

# Save biodiversity & beat the heat

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## What is Biodiversity?

Biodiversity or Biological Diversity means the variety of life on earth. Biodiversity will include all living things like plants, animals, fungi, algae, microbes, their habitats and genes. Biodiversity is the foundation of life on Earth. It is crucial for the functioning of ecosystems which provide us with products and services without which we couldn't live.

Biodiversity occurs in three levels

1. species level,
2. ecosystem level and
3. genetic level.

### Species

Species are all around us and are easy to know – all species are classified into five categories and about 18 lakhs species of them that we know about, e.g. animals, plants, fungi, algae and microbes. These 18 lakhs species have been discovered, described and named, but it is thought that as many as 67 lakhs species inhabit the earth. See (P.2) the circle of life diagram of the species level of Biodiversity

### Ecosystem

All those species that live on the earth live together interact with each other and for this each species requires a particular type of home or habitat for its unique biological characteristics. Those homes or habitats are called ecosystems. The whole earth's surface can be described as a series of interconnected ecosystems. All living beings are form and part of the ecosystem. Different areas in this world house different ecosystems.

### Genes

Genes are the carriers of DNA (Deoxyribonucleic Acid ) and DNA is the basic matter that all life forms get from parents of some kind which makes variation possible. Genetic



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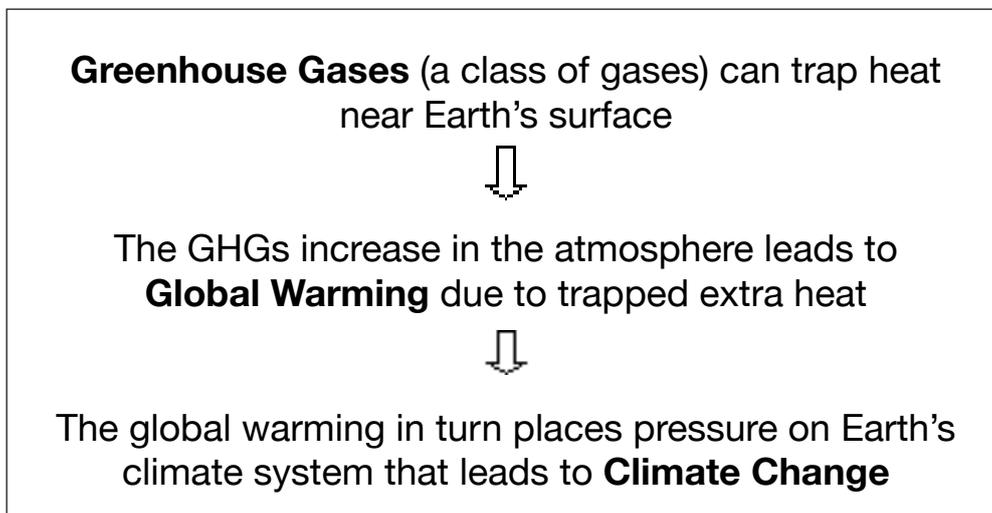
diversity is responsible for variation within species. This variation occurs between individuals (every biological entity), populations (groups of individuals are different from other groups), communities (groupings of different populations that permit survival of species).

## What is Climate Change?

Alteration in the regular weather sequence due to warming up in earth's climate system is called climate change.

The sun keeps our planet warm by sending rays into earth's atmosphere. The gases in the atmosphere (carbon dioxide, water vapour, nitrous oxide etc.) trap some of these rays while others bounce back. These kinds of gases which can trap heat near the earth's surface are called greenhouse gases. These are very essential for keeping earth's temperatures at the right levels for all life forms such as animals, plants and humans on earth to survive. They act much like a blanket keeping in warmth from the sun. If there were no greenhouse gases the earth would be  $-18^{\circ}\text{C}$  cooler than the present atmospheric temperature. The same Greenhouse Gas is also responsible for climate change.

