

## FROM THE STATE DIRECTOR'S DESK

Kerala God's Own Country is reeling under various disasters, both manmade and natural. There are around 10 lakh people in Kerala suffering from various types of fever and the onset of monsoon has also brought in various disasters in the form of flooding, coastal erosion and loss of life and property, uprooting of trees, landslides etc. The State machinery has proved that they are not capable enough to take care of such unexpected events. The CM and the Council of Ministers are finding it difficult to coordinate between themselves even to resolve their own internal disputes. Then, how can you expect them to solve the people's issues? It is high time that, the people of Kerala realize their own responsibilities to avert such disasters. Plastic pollution everywhere leading to rainwater and waste water getting retained leading to favorable habitats for mosquitoes to breed in, various forms of climate change etc are some reasons attributed to the severe outbreak of the recent epidemics like Chikunguniya. But the people have not yet realized their individual contributions towards such menaces. Plastics have become an inevitable part of our life in every way and we have never ever felt the need to claim some responsibility for proper disposal of the solid waste generated by us. Our green cover is disappearing fast for some form of development, be it road construction or house construction. The number of vehicles on the roads have increased and our fast moving life styles are pushing us to over consumption of fossil fuels, all these leading to global warming and climate change leading to various known and unknown disasters. So it is high time that each and every individual realize his or her own responsibility towards protection of Mother Nature and conservation of her natural resources and start acting wisely by making changes in our lifestyles from a consumeristic manner to a more sustainable approach.

**Renjan Mathew Varghese**  
State Director

## IMPORTANT NEWS ON ENVIRONMENT AND NATURE

### ● Early springs bring problems for the creatures of the high Arctic

Spring is arriving in the Arctic weeks earlier than it did a decade ago, according to a long-term survey of life in the far north's landscape. Rising temperatures are causing snow to melt sooner than before, extending the summer period and dramatically disrupting the fragile ecosystem, scientists said.

The change in the seasons - one of the most rapid examples of climate change - was discovered by researchers who observed familiar spring patterns over 10 years. They recorded a clear shift in the time of year plants came into flower, birds laid their first eggs and insects and other creatures emerged to forage for food. The survey was conducted in the Zackenberg area of north-eastern Greenland, a region rich in biodiversity, with musk ox, snow hares, lemmings and more than 100 varieties of plants.

The study reveals that many arctic species are able to adapt quickly to the changing climate - which could have both negative and positive consequences. "In one respect this is positive, because the summer season has been lengthened. But the question is whether these species are moving into parts of the season where they will not be well adapted," said Dr Hoyer, whose study appears in the journal *Current Biology*. (Source: *The Guardian* June 19, 2007)

### ● Missing gas saps plant theory

A team of plant scientists has cast doubt on one of the most startling research results the field has seen in recent years — the finding that green plants emit methane. Tom Dueck of Plant Research International in Wageningen, the Netherlands, and his colleagues say that they can find no evidence that plants produce the potent greenhouse gas.

Depending on how the comparison is made, methane's greenhouse effect is between 25 and 70 times as great as that of carbon dioxide. Until last year, methane was thought to be produced almost exclusively by microbes in natural settings, such as swamps, or artificial ones, such as landfills, and in the guts of domesticated cattle. The claim by Frank Keppler of the Max Planck Institute for Nuclear

Physics in Heidelberg, Germany and his colleagues that plants also emit methane, published in *Nature* last year, threatened to overturn this microbes-only view of the global methane cycle. (Source: *The Hindu*, May 31, 2007)

## NATIONAL

### ● Medha Patkar criticises mega dam projects

Narmada Bachao Andolan (NBA) leader Medha Patkar on Sunday said mega dam projects, being built in the north-east and elsewhere in the country, are anti-constitutional as they are not approved by the local people. Referring to Article 243 of the Constitution that empowers village level bodies to formulate the Village Development Plan, she asked, "how can mega dam projects be permitted without being planned and approved at the village-level?". Ms. Patkar expressed concern "about the plight the people of Assam and the northeast have been subjected to by the policy makers through attacks and onslaughts on their livelihoods in the name of development." She said such projects were not targeted towards the indigenous people as beneficiaries but the big companies as beneficiaries. She appealed to the people to continue their struggle through non-violence. (Source: *The Hindu*, Jun 18, 2007)

