (b) sentence him to imprisonment for a term which may extend up to two years;
- (c) order the closure of the factory ;
- (d) order confiscation of the factory, machinery, and equipment, vehicle, material or substance, record or document or other object used or involved in contravention of the provisions of the Act :

Provided that for a period of three years from the date of commencement of this Act, the sentence of imprisonment shall be passed only in respect of persons who have been previously convicted for more than once for any contravention of sections 11, 13, 14 or 16 involving hazardous waste ;

- (e) order such person to restore the environment at his own cost, to the conditions existing prior to such contravention or as close to such conditions as may be reasonable in the circumstances to the satisfaction of the Federal Agency or, as the case may be, Provincial Agency ; and
- (f) order that such sum be paid to any person as compensation for any loss, bodily injury, damage to his health or property suffered by such contravention.

(6) The Director-General of the Federal Agency or of a Provincial Agency or an officer generally or specially authorised by him in this behalf may, on the application of the accused compound an offence under this Act with the permission of the Environmental Tribunal or Environmental Magistrate in accordance with such procedure as may be prescribed.

(7) Where the Director-General of the Federal Agency or of a Provincial Agency is of the opinion that a person has contravened any provision this Act, he may, subject to the rules, by notice in writing to that person require him to pay to the Federal Agency or, as the case may be, Provincial Agency an administrative penalty in the amount set out in the notice for each day the contravention continues ; and a person who pays an administrative penalty for a contravention shall not be charged under this Act with an offence in respect of such contravention.

(8) The provisions of sub-sections (6) and (7) shall not apply to a person who has been previously convicted or offence or who has compounded an offence under this Act or who has paid an administrative penalty for a contravention of any provision of this Act.

18. Offences by bodies corporate.—Where any contravention of this Act has been committed by a body corporate, and it is proved that such offence has been committed with the consent or connivance of, or is attributed to any negligence on the part of, any director, partner, manager, secretary or other officer of the body corporate, shall be deemed guilty of such contravention along with the body corporate and shall be punished accordingly :

Provided that in the case of a company as defined under the Companies Ordinance, 1984 (XLVII of 1984), only the Chief Executive as defined in the said Ordinance shall be liable under this section.

Explanation.—For the purposes of this section, “body corporate” includes a firm, association of persons and a society registered under the Societies Registration Act, 1860 (XXI of 1860), or under the Cooperative Societies Act, 1925 (VII of 1925).

19. Offences by Government Agencies, local authorities or local councils.—Where any contravention of this Act has been committed by any Government Agency, local authority or local council, and it is proved that such contravention has been committed with the consent or connivance of, or is attributable to any negligence on the part of the Head or any officer of the Government Agency, local authority or local council, such Head or other officer shall also be deemed guilty of such contravention along with the Government Agency, local authority or local council and shall be liable to be proceeded against and punished accordingly.

20. Environmental Tribunals.—(1) The Federal Government may, by notification in the official gazette, establish as many Environmental Tribunals as it considers necessary and, where it establishes more than one Environmental Tribunal, it shall specify territorial limits within which, or the Class of cases in respect of which, each one of them shall exercise jurisdiction under this Act.

(2) An Environmental Tribunal shall consist of a Chairperson who is, or has been, or is qualified for appointment as, a Judge of the High Court to be appointed after consultation with the Chief Justice of the High Court and two members to be appointed by the Federal Government of which at least one shall be a technical member with suitable professional qualifications and experience in the environmental fields as prescribed.

(3) For every sitting of the Environmental Tribunal, the presence of the Chairperson and not less than one member shall be necessary.

(4) A decision of an Environmental Tribunal shall be expressed in terms of the opinion of the majority of its members, including the Chairperson, or if the case has been decided by the Chairperson and only one of the members and there is a difference of opinion between them, the decision of the Environmental Tribunal shall be expressed in terms of the opinion of the Chairperson.

(5) An Environmental Tribunal shall not, merely by reason of a change in its composition, or the absence of any member from any sitting, be bound to recall and rehear any witness who has given evidence, and may act on the evidence already recorded by, or produced, before it.

(6) An Environmental Tribunal may hold its sittings at such places within its territorial jurisdiction as the Chairperson may decide.

(7) No act or proceeding of an Environmental Tribunal shall be invalid by reason only of the existence of a vacancy in, or defect in the constitution of, the Environmental Tribunal.

(8) The Terms and conditions of service of the Chairperson and members of the Environmental Tribunal shall be such as may be prescribed.

21. Jurisdiction and powers of Environmental Tribunals.—(1) An Environmental Tribunal shall exercise such powers and perform such functions as are, or may be, conferred upon or assigned to it by or under this Act, or the rules and regulations made thereunder.

