

# **THE COMMONS IN AN AGE OF GLOBALISATION**

**Sub Theme: Globalization Governance and the Commons.**

*Title: Governance of Commons for Sustaining Industrial Development in Gujarat, India.*

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## **INTRODUCTION:**

The Indian economy has emerged as one of the fastest growing economies in the world during 1990s. The economic liberalization initiated since 1991 has led to increasing globalization of the economy. During this period the average annual Industrial growth has been around average annual 8 percent.

In India, Gujarat being one of the leading industrialized states has seen growth of chemical, petroleum and related industries. Many of these industrial units have been inflicting social cost without internalizing the cost of pollution control. The policy framework and laws for controlling and regulating the industrial pollution does exist. However, due to the nature of economic, political and social institutions and various stake holders and their inter relationships the industrial units continue to utilize scarce common resources in an unsustainable manner and inflict social cost. There have been stray and limited cases of judicial intervention for correcting the ways of industrial production.

The paper attempts to study and analyze various issues involved relating to different stakeholders to argue for need for sustainable industrial development in the wake of globalization. This will be done through using a model for the analysis of common property problems of Ronald J. Oakerson Proceedings of the Conference on Common Property Resources Washington D.C., national Academy Press, 1986.

## **THE PRESENT SITUATION:**

In India, economic liberalisation since 1991 has been instrumental in bringing about a drastic change in the way economic activity is being conducted. The policy reforms initiated since then have led to a higher average annual growth of income in the present decade. This higher growth in GDP was made possible by a substantially higher growth of around eight to ten per cent in industrial production. This concentration of industries, and in some areas, is already causing a lot of damage to the environment and quality of life of inhabitants. The problem is reaching an alarming proportion in the regions where there is a greater concentration of polluting industries and also where unmindful exploitation of resource is undertaken. Hence there is a need to understand the role of environment as a producer good. Pollution control needs to be linked to sustainable development and not considered as a luxury good to be afforded only after reaching a certain level of development.

## **The Institutions and Policy:**

All economic activities are affected by and affect natural and environmental resources. Economic activities undertaken today affect the natural resources available for the future and have effect on welfare over time. Thus, environmental degradation is a consequence of inter play of social-economic, institutional and technological activity.

## ***Social Factors:***

Social factors like population, poverty and urbanization are responsible for increasing stress on available resources leading to environmental degradation. India supports 17 per cent of world population (which is currently growing at 1.85 per cent) on just 2.4 per cent of world area. Poverty can be said to be both cause and effect of environmental degradation. Impoverishment of people leads to further degradation of environment and a degraded environment further impoverishes the poor as they depend on environmental resources more as compared to rich. In India though poverty ratio has declined from 55 per cent (1973-74) to 36 per cent (1993-94) and to around 26 per cent in 1999 – 2000, the absolute number of poor has remained constant at around 320 million over the years.

Further, lack of gainful employment and ecological stress in villages forces poor to move to towns. India's urban population has doubled during 1971-91 to 218 million and is estimated to reach 300 million by 2001 census. This is leading to widening gap between demand and supply of infrastructural services in urban areas. This leads to continuous deterioration of air and water quality, generation of wastes, the proliferation of slums and undesirable land use changes, all of which contribute to urban poverty.

***Economic Factors:***

Environmental degradation occurs due to non-existent or lack of proper markets for environmental goods and services. Thus, the activities of consumption and production which does not incorporate externalities, causes environmental degradation. These externalities equals the difference in social cost and private cost.

The level and pattern of economic development also influences the nature of environmental resource exploitation. As a result of economic liberalization and economic policies pursued since 1991 the Indian economy is growing at around more than 6 percent per annum, the growth of industrial production and manufacturing is still higher at around 8 to 9 percent. The technology used by many industries results in intensive resource and energy use resulting in natural resource depletion ( fossil fuel, minerals, timber), water, air and land contamination, health hazards and degradation of natural eco-systems. Due to use of fossil fuel as main energy source in industries air pollution has increased. The industries does not wish to incur additional cost by installing pollution controlling devises and equipment for reducing the social cost. Growth of chemical based industries have also resulted in increased waste management problem resulting in environmental health implications.

Transport activities like traffic on road leads to noise and air pollution in cities. Oil spills from marine shipping, port and harbor projects leads to imbalance of coastal eco systems. The increased pace of industrialisation has resulted in increase in these activities thereby leading to pollution. Agricultural activities contribute to soil erosion, land salination and loss of nutrients. Excess use of land and water resource, and use of fertiliser and pesticides has lead to pollution and environment degradation.

