

ANALYSIS TO NEED FOR SUSTAINABLE DEVELOPMENT WITH NECESSITY OF ENVIRONMENTAL PREVENTION AND POLLUTION CONTROL

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Abstract: *India being an upward budget has seen successful mechanization and development in recent past, which resulted in contrary impact on the environment. Witnessing such deprivation, the Supreme Court of India in a bid to safeguard the environment, played a substantial role in shaping and adopting the doctrine of Sustainable Development. This crusade for safeguarding the environment was led by Justice Kuleep Singh, who famously came to be known as the 'Green Judge'. The doctrine of Sustainable Development was implemented by the Supreme Court in the case of Vellore Citizen Welfare Forum vs. Union of India. The Petitioners therein had filed a petition in public interest under Article 32 of the Constitution of India against the pollution caused by discharge of untreated effluent by the tanneries and other industries in the river Palar in the State of Tamil Nadu. In the instant case, the Supreme Court held that the precautionary principle and polluter pays principle are a part of the environmental law of India. The court also held that: "Remediation of the damaged environment is part of the process of 'Sustainable Development' and as such polluter is liable to pay the cost to the individual sufferers as well as the cost of reversing the damaged ecology."*

Keyword: Environment, Sustainable Development, Jurisdiction, Law, Policy

Role of Judiciary in Environmental Protection

One of the most innovative parts of the Constitution is that right to enforce the fundamental rights by moving Supreme Court is itself a fundamental right under article 32 of the Constitution. Writ jurisdiction is conferred on Supreme Court under Article 32 and High Courts under Article 226 of the Constitution. Under these provisions Supreme Court and High Courts have the power to issue any directions or orders writ, including writs in the nature of habeas corpus, mandamus, prohibition, quo-warranto and certiorari, whichever is appropriate High Court is wider in scope than that of Supreme Court However, it may be pointed out that the law declared by the Supreme Court shall be binding on all Courts within the territory of India. Moreover, the Supreme Court in exercise of its jurisdiction may pass such decree or make such order as is necessary for doing complete justice in any cause or matter pending before it. The Supreme Court and also various High Courts have taken innumerable measures in a series of their landmark judgments. Impacts on Health

Epidemiological analysis is needed to quantify the health impact in an exposed population. The major pollutants emitted by combustion have all been associated with increased respiratory and cardiovascular morbidity and mortality (Brune kreef and Holgate 2002). The most famous disease outbreak of this type occurred in London in 1952 (U.K. Ministry of Health 1954), when 4,000 people died prematurely in a single week because of severe air pollution, followed by another 8,000 deaths during the next few months (Bell and Davis 2001). In the 1970s and 1980s, new statistical methods and improved computer technology allowed investigators to study mortality increases at much lower concentrations of pollutants. A key question is the extent to which life has been shortened. Early loss of life in elderly people, who would have died soon regardless of the air pollution, has been labeled mortality displacement, because it contributes little to the overall burden of disease (McMichael and others 1998).

Long-term studies have documented the increased cardiovascular and respiratory mortality associated with exposure to PM (Dockery and others 1993; Pope and others 1995). A 16-year follow-up of a cohort of 500,000 Americans living in different cities found that the associations were

strongest with PM_{2.5} and also established an association with lung cancer mortality (Pope and others 2002). Another approach is ecological studies of small areas based on census data, air pollution information, and health events data (Scoggins and others 2004), with adjustments for potential confounding factors, including socioeconomic status. Such studies indicate that the mortality increase for every 10 micrograms per cubic meter ($\mu\text{g per m}^3$) of PM_{2.5} ranges from 4 to 8 percent for cities in developed countries where average annual PM_{2.5} levels are 10 to 30 $\mu\text{g/m}^3$. Many urban areas of developing countries have similar or greater levels of air pollution. The major urban air pollutants can also give rise to significant respiratory morbidity (WHO 2000). For instance, Romeo and others (1996) report an exacerbation of asthma among children in Mexico City, and Xu and Wang (1993) note an increased risk of respiratory symptoms in middle-aged non-smokers in Beijing. In relation to the very young, Wang and others (1997) find that PM exposure, SO₂ exposure, or both increased the risk of low birth weight in Beijing, and Pereira and others (1998) find that air pollution increased intrauterine mortality in São Paulo.

Other effects of ambient air pollution are post neonatal mortality and mortality caused by acute respiratory infections, as well as effects on children's lung function, cardiovascular and respiratory hospital admissions in the elderly, and markers for functional damage of the heart muscle (WHO 2000). Asthma is another disease that researchers have linked to urban air pollution (McConnell and others 2002; Rios and others 2004). Ozone exposure as a trigger of asthma attacks is of particular concern. The mechanism behind an air pollution and asthma link is not fully known, but early childhood NO₂ exposure may be important (see, for example, Ponsonby and others 2000). Leaded gasoline creates high lead exposure conditions in urban areas, with a risk for lead poisoning, primarily in young children. The main concern is effects on the brain from low-level exposure leading to behavioral aberrations and reduced or delayed development of intellectual or motorist ability (WHO 1995). Lead exposure has been implicated in hypertension in adults, and this effect may be the most important for the lead burden of disease at a population level (WHO 2002). Other pollutants of concern are the carcinogenic volatile organic compounds, which may be related to an increase in lung cancer, as reported by two recent epidemiological studies (Nyberg and others 2000; Pope and others 2002). Urban air pollution and lead exposure are two of the environmental hazards that WHO (2002) assessed as part of its burden-of-disease calculations for the World Health Report 2002. The report estimates that pollution by urban PM causes as much as 5 percent of the global cases of lung cancer, 2 percent of deaths from cardiovascular and respiratory conditions, and 1 percent of respiratory infections, adding up to 7.9 million disability-adjusted life years based on mortality only. This burden of disease occurs primarily in developing countries, with China and India contributing the most to the global burden. Eastern Europe also has major air pollution problems, and in some countries, air pollution accounts for 0.6 to 1.4 percent of the total disability-adjusted life years from mortality.

