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ENVIRONMENT AUDIT: REFORMS AND DEVELOPMENTS IN INDIA

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ABSTRACT

Today environment pollution is posing a huge problem in India as well as to the whole world. It is not only a health problem rather a huge economic problem as a large amount of money is spent on this issue. As per the Lancet Commission report, pollution caused over nine million deaths all over the world out of which 2.5 million belongs to India; making India a country with highest number of deaths due to air, water and other forms of pollution in 2015. In view of above, India, 1st country in the world, make environmental audit compulsory. Environment audits are intended to review whether the policy and management techniques of organizations are in compliance of Govt. rules, laws & legislation related to environment and to reduce the detrimental effects of operational of organisation on environment. It comes under the purview of supreme audit institution of India i.e. Comptroller and Auditor General (CAG) and Ministry of Environment & Forest is act as a nodal agency for its administration. Over the last 35 years, CAG has been conducting these audit and laid down broad guideline and infusing new techniques to examine whether the auditee institutions gave due regard to the efforts of promulgating sustainability development and environmental concerns, where warranted. Many new reforms like Water Cess, Consent fees under Water & Air Act, Depreciation allowance on plant and machinery used for pollution control, Imposition of Coal Tax, Subsidizing & supporting Renewable Energy etc are taken by agencies handling the environmental audit in India. This paper highlights the consequences of deterioration of environment by industries and reforms and developments action taken by agencies through Environment Audit compliance and management tools. Majority of data is based on research paper, publication, secondary data & internet.

***KEYWORDS**: Environment Audit, Regulations, Frameworks, Management & Compliance Tools.*

Introduction

Environmental plays a very important role in the life of people and economy of nation. However due to long ignorance of environment, problems such as global warming, rapid changes in climate, glacier meltdown etc are commonly experienced in the present century for which both developed and developing nation may be held responsible. The problem of environment pollution is a very big issue in today's India. It makes India a country with highest number of deaths due to air, water and other forms of pollution in 2015. These issues of has given birth to new branch of auditing i.e. Environmental Audit. Auditing, in general, is examination which includes analysis, tests etc to confirm whether organisation comply with all legal requirement and policies & practices. Environment Audit has been introduces with the same motto. It is a management tool to evaluate and measure the effects of industrial or other activities of corporate on environment against the standards, regulations or set criteria mentioned in law. It is used to investigate, understand & identify the adverse effects on environment and provides a snap shot of looking at what is happening at that point in time in an organisation.

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The International Organisation of Standardizations (ISO) has given many standards in the field of environment auditing to guide organisations and auditors on general principles to execute the audits. Organisations are now recognized the importance of environment and accept the concept of environment audit by allowing scrutinizing of their activities. It is carried out regularly on pre planned cyclical basis within well defined geographic boundaries like factory sites, distribution centers. In India, over the last 35 years, CAG has been conducting environment audit and laid down broad guideline and infusing new techniques to examine whether the auditee institutions gave due regard to the efforts of promulgating sustainability development and environmental concerns, where warranted. Reforms like Water Cess, Consent fees under Water & Air Act, Depreciation allowance on plant and machinery used for pollution control, Imposition of Coal Tax, Subsidizing & supporting Renewable Energy etc are taken by agencies handling the environmental audit in India.

Objectives of Study

The main objectives of this research paper are:

- To find out consequences of deterioration of environment by industries.
- To find out reasons for deterioration of environment due to cement industries.
- To highlight the reforms and developments action taken by agencies through Environment Audit compliance and management tools.

Research Methodology

The paper is primarily based on secondary data collected from the internet, books and published paper. For better and in depth understanding of topic, we use data-table, graphs and pictorial presentation in paper. Main motto of this paper is to aware people about the importance and necessity of environment for the life of both human and nation.

Literature Review

As per the paper prepared by CSTI Advisory Committee on Environment in 1994, Environment Audit benefit by improving management control and enhancing financial performance of organisation. The summary report issued by Dept. of Environment Affairs & Tourism, South Africa, Environmental audits add value to the management approaches being taken by organisations and is a way of identifying, evaluating and managing environmental risks (known and unknown). It can be undertaken at various levels of sophistication and detail which can be tailored to the needs of the client organisation. Report publishes by CAG India on Environment Auditing in India in 2008, further support and appreciates the concept of environment audit and gives a detailed report of Audits conducted by CAG of various departments. Further report publish in EPIC INDIA, 2015, appreciate the reforms bring by Gujarat Pollution Control Board with leading academics on a pilot experiment that showed more accurate audit reports and lower pollution emissions. Report prepared by OECD, under the heading Environmental Compliance and Enforcement in India: Rapid Assessment Advocate for more resources, and streamline current practices to maximize currently available resources, well coordination between different institutions, proper national guidelines and stringent compliance of rules and regulation mentioned in the laws.