(2) All contravention punishable under sub-section (1) of section 17 shall exclusively be triable by an Environmental Tribunal .

(3) An Environmental Tribunal shall not take cognizance of any offence triable under sub-section (2) except on a complaint in writing by-

(a) the Federal Agency or any Government Agency or local council; and

(b) any aggrieved person, who has given notice of not less than thirty days to the Federal Agency or the Provincial Agency concerned of the alleged contravention and of his intention to make a complaint to the Environmental Tribunal.

(4) In exercise of its criminal jurisdiction, the Environmental Tribunal shall have the same powers as are vested in the Court of Session under the Code of Criminal Procedure, 1898 (Act V of 1898).

(5) In exercise of the appellate jurisdiction under section 22 the Environmental Tribunal shall have the same powers and shall follow the same procedure as an appellate court in the Code of Civil Procedure, 1908 (Act V of 1908).

(6) In all matters with respect to which no procedure has been provided for in this Ordinance, the Environmental Tribunal shall follow the procedure laid down in the Code of Civil Procedure, 1908 (Act V of 1908).

(7) An Environmental Tribunal may, on application filed by an officer duly authorized in this behalf by the Director-General for the Federal Agency or Provincial Agency, issue bailable warrant for the arrest of any person against whom reasonable suspicion exists of his having been involved in contravention punishable under sub-section (1) of section 17:

Provided that such warrant shall be applied for, issued, and executed in accordance with the provisions of the Code of Criminal Procedure, 1898 (Act V of 1898):

Provided further that if the person arrested executes a bond with sufficient sureties in accordance with the endorsement on the warrant, he shall be released from custody, failing which he shall be taken or sent without delay to the officer-in-charge of the nearest police station.

(8) All proceedings before the Environmental Tribunal shall be deemed to be judicial proceedings within the meaning of sections 193 and 228 of the Pakistan Penal Act (Act XLV of 1860), and the Environmental Tribunal shall be deemed to be a court for the purposes of sections 480 and 482 of the Code of Criminal Procedure, 1898 (Act V of 1898).

(9) No court other than an Environmental Tribunal shall have or exercise any jurisdiction with respect to any matter to which the jurisdiction of an Environmental Tribunal extends under this Act or the rules and regulations made thereunder.

(10) Where the Environmental Tribunal is satisfied that complaint made to it under sub-section (3) is false and vexatious to the knowledge of the complainant, it may, by an order, direct the complainant to pay to the person complained against such compensatory costs which may extend to one hundred thousand rupees.

22. Appeals to the Environmental Tribunal.—(1) Any person aggrieved by any order or direction of the Federal agency or any Provincial Agency under any provision of this Act and rules or regulations made

thereunder may prefer an appeal with the Environmental Tribunal within thirty days of the date of communication of the impugned order or direction to such person.

(2) An appeal to the Environmental Tribunal shall be in such form, contain such particulars and be accompanied by such fees as may be prescribed.

23. Appeals form orders of the Environmental Tribunal.—(1) Any person aggrieved by any final order or by any sentence of the Environmental Tribunal passed under this Act may, within thirty days of communication of such order or sentence, prefer an appeal to the High Court.

(2) An appeal under sub-section (1) shall be heard by a Bench of not less than two Judges.

24. Jurisdiction of Environmental Magistrates.—(1) Notwithstanding anything contained in the Code of Criminal Procedure, 1898 (Act V of 1898), or any other law for the time being in force, but subject to the provisions of this Act, all contraventions punishable under sub-section (2) of section 17 shall exclusively be triable by a judicial Magistrate of the first class as Environmental Magistrate especially empowered in this behalf by the High Court.

(2) An Environmental Magistrate shall be competent to impose any punishment specified in sub-sections (2) and (4) of section 17.

(3) An Environmental Magistrate shall not take cognizance of an offence triable under sub-section (1) except on a complaint in writing by—

- (a) the Federal Agency, Provincial Agency, or Government Agency or local council; and
- (b) any aggrieved person.

25. Appeals form orders of Environmental Magistrates.—Any person convicted of any contravention of this Act or the rules or regulations by an Environmental Magistrate may, within thirty days from the date of his conviction, appeal to the Court of Sessions, whose decision thereon shall be final.

26. Power to delegate.—(1) The Federal Government may, by notification in the official Gazette, delegate any of its or of the Federal Agency's powers and functions under this Act and the rules and regulations made thereunder to any Provincial Government, any Government Agency, local council or local authority.