***Institutional factors:***

The Ministry of Environment and Forests (MOEF) in the Government is responsible for protection, conservation and development of environment. The MOEF works in close co-ordination with other ministries, State Government, Pollution Control Boards and others. Environment Protection Act (1986), is the important legislation for managing. Environment beside other laws like the Forest (Conservation ) Act 1980 and the Wild Life (Protection) Act 1972, etc. The shortcoming of the environmental system lies in the poor enforcement capabilities, lack of effective coordination, fragmented policies among various agencies. Lack of trained and technical personnel and comprehensive database and information system hampers their activities. Owing to these reasons the Environmental Impact Assessment (EIA) studies and their implementation does not lead to effective environment protection.

Thus in India, there are abundant reasons to cause and explain the ongoing process of environmental exploitation and degradation. The government on its part has initiated steps

in the forms of policy and action to correct the situation and to move towards sustainable development. These are

- ✓ policy initiatives like the National Conservation Strategy and Policy Statement for Environment and Development, 1992, Policy Statement Abatement of Pollution, 1992 and National Forest Policy, 1988.
- ✓ Notification and implementation of emission and effluent standards for air, water and noise levels in view of the international standards, existing technologies and impact on health and environment.
- ✓ Identification and action plans for 17 categories of major polluting industries.
- ✓ Identification of 24 critically polluted areas
- ✓ Use of beneficiated coal with an ash content not exceeding 34 %
- ✓ Action plans for 141 polluted river stretches
- ✓ For controlling vehicular pollution progressive emission norms at the manufacturing stage have been notified, cleaner unleaded fuel, low sulphur diesel and compressed natural gas introduced
- ✓ Setting up of 'Common Effluent Treatment Plants (CETPs) for clusters of SSIs units
- ✓ Implementation of an Eco-mark Scheme to encourage production/consumption of environment friendly products
- ✓ Preparation of a zoning Atlas to guide environmentally sound location of industries.
- ✓ Mandatory submission of annual environmental statement to be extended to environmental audit.
- ✓ Initiation of environmental epidemiological studies to study the impact on health.
- ✓ Provision of fiscal incentives for installation of pollution control equipment and for shifting of industries from congested areas.

Thus it is clear that the government has taken quite broad based and comprehensive policy action to correct the increasing environmental degradation. It has been accepted by the Government of India in its Economic survey of 1998-99 that lack of effective implementation and poor coordination between various agencies and institutions is one of the prime reasons for continuing environmental degradation in the country. In spite of being aware of existence of industrial pollution and a comprehensive legal framework in place the producers in industries are inflicting damage to the environment. With increase in competition producers are motivated to use less expensive polluting technologies to reduce private cost and maximize the profits. Also in the event of very liberal and friendly officials to implement the laws producers are under no pressure to install pollution control devices and equipments and even if installed, use them continuously. In order to get an idea about the state of affairs on ground a few of producers were contacted the results of the same are being discussed below.

## **INDUTRIAL POLLUTION IN GUJARAT**

The issues and problems encountered in implementation of environmental policies relating to industries were studied. The industrial estates of Nandesari and Vitthal Udyognagar in Gujarat were intentionally chosen for this purpose. Vitthal Udyognagar generally houses non-polluting industries while Nandesari houses polluting industries. The survey was conducted through a pre designed questionnaire. The information was collected from only ten producers of die, chemicals and pharmaceutical from each of industrial estates through a group of students pursuing their management degree under authors guidance. The information collected pertained to the nature of waste generated, treatment of the waste, availability of drainage, waste disposal sites, common effluent treatment plant, extent of enforcement of laws and other incentives and concessions available for using greener methods and other related issues.

### ***The main results are:***

In Nandesari industrial area:

- Many industrial units in Nandesari did not properly implement the pollution control measures.
- Due to high cost smaller units faced problem in treating liquid effluent inspite of presence of Common Effluent Plant (CETP).
- Conforming to certain basic standard of effluent to be discharged to CETP was difficult.
- The incentives provided by the government for setting up PCD in (Chemical) industrial units in Nandesari were inadequate. Especially the small and medium scale units were of the view that incentives for setting up PCD should be high as it was unaffordable.
- The government is not clear about the present incentives provided to industrial units due to poor coordination.
- A satisfactory conveyance system for collecting the effluent at CETP and from there, to the Gulf of Cambay was provided.
- The sites to dump solid waste was available.
- Industrialist felt that the cost of pollution control in plants is very high.
- Therefore major incentives should take care of commercial feasibility of installing pollution control equipment.
- Many of the existing standards are unachievable for existing units because of the type of the technology in use, age of the unit, size of the plant, lack of economic viability.

Thus the government agencies have failed to provide the necessary infrastructure facilities to industrial units in the chemical notified zone of Nandesari. The industrial units are also at fault by not taking the pollution control laws seriously and resorting to dubious method for disposal of waste.