Global warming is the term used to describe a gradual increase in the average temperature of the Earth's atmosphere and its oceans, a change that is believed to be permanently changing the Earth's climate. Even though it is an ongoing debate, it is proved by the scientists that the planet is warming. Global warming is for real the average global temperatures are higher than they have ever been during the past millennium, and the levels of CO₂ in the atmosphere have crossed all previous records. The climate is changing. The earth is warming up, and there is now overwhelming scientific consensus that it is happening, and human-induced. With global warming on the increase and species and their habitats on the decrease, chances for ecosystems to adapt naturally are diminishing. Many are agreed that climate change may be one of the greatest threats facing the planet. Recent years show increasing temperatures in various regions, and increasing extremities in weather patterns. Climate Change resulting from increased greenhouse gases concentrations has the potential to harm societies and eco-systems. In particular, agriculture, forestry, water resources, human health, coastal settlements and natural eco-systems will need to adapt to a changing climate or face diminishing functions.

Discussion

Air pollutants are usually classified into suspended particulate matter (PM) (dusts, fumes, mists, and smokes); gaseous pollutants (gases and vapors); and odors. Suspended PM can be categorized according to total suspended particles: the finer fraction, PM₁₀, which can reach the alveoli, and the most hazardous, PM_{2.5} (median aerodynamic diameters of less than 10.0 microns

and 2.5 microns, respectively). Much of the secondary pollutants PM_{2.5} consists of created by the condensation of gaseous pollutants—for example, sulfur dioxide (SO₂) and nitrogen dioxide (NO₂). Types of suspended PM include diesel exhaust particles; coal fly ash; wood smoke; mineral dusts, such as coal, asbestos, limestone, and cement; metal dusts and fumes; acid mists (for example, sulfuric acid); and pesticide mists. Gaseous pollutants include sulfur compounds such as SO₂ and sulfur trioxide; carbon monoxide; nitrogen compounds such as nitric oxide, NO₂, and ammonia; organic compounds such as hydrocarbons; volatile organic compounds; polycyclic aromatic hydrocarbons and halogen derivatives such as aldehydes; and odorous substances. Volatile organic compounds are released from burning fuel (gasoline, oil, coal, wood, charcoal, natural gas, and so on); solvents; paints; glues; and other products commonly used at work or at home. Volatile organic compounds include such chemicals as benzene, toluene, methylene chloride, and methyl chloroform. Emissions of nitrogen oxides and hydrocarbons react with sunlight to eventually form another secondary pollutant, ozone, at ground level. Ozone at this level creates health concerns, unlike ozone in the upper atmosphere, which occurs naturally and protects life by filtering out ultraviolet radiation from the sun. Outdoor air pollution is caused mainly by the combustion of petroleum products or coal by motor vehicles, industry, and power stations. In some countries, the combustion of wood or agricultural waste is another major source. Pollution can also originate from industrial processes that involve dust formation (for example, from cement factories and metal smelters) or gas releases (for instance, from chemicals production). Indoor sources also contribute to outdoor air pollution, and in heavily populated areas, the contribution from indoor sources can create extremely high levels of outdoor air pollution. Motor vehicles emit PM, nitric oxide and NO₂ (together referred to as NO_x), carbon monoxide, organic compounds, and lead. Lead is a gasoline additive that has been phased out in industrial countries, but some developing countries still use leaded gasoline. Mandating the use of lead-free gasoline is an important intervention in relation to health. It eliminates vehicle-related lead pollution and permits the use of catalytic converters, which reduce emissions of other pollutants.

Conclusion

In order to maintain a balance between development and environment, the principle of Sustainable Development which encompasses the 'Precautionary Principle' must be followed while envisaging a project. This would prevent any anticipated environmental impact a project may have by following and incorporating mitigating measures. Right from the stage of selection of site, to adopting efficient and environmental friendly measures at each stage and facet of construction to avoid or minimize environment de-gradation, to providing mitigatory measures and monitoring the impact of a project on the environment/eco-system and thereafter providing for restorative action in case of any degradation is imperative in today's pro- environment climate and is also the need of the hour. The developers today must be conscious of the environment and adopt a green, pro- environment, scientific and energy efficient mind-set for each stage of a project. These measures may increase the over-all expenditure of the project, but in the longer run the benefits would surpass such costs. The Indian Government in furtherance of its INDCs and National Action Plan on Climate Change incentivizes developers and promotes use of green and energy efficient measures and these incentives can be used by developers to off-set any additional green costs. With the advent of energy efficient technology, a harmonious marriage between development and environment is possible. It is time that each one of us adopt an 'energy-efficient and green' mind-set and use the natural resources available equitably, judiciously and save them for our future generations, as the best way to predict future is to create it.

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