(2) The Provincial Government may, by notification in the official Gazette, delegate any of its or of the Provincial Agency's powers or functions under this Act and the rules and regulations made thereunder to any Government Agency of such Provincial Government or any local council or local authority in the Province.

27. Power to give directions.—In the performance of their functions under this Act—

- (a) the Federal Agency and Provincial Agencies shall be bound by the directions given to them in writing by the Federal Government; and
- (b) a Provincial Agency shall be bound by the directions give to it in writings by the Provincial Government.

28. Indemnity.—No suit, prosecution or other legal proceedings shall lie against the Federal or Provincial Governments, the Council, the Federal Agency or Provincial Agencies, the Director-Generals of the Federal Agency and the Provincial Agency, members, officers, employees, experts, advisors, committees or consultants of the Federal or Provincial Agencies or the Environmental Tribunal or Environmental Magistrates or any other person for anything which is in good faith done or intended to be done under this Act or the rules of regulations made thereunder.

29. **Dues recoverable as arrears of land revenue.**—Any dues recoverable by the Federal Agency or Provincial Agency under this Act, or the rules or regulations made thereunder shall be recoverable as arrears of land revenue.

30. **Act to override other laws.**—The provisions of this Act shall have effect notwithstanding anything inconsistent therewith contained in any other law for the time being in force.

31. **Power to make rules.**—The Federal Government may, by notification in the official Gazette, make rules for carrying out the purposes of this Act including rules for implementing the provisions of the international environmental agreements, specified in the Schedule to this Act.

32. **Power to amend the Schedule.**—The Federal Government may, by notification in the official Gazette, amend the Schedule so as to add any entry thereto or modify or omit any entry therein.

33. **Power to make regulations.**—(1) For carrying out the purposes of this Act, the Federal Agency may, by notification in the official Gazette and with the approval of the Federal Government, make regulations not inconsistent with the provisions of this Act or the rules made thereunder.

(2) In particular and without prejudice to the generality of the foregoing power, such regulations may provide for—

- (a) submission of periodical reports, data or information by any Government Agency, local authority or local council in respect of the environmental matters;
- (b) preparation of emergency contingency plans for coping with environmental hazards and pollution caused by accidents, natural disasters and calamities;
- (c) appointment of officers, advisors, experts, consultants and employees;
- (d) levy of fees, rates and charges in respect of services rendered, actions taken and schemes implemented
- (e) monitoring and measurement of discharges and emissions;
- (f) categorization of projects to which, and the manner in which, section 12 applies;
- (g) laying down of guidelines for preparation of initial environmental examination and environmental impact assessment and Development of procedures for their filing, review and approval;
- (h) providing procedures for handling hazardous substances; and
- (i) installation of device in, use of fuels by, and maintenance and testing of motor vehicles for control of air and noise pollution.

34. **Repeal, savings and succession.**—(1) The Pakistan Environmental Protection Ordinance, 1983 (XXXVII of 1983) is hereby repealed.

(2) Notwithstanding the repeal of the Pakistan Environmental Protection Ordinance, 1983 (XXXVII of 1983), any rules or regulations or appointments made, orders passed, notifications issued, powers delegated, contracts entered into, proceedings commenced, rights acquired liabilities incurred, penalties, rates, fees or charges levied, things done or action taken under any provisions of that Ordinance shall, so far as they are not inconsistent with the provisions of this Act, be deemed to have been made, passed, issued, delegated, entered into, commenced, acquired, incurred, levied, done or taken under this Act.

(3) On the establishment of the Federal Agency and Provincial Agencies under this Act, all properties, assets and liabilities pertaining to the Federal Agency and Provincial Agencies established under that Ordinance shall vest in and be the properties, assets and liabilities, as the case may be, of the Federal Agency and Provincial Agency established under this Act.

SCHEDULE

1. International Plant Protection Convention, Rome, 1951.
2. Plant Protection Agreement for the South-East Asia and Pacific Region (as amended), Rome, 1956.
3. Agreement for the Establishment of a Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in South-West Asia (as amended), Rome, 1963.
4. Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Ramsar, 1971 and its amending Protocol, Paris, 1982.
5. Convention Concerning the Protection of World Cultural and Natural Heritage (World Heritage Convention), Paris 1972.
6. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Washington, 1973.
7. Convention on the Conservation of Migratory Species of Wild Animals, Bonn, 1979.
8. Convention on the Law of the Sea, Montego Bay, 1982.
9. Vienna Convention for the Protection of the Ozone Layer, Vienna, 1985.
10. Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 1987 and amendments thereto.
11. Agreement on the Network of Aquaculture Centers in Asia and the Pacific, Bangkok, 1988.
12. Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal, Basel, 1989.
13. Convention on Biological Diversity, Rio De Janeiro, 1992.
14. United Nations Framework Convention on Climate Changes, Rio De Janeiro, 1992.

