

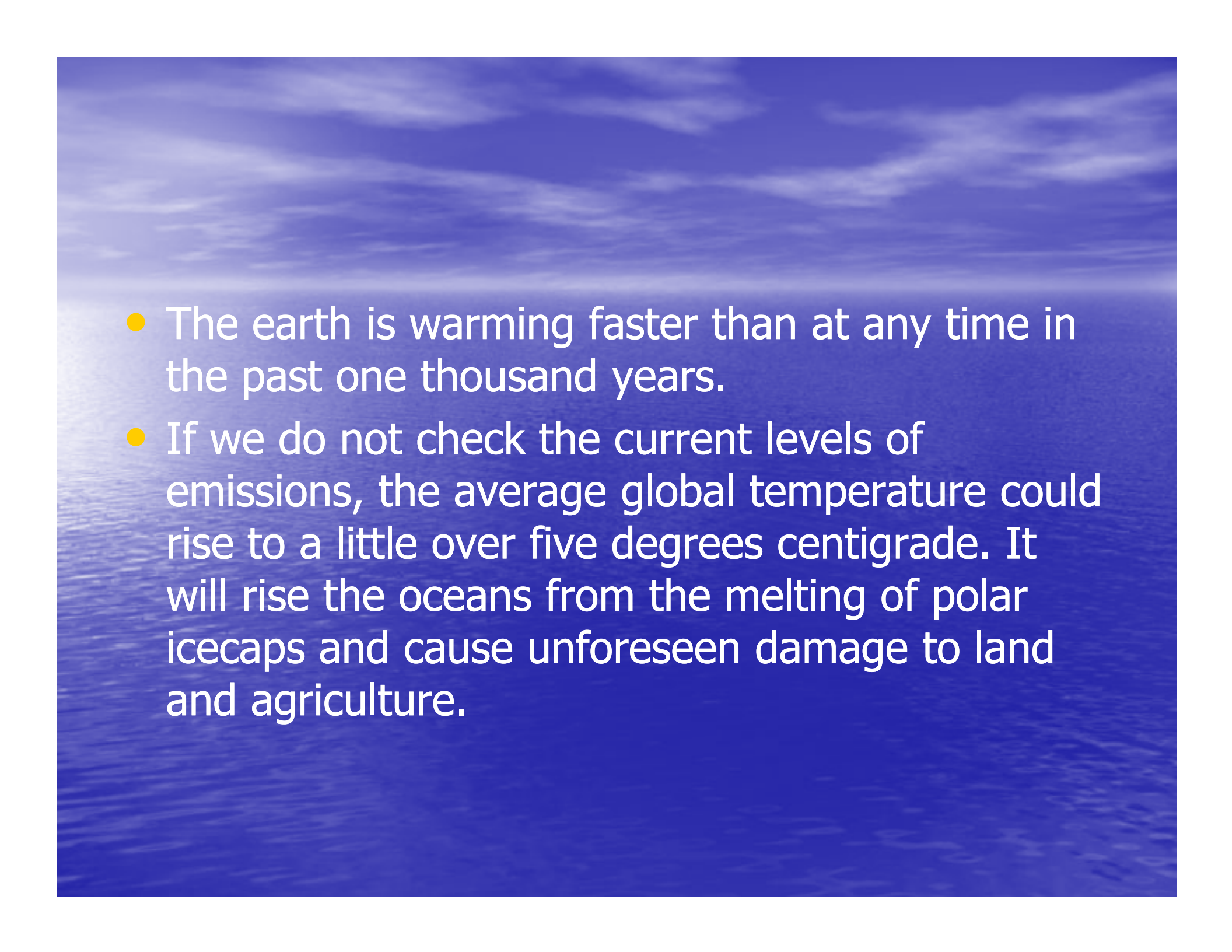
The Ecological Decline and the Need to Protect Ecology

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Ecology: What does it mean?

- Ecology is defined as the interrelationship between organism and the environment.
- The term was first used by the German Zoologist Ernest Haeckel in 1866 to refer to the relation of the animals to their organic as well as inorganic environment.

- The awareness of ecological decline and the need for preserving ecology was emphasized by Dr. R.K. Pauchauri, the chair of the Intergovernmental Panel on Climate change. The ecological decline explains the ever-growing crisis experienced at the global and the local levels in terms of the degradation of land, sea, air, leading a host of life-forms to extreme distress and extinction. It affects both living and non-living. The release of carbon dioxide from the fossil fuels and the excessive presence of other greenhouse gases threaten us with a global warming. A need for the ecological awareness is the need of the hour.


