

# Industrial Development, Environment And Occupational Problems: The Case Of Iran

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**Abstract**—There are three distinct stages in the evolution of economic thought, namely:

1. in the first stage, the major concern was to accelerate economic growth with increased availability of material goods, especially in developing economies with very low living standards, because poverty eradication meant faster economic growth.
2. in the second stage, economists made distinction between growth and development. Development was seen as going beyond economic growth, and bringing certain changes in the structure of the economy with more equitable distribution of the benefits of growth, with the growth coming automatic and sustained.
3. the third stage is now reached. Our concern is now with “sustainable development”, that is, development not only for the present but also of the future.

Thus the focus changed from “sustained growth” to “sustained development”. Sustained development brings to the fore the long term relationship between the ecology and economic development.

Since the creation of UNEP in 1972 it has worked for development without destruction for environmentally sound and sustained development. It was realised that the environment cannot be viewed in a vacuum, it is not separate from development, nor is it competing. It suggested for the integration of the environment with development whereby ecological factors enter development planning, socio-economic policies, cost-benefit analysis, trade, technology transfer, waste management, educational and other specific areas.

Industrialisation has contributed to the growth of economy of several countries. It has improved the standards of living of its people and provided benefits to the society. It has also created in the process great environmental problems like climate change, forest destruction and denudation, soil erosion and desertification etc.

On the other hand, industry has provided jobs and improved the prospects of wealth for the industrialists. The working class communities had to simply put up with the high levels of pollution in order to keep up their jobs and also to save their income.

There are many roots of the environmental problem. They may be political, economic, cultural and technological conditions of the modern society. The experts concede that industrial growth lies somewhere close to the heart of the matter. Therefore, the objective of this paper is not to document all roots of an environmental crisis

but rather to discuss the effects of industrial growth and development.

We have come to the conclusion that although public intervention is often unnecessary to ensure that perfectly competitive markets will function in society's best interests, such intervention is necessary when firms or consumers pollute.

**Keywords**—Development, Environment, Industrial Development, Iran, Occupational problems, Pollution.

## I. INTRODUCTION

JUST a few years ago, the word environment was still only rarely used. It is now every where in everybody's use. It refers to everything that surrounds us - the air that we breathe, the dwelling that is our shelter, the vegetable world around us, the deserts, our place of work, our relations with other people, the world of animals, the seas and the rivers and even the general conditions of our life. If there is today a concern to protect our environment, it is not only because it is indispensable to life in all its forms but also because it is threatened.

We are living in an age of technical progress that is advancing with the speed of lightning and the benefits of which are accompanied by some baneful effects on mankind as well as on the environment. As a result of our activities, the water, air and land can be affected in a number of harmful ways [1], [2]. For example, fuel burning puts 4.5 billion tons of waste flow into the earth's atmosphere each year; more than 10 billion tons of waste flow into the world's oceans each year, as silt, clay, sewage, nutrient salts, poisonous chemicals, radio active substance and oil; and at least 150 thousand sq. kilometers of rain forest are destroyed each year.

## II. HAZARDOUS WASTES

In recent years, thousands of tons of hazardous wastes were sent to many less developed countries. Often, exported hazardous waste is classified as primary production material for recycling and recovery operation in countries with weak or non-existent standards for human and environmental protection. According to United State of America (US) Customs shipping records, almost half of US pesticide exports were either banned, suspended, never registered or had restricted use in USA [3], [4].

A resolution passed by the American Public Health Association (APHA) in October 1993, which supports a broad phase-out of the hazardous class of chemicals, notes that "virtually all chlorinated organic compounds that have been studied, exhibit atleast one of a wide range of serious toxic

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effects such as endocrine dysfunctions, development impairment, birth defects, reproductive dysfunction and infertility, immuno suppression and cancer, often at extremely low doses". The World Health Organisation (WHO) estimated "that in the developing countries, 3 million people suffer from the effects of single short term exposure, including 220,000 deaths and over 700,000 people a year are suffering from the chronic effects of long term exposure"

### III. LOOT OF DEVELOPING CONTRIES

Although developed countries account for most metal consumption, significant amounts of mining and processing occur in the developing countries and these activities are expanding in part to meet the consumption needs of the developed countries and in part because of industrial expansion in the developing countries themselves.

Water quality in the urban areas of developing countries has declined because of inadequate sanitation system and garbage collection and disposal and because of failure to enforce pollution controls at point of delivery sources. For example, on the Ganga river in India, there are 114 towns of over 50,000 inhabitants that release untreated sewage; in addition untreated liquid waste is released from tanneries, pulp and paper mills, petrochemicals and fertiliser complexes and rubber factories [5], [6]. In addition to aquatic eco system disturbances, polluted water is estimated to be responsible for illness in half of the pollution of developing countries and 80% of all illnesses in those countries, according to WHO report.