APPENDIX - E

IMPORTANT PROVISIONS OF PAKISTAN ENVIRONMENTAL PROTECTION ACT, 1997

Section #	Provision
3	Pakistan Environmental Protection Council.
5	Pakistan Environmental Protection Agency.
8	Provincial Environmental Protection Agency.
9	Provincial Sustainable Development Funds.
10	Management of the Provincial Sustainable Development Fund.
12	Initial environmental examination and environmental impact assessment.
13	Prohibition of import of hazardous waste.
15	Vehicular Pollution.
16	Environmental Protection Order.
17	Penalties.
20	Environmental Tribunals.
24	Environmental Magistrates.

APPENDIX - F

Bodies with Direct or Indirect Environmental Responsibilities

- Energy Conservation Centre
- Environment Section of the Planning and Development Division
- Environmental Protection Agencies (EPAs)
- Geological Survey of Pakistan (GSP)
- Marine Environment Unit
- Marine Pollution Board
- Marine pollution Control Centre
- National Conservation Strategy Unit of Ministry of Environment, Local Government and Rural Development (MELGRID)
- National Council for Conservation of Wildlife
- National Institute for Genetics and Biotechnology
- National Institute for Oceanography
- National Institute of Health (NIH)
- National Institute of Oceanography
- Pakistan Agricultural Research Council (PARC)
- Pakistan Atomic Energy Commission (PAEC)
- Pakistan Council for Research in Water Resources
- Pakistan Council of Scientific and Industrial Research (PCSIR)
- Pakistan Forestry Institute (PFI)
- Pakistan Institute for Nuclear Science and Technology
- Pakistan Medical research Council
- Space and Upper Atmosphere Research Commission (SUPARCO)
- Water and Power Development Authority (WAPDA)
- Zoological Survey Department

Urban Development Authorities

- Capital Development Authority (CDA)
- Faisalabad Development Authority (FDA)
- Hyderabad Development Authority (HDA)
- Karachi Development Authority (KDA)
- Lahore Development Authority (LDA)
- Peshawar Development Authority (PDA)
- Rawalpindi Development Authority (RDA)

APPENDIX - G

Major NGOs Working for the Environment

- Aga Khan Rural Support Programme.
- Bannhn Beli
- Balochistan Rural Support Programme
- Belour Advisory and Social Development Organization
- International Waterlogging and Salinity Institute
- Khewndo Kor
- National Rural Support Programme
- Pakistan Institute of Labour Education and Research
- Sarhad Rural Support Corporation
- Scientific and Cultural Society of Pakistan
- Shehri: Citizens for Better Environment
- Shirkat Gah
- Society for Conservation and Protection of Environment
- Strengthening Participatory Organizations
- Sungi Development Policy Institute
- Sustainable Development Policy Institute
- Teachers Resource Centre
- WWF-Pakistan

Universities and Institutions with Environment Programs

- Agricultural University, Faisalabad
- Agricultural University, Peshawar
- Allama Iqbal Open University, Islamabad
- Centre for Energy and Environmental Studies, Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Topi (NWFP)
- Department of Environmental Planning and Management, University of Peshawar
- Institute of Biochemistry and Biotechnology, University of the Punjab, Lahore
- Institute of Educational Development, Aga Khan University, Karachi
- Institute of Environmental Engineering and Research, University of Engineering and Technology (UET), Lahore
- Institute of Environmental Engineering, NED Engineering University, Karachi
- Institute of Environmental Engineering, National University of Science and Technology, Rawalpindi
- HEJ Research Institute of Organic Chemistry, University of Karachi
- Jamshoro Engineering University, Hyderabad
- National Institute of Public Administration (NPA)
- Pakistan Academy of Rural Development
- Pakistan Forest Institute, Peshawar
- Quaid-eAzam University, Islamabad
- University of Balochistan, Quetta

