Critical Analysis Of Environmental Ethics And Mangrove Ecosystem

Concept of Environmental Ethics

Environmental ethics concerns the human beings' ethical relationship with the natural environment. This field only developed into a specific philosophical discipline in the 1970s, due to the increasing awareness in the 1960s of the effects that technology, industry, economic expansion and population growth were having on the environment. The development of such awareness of the importance of environment grew through the publication of two important books at this time. Rachel Carson's Silent Spring, in 1962, focusing on the use of chemical pesticides was posing a serious threat to people's health and causing the destruction of wildlife. Another one Paul Ehrlich's 1968 book, The Population Bomb which focused on the devastating effects planet's resources due to ever increasing population. A couple of years later, Environmental Ethics, the first academic journal devoted to the subject, began publication. Today the situation is quite different. There are several journals dealing with environmental ethics and every year sees the publication of a relatively large number of monographs and anthologies. However, in research terms, environmental ethics is still in its infancy.

Thus Environmental ethics is the systematic and critical study of the moral judgments and attitudes which (consciously or unconsciously) guide human beings in the way they behave towards nature.

Other aggravating issues like pollution, the depletion of natural resources, loss of plant and animal biodiversity, deforestation, the degradation of ecosystems, and climate change are all part of a raft of "green" issues that are being discussed and become the cause of concentration for any development activity. And there comes the Environmental Ethics.

The role of environmental ethics is to outline our moral obligations when it comes to Environmental concerns. the two fundamental questions that environmental ethics must address are: what duties do humans have with respect to the environment, and why? The latter question usually needs to be considered prior to the former. In order to tackle just what our obligations are, it is usually thought necessary to consider first why we have them. For example, do we have environmental obligations for the sake of human beings living in the world today, for humans living in the future, or for the sake of entities within the environment itself, irrespective of any human benefits? Different philosophers have given quite different answers to this fundamental question which, as we shall see, has led to the emergence of quite different environmental ethics.

It was not until 1974, however, that the first systematic book on the subject of Environmental Ethics by John Passmore's Man's responsibility for nature: Ecological problems and Western and tradition appeared and received international attention.

Every value system which sets out to guide us in our intercourse with nature constitutes a form of environmental ethic. Among other things, this implies that a theory of environmental ethics identifies, makes precise and justifies certain ethical norms or principles which its proponents

believe could and should guide us in our relations with other living beings or with nature as a whole. A theory of environmental ethics thus ought to explain in what sense, if any, human beings have or ought to have moral obligations towards other living beings; it should identify what these conceivable obligations might be and the possible consequences of their acceptance for the lives and life styles of human beings.

Most of the environmental issues do have ethical dimensions; hence values play an imp role in the framing of the policies. Values must play a central role in environmental questions and environmental management. However often these tend to be ignored. At the same time, there is no real discussion of the values which underlie - or should inspire - a policy under consideration. It is therefore necessary first to reconstruct and identify the values and ethical principles which implicitly or explicitly underpin the environmental policies proposed in these documents. We shall find that these values and principles derive in great part from what philosophers call an anthropocentric (or human-centred) environmental ethic, namely the view that our attitudes to nature or to the various kinds of environmental policies adopted should ultimately be judged on the basis of how they affect human beings.

Methodology: The Research problem is dealt using the case study.

Few vulnerable factors affecting the human beings due to violation of environmental ethics are studied. Accordingly, a case study is undertaken in order to understand how the role of environmental ethics takes a backseat under the name of the ‘Development’. Since, development or economic growth is the need of the hour for every economy of the world; compromises are often done to environment, thereby causing harm to environment due to violation of environmental ethics. Therefore, to strike a balance between development and environmental ethics, a case study of depletion of mangroves due to construction activities within Thane city in Mumbai Metropolitan Region (MMR) is considered. Thane city is considered for the case study due to its ever increasing growth of population within Mumbai Metropolitan Region (MMR) since independence.

About Study Area, its Population, and Changes in Thane city:

Thane, city of lakes, forms an important urban agglomeration of Maharashtra state with accelerated industrial development and buzzing residential quarters and commercial activity in the Maharashtra state.

The introduction of railway line between Boribandar and Thana in the year 1853 paved way to Thane’s rise as the largest urban concentration in MMR on one hand and a path of dependent growth as the second ranking urban locale on the other. Since, independence, Thane was relegated to a subordinated status of a dormitory town due to dependency of people in Thane on Mumbai for various purposes ranging from purchases of high-end consumer goods to health and education purposes.