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- The earth is warming faster than at any time in the past one thousand years.
 - If we do not check the current levels of emissions, the average global temperature could rise to a little over five degrees centigrade. It will rise the oceans from the melting of polar icecaps and cause unforeseen damage to land and agriculture.

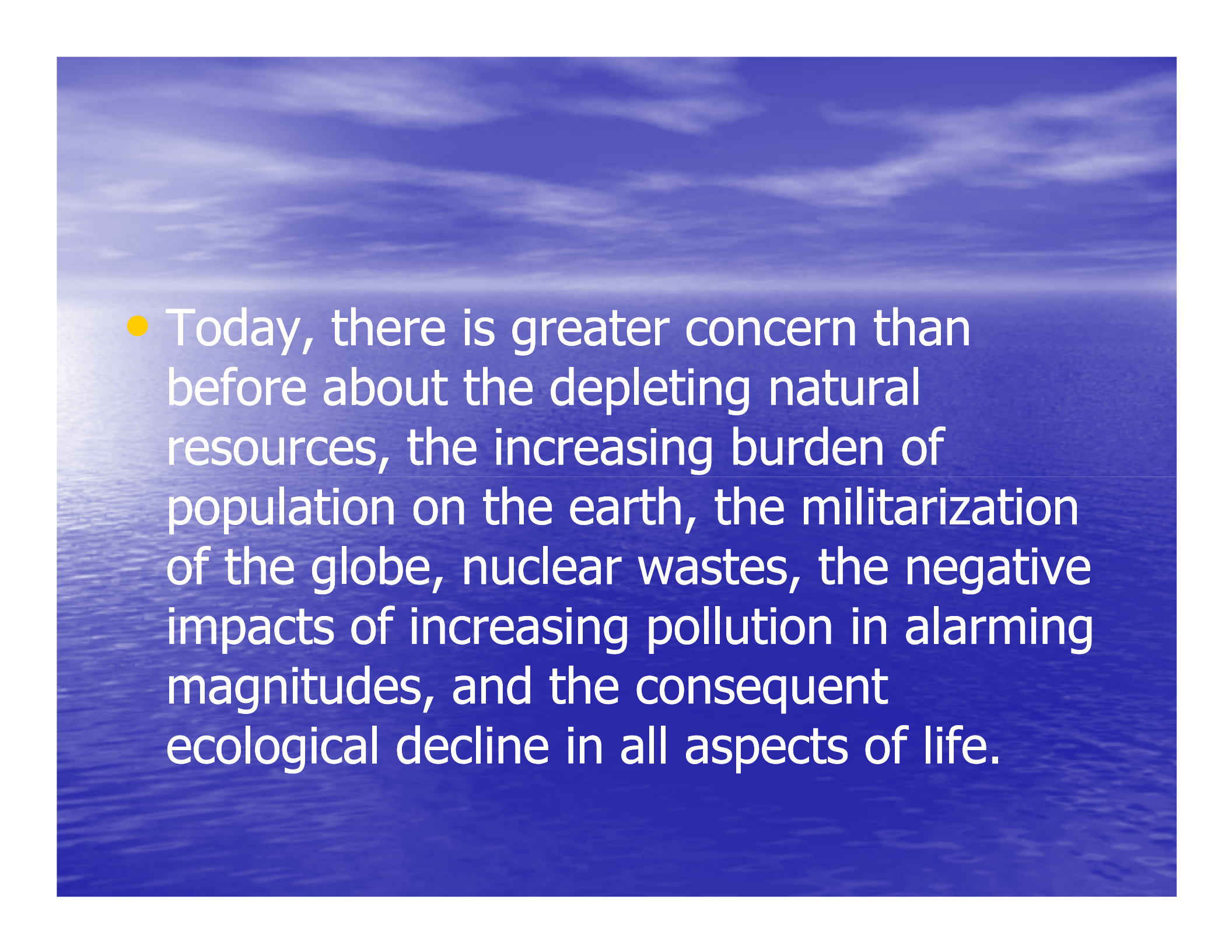
- It is estimated that the current rate of extinction of species is one of the highest since the age of dinosaurs, some 65 million years ago.
- There is incalculable loss in terms of medicinal plants, and our knowledge of species and their interrelationships.

