

ClimEd Series: V

Households in combating climate change



"If we contributed, then we need to fix it"



ICAR- CENTRAL MARINE FISHERIES RESEARCH INSTITUTE
Indian Council of Agricultural Research
Ernakulam North P.O 1603
Ernakulam -682 018
Website: www.cmfri.org.in



ClimEd Series- V

This instructional material "Households in combating climate change" has been developed as a part of the Belmont funded project titled "Global Understanding and Learning for Local solutions: Reducing Vulnerability of marine dependent coastal communities" (GULLS) as a means to create awareness and impart climate change knowledge across the target populace.

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Developed by

Dr. Shyam. S. Salim

Ms. Athira P. R

Designs

Ms. Smitha R. X.

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The cover page portrays the differential roles which a household could play and act as potential climate change agents in adaptation and mitigation through efficient use of water, energy and in reducing carbon footprints and going green.

Disclaimer

Acknowledgements are due to the creative intellects of illustrations / photographs included in the ClimEd series. They are being sourced as an informative tool to its target audience on an "as-is, as-available" basis for educational purposes only.

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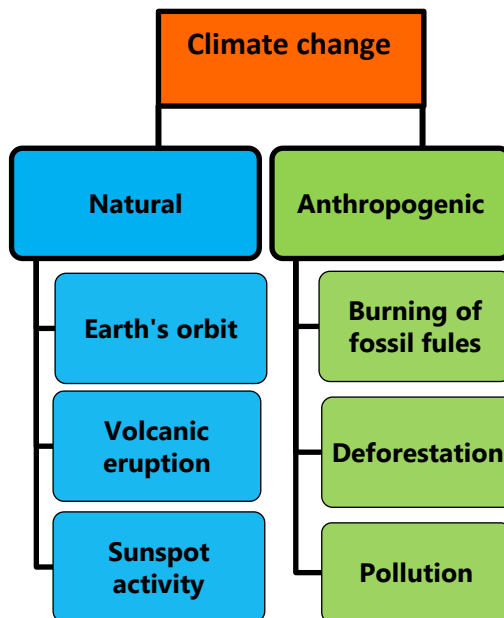


Climate change

Climate change is change in the earth's overall climate or a long term change in the weather pattern of a region for a considerable period of time eg: change in the earth's global temperature, or its typical precipitation pattern.

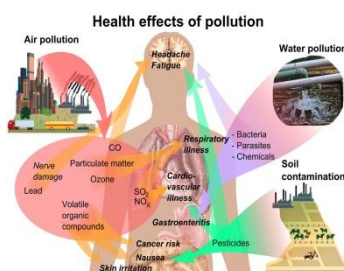
Is earth's climate changing?

Earth's climate is always changing. In the past, it has gone through warmer and cooler periods which last for thousands of years. The changing climate can be due to natural and anthropogenic activities. Natural causes include changes in earth's orbit, sunspot activity; ocean changes and volcanic eruptions. Recently earth's climate has been warming alarmingly which is mainly due to human activities like burning of coal, oil and natural gas which can lead to severe impacts across the globe.

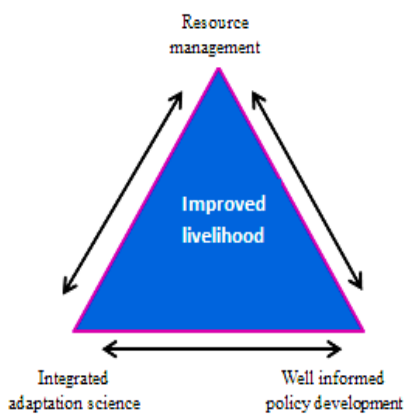
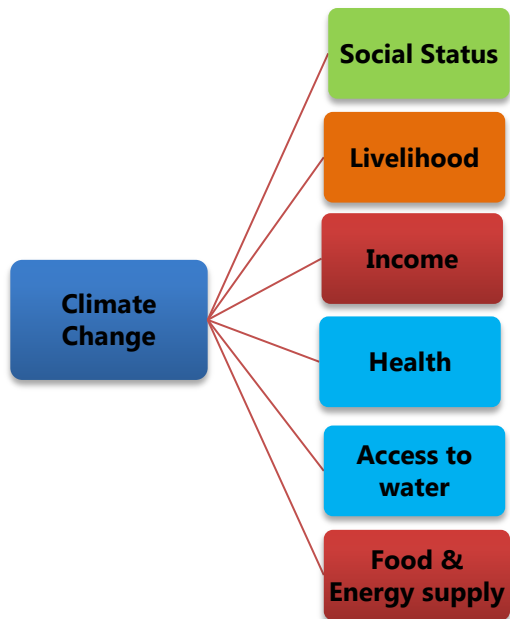


Climate change vs household

Climate change may impact coastal dwelling people that are vulnerable to coastal storms, drought, and sea level rise or people who live in poverty, older adults, and immigrant communities.