During the 1990 s, the New Economic Policy brought in many transformations in Thane's urban economic base revealing consequent spatio-social changes. A massive rise in the land prices in Mumbai provided a boom in the real estate sector along the fringe of Mumbai i.e. in the cities like Thane, Navi Mumbai, Kalyan, and Dombivali. Secondly, due to deindustrialization fostered by the policies of globalization, liberalization and privatization, the city witnessed growth in the

service sector. Due to affordability of residences and many other factors, there was rise in demand for residential activity within inner and outer periphery of the city of Thane especially Ghodbunder road, which connects Thane with the Western suburb of Mumbai, Borivali. (Kurhekar.Vaishali N, 2014).

Fig. 1: Population in lakhs in Thane city

Source: Thane Municipal Corporation (TMC)website

For the first time, Thane city registered a significant population growth in 1970s due to spill-over effect of urban and economic growth of Mumbai. Since then Thane has remained to be one of the fast growing cities of India. In 2011 Thane city registered the population of 1,818,872 and accounted for 9.05 per cent share of the Maharashtra’s population. (Census, 2011)

Thane Municipal Corporation (TMC) has projected the increase in population growth to 33.67 lakhs by 2031 and 41.73 later by 2041. Majority of this population will be settled along the new established areas Pokhran road and Ghodbunder road as there are physical limits to the growth of the city, National Park towards the south and east while Thane Creek on the west while theres narrow stretch towards the North of the Thane. Due to non- availability of space and haphazard development, there are encroachments in the Sanjay Gandhi National Park and along the mangroves of the Thane creek. Several new residential areas are now catering to the extra population’s need and demands.

Relevance of Mangrove Ecosystem:

Mangrove swamps are coastal wetlands found in tropical and subtropical regions are characterized by halophytic (salt loving) trees, shrubs and other plants growing in brackish to saline tidal waters. These wetlands are often found in estuaries, where fresh water meets salt water.

In more recent times, mangroves have been valuable as sources, sinks, and transformers of a multitude of chemical, biological, and genetic materials. The value of wetlands for fish and wildlife protection has been known for a century. They occur where the water table is at or near the surface of the land, or where the land is covered by shallow water (Ramsar, 1998). Although wetlands cover about 3% of the Earth's surface, they are vital to our environment. They act as sponges, storing and soaking up excess water; and filters, cleaning water as it flows through. (Melbourne Water, 2005)

Wetlands are also described as kidneys of the landscape as they function as the downstream receivers of water and waste from both natural and human sources. They stabilize water supplies, thus mitigating both floods and drought. They have been found to cleanse polluted waters, protect shorelines, and recharge groundwater aquifers. These have also been called nature’s supermarkets (William J. Mitsch, ?James G. Gosselink, 2007) because of the extensive food chain and rich biodiversity that they support. They support unique habitats for a wide variety of flora and fauna and act as carbon sinks and climate stabilizers on a global scale.

Mangrove forests are cleared to make room for agricultural land, human settlements and infrastructure (such as harbours), and industrial areas. More recently, clearing for tourist

developments, shrimp aquaculture, and salt farms has also taken place. Besides this, Mangrove trees are used for firewood, construction wood, wood chip and pulp production, charcoal production, and animal fodder. So today various issues are threatening the mangroves such as Overfishing, Destruction of coral reefs, Pollution, Climate change.

In order to protect mangroves, there are CRZ notifications are issued under Environment Protection Act 1986 for regulations of the activities by Ministry of Environment and Forests. As per the notification, the coastal land up to 500m from the High Tide Line (HTL) and a stage of 100m along banks of creeks, estuaries, backwater and rivers subject to tidal fluctuations, is called the Coastal Regulation Zone(CRZ).THE GAZETTE OF INDIA: EXTRA ORDINARY, PART II, Section 3 Sub section (i) Environment, Forests and Climate Change notification dated 18th January,2019

Classification of CRZ – For the purpose of conserving and protecting the coastal areas and marine waters, the CRZ area shall be classified as follows, namely:- 2.1 CRZ-I areas are environmentally most critical and are further classified as under:

2.1.1 CRZ-I, II, III, IV:

(a) CRZ-I A shall constitute the following ecologically sensitive areas (ESAs) that includes Mangroves (in case mangrove area is more than 1000 square meters, a buffer of 50 meters along the mangroves shall be provided) and the geomorphological features which play a role in maintaining the integrity of the coast.

But there lies the issue. Inspite of being nature’s supermarket these are constantly threatened by human activities even though there exists the protective laws. There seems to be violation of these laws ethically and unethically which is clearly evident from the ever-growing Thane city.