### ● New Lizard Species found

An Indian Zoologist says he has found a new species of limbless lizard in a forested area in the country's east. "Preliminary scientific study reveals that the lizard belongs to the genus *Sepsophis*," said Sushil Kumar Dutta, who led a team of researchers from "Vasundhara," a non-governmental organization, and the North Orissa University. The newly found 7-inch long lizard looks like a scaly, small snake, Dutta said. "It prefers to live in a cool retreat, soft soil and below stones. "The lizard is new to science and is an important discovery. It is not found anywhere else in the world," as said by Dutta. (Source: *LIVE SCIENCE.COM*)

## STATE

### ● Poaching rampant in Idukki estates

Estates that have been closed down or converted into tourist cottages in Idukki are fast becoming the hunting ground for wild animals. Poaching of wild animals is taking place in many of the estates lying in the fringe areas of forests and wildlife sanctuaries. Meat of wild animals is also discreetly sold in many eateries in Idukki district, according to wildlife department authorities. Recently, a case was registered against three youths on charges of killing a mouse deer in Vandiperiyar. A loaded country-made gun, antler of a Sambar deer and meat samples were recovered from the accused. "Game hunting, illegal guns and alcohol formed part of the culture of some societies

living in the fringe areas of the forest. The killing of mouse deer was a common practice in these societies," said V. Gopinathan, Chief Conservator of Forests (Vigilance). The department is now focusing more on prevention of poaching of tigers, panthers and tuskers using the intelligence network. Last year, forest officials registered four cases relating to poaching of tigers, he said. The lockout of estates and absence of strong managements in the functioning ones were providing right ambience for the poachers, said S.R. Radhakrishnan, Range Officer, Periyar Tiger Reserve, Thekkady. (Source: *The Hindu* June 18, 2007)

### ● Fishing community opposes draft Coastal Zone Management (CZM) Notification

The fishing community in the State is gearing up for an agitation against a proposed notification to be introduced by the Union Government on coastal management. The National Fish Workers Forum (NFF) has announced a nation-wide agitation, alleging that the law will threaten the marine environment and affect the livelihood security of thousands of fishermen. The Kerala Swathantra Matsya Thozhilali Federation is spearheading the protest movement in the State. Federation leaders say that the proposed law favours development over conservation. State President of the Federation T. Peter says the absence of public consultation on the law is undemocratic and raises serious questions about the intention of the Government on a matter with serious long-term implications for the fishing communities. He says it will also deprive the communities of their legitimate rights to livelihood.

Scientists fear that a spurt in development activities in the coastal areas will threaten estuaries, salt marshes, lagoons, mangroves, mudflats, sand dunes and coral reefs, marked by fragile ecosystems. The proposed law will replace the existing Coastal Regulation Zone Act, which has already been amended 19 times since its enactment in 1991. (Source: *The Hindu*, Jun 20, 2007)

### ● Stamp on Periyar National Park

Periyar National Park, one of the prestigious wildlife sanctuaries in the State, has received a stamp of recognition from the postal department. The Department has launched a commemorative stamp of Rs.5 that reflects the scenic beauty of the region. Periyar National Park is one among the five national parks in India to be selected by the postal department from across the country to be depicted on stamps. Releasing the stamp, Minister for Forest and Housing Benoy Viswom said the stamp is a mark of respect for the park. (Source: *The Hindu* Friday, Jun 01, 2007)

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## EXCLUSIVE ARTICLE FOR WORLD ENVIRONMENT DAY 2007

### Climate Change and You

#### Actions You Can Take at Home

##### Change 5 lights

Replace the conventional bulbs in your 5 most frequently used light bulbs with CFL and you will help the environment while saving money on energy bills.

##### Cool less and cool smartly

Buildings should be designed to ensure proper ventilation and air circulation so that cooling can be restricted to the minimum. Simple steps like cleaning air filters regularly and having your cooling equipment tuned annually by a licensed contractor can save energy and increase comfort, and at the same time reduce greenhouse gas emissions. When it's time to replace your old equipment, choose a high efficiency model, and make sure it is properly sized and installed.