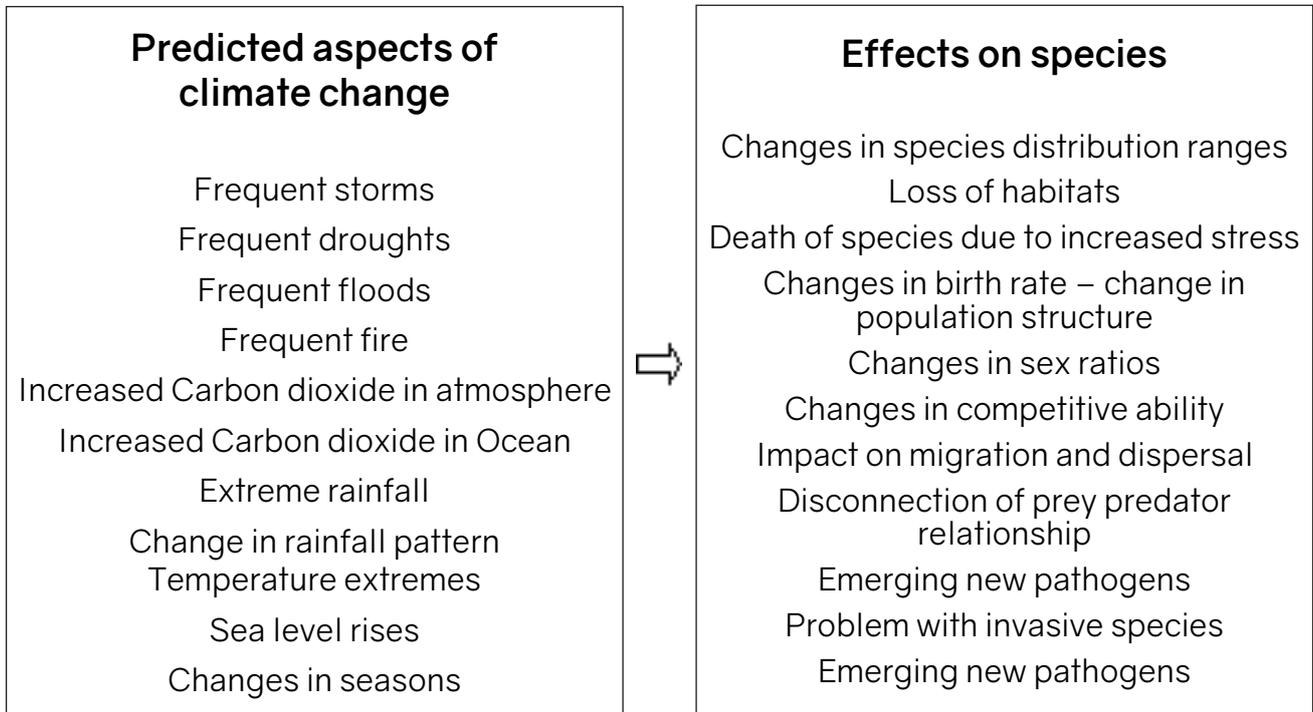
Now you may ask why do we blame Greenhouse Gases for climate change? Today's problem is that we are releasing too much of greenhouse gases, by over use of natural resources, which are absorbed by the atmosphere and create a thicker layer of gases around our planet. This result in trapping heat below the atmosphere which leads to global warming that ultimately influences the earth's climate.



## How are Biodiversity and Climate Change related?

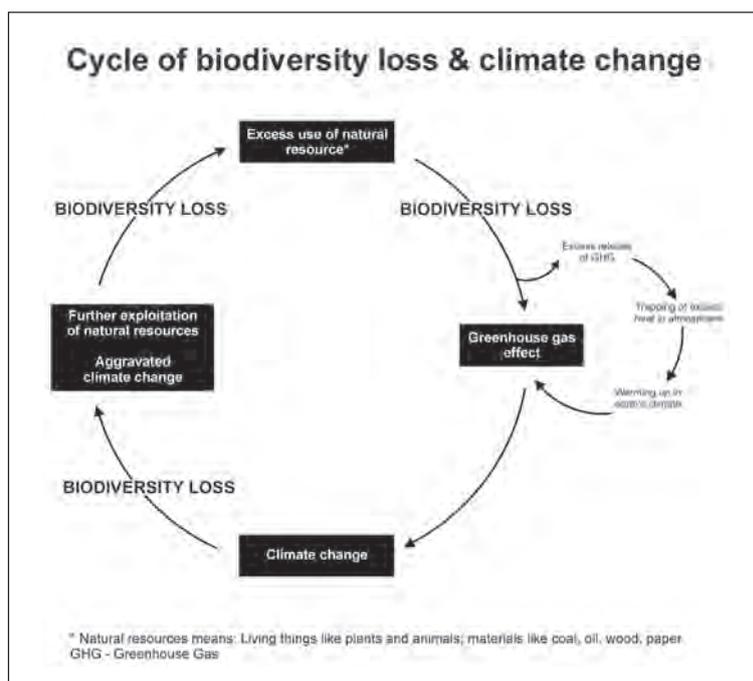
It has been accepted by scientists that climate change and biodiversity are interconnected and climate change is a new threat to the biodiversity. If biodiversity is affected, it will bring negative impact for human well-being. Managing and conserving biodiversity has now become essential since biodiversity also contribute to climate change mitigation through the ecosystem services. For example forests if conserved, can remove carbon dioxide from the atmosphere, thus helping to address climate change by storing carbon.