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- The unsustainable patterns of development pursued by nations without taking into consideration its environmental impacts and responsibility to the future generations are alarming.

Ecological awareness

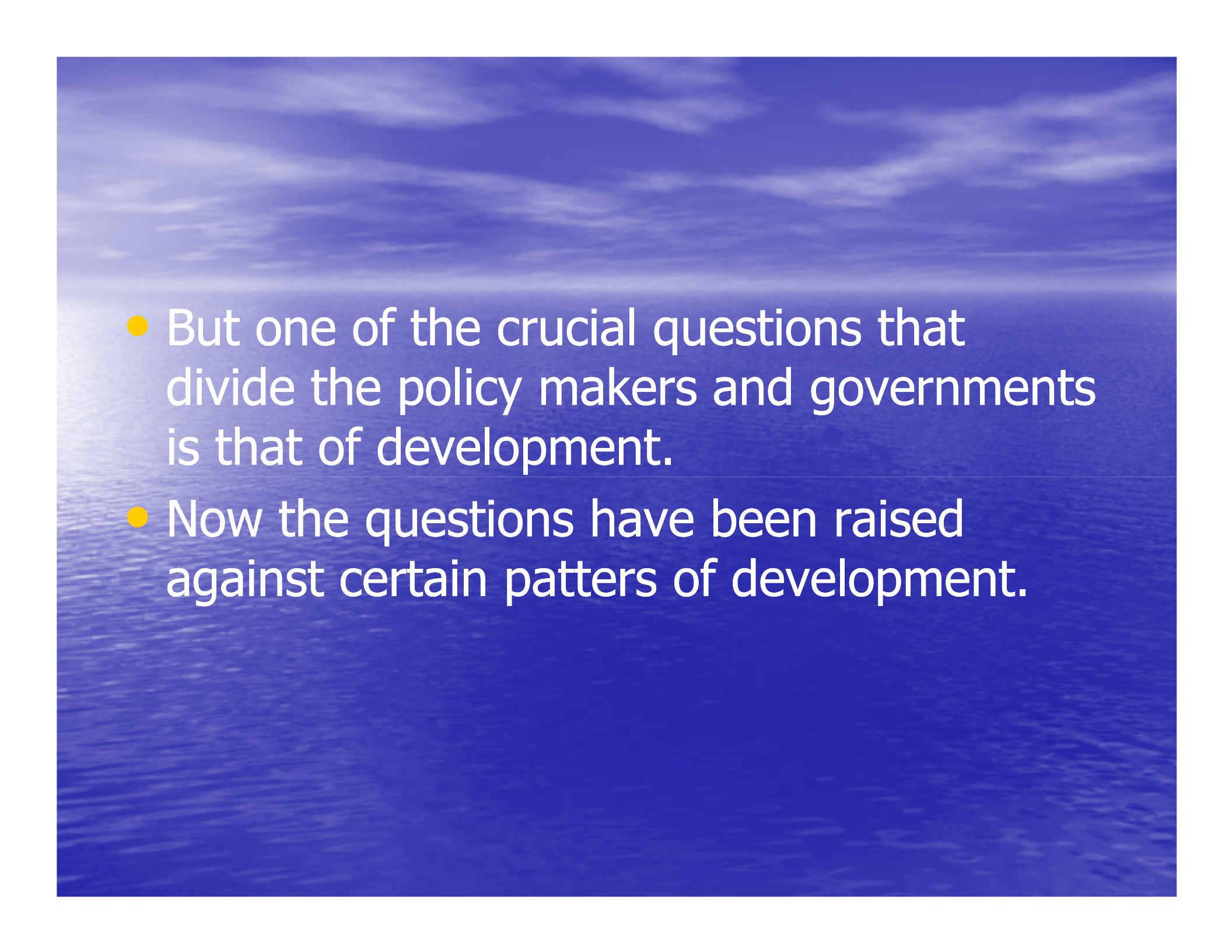
- A study of Ecological decline leads to the growth of ecological awareness which can fruitfully be distinguished from ecological understanding.
- Ecological understanding would refer to the understanding and interpretation of the interrelationships between humans and other organisms of nature in a general manner. It is not anything new, since whenever humans interacted and related with nature, an ecological understanding is present.