In Vitthal Udhyanagar industrial area:

The main findings are

- Due to the less number of polluting industries in Vitthal Udhyanagar the environment in and around the area as compared to Nandesari is quite clear.
- Polluting units have their own treatment plant. Some of them are using water treatment plant while the others are using water evaporation plant.
- As it is Eco-friendly industrial area, most of the units are not using Air pollution control devices. As the air pollution levels are quite low as compared to other industrial areas .
- Satisfactory conveyance system for collecting the regular sewage and monsoon water. also provides good maintenance to this system.
- Do not have any Solid Waste Disposal site.
- The new water supply is adequate and infrastructure provided by GIDC is good.
- The few industries which are emitting pollutants felt that due to the lack of CETP in this industrial area, pollution control measures taken by them were inadequate but it was quite impossible for them to set up their own treatment plants due to the financial constraints. They have their small treatment plants like evaporators.
- In the case of Nandesari they also felt that government should provide soft loan facility and other financial facilities to set up various common effluent treatment plants. Here also the technological factor is playing an important role.

Thus Vitthal Udhyanagar is a better managed industrial estate mainly due to non polluting industries. However, notice must be taken of the newly setup industries like paints, dyes and chemical. A strict approach must be adopted from the beginning to keep the producers motivated to use greener methods of production.

## **ANALYSIS AS PER OAKERSON'S MODEL**

In following paragraphs an attempt has been made to discuss and analyze the present problem according to the framework provided by Ronald J. Okerson's model

### ***Technical and physical attributes: -***

**I) Jointness** – refers to degrees of subtract ability. Here the limiting condition is derived from nature or technology (not those derived from rules)

The production activities by industrial units use the common, freely accessible natural resources like land water and air. Through discharge of waste gases in air, solid waste on land surface permitted waste disposed sites and polluted water in common disposal in canals the industrial units are capable of distributing the natural qualitative balance of these resources in their areas of operation. This also leads to degeneration, degradation of these vital natural resources. The deterioration in their quality is a hindrance to joint beneficial use of these natural resources. The adverse impact on their quality has been to an extent of rendering land useless for other alternative uses like agricultural use, air becomes polluted and even underground water becomes contaminated by industrial units. Better technology can be used to treat the waste before its disposed to allow maximize joint beneficial use of the commons and not subtract from the lawful use of others.

### ***Exclusion: -***

Here, the industrial units are harming the optimum use by others by bringing about deterioration in the quality of resource. The outside community is definitely excluded in this case, however a new member can become a part of the community e.g. a new industrial unit. The existing members then can be excluded from use by community pressure and/or bureaucratic judiciary intervention if their action continues to be against the common good.

### ***Indivisibility: -***

In this situation commons are not divisible, there is no way one can compartmentalize the commons. But certainly regulations can be framed to keep the waste disposal by industrial units in check under the safe limits. This can be done by self-regulation i.e. by using better technology and by incurring a higher cost. This can be ensured by lawful production of goods by producers or by strict implementation and enforcement of regulations. This means producers have to incur higher cost in using a better technology and in treating the waste being disposed such that the commons can be used optimally by all users.

Thus the common property here is characterized by partial jointness, exclusion is feasible through community pressure and/or bureaucratic, judiciary intervention. The commons can't be compartmentalized, as such, but effective regulations can be framed to keep the

waste disposed by industrial units under safe limits, without jeopardizing use of commons by others and inflicting social cost through reduced private cost.

## **II) Decision making arrangements: -**

This component consists of rules, which structure individual and collective choices with respect to the commons as described above. In the present situation several institutions are social values and lack of awareness and political and bureaucratic institutions are responsible for the mismanagement of these commons.

The first, set of rules pertains to the conditions for collective choice. The group does not consist of equals. The industrial units are generally more resourceful aware of loopholes in the legislation and is also in a position to use political and bureaucratic institutions to its advantage. Others in this group lack awareness of their rights, even if aware, are not united and lack resources to influence existing decision-making process by industrial units. Thus, there is almost complete unrestricted rights exercised by industrial units and there does not exist and collective choice.

The second set of rules pertains to operation and regulation of use of the commons e.g. partitioning rules, entry and exit rules and the jurisdictional boundaries. The partitioning rules in case of air pollution is difficult to set, however in case of water and land, specific waste disposal sites have been provided at home places for all of these, the waste can be treated before its discharge. The industries can be set up on meeting specified environmental standards. In existing units operation can be suspended if they does not meet requisite environmental standards. For various types of waste safe limits have been specified by each industrial unit. But most of the industrial units do not adhere to these limits.