APPENDIX - H

LIST OF FEDERAL MINISTERS

	Portfolio	Phone No.		Fax No.
		Office	Residence	
<u>Nisar A. Memon</u>	Ministry of Information & Media Development E-mail: infominister@pak.gov.pk	9211800 9213649		9203740
<u>Mr. Abdul Razak Dawood</u>	Commerce, Industries and Production E-mail: mincom@meganet.com.pk	9204548	9206745	9205241
<u>Mrs. Zubeda Jalal</u>	Education E-mail: pak@yahoo.com	9201392 9212020	9207997	9202851
<u>Barrister Shahida Jamil</u>	Environment, Local Government, Rural Development E-mail: envir@isb.compol.com	9224291 9224578	293828	9202211 9224890
<u>Owais Ahmed Ghani</u>	Minister for Labour, Manpower and Overseas Pakistanis	9210077	9204171	9206283
<u>Mr. Shaukat Aziz</u>	Finance, Revenue, Economic Affairs, Planning & Development & Statistics E-mail: finance@isb.paknet.com.pk	9203687	820413	9213780
<u>Mr. Inam-ul-Haq</u>	Foreign Affairs	921033 5	9207600	9206254
<u>Dr. Abdul Malik Kasi</u>	Health	9213933 9208139	9202387	9213933 9205481
<u>Lt. Gen.(R) Moin-ud-din Haider</u>	Interior, Narcotics Division, Control and Capital Administration and Development Divisions.	9212026	9216888 9204101	9202642
<u>Mr. Abbas Sarfraz Khan</u>	Kashmir Affairs, Northern Areas, SAFRON and Housing and Works E-mail: safron@isb.perd.net.pk	9211405	9202320	9202494
<u>Mr. Usman Aminuddin</u>	Petroleum and Natural Resources E-mail: info@mpnr.gov.pk	9210220 9213180	814179	9206416
<u>Dr. Khalid Ranjha</u>	Minister of Law, Justice, Human Rights and Parliamentary Affairs E-mail: molaw1@comsats.net.pk	9210062 9212710	9206997	(O)92026 28
<u>Khair Muhammad Junejo</u>	Minister for Food, Agriculture, Cooperatives and Livestock	9210088 9205912	9210854	(O)92212 46
<u>Col. (R) S.K. Tressler</u>	Sports, Culture, Minority Affairs and Youth	9210108		9224697
<u>Prof. Atta-ur-Rahman</u>	Science and Technology E-mail: minister@most.gov.pk	9208026 9208285	9205233	9202603
<u>Lt. Gen. (R) Javed Ashraf</u>	Communication and Railway	9210322 9210344		9215740

Dr. Attiya Inayatullah	Women Development, Social Welfare, Special Education and Population Welfare			
Owais Ahmad Ghani	Religious Affairs, Zakat & Usher			
Syed Sharifuddin Pirzada	Honorary Advisor to the Chief Executive for Foreign Affairs. Law Justice and Human Rights			
M. Shafi Niaz	Advisor to the Chief Executive for Food, Agriculture and Livestock			
Imtiaz Ahamd Sahibzada	Chairman Federal Land Commission			
Dr. Shahid Amjad Chaudhry	Deputy Chairman, Planning Commission/Minister of State			
Mr. Altaf Saleem	Minister for Privatization			
Sardar Muhammad Abdul Qayyum Khan	Minister of State / Chairman, President's National Kashmir Committee			
Dr. Nasim Ashraf	Minister of State /Chairman, National Commission on Human Development			

APPENDIX - I

International and Regional Agreements or Conventions Signed by Pakistan

- Geneva Protocol for Prohibition of the Use in War of Asphyxiating, Poisonous, other Gases and Bacteriological Methods and Warfare. 1925.
- Rome Convention for Plant Protection. 1951.
- Geneva Convention for the Continental Shelf. 1958.
- Geneva Convention for Territorial Seas and Contiguous Zones. 1958.
- Geneva Convention for the High Seas. 1958.
- Geneva Convention for the Compulsory Settlement of Disputes. 1958.
- Rome Convention for the International Poplar Commission. 1959.
- Moscow Treaty Banning Weapons Test in the Atmosphere, Outer Space of Under Water. 1968.
- London/Moscow/Washington Treaty on Activities in Outer Spaces. 1967.
- Vienna Convention for the Law of Treaties. 1971.
- Ramsar Convention for Protection of Wetlands of International Importance Especially as Waterfowl Habitat. 1971. Plus Paris Amendments 1982 and Regina Amendments 1987.
- London, Moscow, Washington Convention for International Liability for Damage Caused by Space Objects. 1972.
- London, Moscow, Washington Convention for Prohibition of the Development Production and Stocking of Bacteriological and Toxic Weapons. 1972.
- London Convention for International Regulation for Preventing Collision at Sea. 1972.
- Paris Convention for Protection of World Cultural Natural Heritage. 1972.
- Geneva Convention for Safe Containers. 1972.
- Washington Convention for International trade in Endangered Species of Wild Fauna and Flora (CITES). 1973 amendment and 1979 amendment but not 1983 amendment.
- MARPOL. 1973-78.
- Geneva Convention for Prohibition of Military or other Hostile Use of Environmental Modification Techniques. 1977.
- Bonn Convention for Conservation of Migratory Species of Wild Animals. 1979.
- New York Agreement on Activities of States on the Moon and other Celestial Bodies. 1979.
- Convention for the Law Sea. 1982.
- Vienna Convention for the Protection of the Ozone Layer. 1985.
- Vienna Convention for Assistance In the Case of Nuclear Accident. 1986.
- Montreal Protocol for Ozone Depleting Substances. 1987.
- World Heritage Convention.
- UNESCO's Man and Biosphere Program.