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- Ecological awareness is a contemporary sensibility and is a major characteristic of this era.
 - It is an awareness of the interrelationships among organisms in nature, arising from the increased awareness of the fragility of the earth.

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- Today, there is greater concern than before about the depleting natural resources, the increasing burden of population on the earth, the militarization of the globe, nuclear wastes, the negative impacts of increasing pollution in alarming magnitudes, and the consequent ecological decline in all aspects of life.

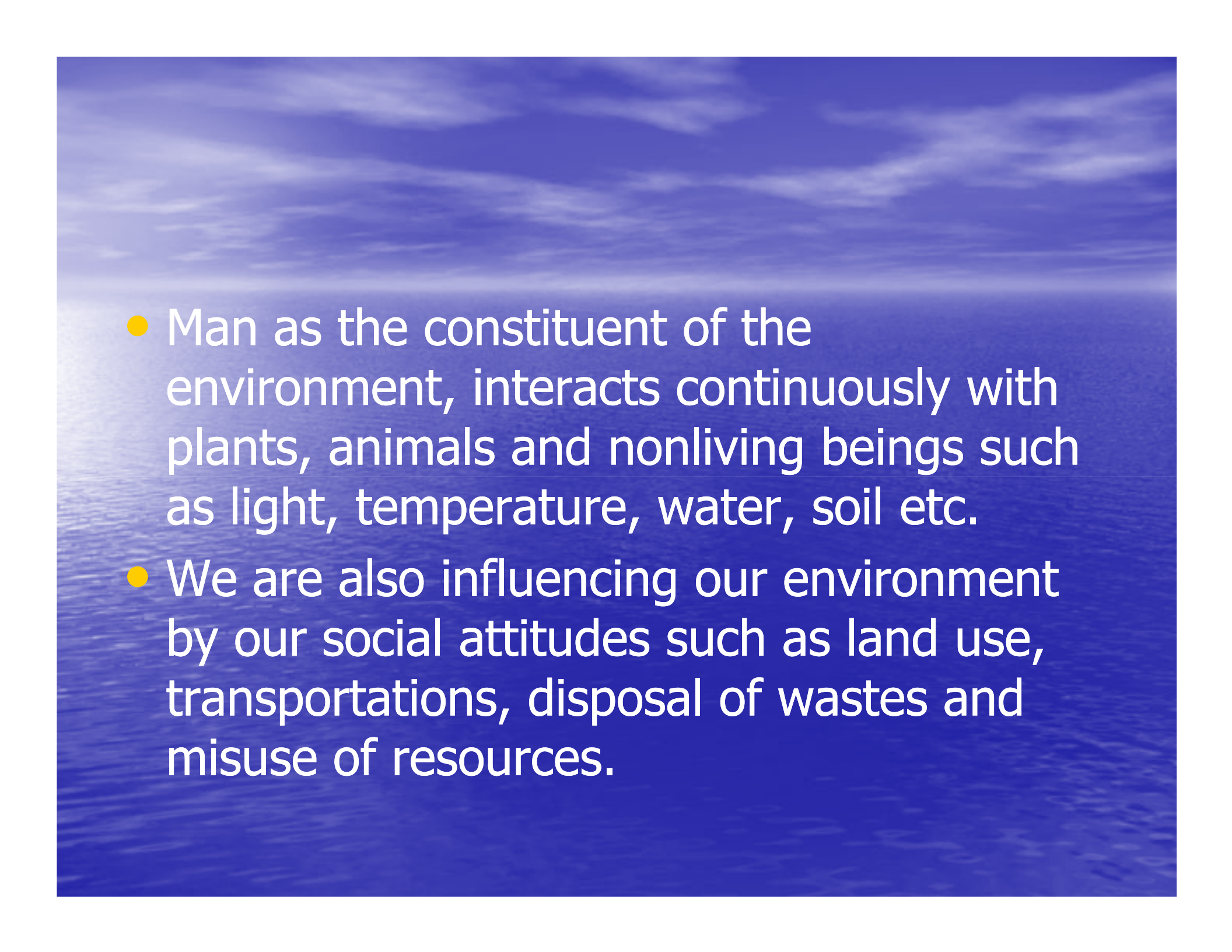
- Ecological awareness is manifested in the Chipko movement, thanks to Gandhi, Bahuguna and Prasad Bhatt
- In the wake of Chipco movement, the government became more and more aware of the declining food productivity, the loss of soil fertility due to the loss of forest cover, and the alarming nature of floods
- All of these highlighted the rapid ecological destabilization

- The people of the hills saw the interrelationships between the forest cover and ecological stabilization.
- As a result of this, the policy makers began to view forests not as “production centres”, but as “protection centres”.

