



CLIMATE CHANGE MITIGATION & ADAPTATION FOR PRIMARY STUDENTS VOL. 4



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The Effects of Climate Change

The Earth has had many **tropical** climates and **ice ages** over the billions of years that it's been in existence, so why is now so different? Well, this is because for the last 150 years human activity was releasing a huge amount of harmful gases (greenhouse gases) into the Earth's atmosphere, and records show that the global temperatures are rising more rapidly since this time.

How do you think Climate Change Affects You?

- The melting glaciers will cause a rise in the sea level.
- Increase in temperature will result in heat waves and heat stress for plants and animals.
- Intense rainfall will cause flooding which leads to diseases.
- Less rainfall will result in prolonged droughts.

Guyana will not be spared the great effects of Climate Change. The key vulnerabilities (a weakness which can be threaten) in Guyana are:

- Flooding – this occurs as a result of heavy rainfall in both coastal and hinterland regions. Sea level rise and sea surges results in overtopping of sea defenses leading to coastal floods.
- Droughts – prolonged dry periods result in droughts.

Guyana's Coast

Guyana is particularly vulnerable to the effects of climate change since approximately 90% of Guyana's population and 75% of the country's economic activities are found on the Low Coastal Plain which lies approximately 0.5 to 1 meter below mean sea level. The Coastal Plain is threatened by sea-level rise, increase in storm surges and changes in rainfall patterns. Any impact here will have serious consequences for the country's economy, particularly for the agriculture and fishery sectors, which are extremely sensitive to changes in climate.



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Guyana's Hinterland

Guyana's hinterland accounts for 92.5% of the land area and 10.5% of the population. Some of these areas are not easily accessible and tend to be flood-prone during the rainy seasons and exposed to drought conditions during the dry season. The hinterland communities (particularly in Regions 8 and 9) have been faced with drought conditions that impact climate-dependent sectors such as agriculture and water. Extreme events particularly floods and droughts, cause detrimental impacts to mining operations and with the consequence that livelihoods and health of rural communities in the hinterland are detrimentally impacted.



What can you do?

In previous booklets, the impacts of climate change were discussed and the urgency of addressing the issue was emphasized. To address this global dilemma, several significant actions have been taken at the global, regional, and local levels. Some of the key approaches to addressing climate change are discussed in this booklet.

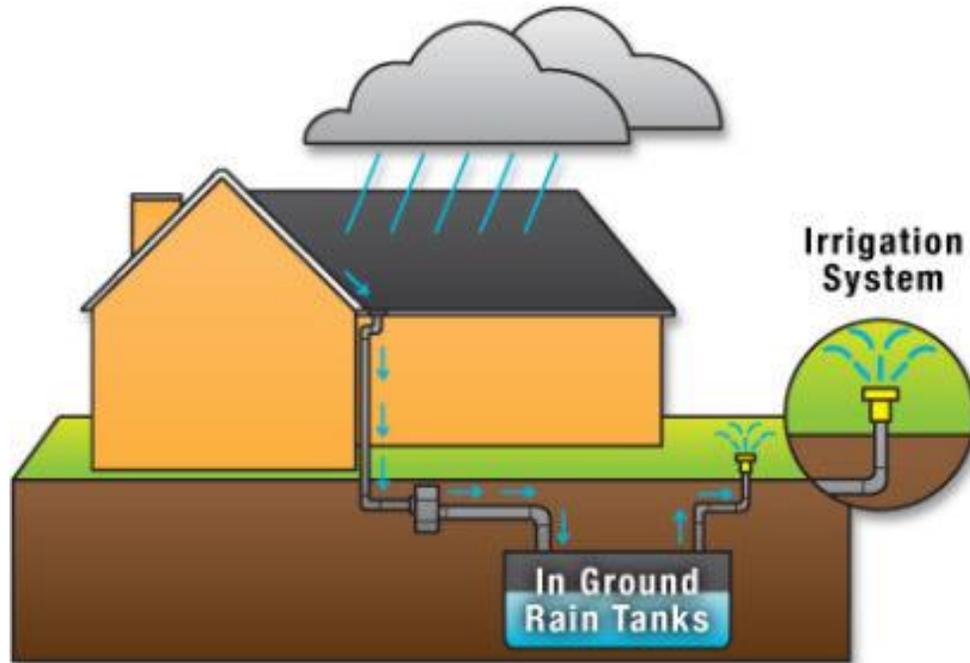
Adaptation and Mitigation

In addressing climate change, actions are generally grouped under two broad headings - Mitigation and Adaptation.

Adaptation

Adaptation (in the context of climate change) is a way of coping or taking action to live with the changes it brings about. For example, adaptation to drought can be the growing of drought resistant crops and using irrigation farming. The goal is to reduce our exposure to the harmful effects of climate change (like rising sea-levels, more intense extreme weather events or food insecurity). It also involves making the most of any potential beneficial opportunities associated with climate change (for example, longer growing seasons or increased crop yields in some regions).

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Some Adaptation Measures

Here are some ways you can adjust your lifestyle to Climate Change.

- **HOST SCHOOL ENVIRONMENTAL CLUBS THAT SHARE KNOWLEDGE AND CARRY OUT PROJECTS**

With knowledge, children can share with friends, family and community members what climate change is all about. In this way communities are empowered to adapt to climate change.



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- **REDUCE, REUSE, RECYCLE INORGANIC WASTE.**

Reusing and recycling waste saves the amount of energy needed to make new goods. It also reduces pollution by making sure that the amount of waste being thrown away is reduced. You can reuse plastic bags or use a single bag for shopping.



- **SAVE WATER**

Saving water is important. We can do more things with less water. Saving water can be done in many ways. For example, the water we rinse our plates with can be used to water our plants. Recycle and reuse water.