##### Switch to green power

Green power is environmentally friendly electricity that is generated from renewable energy sources such as wind and the sun. You can modify your house to generate your own green power eg. Solar cooker, Solar heater, Solar lamp etc

##### Reduce, Reuse, and Recycle

Recycle your newspapers, beverage containers, paper and other goods. Use products in containers that can be recycled and items that can be repaired or reused. In addition, support recycling markets by buying products made from recycled materials. Reducing, reusing, and recycling in your home helps conserve energy and reduces pollution and greenhouse gases from resource extraction, manufacturing, and disposal.

##### Be green in your yard

Composting your food and yard waste reduces the amount of garbage that you send to landfills and reduces greenhouse gas emissions. Smart Landscaping can save energy, save you money and reduce your household's greenhouse gas emissions.

##### Use water efficiently

Saving water around the home is simple. Municipal water systems require a lot of energy to purify and distribute water to households, and saving water, can lower greenhouse gas emissions. There are also simple actions you can take to save water: Be smart when irrigating your lawn or landscape; only water when needed and do it during the coolest part of the day, early morning is best. Turn the water off while shaving or brushing teeth. Do not use your toilet as a waste basket - water is wasted with each flush. And did you

know a leaky toilet can waste 200 gallons of water per day? Repair all toilet and faucet leaks right away.

##### Spread the Word

Tell family and friends that energy efficiency is good for their homes and good for the environment because it lowers greenhouse gas emissions and air pollution. Tell 5 people and together we can help our homes help us all.

#### Actions You Can Take on the Road

##### Buy smart

Before buying a new vehicle, go in for cleaner, more fuel-efficient vehicles available on the market today that produce fewer greenhouse gas emissions.

##### Drive smart

Many factors affect the fuel economy of your car. To improve fuel economy and reduce greenhouse gas emissions, go easy on the brakes and gas pedal, avoid hard accelerations, reduce time spent idling and unload unnecessary items in your trunk to reduce weight.

##### Tune your ride

A well-maintained car is more fuel-efficient, produces fewer greenhouse gas emissions, is more reliable, and is safer! Keep your car well tuned, follow the manufacturer's maintenance schedule, and use the recommended grade of motor oil. Also check and replace your vehicle's air filter regularly.

##### Check your tires

Check your tire pressure regularly. Under-inflation increases tire wear, reduces your fuel economy by up to 3 percent, and leads to increased emissions of greenhouse gases and air pollutants.

##### Give your car a break

Use public transportation, carpool or walk or bike whenever possible to avoid using your car. Leaving your car at home just two days a week will reduce greenhouse gas emissions by a considerable extent. Whenever possible, combine activities and errands into one trip.

#### Actions You Can Take at the Office

##### Manage office equipment energy use better

Office equipment and electronics use energy even when idle or on stand-by. To save energy and reduce greenhouse gas emissions at work, always activate the power management features on your computer and monitor, unplug laptop power cords when not in use and turn off equipment and lights at the end of the day. Consider using a power strip that can be turned off when you're done using your computers, printers, wireless routers and other electronics.

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### Use less energy for your commute

Switch to public transportation, carpooling, biking, and other innovative ways to save energy and reduce greenhouse gas emissions on your way to and from work.

### Reduce, Reuse, Recycle

Recycle office paper, newspapers, beverage containers, electronic equipment and batteries. Reducing, reusing, and recycling in your office helps conserve energy, and reduces pollution and greenhouse gas emissions from resource extraction, manufacturing, and disposal. You can reduce, reuse and recycle at the office by using two-sided printing and copying; buying supplies made with recycled content; and recycling used printer cartridges. For your old electronics, donate used equipment to schools or other organizations.

### Actions You Can Take at School

#### Students

#### 1. Bring science to life

Explore the internet and video animations that bring to life the science and impacts of climate change. Many sites also provides games that help students, their parents and their teachers learn about both the science of climate change and what actions they can take to reduce greenhouse gas emissions.

#### 2. Green your campus

Students, teachers and administrators should take all efforts to plant trees in their school campus and also green other public places in their neighbourhood available for afforestation.