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- But one of the crucial questions that divide the policy makers and governments is that of development.
 - Now the questions have been raised against certain patterns of development.

- The UN Commission of Environment and Development puts forward the notion of sustainable development as follows:
“Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

- The sustainable development contains two key concepts:
- 1. concepts of “needs, in particular the essential needs of the worlds poor to which overriding priority should be given.”
- 2. “ limitation in the environment’s ability to meet the present and the future needs.”

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- Man as the constituent of the environment, interacts continuously with plants, animals and nonliving beings such as light, temperature, water, soil etc.
 - We are also influencing our environment by our social attitudes such as land use, transportations, disposal of wastes and misuse of resources.

- These human activities cause problems like pollution, draught, famine, poverty etc.
- Thus man becomes the prime cause of threat to nature.
- Time has come in the social history of man to realize his role and concern for the environment.

Dimensions of Environment

- Physical – which includes medium and climate
- Chemical
- Biological
- Social

Human being as rational and social partner in environment

- Internal and external environment
- Micro and macro environment as part of external environment
- Man-nature-society triangle relationship
- Man's participation
- Care and concern

Society and Environment in India

- Customs and culture, moral and ethical values
- Different religious as well as philosophical traditions explain the significance of nature
- Five elements of nature as “Pancha bhutas”

Sacred groves

- They are small patches of forest left untouched and protected by the local inhabitants
- The existence of these groves play vital role in the conservation of species diversity.
- They are enriched with valuable medicinal local flora and fauna.
- This enriched ecosystem assist to retain subsoil water during drought season.

Traditional practice of water harvesting systems

- During King's rule in ancient India, large lakes and ponds were excavated to collect and conserve water.
- Tanks were built near the temples to conserve water.
- Rainwater draining channels were linked to temple tanks in such a way that the rain water never being drained of elsewhere.

Eco facts about the human impact on the environment

- Twenty times more energy is needed to make a new aluminum can than is required in recycled can
- Recycling 700 paper grocery bags saves a 15 years old tree
- Newspapers can be recycled up to nine times

- Human activities, such as direct harvesting of species, introduction of alien species, habitat destruction, and various forms of habitat degradation have caused dramatic losses of biodiversity; current extinction rates are estimated to be 100-1000 times higher than prehuman extinction rates.

- In the year 2006, large numbers of the Earth's species are formally classified as rare or endangered species; moreover most scientists estimate that there are millions of species actually endangered which have not been formally recognized. A biodiversity hotspot is a region with a high level of endemic species. Most of these hotspots are located in the tropics and most of them are forests.

- An ecosystem is the result of all the biological, climatic, ecological and chemical “ingredients” in a particular area. This total combination of factors gives rise to certain kinds of plant and animal communities whose needs can be met by interacting with all the other parts of the system.

- Biodiversity maybe described in terms of genes, species and ecosystems. A diversity in the genetic make-up of a species is called genetic diversity. Species diversity is the number of different species in a particular area weighed by some measure of abundance such a s number of individuals or biomass.

- The Kyoto protocol which was adopted on 11th December 1997, addressed the problems on Climate change. The following measures were aimed at in the protocol: to reduce green house gas emissions in their countries, to implement projects to reduce emissions in other countries.

- The United Nations Conference on Environment and Development held at Rio de Janeiro, during June 1992, the Johannesburg during August and September 2002, all addressed the problems of climate change.