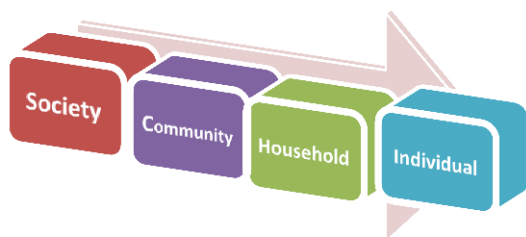


Environmental consequences of climate change like flooding, droughts and degraded air quality, affect directly and indirectly the physical, social, and psychological health of humans. As sea level continues to rise, flooding and storm surges will threaten freshwater sources, as well as coastal homes and buildings.



Climate change can disrupt food availability; reduce access to food and food quality. In addition change in temperature, precipitation and extreme weather events can reduce agricultural productivity. The climate change impacts like sea level rise affects livelihood and force communities to displacement and relocation in cost and huge cost to the exchequer. In the short term, the voluntary migration of individuals and households could aid in relieving social and environmental pressure when coupled with improved adaptation and mitigation strategies. In the long term, the planned relocation of some communities may be required, particularly in areas where population density and growth rates are high.

Societal roles in climate change



Climate change could affect our society through impacts on a number of different social, cultural, and natural resources. Some groups of people will likely face greater challenges than others. Individuals often fail to play

a role in adapting to a low carbon lifestyle because of aspects related to their identity, emotions and values. The public's perception on climate change is that some places are colder or wetter than others, but generally do not understand how the climate works nor feel threatened by the climate conditions. Few appreciate that climate is a resource like land and water.

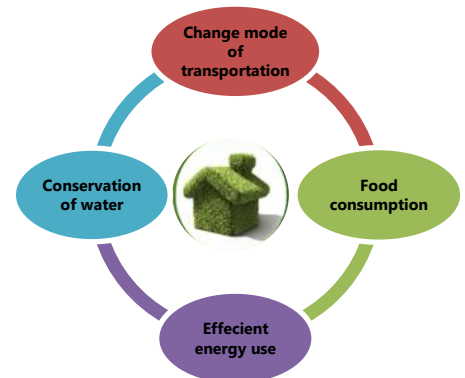
The goal of **Adaptation** is to reduce the vulnerability to the harmful effects of climate change. **Mitigation** aims to avoid threatening human intrusion with the climate system. Creating awareness



among society, community, household and individual level is an effective way to understand the climate change impact on the environment and how to make meaningful changes.

Steps to be taken at household

Going green or being **eco-friendly** can seem intimidating and beyond reach but reducing your carbon footprint doesn't need to involve a radical lifestyle overhaul ! There are many simple and affordable ways almost anyone can contribute to helping the environment. As the popular saying goes charity begins at home.



1. Food consumption

- ♣ **Reducing food waste** would mitigate climate change.
 - Store food in right places
 - Shop smart and realistically
 - Avoid clutter in your fridge and freezer
 - While cooking , don't over serve food
 - Donate food to destitute and needy before you throw away excess food
 - Improve shelf life- canning and pickling
 - Compost food scraps rather than discarding scraps
- ♣ Buy locally produced **organic food**.
- ♣ **Reduce the consumption of meat** - rationing meat consumption could ensure health and reduce your impact on the planet.
- ♣ **Prevent the consumption of junk food** this will improve your health as well as reduce the impact on environment
- ♣ **A low carbon diet** is a way of reducing impact by choosing food that causes much less pollution.



2. Water conservation

It takes lots of energy to pump, treat, and heat water, so saving water reduces greenhouse gas emissions.