#### 3. High school students check your school's climate impact

High school students can investigate the link between everyday actions at their high school, greenhouse gas emissions and climate change. Using EPA's Climate Change Emission Calculator Kit (Climate CHECK – Source: Internet) students can learn about climate change, estimate their school's greenhouse gas emissions and conceptualize ways to mitigate their school's climate impact. Students gain detailed understandings of climate-change drivers, impacts, and science; produce an emission inventory and action plan.

#### 4. Get your College or University involved

College students can play an important role in reducing greenhouse gas emissions at their colleges or universities by reducing their emissions from energy they use in dorm rooms. Students can also work with school administrators to increase energy efficiency on

campus, reduce their school's greenhouse gas emissions by using green power, create a campus climate action plan, or develop an inventory of their school's greenhouse gas emissions.

#### Educators

#### 5. Teach students about climate change and ecosystems

Use the Climate Change, Wildlife and Wildlands: A Toolkit for Teachers and Interpreters (Source: Internet) to learn about the science of climate change and its potential effects on our nation's wildlife and their habitats.

#### 6. Engage middle school students in estimating emissions

Enhance critical thinking skills by introducing the Global Warming Wheel Card Classroom Activity Kit (Source: Internet) to middle school students. A handheld wheel card and other resources help students estimate household greenhouse gas emissions in order to encourage students to think about ways to reduce their personal, family, school and community contributions to climate change.

#### 7. Learn from other educators and trainers

Investigate what other schools and organizations are doing to educate their audiences on climate change.

### ARTICLE ON CLIMATE CHANGE

#### Change or the Climate will

Climate change is no longer a climatologists abstract concept. Its manifestations have started to show cataclysmic outcomes. Un-seasonal rains, excessive floods, drought, cyclones and storms, are all the warning signs of the disturbed nature send out to mankind. There is concrete proof that our climate is indeed changing in ways that differ from the usual cyclic behaviour.

In 1998, Inter-Governmental Panel on Climate Change (IPCC) was set up jointly by World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP) to study and formulate solutions to combat Climate Change. The Fourth Assessment Report of the IPCC says that, there would be a 3°C rise in the average global temperature by the end of this century, if no action is taken to cut emissions of greenhouse gases (Methane, CO<sub>2</sub>, N<sub>2</sub>O, Ozone, Water vapour and Sulphur hexa fluoride), and it could be contained to 2°C by 2100 if emissions are held at current levels. The report also projects a sea level rise between 14 cm to 43 cm by the end of this century.

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The Climate Change and the Global Warming may lead to the death of 1.5 lakh people worldwide and half a crore prone to various kinds of epidemics, says a report by World Health Organization (WHO). Thus by 2030 the number of people prone to diseases like malaria, cholera and nutritional diseases will be double the number that we have currently. According to WHO, this is due to the rapid changes in the global climate.

Rise in global temperatures will result in prolific breeding of arthropod vectors of diseases like dengue, malaria and chikungunya. In South Asia, heavy precipitation, humidity and high temperatures had set the stage for dengue fever. This year itself, about 1000 people have died of dengue alone in India.

Recent outbreaks of chikungunya, dengue and malaria in Kerala may be endorsed to the rise in atmospheric temperature in the region over the past few years. In Kerala, nearly 100 deaths are attributed to this disease. But in the absence of detailed follow up and pathological studies, the true figures may remain hidden from the people.

One of the great dangers of climate change is that it changes weather patterns. Cyclone Gonu was a Category II storm when it hit Oman. No doubt, it is expected that, at least a few storms of that magnitude will hit the United States this year also.

### **People are adapting already**

In many developing countries including India, climate change is already affecting the poor. Many communities are aware of the changes going on around them, but usually they are powerless to stop the causes. For one thing, the Government has rarely responded to their concerns of life and livelihood. But there is an even bigger problem: global warming and its after effects, cannot be tackled by even the Indian Government on its own; instead it requires collaborative action by all nations, something that has remained elusive so far. The Kyoto Protocol on managing global climate has been ignored by the United States, the world's larger consumer and polluter. And there is no sign of a meaningful alternative.