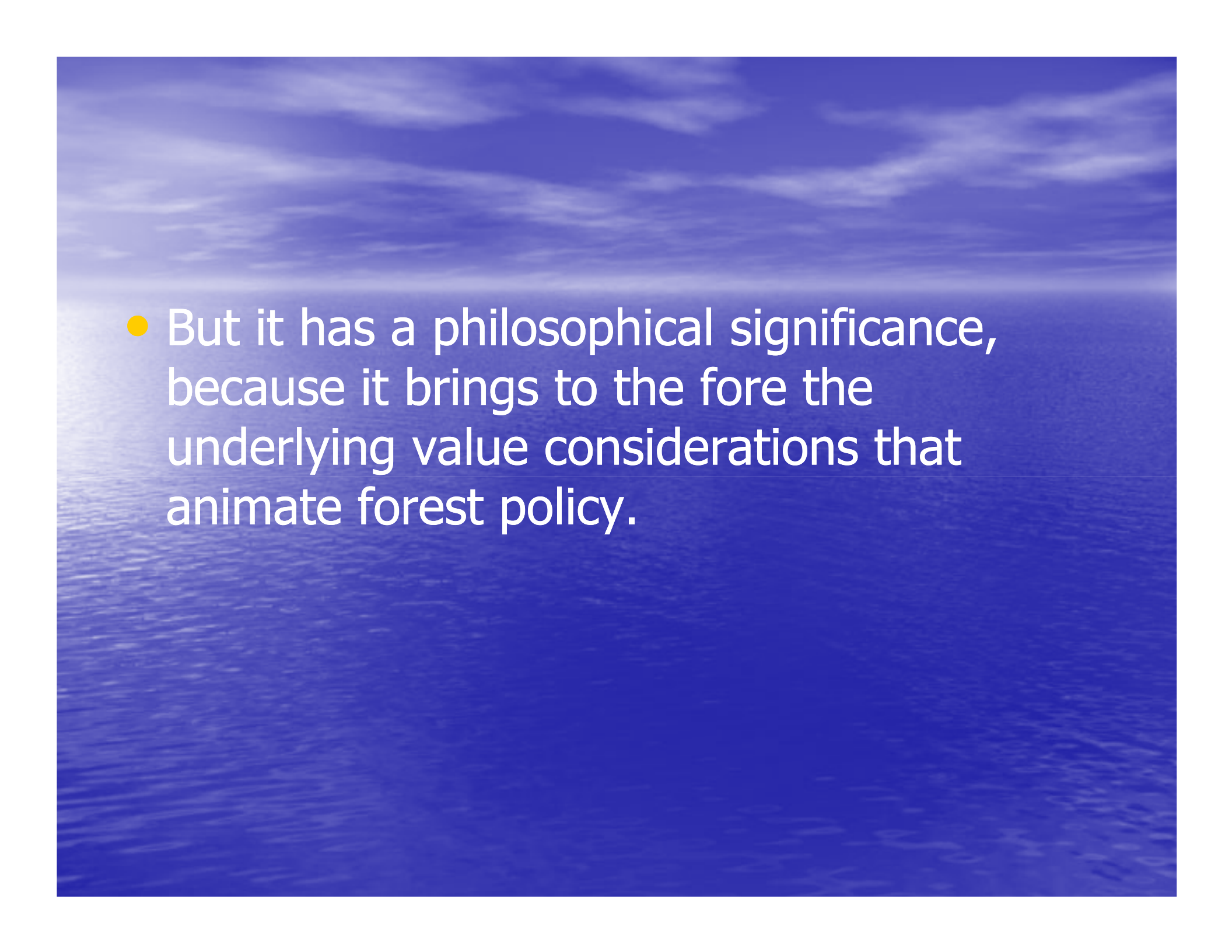
- It is the need of the hour of the scientists and research institutions to collaborate more closely to evolve new strategies for sustainable utilization of wetland ecosystems. There is a need for a dialogue among the scientists and ecology researchers for preserving wetland systems that have been used and abused for generations.

- Recently it has been pointed out that in India there is ten percent increase in rainfall and rise in temperatures precipitated by climate change. The consequences of such phenomena would include frequent flooding of wetlands and lengthy droughts.