Consequences of Deterioration of Environment

- **Major Consequences**
  - **Health Effects:** Excess accumulation of pollutants in environment cause various diseases like asthma, irritation in nose, eyes and throat, coughing, chest pains, weak eye sight etc. in addition, it may enhance the probability of cancer and may damage to the immune, neurological, reproductive, and respiratory systems. In extreme cases, it can even cause death.
  - **Ozone Depletion:** Industrial pollution like chlorofluorocarbons, hydro chlorofluorocarbons, and halons referred as ozone depletion substance. These substances are used in coolants, foaming agents, fire extinguishers, solvents, pesticides, and aerosol propellants industries. Ozone Layer in stratosphere is very necessary for the wellbeing of human being. It prevents the harmful UV waves to enter in the environment of earth and save human beings from skin cancer, cataracts, and impaired immune systems. UV can also damage sensitive crops, such as soybeans, and reduce crop yields.
  - **Global Climate Change:** Due to irrational use of resources and exploitation of tolerance capacity of nature, industries disturb the delicate balance of naturally occurring gases that trap some of the sun's heat near the Earth's surface. High amount of CO2, methane and

other pollutant gases & material produces by industries continuously damaging this balance causing rise in average temperature of earth.

- **Forest & Crop Damage:** More and more commercialization of lands for industries, forest and agriculture area are cleaned up. This reduced the growth and survivability of tree seedlings, and increased plant susceptibility to disease, pests and other environmental stresses (such as harsh weather), which leads to unavailability of foods and other eatables in nearer future.
- **Loss of Wildlife & Biomes:** Toxic pollutants unloaded by factories in air, rivers, lands etc impact wildlife negatively. Like humans, animals can experience health problems if they are exposed to sufficient concentrations of air toxics over time. Toxics air, water are contributing to birth defects, reproductive failure, and disease in animals and destroy our biomes.

- **Major Accidents**

Many a times it is seen that interference of human in the balance of nature & environment causes major accident in history of world. Some examples are as follows:

- **Bhopal high-profile industrial incidents:** On Dec. 2, 1984, an accident at a Union Carbide pesticide plant in Bhopal, India, resulted in 45 tons of poisonous methyl isocyanate escaping from the facility. Around 15000 died and more than half a million affected in this accident. Many of those who survived suffered blindness, organ failure and other awful bodily malfunctions. A shockingly high number of children in the area have been born with all manner of birth defects, making this accident remains the worst industrial disaster ever.
- **Chernobyl high-profile industrial incidents:** The Chernobyl accident in 1986 was the result of a flawed reactor design that was operated with inadequately trained personnel. The resulting steam explosion and fires released at least 5% of the radioactive reactor core into the atmosphere and downwind. Two Chernobyl plant workers died on the night of the accident, and a further 28 people died within a few weeks as a result of acute radiation poisoning.
- **BP Deepwater Horizon Oil Spill:** In the history of US, worst environmental disaster began when a well below the surface of the Gulf of Mexico blew out on April 22, 2010, followed by an explosion on BP's Deepwater Horizon rig. It killed around 11 people and spewed over 200 million gallons of crude. The oil and use of toxic dispersants harmed health, curtailed seafood consumption, destroyed jobs, and devastated wildlife.

Similarly, many more examples like Exxon Valdez Oil Spill (1989), Gulf of Mexico Dead Zone (2009), Toxic Legacy of PCBs(1979), Unprecedented Arctic Methane Releases (2010), Dust Bowl(1930) exist which prove that interference in nature and deterioration of environment by unbalancing the nature cycle causes big disaster in human life.

Deterioration of Environment Cause by Cement Industry

Cement one of the core industry in Indian Economy plays a vital role in national economical development provide employment to more than a million people directly or indirectly.. It is an essential raw material in infrastructure, construction, commercial and residential real estate industries. On the other side it contributes 5% of total CO2emmision globally. Its contribution in environment deterioration enhances the problem of environment pollution and adversely impact the air, water & land on earth. Some of the major pollutants of cement industry are NOX, SO2, CO2, other green house gases, hydrocarbons etc.