Environmental Ethics and Coastal Regulation Zone

With the increasing population in the current decade it is clear that the environmental ethics through Coastal Regulation Zone (CRZ) are clearly violated in terms of cutting the forests and converting it into usable land could be residential or commercial. Mangroves are important part of the ecosystem and any changes in its quantity can have disastrous impact on its surrounding environment. Mangroves cover a huge area along Ulhas river- Thane creek.

Decline in Mangroves along Thane Creek in Thane city:

Thane city limits expanded in the post 1990s due to constant increase in the population, lack of space in the Mumbai, rising income, increasing service sector, cheaper land availability in the city, etc. similar study that was conducted in the 2008, mentioned the destruction caused to the existing mangroves resulting in the reduction of the mangroves esp along the newly established Ghodbunder road. (Kurhekar Vaishali N, 2014).

Fig.2: Map indicating the decline in mangroves from

1970 and 2008

[image: C:UshershpDownloadsChanges_observed__final[1] (1).jpg]Source: Survey of India, 1971; Google Earth, 2008 The given map represents the decline of mangroves from 1970 till 2008. This is also the time when population has started settling down in the Ghodbunder Road area in Thane. (Kurhekar Vaishali N, 2014)

Fig.4: Map showing the area covered under mangroves in 2012

[image: C:Usersvaishali.kurhekarDesktopNM ConferenceMangrove drawing Yr-2012-area-0.060 sq,kmModel-page-001.png]Source: Google EarthArea covered under Mangroves in 2012= 0.060 sq kms

Fig.5 Map showing the area covered under mangroves in 2018

[image: C:Usersvaishali.kurhekarDesktopNM ConferenceMangrove drawing Yr-2018-area-0.040 sq,kmModel-page-001 (1).png] Source: Google EarthArea covered under Mangroves in 2018= 0.040 sq kms

Using timeline series on Google Earth, the total area under mangroves along Kavesar area along the Ghodbunder Road, in the year 2012 and 2018 is derived.

In the year 2012, the total area under the mangroves calculated is 0.060 sq kms in the while in the year 2018; the same area is reduced to 0.040 sq kms. This indicates the reduction in mangrove area of 0.020 sq kms in the span of 6 years only.

This is also the time when large number of residential complexes sprang up in the vicinity of River Ulhas or Thane Creek. With area less available for landin the city, most of the land is sought up close to the creek. while the CRZ I rules say mangroves in this area needs to be protected. This clearly indicates violation of the CRZ rules and thereby Environmental Ethics.

If such continues there can be threats in the near future with bio diversity in the area that can be threatened, fishing activity in this region will be severed, the area can be threatened with monsoonal floods as it happened in 2005. There’s already loss of species of mangroves in the region. There will be absence of mangrove forests that provide protection to Inland agricultural crops and surrounding residential area will become seriously impaired. (F.A.O 1994. Mangrove forest management guidelines. FAO Forestry Paper No. 117. Rome)

The case study raises the questions of ethical issues of being not followed, looks forward for the alternate issues. The strict implementation of these CRZ rules or the creation of buffer zones, public awareness, and introduction of manmade bunds along the creek to prevent the siltation in to the creek may not hold any significance if there are no ethical values.

These ethical issues can be solved with respect to the three imp ethical concepts, as discussed earlier, Anthropocentrism, Biocentrism, and eco centrism that focussed on humans, animals, individuals, populations or ecosystem.

It is needed to explore the three ethical concepts might support general principles within environmental protection. The questions such as: could an Anthropocentric support a principle because of consideration of human interests; a Bio-centrist because of the interests of individual living organisms; and an Eco-centrist because of consequence for species, habitats or

ecosystems?, are relevant. Conceptualizing, understanding, and respecting the different ethical and world views can provide a constructive framework for the global debate on international environmental protection policy.

There can be five common features of current international environmental legislation that reflects a consensus reached in terms of the full spectrum of ethical outlooks. These features, which may be described as general principles, are sustainability, maintaining biodiversity; conservation; environmental justice; respect for human dignity.

Recommendations:

Considering the above five values, certain recommendations can be derived upon and cane be implemented for the protection of mangroves. These are:

1. Strictly adhering to the environmental ethics in terms of development.
2. Following strictly the CRZ regulations recommended for mangroves.
3. In case the damage is already done, necessary steps like creation of buffer zone between mangroves and construction area in the study area.
4. Creation of bund walls along the mangroves to avoid floods during the high tide.
5. Spreading awareness, preserving the biodiversity in mangrove eco system in Thane Creek

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