United Nations Environment Programme (UNEP) estimates of 1992 predicted that by the year 2025, 65% of the world's population will be living in urban areas. Urban population in developing countries is growing much faster than in developed countries. As per WHO case studies in large cities show that 30% to 60% of the population of a city live in illegal settlements with little or no infrastructure or service, in over crowded, deteriorating tenements, or in cheap boarding houses. Almost 60% of city dwellers were squatters by the end of the 20th century, besides the large number of the homeless, many of whom are street children. These settlements are often found in areas that are subject of man made and natural hazards such as floods, mudslide, diseases caused by lack of access to water and sanitation or industrial disaster; lack of sewers and site drainage leading to formation of pools of contaminated water; overflowing latrines; uncollected solid wastes all contributing to health problems. Absences of building codes leads to unsafe building structures that have a great risk of fire, collapse and electrocution. In urban areas, according to an under estimate, 170 million people lack access to safe and adequate water supplies and 331 million lack adequate sanitation.

Six percent of the world's population consume about thirty five percent of the world's total resources. The quarter of the world living in developed countries eat half the world's food; it's animals eat a quarter of all the grain, while more than 500 million people are chronically undernourished.

It has been estimated, based on habitat loss, that 27,000 species a year are currently being lost in tropical forests alone; together with other habitats primarily coral reefs, wet

lands, islands and mountain environments, the total is estimated at 30,000 a year. The biggest threat to biodiversity is the loss and modification of habitat because of clearing for agriculture and human settlement and for logging, nutrient enrichment from the washing out of unprotected soils from deforested land to coastal wastes. The highest levels of both poverty and biodiversity are found in developing countries. The genetic origins of the 30 crop plants that provide 95% of all human nutritional requirements are found in Asia, Africa and Latin America [7]. Biodiversity is also important, as the source of medicinal plants used in traditional medicines is the only medical treatment available. But, these are threatened by the spread of modern varieties of corn, wheat, rice and other crops, and the monocrop agricultural system introduced by the Green Revolution. For example, in Indonesia alone, 1500 local rice varieties have become extinct in the last 15 years.

### IV. POVERTY DEBT CRISIS AND ENVIRONMENT

Poverty may be considered as the most profound social trap. Social traps are situations in which the short term, local optimising of individuals goes a foul. In this sense, they indicate imperfections in the unregulated free market approach to resource allocation, which relies on short term, local optimising of individuals. Social traps abound in environmental issues because of the absence of well defined property rights and the persuasiveness of environment externalities. Social traps are analogous to what has become known as the 'tragedy of the commons' in which there is breakdown or absence of institutional mechanisms for cooperation and the resolution of conflicts between individual and community interests in the management of common property resources.

The debt crisis has been a factor influencing many of the environmental problems experienced by developing countries today. The crisis has its origin in the events of 1970s. During this period many developing countries attempted to narrow the gap between themselves and the industrialised countries. To finance the imports of machinery and technology the developing countries often borrowed money from the Banks and Governments in the industrialised countries. During this period world events caused the doubling of oil prices. This resulted in the oil producing nations depositing their money in the Western Banks. These banks were then eager to lend to developing countries.

The second oil price rise in the early 1980s was a contributing factor in the present debt crisis. In an attempt to finance higher oil prices the lending countries raised interest rates. This had a devastating effect on developing countries. Not only did they experience rising debts, due to compound interest rates, but they were unable to obtain enough adequate revenue from raw material exports to meet the debt repayment. Many such countries were paying more than 25% of their exports earning to interest payment in the mid 1980s. Many countries began to default on their repayments. The International Monetary Fund (IMF) stepped in to lend additional resources to these countries. However the IMF also imposes conditions on debtor economies. Wages and social services have been drastically reduced to provide financial resources for debt repayment. The greater effect has been on

the environment. Many developing countries have turned to their natural resource base to provide the money of their debts and have chopped down forests, embarked on large scale open cast mining, or accepted toxic waste in an attempt to obtain these additional resources to meet debt repayments. The poverty that national debt creates in these countries cannot be calculated. Nor can it be separated from any initiative to improve the environment. The poor in urban and rural areas who are deprived of access to adequate housing, water and sewage facilities are caught in a vicious circle of poverty and environmental deterioration.