Climate change will affect different areas of the world to different degrees. Some species can adapt to climate change while many species are susceptible to climate change. It all depends on a variety of biological traits including the species life history, ecology, behaviour, physiology and genetic makeup.



The present cause of Climate change is man-made. Excess use and over exploitation of natural resources through industrialization, land use pattern, deforestation, large scale farming of domesticated animals etc are the main cause of global warming that leads to climate change.

## Relationship between Biodiversity and Climate Change

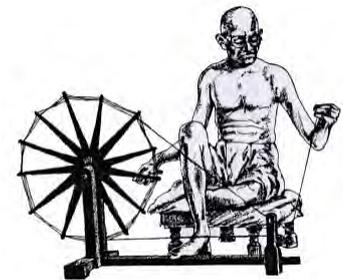


## Live More Simply

Perhaps there is no one who has communicated the message of the simple life more than Mahatma Gandhi, Father of the Nation. Gandhi advocated living simply before the concepts of Loss of Biodiversity and Climate Change came about. His reasons were moral, spiritual, social and economic, but if Gandhi were here with us now and were asked to speak at a Biodiversity meeting or Climate Change colloquium, he probably would say about the same things he said in 1940s.

He might even wonder what was wrong with our minds that we had let things get to this point without simplifying our lives.

It is not hard to guess what might have been the beginning of what we only now admit has been an orgy of consumption, of overuse of all our natural resources, animal, vegetable, mineral, - live or dead, fresh or petrified. It was the industrial revolution which, once it got going, never looked back ... until now, maybe.



Mahatma Gandhi who was a defender of farmers, among others once said: "The difference between what we do and what we are capable of doing would suffice to solve most of the world's problem".

He might have been talking of any of the world's serious problems but his words have special meaning now. We should take his statement fully to heart ... who among us is simply not capable of simplifying his lifestyle a bit at first and little by little continuing to do so . It would not take such a great effort as what Gandhi lived, but it will take more effort that we are giving now to save the biodiversity of the Earth. At the same time we would all contribute to turning back the ticking clock of climate change to levels that the Earth can tolerate, so that all life can continue to live.

The wisdom of Gandhi and our contemporary slogan go well together.

**The difference between what we do and what we are capable of doing would suffice to solve most of the world's problem - Mahatma Gandhi.**

**Biodiversity is life...biodiversity is OUR life. Live more simply. Survive and permit all life to survive also.**

## What you can do to live simply?

Instead of being **part of the problem**, we can change our attitudes and behaviour, and become **part of the solution**.

Change is not easy. It is less difficult, however, if you think of what the Earth will be like in a few years if people DON'T change their behaviour!

So DO some or all of the suggestions below:

DO DO

**CUT BACK !** Use LESS of anything produced by ungreen methods and LESS of anything that uses ungreen fuel. That is a long list. It includes such things as polluting detergent, fossil fuels, etc.



Activity: A good exercise / project in your school class would be to list every single one that the members of the class and teacher can think of, and an alternative product, such as energy saving lightbulbs, investing in solar power, etc.



**CUT OFF !** Cut off your tap when you are washing dishes-cut it back on to rinse. Same with brushing teeth, shaving, or any activity that lets water run unnecessarily even for a minute. Also mind dripping taps that just need a new washer to stop. Gallons of water leak away in this way.



**CUT PAPER !** Start looking at your paper waste ... use cloth when feasible, such as when drying face and hands, and hang the towel to dry and use again. Instead of ripping out a clean sheet of your tablet for a grocery list, find scrap paper and use the back. List out all your uses of any kind of paper and make your own list of what could be NOT used.