APPENDIX - I (Contd.)

Regional Agreements

- Baguio Agreements on Establishing the Indo-Pacific Fisheries Council. 1948.
- Rome Agreement on Plant Protection Agreement for Asian and Pacific. 1956-57.
- Rome Agreement on Commission for Controlling Desert Lowest in South West Asia. 1963.
- Paris Agreement on Fund for Project to Preserve Borobudur. 1973.
- Columbo Agreement on Articles of Association of the South Asia Co-operative Environment Program. 1988.
- Bangkok Agreement on Establishing of Networkd of Aquaculture Center in Asia and the Pacific. 1988.

APPENDIX - J

Dear survey participant,

Kindly take a few moments to complete this important fact-finding study that can make a measurable difference in the quality and value of our living environment.

Enclosed are two Environmental Policies --- 1. Pakistan's Environmental Protection Ordinance, 1983 and 2. Model Environmental Policy Plan for the Islamic Republic of Pakistan. Please go over these and then answer this questionnaire. A brief guide is enclosed to give you a brief introduction.

Please answer all questions. If exact information is not readily available for any question, please answer anyway to the best of your ability. Do not spend a great deal of time researching the answers.

Estimated average time to complete this survey is 30 minutes.

Please be frank, direct and free of any bias or prejudice. Your responses to all questions in this survey will be kept in strict confidence and information will be used only in aggregate form, in ways that will preclude identification of individual persons, departments, or offices.

Tick mark your answers or circle the most appropriate response. If desirable, give a brief explanation of your answer.

Please take a moment right now to complete and mail your survey. Accept my thanks in advance for doing so!

Best Wishes,

Babur Ejaz.
Department of Earth Resources
Colorado State University
Fort Collins, CO 80523
U.S.A.
Tel: 970-310-4747

Name: _____
 Position/Title/Job: _____
 Education: _____

QUESTIONNAIRE

PART A: Personal Opinions

(Please tick mark or circle your answers)

Q.1 How serious do you feel is environmental degradation in Pakistan?

Degradation of:-	Very Serious	Serious	Not Serious	Do not know
Air	1 _____	2 _____	3 _____	4 _____
Water	1 _____	2 _____	3 _____	4 _____
Solid Waste	1 _____	2 _____	3 _____	4 _____
Noise	1 _____	2 _____	3 _____	4 _____

Q.2 How would you rate performance of the following in protecting the environment?

	Very Satisfactory	Satisfactory	Not Satisfactory
Government	1 _____	2 _____	3 _____
Pol. Parties	1 _____	2 _____	3 _____
Env. Groups	1 _____	2 _____	3 _____
Industries	1 _____	2 _____	3 _____
Media	1 _____	2 _____	3 _____

Q.3 Do you think the government is doing something to improve the environment?

___Yes ___Probably ___No ___Do not know

Q.4 Do you think you can move/influence the government to do something about environmental pollution?

___Yes ___Probably ___No ___Do not know

Q.5 Where do you think the issue of environment ranks on the government's priority list?

___Top 5 ___Top 10 ___Top 20 ___Much lower than that
Q.6 Do you think environmental awareness has increased in Pakistan during the last decade?

___Yes ___Probably ___No ___Do not know

Q.7 Is the government more committed to environmental protection now than 10 years back?

___Yes ___Probably ___No ___Do not know

Q.8 What in your opinion is the major source of environmental awareness in Pakistan? Circle the number(1-6) against the following, No.1 being the least important and 6 being the most important.

Media (Newspapers, TV, Radio	1....2....3....4....5....6
Political Parties	1....2....3....4....5....6
Environmental Groups	1....2....3....4....5....6
International Conferences	1....2....3....4....5....6
Elites	1....2....3....4....5....6
Public Demonstrations	1....2....3....4....5....6
Others:	_____

PART B: General Questions About the Pakistani Society

The following are contrasting statements about emphasis or directions our society should be taking. Please circle one number on the scale indicating the strength / extent of preference you have for one or the other emphasis for the Pakistani society (zero indicates approximately equal mixture of both emphases).