#### V. RIO DECLARATION

In the above context Agenda 21 of the Earth-Summit of June 1992 held at Rio de Janeiro is to be studied, understood and public pressure to be brought for its implementation. The Rio declaration included the following specific principles:

- ◆ Nations have the sovereign right to exploit their own resources, but without causing environmental damage beyond their borders.
- ◆ Nations shall use the precautionary approach to protect the environment. Where there are threats of serious or irreversible damage, scientific uncertainty shall not be used to postpone cost-effective measures to prevent environmental degradation.
- ◆ Eradication of poverty and reducing disparities in living standards in different parts of the world are essential to achieve sustainable development and meet the needs of the majority of people.
- ◆ Nations should reduce and eliminate unsustainable patterns of production and consumptions and promote appropriate demographic policies.
- ◆ Environmental issues are best handled with the participation of all concerned citizens. Nations shall facilitate and encourage public awareness and participation by mankind environmental information widely available.
- ◆ Nations shall enact effective environmental laws, and develop national law regarding liability for the victims of pollution and other environmental damage.
- ◆ The polluter should, in principle, bear the cost of pollution.
- ◆ The full participation of women is essential to achieve sustainable development. The creativity, ideals and courage of youth and the knowledge of indigenous people are needed too. Nations should recognise and support the identity, culture and interests of indigenous people.
- ◆ People are entitled to a healthy and productive life in harmony with nature.
- ◆ Peace, development and environmental protection are inter dependent and indivisible.
- ◆ Sustainable development requires better scientific understanding of the problems. Nations should store knowledge and innovative technologies to achieve the goal of sustainability.

Nations should cooperate to promote an open international economic system that will lead to economic growth and

sustainable development of all countries. Environmental policies should not be used as an unjustifiable means of restricting international trade.

The struggle against poverty is the shared responsibility of all countries, as human health depends on a healthy environment and the world's long term ability to meet the growing demand for food and other agricultural products in uncertain. Governments should create national action programmes for sustainable forestry development; national antidesertification programmes are needed. Some-for-all, rather than more-for-some. Development plans should ensure young people of a secure future, as children make up half the population in many developing countries.

#### VI. OCCUPATIONAL ISSUES IN IRAN

With growing industrialisation, problems of Occupational Health & Safety also surfaced in Iran. Every year thousands of accidents take place and hundreds of workers die while working. Several categories of workers suffer from various types of diseases and health disorders which arise from dust, humidity, temperature, noise, chemicals, postures, locomotion, radiation and other factors.

Ensuring occupational health, safety and environment is not merely a technical question, but a political one as well, that it poses the question as to who decides and who suggests alternatives to the present day production process. Hence the workers need to have the knowledge of the risks and hazards at their work place, which also affect the surrounding and their living areas.

#### VII. LET THE WORKING CLASS KNOW

- ◆ That some of the workers in Iran suffer from Dust Related Lung Diseases such as Byssionosis, Silicosis, Asbestosis and coal miners pneumoconiosis.
- ◆ That the rate of accidents at work places in Iran has increased during the last five decades.
- ◆ That noise levels in our work places are always more than the safe prescribed limits.
- ◆ That hundreds of workers are slowly dying of chemical poisoning.
- ◆ That many chemicals the workers inhale while at work cause impotence and cancer.
- ◆ That several materials produced in Iran are banned in other countries for manufacturing (e.g. naphthylamine, sodium nitroprusside, asbestos etc.) as they cause serious health problems among workers.
- ◆ That some of the asbestos workers in Iran are estimated to have lung cancer and other related diseases.

That workers in some countries have a right to refuse to participate in work process, to stop a process posing serious risk.

#### VIII. WHAT IS TO BE DONE

The invisible hand theorem is central to economic policy-making. Loosely speaking, this result indicates that governmental intervention is unnecessary when all goods are traded in perfectly competitive markets. More precisely, economic equilibrium under these circumstances is Pareto

optimal, which means that there is no way that governmental policy can improve on the market outcome for an individual without hurting some other individual. These circumstances, however, do not apply to most environmental problems, which are characterised by non-traded goods. For example, no one buys or sells the smoke that accompanies fossil-fuel electricity generation; no one buys or sells sewage dumped into a river [8].

Although public intervention is often unnecessary to ensure that perfectly competitive markets will function in society's best interests, such intervention is necessary when firms or consumers pollute. Differing intervention strategies including taxes, subsidies, technology standards, emission standards, and tradable permits are appropriate for differing pollutants and circumstances.

The Parliament should approve some amendments to provide stricter statutory control to maintain the workplace, making it safer and better. The Government should employ inspectors to maintain effective supervision over the factories coming within the provisions of the related acts.