**BEAT THE HEAT !** Take advantage of cool nights by opening windows and letting the house cool down. The next morning before the temperature rises, close and curtain windows to keep out sun and hot air. If you house or school has reasonable insulation this will help and you can reduce your fan, cooler and AC usage. Try using a lower speed on your fan in less hot parts of the day. Wear cooler and less clothes.



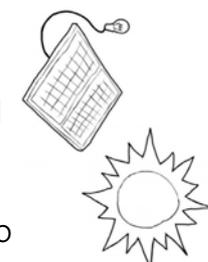
**COMBAT COLD !** Put on more clothing instead of burning fuel or wood.

**COOK RITE !** When you cook match the size of the vessel to the size of the heating element to cut down on wasted energy.



**WEAR SMART !** Wear clothes more than once, or even twice, unless they are really stinky. If you hang them in an airy place much of the smell will vanish. Wear heavy clothes such as jeans which consume a lot of water to wash, several times.

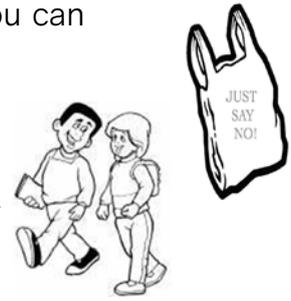
**CLEAN HOUSE !** Go through your stuff and put aside items that you and your family do not use or want (check with them first!). Give these items to a Mission, Church, or any other charity or to any individual who needs them. This will make your house cooler and reinforce your commitment to reduce wastage of anything.



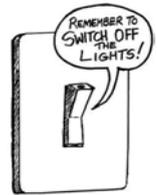
**CUT MEAT !** Non-veggies love their meat and it is hard to give up. Instead of trying to give up and getting discouraged, just have a meatless day or two in a week. Raising animals for food generates a lot of the bad gasses which cause climate change.

**BAG LAG!** Always take a cloth bag with you wherever you go so you can refuse plastic bags when you shop.

**WALK TALL !** Try walking to as many places as you can so as to use less fossil fuels. It is not only good for the environment it is good for your health. Can't lose ! Walk or bicycle instead of taxi or a motor vehicle.



**LIGHTS OUT !** When leaving home or work, switch off lights, appliances, equipment. Putting several appliances on one extension box makes it easier. Even chargers as if they are plugged in they use power. Saving energy reduces air pollution.



**PLANT POWER !** Planting trees, shrubs, bushes, flowers ... almost anything green adds to our ability to live without using so much energy consuming power.



## Simplicity

Gandhi believed that a person involved in public service should lead a simple life. He displayed this principle by not wearing western-style clothing, which he associated with wealth and success. When he returned to India he renounced the western lifestyle he led in South Africa, where he had enjoyed a successful legal practice.

Gandhi dressed to be accepted by the poorest person in India, advocating the use of homespun cloth (*khadi*). He and his followers weaved their own clothes from thread they spun on a charkha, and encouraged others to do so. Indian workers often bought their clothes from shops owned by British. The Swadeshi Movement encouraged Indians to make their own clothes, so as to deal an economic blow to the British in India. Gandhian simplicity was a sign and expression of swadeshi principles. He subsequently wore a dhoti for the rest of his life to express the simplicity of his life.

The practice of giving up unnecessary expenditure, embracing a simple lifestyle and washing his own clothes, Gandhi called "reducing himself to zero" to strengthen his humility. Gandhi spent one day a week in silence. He believed this gave inner peace and made him a better listener. This practice came from Hindu principles of mauna. Silent days he "spoke" with others by writing on paper. For three and a half years, from the age of 37, Gandhi refused to read newspapers, claiming that the tumultuous state of world affairs caused him more confusion than his own inner unrest. After reading John Ruskin's *Unto This Last*, he decided to change his lifestyle and create a commune called Phoenix Settlement. As a practitioner of ahimsa, Gandhi swore to speak the truth and advocated that others do the same. He lived modestly in a self-sufficient residential community and wore the traditional Indian dhoti and shawl, woven from yarn that he had spun by hand himself. He ate simple vegetarian food, experimented for a time with a fruitarian diet, and undertook long fasts as a means of both self-purification and social protest.

**Mohandas Karamchand Gandhi**  
 From Wikipedia, the free encyclopedia