- ♣ **Reuse** the water after washing utensils to water your garden
- ♣ **Reduce** the use of water by turning off the tap while brushing teeth
- ♣ **Rain water harvesting** is the best way to conserve water
- ♣ Avoid unnecessary flushing the toilets. Dispose off the waste into the bin instead of toilets.
- ♣ You can use washing machine to wash clothes that does not consume much water
- ♣ **Fix** your leaks
- ♣ Using pipes made of sturdy material. Using plastic PVC/CPVC water pipes in home which is ISI-approved ones are sturdier and will ensure more efficient flow of water.
- ♣ You can **store water** in a variety of ways. A simple



method is to place a drum on a raised platform directly under the rainwater collection source. You can also collect water in a bucket during the rainy season.

- ♣ When washing the car, use water from a bucket and not a hosepipe.
- ♣ Try to do one thing each day that will result in saving water. Don't worry if the savings are minimal as every drop counts ! You can make a difference.

Average daily water consumption (litres)	
Cooking	5
Drinking	5
Cleaning	10
Washing utensils	10
Washing of clothes	20
Bathing	55
Toilet flushing	30

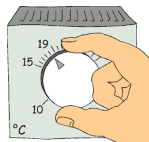
3. Energy efficiency

- ♣ Change habits to conserve energy, **like turning off the lights** while leaving room.

- ♣ **Unplug** all the appliances that you aren't using regularly - even chargers continue to use electricity when they aren't charging. Also, make sure you're not leaving appliances on standby.



- ♣ **Replace** incandescent light bulbs with compact fluorescent or LED ones.
- ♣ Use light coloured curtains and make use of the **natural sunlight** as much as possible
- ♣ **Save yourself ironing time.** Iron all your clothes at one time.
- ♣ Labels: **The Energy Star** label can be seen on many household appliances, home electronics and other products which use minimal energy.
- ♣ Chose **Energy-Efficient** kitchen appliances
- ♣ Reduce air conditioning usage in the summer.
- ♣ Use of green energy- Installing **solar panels** on your house could lead to one third of electricity bills.
- ♣ When using a washing machine ensure there is a full load and **turn down** the temperature.
- ♣ **Refrigerators account for about 20% of household electricity use.** Ensure optimum temperature for its efficient use



Home appliances	Watts	Power consumption kWh (unit)
CFL lamp	20	0.02
Ceiling fan	100	0.10
Cell phone charger	4	0.004
Iron box	1100	1.10
Television	100	0.1
Refrigerator	380	0.30
PC and Monitor	270	0.20
Mixer Grinder	750	0.70
Laptop	50	0.05
Washing machine	512	0.50
Air conditioner	1200	1.20
Micro wave oven	1660	1.60
Pump set (1 hp)	746	0.70
Vaccum cleaner	500	0.50

3. Transportation alternatives

- ♣ **Try to adapt.** If you decide to go by car change your decision to go by bike, if you decide to go by bike change to cycling
- ♣ **Alternatives to driving.** When possible, walk in order to avoid carbon emissions completely.
- ♣ **Walking, cycling, carpooling** or **use public transport** to commute.

Up to 10% of your electricity use could be from gadgets on standby



- ♣ **Carpooling**- also known as ride-sharing -lift-sharing can save a lot on fuel consumption, wear and tear on your vehicle and all associated environmental impacts. Carpooling is beneficial on an individual level and for your community as a whole.



- ♣ **Drive a low carbon vehicle.** High mileage doesn't always mean low CO₂ emissions. All vehicles have an estimated mileage rating. Electric cars emit no CO₂ if they're charged with clean electricity.

- ♣ **More Maintenance** – Replace the air, oil and fuel filters of your vehicle according to schedule.

- ♣ **Driving style**- Speeding and unnecessary acceleration reduce mileage by up to 33%, waste gas and money and increase your carbon footprint.
- ♣ **Avoid traffic**- Being stuck in traffic wastes gas and unnecessarily emit CO₂.
- ♣ Keep your **tyres properly inflated** (just this can save 200-300 kilograms of CO₂ per year).