Every occupier should ensure the health, safety and welfare of the workers. This general duty of the manager, owner, director or any other occupier of the factory includes safe operation and maintenance of the factory; supply of information, instruction, training, and supervision to ensure health and safety of all workers; and preparation of the written statement on the health and safety policy to be brought to the notice of all workers in the factory.

Every person who designs, manufactures, imports or supplies any article for use in any factory should ensure that it has been designed and constructed to be safe and without risks to the health of the workers.

The Government should make provisions for compulsory disclosure of information regarding health hazards by the occupier. Such a disclosure of likely hazards during the work process are to be made to the workers employed in the factory, the factory inspector and the general public in the vicinity of the factory. This information should not only include the potential hazards but also health and safety policy for the workers, information about the quantity, specification and other characteristics of waste and the manner of their disposal, detailed emergency plans and disaster control and safety measures required to be taken in the event of an accident.

The Government should ask the occupier of the factory involving any hazardous process to maintain accounts and up-to-date health records of the workers in the factory who are exposed to any chemical, toxic or any other harmful substances which are manufactured, stored, handled or transported and such records shall be accessible to the workers.

The Government should appoint an enquiry committee in the event of occurrence of an accident in a factory engaged in hazardous processes.

Wherever any hazardous material is handled or produced it is the responsibility of the occupier to set up a safety committee consisting of an equal number of representatives of workers and management to maintain proper safety and

health at the workplace and to review periodically the measures taken for safety.

The Government should provide the right to the worker to inform the occupier and inspectorate in case they apprehend any likelihood of danger to their health or lives. And it is the duty of the occupier to take immediate remedial action, and refer the matter to the inspectorate.

The list of Notifiable Diseases now contains 29 occupational diseases, in respect of which the occupier has to inform the inspectorate, and the latter has the power to investigate.

The worker's rights should be provide as follows:

1. Right to information from the occupier about their health and safety at work;
2. Right to be trained for worker's health and safety at work;
3. Right to represent to the inspectorate on this issue.

These actions will provide additional opportunity for workers to struggle for safer and healthier work places in the country.

#### IX. NECESSITY OF THE ENVIRONMENT PROTECTION ACT

The objective of the Act should be laying down the standards of quality of environment in its various aspects, standards for emission or discharge of environmental pollutants from various sources, restriction of areas in which any industries, operations or processes or class of industries shall not be carried out or shall be carried out subject to certain safeguards for the handling of hazardous substances, carrying out and sponsoring investigations and research relating to problems of environmental pollution, establishment and recognition of environmental laboratories and institutions. Environmental Protection Act is an umbrella Act. Any affected citizen can go to court against the polluting industry.

#### X. ENVIRONMENTAL JUSTICE IN IRAN

In our constitution the fundamental rights do not explicitly entail even the component rights: for example immunity from pollution of air and water, survival of forests and wild life or any right to habitat.

The Directive Principles of Province policy is: "Province shall protect and improve the environment and to safeguard the forests and wild life of the country". It is the fundamental duty of citizens to protect and improve the natural environment including forests, lakes, rivers and wild life and have compassion for living creatures.

Unbridled assurance of right to private property, has systematically degraded and destructed the environment in the quest of industrial development and maximising of GNP. Social Justice must include Environmental Justice also.

The principle that "polluters must pay" is now in a way the motto of the new environmental jurisprudence in Iran, in keeping with similar trends in most industrialised societies. The Government of Iran has directed shifting of a number of industries including textiles, steel rolling, chemical, paints and stone crushing and other polluting industries outside the limits of Tehran and some other big cities. In the absence of

effective anti polluting mechanism, shifting of these units from Tehran impose it on the people and ecology of other regions. The real solution lies in controlling pollution at source.

Similarly, in the case of leather tanneries functioning in some cities the Government has ordered shifting of these units and convert the vacant land into a green lung. However this was not acceptable to the workers due to transport, children education etc.

The Government has also ordered stoppage of all non forest activities such as wood based industries, mining operation etc. in the forests under the provisions of the Forest Conservation Act provoking problems in several parts of the country to those who are already engaged in those activities.

#### XI. CONCLUSION

As a result of our activities, specially the activities toward reaching to industrial development, the water, air and land can be affected in a number of harmful ways. In these circumstances, we have to take a balanced view which entails harmonising the environment, development and the workers' interests. Forests have to be saved and mineral wealth in valleys and forests will also have to be used properly; at the same time the employment of workers and adivasis and tribals dependent on forests will have to be taken care of also.

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