Q.9 A society that	3...2...1...0...1...2...3	A society that
believes economic		believes pro-
growth is more im-		tecting envi-
portant than pro-		ronment is more
tecting the envi-		important than
ronment.		economic growth

- Q.10 A society that 3...2...1...0...1...2...3 A society that
emphasizes pre- emphasizes using
serving nature nature to
for its own sake. produce goods &
services.
- Q.11 A society that 3...2...1...0...1...2...3 A society that
emphasizes fore- relies on the
sight and planning supply &
demand market to
for the public maximize
good. public
the
good.
- Q.12 A society that 3...2...1...0...1...2...3 A society that
saves its re- uses resources
sources to to benefit the
benefit future present
generations. generation.
- Q.13 A society that 3...2...1...0...1...2...3 A society that
plans to avoid recognizes that
risks in the risks are un-
production of avoidable in the
wealth. production of
wealth.
- Q.14 Which kind of a change is most needed to solve our
environmental problems?
- Greater scientific 3...2...1...0...1...2...3 Basic or Revo-
and technical dev- lutionary
elopment. change in
the nature of
society.
- Q.15 What would you consider are the major constraints if any
against effective enforcement of environmental policy?
(Check all that apply)
- a ☐ Political commitment
b ☐ Financial resources

c ☐ Accountability

d ☐ Information

e ☐ Expertise

f ☐ Corruption

g ☐ Others : _____

PART C: Policy Questions

(Please circle one answer)

Q.16 The present Pakistan Environmental Protection Ordinance (PEPO-1983) is adequate for Pakistan? (Copy enclosed)

Strongly Agree

Agree Neutral

Disagree

Strongly Disagree

Q.17 We need a stricter and more effective policy plan for environment in our country?

Strongly Agree

Agree Neutral

Disagree

Strongly Disagree

Q.18 Government of Pakistan is liable and accountable to her citizens, in recognizing the rights of her people to enjoy a healthful environment, under 'Model Environmental Policy' Sec.101(c). Pg.3

Strongly Agree

Agree Neutral

Disagree

Strongly Disagree

Brief explanation if any, for above answer:

Q.19 Sec 102(c) regarding Environmental Impact Statements is a good action forcing mechanism in the 'Model Environmental Policy' to be obeyed by all departments and agencies. Pg.4

Strongly Agree

Agree Neutral

Disagree

Strongly Disagree

Brief explanation if any, for above answer:

Q.20 'Model Environmental Policy' with its requirement for Environmental Impact Statement will have a beneficial effect on the coordination and communication of scientific and technical information among various government departments and agencies. Pg.4

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.21 Based on your reading of the 'Model Environmental Policy', do you think it's Environmental Impact Statement requirement results in better planning and decision-making than would otherwise be the case? Pg.4

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.22 Sec.102(1) of the 'Model Environmental Policy' recognizes the world wide and long range character of environmental problems and rightly overrides/ignores the foreign policy and bureaucracy of the country for the sake of humanity and environment. Pg.5

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.23 'Model Environmental Policy' gives sufficient time to all

agencies/parties both private and public to adjust their policies and working in conformity with the intent and purposes of the 'model policy' through Sec. 103,104. Pg.5-6

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.24 Making existing policies and plans of agencies, departments and institutions (both public and private) supplementary and complimentary to the policies of the 'Model Environmental Policy' is one of the attempts towards getting to the grassroots of compliance through Sec. 105, 106, 107. Pg.6

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.25 Pakistan's President and the various political parties through the involvement of the National Assembly, are more seriously involved in the environmental future of the country under 'Model Environmental Policy' Sec.201. Pg.6-7

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.26 The location of the Council on Environmental Quality and its recruitment process makes it more powerful, effective and at the same time more immune to political dictates and external interferences which may not be conducive to its normal functioning. Pg.6-7

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.27 Concern for the social and economic welfare of the nation is taken care of by the implications set forth in Sec.204(4) of the 'Model Environmental Policy'. Pg.8

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.28 Establishment and administration of the Environmental Protection Agency is well outlined under Title III of the 'Model Environmental Policy'? Pg.10-14

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.29 There is a need for an Environmental Court of Justice for the protection of environment? Pg.15

Strongly Agree Agree Neutral Disagree Strongly Disagree

Q.30 The Environmental Court of Justice can avoid unnecessary delays because of its unique function and can take speedy actions in environmental disputes. Pg.14-23

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.31 'Polluter-pays' principle is in accordance with the Islamic

principles and spirit of the country. Sec.403 Pg.17

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.32 Title IV on Environmental Court Of Justice is an another action forcing mechanism for accountability and justice within an Islamic State? Pg.14-23

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.33 Title V on Environmental Education Policy outlines the responsibility of the Government and the right of the people of Pakistan to acquire contemporary education with reference to environment and Islam. Pg.23-27