5. Other ways to reduce carbon emission

- ♣ Follow the four R's – **Refuse, Reduce, Reuse and Recycle.**
- ♣ **Reduce the use of plastic** bags at home.
- ♣ **Go green**- Plant more trees within your vicinity and motivate others about the benefits of adding green cover also by making them understand about the benefits of planting a tree.
- ♣ Buy food and other products with **reusable or recyclable packaging** instead of those in non-recyclable packaging.
- ♣ **Purchase green power**- (Renewable energy sources like solar, wind, geo thermal and hydro energy).
- ♣ **Hanging clothes out to dry** requires no electricity or natural gas use.
- ♣ **Use non-toxic household products**- Toxic insect repellants may be substituted with organic products.
- ♣ **Get your family involved**- Develop a plan to reduce daily energy use around your home.
- ♣ **Incentives on carbon credits**- Ask each member of your household to be responsible in controlling individual carbon emissions.
- ♣ Install a **solar heated system** to provide your hot water.
- ♣ **Organic farming**- grows your own vegetables and every home can have a kitchen garden with efficient water conservation techniques
- ♣ **Say no to illegal wildlife products**- Avoid purchasing wild animal products including ivory, meat, skins and traditional medicines. Buy local handicrafts instead.
- ♣ As an individual **participate in eco-friendly activities** and always create awareness programmes
- ♣ **Use paper judiciously**
 - Advocate paperless communication to reduce the amount of paper waste.
 - Use both sides of paper
 - Request for e- statements
- ♣ Gently used clothing can be donated to charity or exchanged with friends and family
- ♣ **Fly less.** Air travel leaves behind a huge carbon footprint.



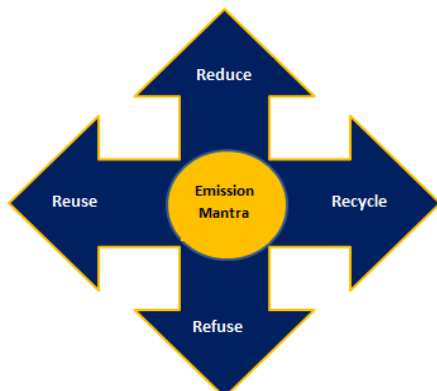
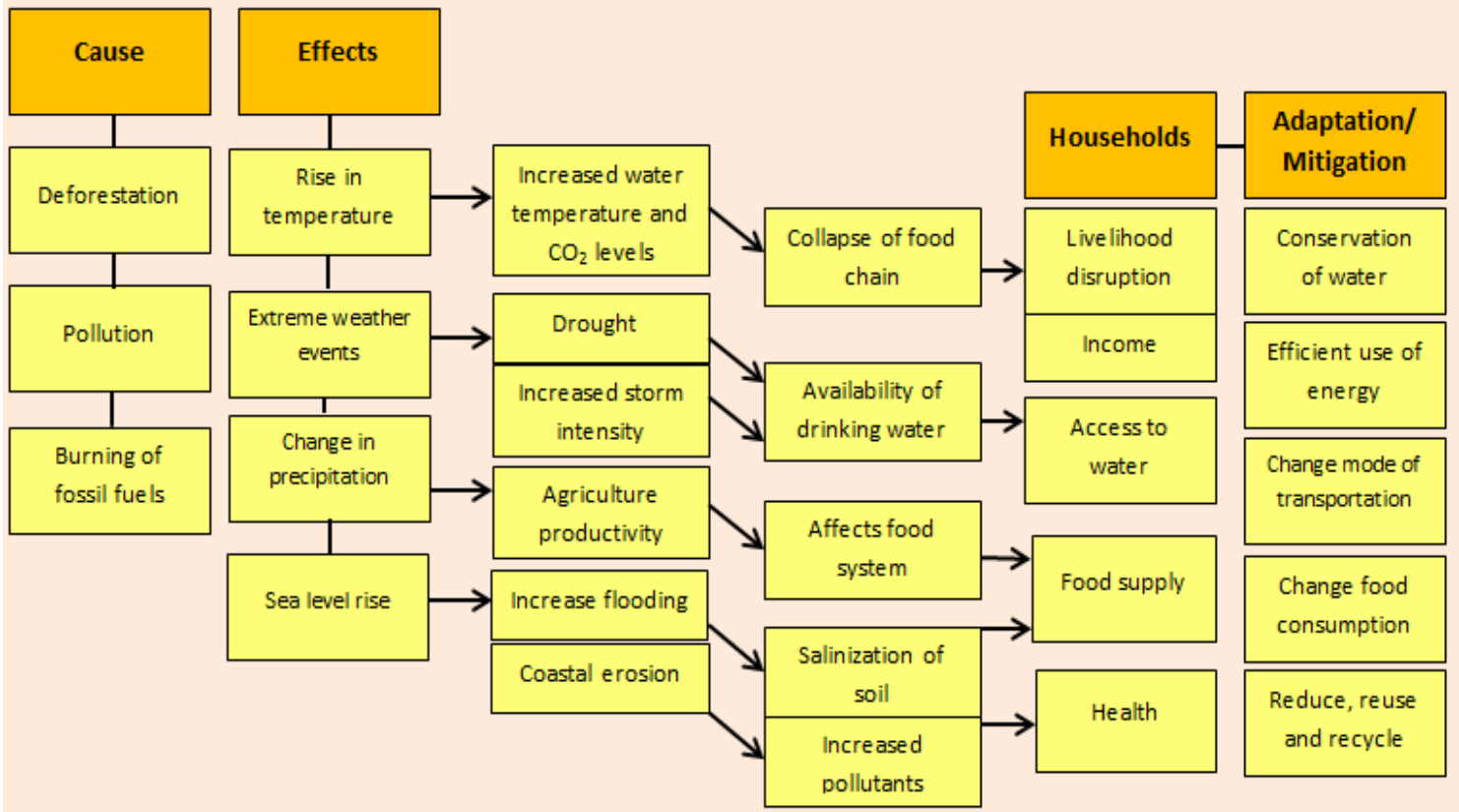
- ♣ **Forego Fossil Fuels** — eliminating the burning of coal, oil and, eventually, natural gas.
- ♣ **Avoid products with lot of packaging.** Just don't buy products with lot of packaging.
- ♣ **Use a Kitchen Cloth Instead of Paper Towels:** Paper towels produce nothing but wasted energy. Think of the factory pollution, as well as the tree consumption.



