ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 10| Issue: 7| July 2024|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2024: 8.402 || ISI Value: 1.188

THE ETHICAL DIMENSIONS OF AIR POLLUTION REGULATION AND MANAGEMENT

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ABSTRACT

All living things require clean fresh air to breathe but in our rapidly developing world air pollution is a harsh reality. Industries, governments and people are not doing enough to protect this vital source of life. Air pollution is mostly a result of external sources. The quality of air results from several sources. It is difficult to pinpoint a single source responsible for poor air quality since there are so many activities that release pollutants. But one thing cannot be denied that air quality in cities and developed urban areas is far poorer than in the countryside, or smaller villages. While regulations and policies to prevent air pollutions are somewhat in place they are either not enough, or have loopholes or are not followed in the right spirit. Several ethical dimensions emerge in how the regulations are framed and ethical considerations and dimensions in the area of air pollution. This concept paper proposes to understand the ethical considerations and dimensions of air pollution and propose some remedies.

KEYWORDS: *Air Pollution, ethical challenges, ethical dimension, regulation and management*

INTRODUCTION

Air pollution is of concern to every human being. The lungs that absorb oxygen and expel carbon dioxide are extremely sensitive to toxins and irritants. Yet, we breathe whatever quality of air is available because we cannot survive without air. Of course, there are those who voluntarily pollute their own air through smoking. Most air pollution is caused by sources external to us. The quality of air is the result of several diffuse sources. It is difficult to identify any one responsible party since almost everyone undertakes activities that release pollutants. Therefore, while the government must take steps to ensure better air quality and better regulations to prevent air pollution communities and society at large must collectively accept responsibility as well.

Ethical Challenges

The different types of air pollutants reflect distinct ethical challenges. Let us examine these:

1) Air pollution from industrial sources is a problem common to all countries. Most countries have regulations in place for industrial pollution.
   In fact, industries have many available options to prevent air pollution:
   a) pollution prevention through changes in operating practices, improved and preventive maintenance
   b) changes in raw materials; building good air pollution control systems into new or modified production processes;
   c) improving or replacing air pollution control systems in existing facilities; and reducing air pollution and improving energy efficiency through process change (which often lowers costs as well).

   The industry usually assesses the cost of implementing the measure versus the benefits to the public and the good will such a measure would generate. While responsible business' implement all the measures to comply with regulations as well as avoid harm to others, there continue to be the unethical elements who try to by-pass regulations and cut corners.

2)The air pollution created by multiple small sources like motor vehicle exhausts, home and building heating systems, or agricultural wastes.

To control this one needs to change consumer behaviour and product technologies. The ethical dilemma is whether consumers should demand for non-polluting products, or if industry should develop non or less polluting products and educate the consumers. This reflects the morally questionable desire to pass the responsibility for change to someone else while profiting from the present situation. Reinforcing ethical behaviour and strengthening corporate responsibility can strengthen action to reduce air pollution.

3)Another air pollution challenge is indoor air pollution when poor people in developing countries use biofuels, including wood, dung and agricultural wastes, for cooking and heating, indoors. About 10- 20 % of fuel used is not fully burnt, releasing harmful air-borne pollutants at concentrations above safe limits. Globally, indoor air pollution of fine particles from fuels like charcoal is one of the top ten causes of mortality, causing up to 2.4 million

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premature deaths a year from respiratory problems and heart attacks (GEO Year Book 2006). Ethically this is result of poverty and should be addressed as part of any poverty reduction strategy. In the short term, simple improvements in clean-burning stove technology and household ventilation can help. Making clean and affordable energy available to every family should be a high priority.

4)In addition to understanding the extent of air pollution that impacts each and every citizen in any country, ethical considerations make it imperative that provisions be made to secure the interests of susceptible subpopulations. The susceptible sub populations include those groups of individuals who face greater environmental health risks in certain circumstances than members of the general population. Susceptibility results from biological factors, such as age and life stage, genetics, sex, or ethnicity; or social factors, such as geographic proximity to exposure sources, occupation, lifestyle, nutrition, or socioeconomic status; or some combination of intrinsic and extrinsic factors (Environmental Protection Agency 2016a; Grandjean and Landrigan 2014)
Susceptible populations include:

- Children, who are more susceptible than adults to the adverse effects of lead.
- Developing fetuses are highly sensitive to alcohol, medications, and toxic chemicals (Grandjean and Landrigan 2014).
- Asthmatics have negative reactions to air pollution and allergens;
- People with GSTM1, CYP1A1, CYP2E1, and CYP2D6 mutations are more likely to develop lung cancer when exposed to tobacco smoke than are individuals without those mutations (Li et al. 2012).
- Some children exhibit allergic reactions when exposed to dust of products like peanuts (Centers for Disease Control and Prevention 2016d).
- People residing near cattle or hog farms display increased respiratory and gastrointestinal problems (Wing and Wolf 2000).
- Agricultural workers who are exposed to certain pesticides face a higher risk of Parkinson's disease (Allen and Levy 2013).

Clearly, laws are needed to provide additional protections for susceptible subpopulations. A good example, is of the US the Clean Air Act (1990) under which the Environmental Protection Agency (EPA)provides additional protection for susceptible subpopulations, including children, asthmatics, and the elderly, when establishing ambient air quality standards (Marchant 2008). The EPA follows this law by establishing ambient air quality standards for ozone, particulate matter, nitrogen dioxide, sulfur dioxide, and carbon monoxide that incorporate protections for susceptible subpopulations (Environmental Protection Agency 2016b). The main ethical rationale to protect susceptible populations from environmental health risks is to promote distributive justice (Shrader-Frechette 2002; Cranor 2008a; Resnik 2012). Consider the following scenarios:

- Air pollution standards: A regulatory agency wants to determine whether to enhance air pollution protections. While reducing current ozone standard by 25% will provide modest protections for the general population and substantial protections for people with respiratory diseases, however it will adversely affect the economy and lead to job losses.
- Occupational health standards: A regulatory agency wants to determine whether to lower an acceptable level of workplace exposure to a toxic chemical involved during the manufacturing of semiconductors. Lowering the current acceptable exposure level by 50% will provide workers with substantial protection from health risks but will increase the costs of production.

These situations point to the questions about environmental health risks in different circumstances and highlight clashing values and interests.

CONCLUSION

Thus, it is imperative for the government to frame laws to regulate and ensure acceptable levels of environmental health risks for the general population and also for susceptible subpopulations. The level of air pollution nowadays, is a symbol of the general failure of countries, governments, communities and society at large, to take responsibility for the environmental and human health effects of their actions. A multi-stakeholder approach would result in long range benefits, with government, industry, and NGOs reaching a consensus with support and advice from technical and health experts. Where the government is honest and committed, the businesses ethical, and the NGOs dedicated to public interest, this would be the answer. And yet, policy decision makers might decide that certain types of environmental health protections are too costly, or that some protections are not required because members of these populations have chosen to expose themselves to these risks (e.g., workers in certain types of risky occupations). Policymakers, government officials, and health care professionals must work towards involving general public as well as susceptible subpopulations in public deliberations related to protecting them and an action strategy for air pollution control should also include a public education component. The freedom to clean air should be seen as a fundamental human right and should be defended in the same spirit.

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