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.34 Title VI on Clean Air Policy is comprehensive in its scope and will be very instrumental in restoring the highly deteriorated and polluted air resource of the country? Pg.27-34

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.35 National Environmental Quality Standards can be implemented by the provincial Environmental Protection Agencies by the prescriptions under Sec. 609. Pg.30-31

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.36 Title VII offers a long term security and safety of our nations water resources? Pg.33-46

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.37 Policy on Land Management is well outlined in terms of protection, management and beneficial use under Title VIII? Pg. 46-55

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.38 Natural Resources are guaranteed protection, naturalness and conservation under Title IX by the coordinated effort of a variety of departments and agencies involved? Pg. 55-60

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.39 Title X outlines a practical guide for the implementation and control of noise pollution? Pg. 60-65

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.40 Title XI points out to the very important responsibility of the Government and people of Pakistan to control odor, drugs, vibration nuisance, health, safety and other hazardous materials as they threaten the very existence of the country? Pg.65-67

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.41 Sufficient guidelines are offered under Title XII to put a derailed nation back on its glorious track? Pg.68-72

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.42 'Model Environmental Policy' has an integrated policy approach and incorporates religious and cultural beliefs of the country.

Strongly Agree Agree Neutral Disagree Strongly Disagree

PART D: The following additional questions are for people in the industrial sector only.

(Please tick mark or circle your answer)

Q.46 How much pressure, do you think is there from the government for adoption of pollution control devices in your industry?

___Very much ___Not enough ___Not at all

Q.47 Do you have pollution control devices in your industry?

___Yes ___Not adequate ___None at all

Q.48 What hindrances do you feel in installing pollution control devices in your industry? (Check all that apply)

a ___Finances b ___Technology c ___Information

Suggestions if any for above questions:-

Q.49 Do you think the government is putting more pressure on pollution control devices now than 10 years ago?

Strongly Agree Agree Neutral Disagree Strongly Disagree

Q.50 Do you think the enclosed 'Model Environmental Policy' holds a promise for enforceability, accountability and a better environmental future in Pakistan?

Strongly Agree Agree Neutral Disagree Strongly Disagree

Q.51 'Model Environmental Policy' is a modification of the old policy to make Pakistan's Environment Protection Agency more effective in controlling pollution.

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.52 Purpose of the 'Model Environmental Policy' is to offer a more comprehensive and Islamic approach to the environmental problems of our nation.

Strongly Agree Agree Neutral Disagree Strongly Disagree

Q.53 'Model Environmental Policy' gives broader policy guidelines for both the quality and quantity of natural resources conservation in Pakistan.

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.54 'Model Environmental Policy' secures better health and welfare for the present and future generations of the people of Pakistan.

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brief explanation if any, for above answer:

Q.55 Do your answers to this questionnaire, reflect your opinion about the 'Model Environmental Policy'?

Strongly Agree Agree Neutral Disagree Strongly Disagree

Q.56 Would you approve the adoption of 'Model Environmental Policy' by the government?

Yes

No

Other Comments:

OVERALL: Provide a summary evaluation of the 'Model
Environmental Policy' in one paragraph. In what
aspects was it outstanding or deficient?

APPENDIX - K

S. P. S. S. for Unix, Release 6.1 was used to analyze the data. It is all available in the CD-Rom inside the back cover.

APPENDIX - L

Environmental Protection Agencies In Pakistan

1. Central in the capital city

Mr. Asif Shuja Khan,
Director General
Pakistan Environmental Protection Agency,
44-E, Office Tower, Blue Area, Islamabad.
Ph. No. (051) 9217882, Fax No. (051) 9206343.

2. Province of Punjab

Brig. (Retd.) Reaz Bashir,
Director General
Environmental Protection Agency, Punjab,
4-Lytton Road, Lahore
Ph. No. (042) 7233753, Fax No. (042) 7238016.

3. Province of North West Frontier (NWFP)

Director General
Environmental Protection Agency, NWFP,
3rd Floor, Old Court Building, Khyber Road, Peshawar Cantt.
Ph. No. (091) 9210263, Fax No. (091) 9210280.

4. Province of Sindh

Director General
Environmental Protection Agency, Sindh,
E.P.A., Complex, Plot ST 2/1, Sector Korangi Industrial Area, Karachi,
Ph. No. (021) 5817925, Fax No. (021) 5065946.

5. Province of Baluchistan

Director General Environmental Protection Agency, Balochistan,
37-B, Chaman Housing Scheme, Quetta.
Ph. No. (081) 9201840, Fax No. (081) 9201180.