The external decision making arrangements do exist. The community does depend on external decision makers for the legislation and enforcement of operational rules-government rule making and bureaucratic officers discretion. In the form of courts the third party disputes settlement among various users is resorted to, in case the dispute can't be solved among users themselves

## **III) Patterns of interaction: -**

This part of the analysis deals with the interaction and behaviour of users and other decision makers in relation to the commons. The constituents of the group are not equals. The industrial units discharge untreated waste as it reduces its private cost of production at the expense of a higher social cost. The governmental supervisory officials are responsible for ensuring that the industrial units do not become a free rider. Each of the industrial unit attempts to be a free rider in the absence of awareness and lack of shared community front. In the wake of officials not supervising efficiently and colliding with industrialists industrial units have a tendency and incentive to become free rider. Under such situations in some



instances judicial courts have intervened to force industrial units to correct their ways of production and use of the commons. Thus, here decision-making arrangements attempt to avoid inducements and obstacles to choice that lead industrial units to abandon a pattern of reciprocity.

#### **IV) Outcomes:-**

As a consequence of interaction among users and outsiders like supervisory officials, courts etc varied outcomes are possible .the precise outcomes depended upon the nature of interaction among users and outsiders. in the present case in study areas of Gujarat, generally industrial units are behaving like a free rider and difficulties for other users is on the increase. The industries demand greater benefits from government & industries development corporations in terms of subsidiary finance, better infrastructure for waste disposal, setting up of common effluent plant etc.due to inefficient supervisory officials, their collusion with industrialist, lack of awareness joint efforts among others industrial units are continuing to inflict social costs to reduced private cost. The situation is generally becoming alarming to pollution of the environment. Only in stray cases the courts intervene and succeed in providing some relief but overall the situation has remained grim and worrisome. It required efforts & willing actions from all users, community & awareness & pressure as well as vigilant & serious effort from outside actors for industrial development to be sustainable which will lead to improvement in welfare of the population.

## **CONCLUSIONS:**

It is clear that both the producers and the government are responsible for pollution from industries. Both are not seriously willing to control social cost inflicted by industrial production. Some efforts and initiatives from various quarters are being undertaken in India - mainly policy and judicial - to reduce pollution and stop further deterioration of environment in the country. But effectively, these measures are a first few steps only on a long road to achieve sustainable development. Understandably, these small initial corrective measures must be appreciated though they are yet to produce desired results due to various institutional and other bottlenecks that exist, leading to poor implementation.

Owing to various factors industries have been successfully inflicting a huge social cost by damaging the environment. The small industries are polluting as it is unviable for them to have their own effluent treatment plant (ETP). While big producers do it due to non-existence of a proper dumping site. On the other hand there are a few producers who use the ETP only when inspectors from industrial or environment department visit for an inspection. The "publics" in labour, employees and affected citizens bear the externalities of industrial production due to generally lack of education and awareness, vested interests, unfriendly administration and institutions, generally passive attitude of stakeholders. Thus industrial production does not generally internalise the social cost on the other hand in case of polluting and hazardous industries the level of externalities is quite high in absence of efficient institutions to regulate the behaviour of producers. This calls for appropriate policies and efficient institutions to be in place.

Some specific conclusions regarding the status of environment vis-à-vis the industrial development can be derived based on the experience in the two industrial estates. These are as follows

- The laws are not being implemented and enforced effectively.
- Monitoring is poor and therefore compliance is difficult to assess.
- Inspections are not regularly done.
- Industries often ignore the laws and enforcement agencies and apparently not use the installed waste treatment facility to reduce private cost.
- Agencies responsible for monitoring air and water quality lack coordination among them.
- Few trained inspectors are available, thereby limiting the capacity for monitoring.
- Information regarding data on emission and its abatement cost is rarely available. Industry shift the responsibility for polluting environment on government as it failed to provide adequate finances, fiscal incentives and infrastructure for safe treatment and disposal of pollutants.
- Political will and support is apparently lacking, it is a must for success of these efforts.

- Stakeholders are generally not protesting and act as ignorant.

Thus there are ample evidence to show that the two main actors in the equation are not keen to undertake their respective responsibilities in ensuring that production be carried out in a sustainable manner without harming the environment scene are

## **POICY IMPLICATIONS:**

Based on the above conclusions and experiences in the field some policy implications emerge. These implications are in the form of emerging issues which needs to be addressed to ensure a sustainable and green industrial oroduction. It is clear that for any successful effort to stop environmental degradation.

- Role of communities and markets need to be increased and made effective tool to good use.
- Political consensus be evolved for faster implementation of and sincere enforcement of laws.
- Effective assistance should be made available to poor performing industries to improve.
- Environmental rating of industries should be undertaken and made public to be effective deterrent.
- Need to create effective database to facilitate proper regulation of laws.
- Educating all the stakeholder regarding the benefits of sustainable development.

We are at a stage in India where two main actors – producers and government falls short of their desirable and expected responsibilities towards environment and the society. Thus it is imperative that the role of the third actor “publics” be increased to pressurise both the producers and the government. The experience of many of the other countries like United Kingdom, France, Norway and China and others which have varying styles of administration and legal cultures indicates that greater public involvement in environmental decision making will force producers to amend their ways of production.

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