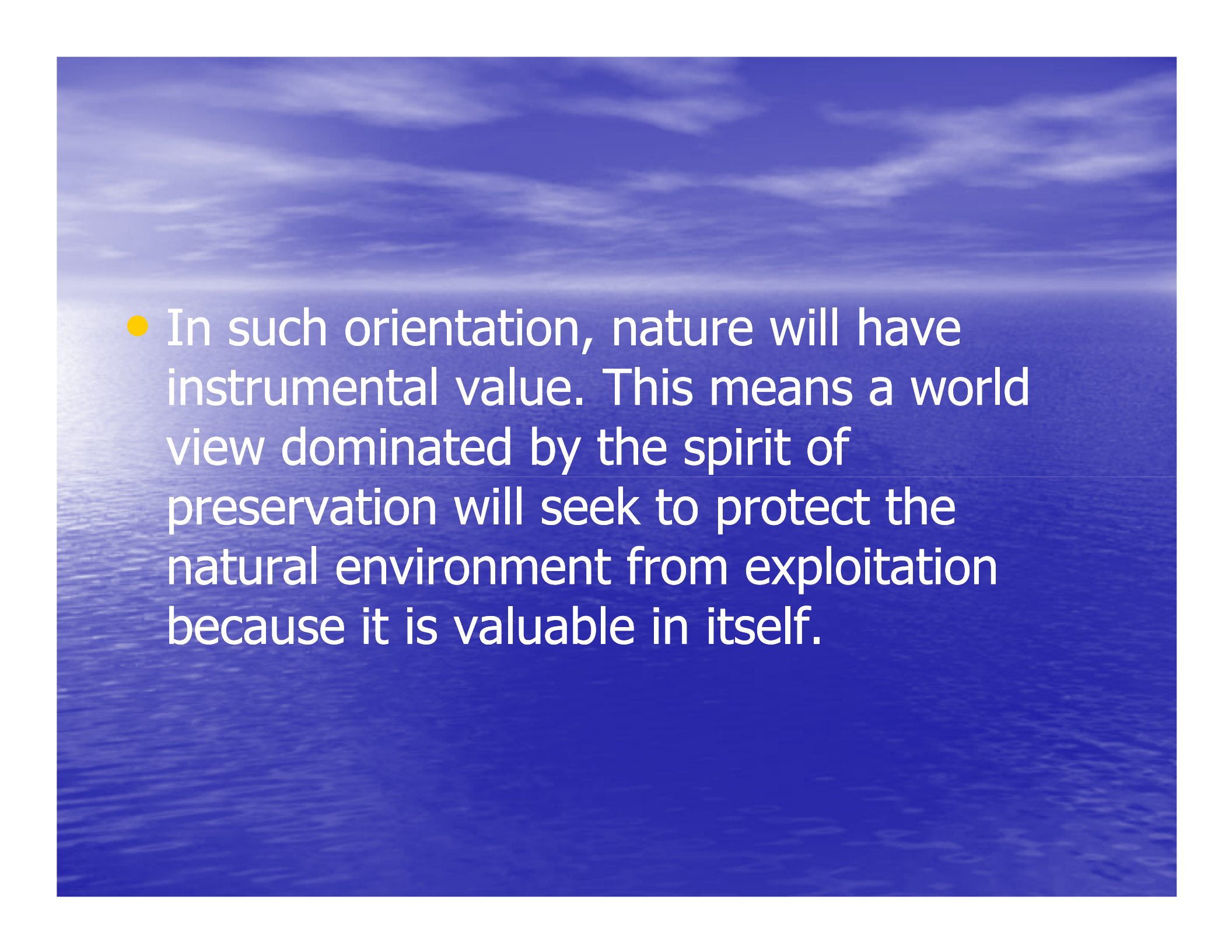
- In her recent speech, Dr. Middleton, an US ecologist showed that bio diversity was by and large intact in spite of the onslaught of development, it was difficult to hazard a guess on how long these eco systems would survive if a sustainable use strategy could not be evolved. Dr. M.S. Swaminathan, the leading Scientist says that wetland conservation efforts in the Indian situation need to combine social sustainability in terms of livelihoods with environmental sustainability.

- According to one report, the melting of Himalayan glaciers due to global warming will lead to massive human migration in India which is dependent on rivers systems generated by these glaciers. The melting of the glaciers, which is known as “Water Towers of Asia” will bring perils to poor section of the populations dependent on the river systems of India, China , Pakistan and other Asian countries.

- The central question in forest management is: Should forests be preserved or conserved?
- The question may not strike many as important, as both preservation and conservation practically connote the same
- In normal usage.

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- But it has a philosophical significance, because it brings to the fore the underlying value considerations that animate forest policy.

- Conservation will imply treating the natural resources as mere commodities to be used for human consumption, while preventing from destruction. In other words, a worldview dominated by the spirit of conservation will seek to protect the natural environment from destruction so that humans would receive greater benefits from it.

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- In such orientation, nature will have instrumental value. This means a world view dominated by the spirit of preservation will seek to protect the natural environment from exploitation because it is valuable in itself.