S. No.	pollutant	Impact	Act emision limits (%) 2011-12	Permitted emission limits (%) 2003 presb	Deviation From Permitted limits (%)	Favble or Adverse
1.	coal generator	Surface run off	40	20	20	Adverse
2.	Biogenic emission (limestone, gypsum, slag, diesel)	Surface run off	20	12	8	Adverse
3.	Co2 emission	Surface run off	14	6	8	Adverse
4.	Electricity consumption	Air pollution	60	40	20	Adverse
5.	Heavy metal emissions	Increase in co2	25	6	19	Adverse

Source- compiled table from The Kyoto Protocol. (2003)

It is evident from the above table that pollutant produces by cement industry causes adverse effect are on higher side of permit able limit.

One of the major adverse effects of cement industry on environment is emission of CO2 and other green house gases beyond the permissible limit. It causes increase in temperature globally and melting of ice sheet leads to rise in level of oceans. Another impact of cement production is emission of pollutants like SO2, NOX, CH4, PFC's, HFC's, SF6 etc causes irritation in nose, eyes, throat, lungs disorder and some cancer disease which is very harmful for human being.

Adoption of environmental audits concept and implementation of Kyoto protocol, ISO 14000 series helps in reduction of emission of green house gases, pollutants, fugitive dust particles. It promotes utilization of hazardous wastes as alternate fuels and the conservation of natural resources. The Indian cement sector has shown phenomenal performance in terms of improving air quality. Dust emissions are reduced and cement plants conform to the environmental parameters set by statutory bodies like Central Pollution Control Board of India. Government policies have energized and motivated the sector to take innovative actions to protect the environment and improve the lives of people working in the plant and living nearby. Environmental regulations operating in India that have given new direction to the cement sector in terms of environmental management

Reforms & Development in the Field of Environment Audit

- **Establishment of ICED:** CAG of India, the constitutional audit institution of India, establish International Centre for Environmental Audits and Sustainable Development in 2011, which act as training institute for Indian Accounts & Auditing Services Officers on matters of Environmental Audits. It helps in updating officers about new technologies and helps them in identifying the processes and industries detrimental for the environment.
- **Green Office Guidelines:** It is a write-up for guiding SAI India offices all over the country to reduce the detrimental effects of office operation on the environment by more sustainable and efficient use of office resources. This write-up had also been adopted by the Ministry of Environment of Forests and is being circulated to all central government offices in India.
- **4th E-Integrating Environmental concerns in Auditing:** It helps in incorporating all important environmental audit concerns in all kind of audits carried in the nation.
- **Regional Training Institute:** Development of regional training institute to impart training and knowledge base to the auditor and other officers on environment audit is another welcome step from CAG of India. It has a vast pool of audit professionals equipped with techniques of environmental auditing.

Major Recommendation in Environment Audit

- **Strict Compliance of Laws:** All SPCB/CPCB must describe the guideline and laws to the auditor via audit committee or training centre to provide proper guidance to the environmental auditor. Further random assessment of Environment Audit Reports received from Scheduled I and Schedule II auditors should be done by experts to cross check whether all procedures are properly followed.
- **Stringent Regulation in Permits:** Clearance permit for industry from environment department must not transfer on adhoc basis, rather a proper investigation/audit must be carried out by the expert before such transfer. This will help in reduction of environment damage.
- **Coordination between SPCB and CPCB:** Establish a support organization to facilitate communication among SPCBs on important environmental compliance and enforcement issues, and between CPCB and the Boards.
- **Constitution of Environment Audit Committee:** All SPCB and CPCB must form a environment audit committee or training cell with adequate number of scientist and engineers for implementation of recognition procedure for the auditor in context with the environment audit scheme and to recommend SPCB for the same. In addition to this, this Committee provides advice, guidance, technical input related to the subject. Committee members periodically visit the auditor's laboratories and advise them in this matter and will suggest/implement the new parameters which are being introduced by the CPCB/SPCB.

Conclusion

Till 2008, more than 100 environmental audits (compliance and performance) have been carried out by SAI India. These audits can be divided into Air issues Audit, Water issues audit, Wastage audits, Biodiversity audits, Environment Management System audits. Audit of pollution control by transport department of Mizoram, Audit of Urban Water Supply of Sikkim, audit of Management of bio medical wastes in four major Public Hospitals in Delhi, 2006 are some example of these audits. Industry's increasing awareness of its impact on the environment, together with the requirements for higher standards, have further create the need for a new management tool to cover areas not previously addressed or only partially covered by other management systems. Industries now find environment audit as a tool of cost cutting and better management. But India needs many improvements in the area of environmental audit. Many industries still think environment audit as expenditure without any benefits. And there is still lack in compliance of regulation, policies and improper coordination between SPCB's & CPCB's and other related institutions.

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