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- **PROTECT MANGROVES**

Mangrove forests are incredibly important ecosystems. They help with the fight against climate change by removing large amounts of carbon dioxide from the atmosphere. Mangroves protect coastlines from damaging storms, waves, and floods.



Some examples of how to Adapt in Guyana.

COAST

A FEW ACTIONS THAT YOU CAN TAKE TO RESPOND TO CLIMATE CHANGE

BUILD HIGHER

Homes, businesses, and livestock can be protected by building houses, shops/stores, and pens above flood water levels.



MAINTAIN DRAINAGE

Help keep drains, trenches and canals clear of litter, building waste and other blockages.

PROTECT MANGROVES

They are our natural sea defence against flooding and are great at removing carbon dioxide (CO₂) from the atmosphere, that contributes to climate change.



HINTERLAND

A FEW ACTIONS THAT YOU CAN TAKE TO RESPOND TO CLIMATE CHANGE

MANAGE WATER SUPPLY

Safe water storage and wise use of available water can reduce the impact of drought and flood.



BUILD HIGHER

Homes, businesses, and livestock can be protected by building houses, shops/stores, and pens above flood water levels.

PRACTICE CLIMATE SMART AGRICULTURE

Alternative methods and technologies, such as raised beds, crop rotation, shade-houses, etc. help to protect crops from extreme weather conditions and pests.



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There are many ways you can take action to fight climate change. Below are some ideas on how you can take action to save the Earth!

Mitigation

Mitigation is any action taken to reduce or remove the causes of climate change. It involves actions that:

1. Removes greenhouse gases from the air by addressing the source of emissions (such as vehicle exhaust fumes, industrial pollution, and cutting down of forests),
2. Enhancing their removal from the atmosphere through “sinks” (a sink includes forests, oceans, wetlands, vegetation or soils that can reabsorb carbon dioxide) or
3. Prevents more greenhouse gases from getting into the air.

The goal of mitigation is to avoid significant human interference with the climate system, and reduce greenhouse gas levels in a timeframe sufficient to allow ecosystems to adapt naturally to climate change, ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner

Mitigation prevents further climate change from happening. One example of a mitigating action is the use of solar energy as a source of electricity in the home. This avoids the burning of fossil fuels for electricity generation hence preventing further climate change.



In Guyana, for example, approximately 85% of the country’s territory consists of tropical rainforest that is still largely untouched. Forests are natural regulators of carbon dioxide in the atmosphere by helping to store carbon for long periods. When forests are damaged or cleared, the burned or decaying wood releases the carbon stored in trees in the form of the greenhouse gas, carbon dioxide, increasing the levels of green-house gases in the atmosphere. Guyana can play a great role in mitigating climate change through the continued conservation and sustainable management of its forests and by avoiding deforestation. While many countries have the potential

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to support activities to mitigate climate change, there are a wide range of challenges, including limited financial resources, which limit their ability to do so.

It is therefore important to take strong measures to mitigate climate change as soon as possible, to avoid the occurrence of the most catastrophic effects.

Mitigation Measures

Some examples of mitigation options are:

- **USED GOODS ARE GOOD**

Reduce and reuse as much as possible. Factories emit carbon dioxide when making new products. So instead of buying new stuff, fix your appliances and clothes.



- **SLAY THE VAMPIRE**

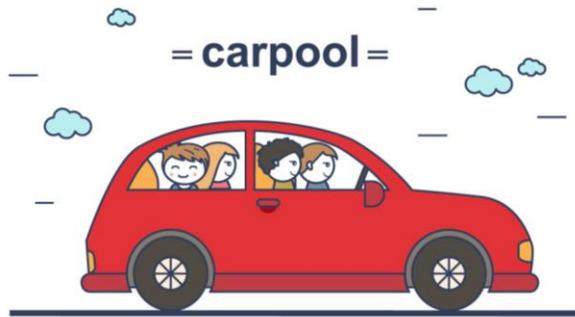
“Vampire” appliances suck energy even when turned off. Kill these monsters by unplugging phone and laptop chargers when not in use and use power strips for lamps and TVs. (Bonus: It will save your parents money on energy bills!)



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- **SAVE FUEL**

Sharing vehicles also known as car-pooling is the sharing of car journeys so that more than one person travels in a car and prevents the need for others to have to drive to a location themselves. When there are less cars on the road it means less fuel is being used. As a result, this means less greenhouse gases are being released into the air.



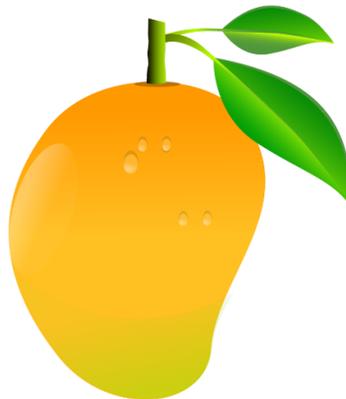
- **WALK IT OUT**

Walk or bike as much as you can. Biking or walking just one mile a day for a year could save 330 pounds of carbon dioxide that is the same as planting four trees and letting them grow for 10 years!



- **SEASON YOUR FRUIT**

Try to eat mostly in season and locally grown fruits and vegetables. This cuts down on the energy used to grow and transport food, which reduces the release of heat trapping gases.



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- **SPREAD THE WORD**

Write a letter to the editor about climate change in your local newspaper. The more people talk about the issue, the better!



- **AIR DRIED**

Hang up your freshly washed clothes to dry. You will be saving energy by not using the dryer and helping with chores.



- **PLANT TREES**

We need to plant more trees than we cut down. Anyone can plant a tree. Even you! Trees absorb carbon dioxide and other gases during evapotranspiration. This reduces the amount of greenhouse gases in the atmosphere.





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