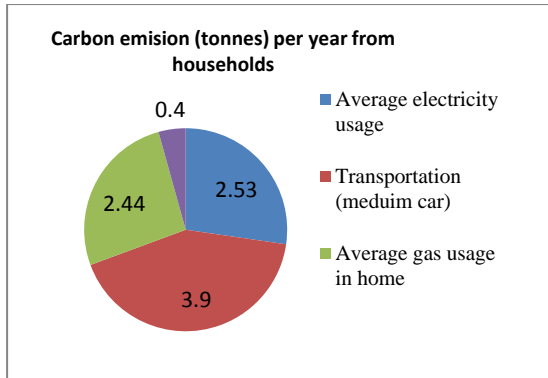
♣ **Download earth saving apps:** apps like Kil-Ur-Watts and Wiser EMS not only help calculate your energy costs, but provide tools and ways to save energy and money.



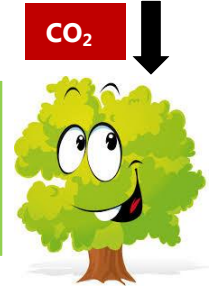
Climate change



4 R's – "Reduce, Refuse, Reuse, Recycle"



A 10-year-old tree releases enough oxygen into the air to support two human being.



Household measures during daily life

Activities	Impact on the environment	Measures to be taken
Reduce trash	Landfills incredible source of pollution and greenhouse gases	Recycling, reuse, repair and donate.
Go paperless	Pulp mills results in air, water and land pollution. The paper industry uses more water.	Get in the habit of taking notes on your PC or smartphone.
Plastic free	Plastic pollution can unfavorably affect lands, waterways and oceans.	Use cloth grocery totes instead of plastic bags, Use a water filtration system at home to reduce plastic bottles.
Grow more trees	Deforestation results in habitat destruction and changing climate.	Plant trees, shrubs or even a garden packed with super foods to reduce impact.
Change lighting	Incandescent bulbs have more power consumption and energy use	Replace with low-watt CFLs or LED lights.
Efficient use of appliances	More carbon emission and more energy bills	Replace old appliances, look for the Energy Star label, iron your clothes at one time, use green energy, unplug appliances not in use
Choose more sustainable goods	Volatile organic compounds in paints and glues outgas into air and emit greenhouse gases in manufacturing.	Look for home furnishings and mattresses made with low-VOC and sustainable materials
Drive less	Car exhausts emit a wide range of gases and solid matter, causing global warming and health problems.	Carpooling, biking or public transportation, opt for a hybrid model car, perform regular maintenance on your car.
Use water efficiently	Reduce groundwater availability, and habitat loss.	Rain water harvesting, fix your leaks, cut your shower short.
Spread the word	Lack of awareness can create more threat to our climate and environment.	Create awareness among friends and family.



GO GREEN

"Every person owns the right to act with every moment being the right to start"