What local communities can do, meanwhile, is become more adept at responding to the changes - to protect coastal areas with forests, manage water resources prudently, improve drought and disaster management, and design programmes that will address development issues without serious ecological footprints. And some of this is already happening, out of necessity, if not foresight.

- In Gujarat, thousands of forest protection committees formed by villagers have worked with the forest department to restore denuded forests.
- Traditional water harvesting practices are slowly helping farmers battle the grim reality of long-term drought. In Madhya Pradesh, a water conservation movement spread over 51,000 villages has gradually transformed a barren landscape, giving farmers a new hope. Such traditional practices can bloom if governments and modern institutions blend it with science. A macro approach is essential to tackle such challenges.
- In Maharashtra, villagers have formed informal water councils to regulate water management and distribution. Their philosophy is simple: all farmers get the same quantity of water irrespective of the size of their farms. To save water, villagers have banned water intensive crops like sugarcane. Again, the logic is to adapt to changing patterns of climate.
- For many decades, people in the Sunderbans in West Bengal coped without electricity; relying instead on wood-lit fires and noxious kerosene lamps. But now, aided by the government, villagers are using renewables like solar, wind and biomass to light up their homes and lives.
- Firozabad, near Agra has a huge number of glass factories mainly working with coal based furnaces that were heavily polluting the atmosphere. But now, the units are rapidly shifting to cleaner fuels like gas.

These changes are a small beginning. Reducing greenhouse gas emission is one of mankind's toughest challenges today. Without partnerships that involve both the developed and developing countries, this is not going to happen easily. Developed countries possessing technologies for cleaner production would do well to transfer these at affordable prices to poor countries. The economic transition that can lift people above the poverty line has to be accomplished without the attendant large-scale pollution through the use of cleaner technologies. Moving from fossil fuels to renewable energy is another solution. Countries will have to move towards renewable technologies and harness the power of the sun and the wind.

Policy makers who imagine that solutions to the growing problems of climate change can be found later should instead be looking at communities that are implementing solutions now.

*Sreejith A., Project Officer*

# CHILDRENS CORNER

## Environment Education Project for Nature Clubs

### കഴിഞ്ഞലക്കം തുടർച്ച

#### വിവരശേഖരണം-2

(അയൽവാസിയും കർഷകനുമായ ഉസ്മാനുമായി നടത്തിയ അഭിമുഖ സംഭാഷണത്തിൽ നിന്ന്)

**വിദ്യാ :** വീട്ടിൽ ഉണ്ടാവുന്ന മാലിന്യങ്ങൾ എങ്ങനെയാണ് നിങ്ങൾ സംസ്കരിക്കുന്നത്?

**ഉസ്മാൻ :** അതിനുമുമ്പ് ഒന്നു ചോദിച്ചോടെ, എന്തിനാണ് ഇതെല്ലാം അന്വേഷിക്കുന്നത്?

**വിദ്യാ :** അത് ഞങ്ങളുടെ നേച്ചർ ക്ലബിന്റെ പ്രോജക്ട് ചെയ്യാൻ വേണ്ടി വിവരശേഖരണം നടത്തിക്കൊണ്ടിരിക്കുകയാണ്.

**ഉസ്മാൻ :** ഇനി ചോദിച്ച ചോദ്യത്തിന്റെ ഉത്തരം പറയാം. വാഷ്ബേസിനിൽ നിന്നുള്ള മാലിന്യജലവും, ഘര മാലിന്യങ്ങളും ഞങ്ങൾ സ്ക്രീനിങ്ങും ഫിൽറ്ററേഷനും വഴി സംസ്കരിക്കും.

**വിദ്യാ :** ഞങ്ങളുടെ പ്രോജക്ടിന്റെ വിശദീകരണത്തിന്റെ ആവശ്യത്തിന് വേണ്ടി സ്ക്രീനിങ്ങും ഫിൽട്രേഷനും എന്തെന്ന് പറയാമോ.

**ഉസ്മാൻ :** സ്ക്രീനിങ്ങ് എന്നാൽ കട്ടിയുള്ള അല്ലെങ്കിൽ ഘരമായ മാലിന്യങ്ങൾ നേർത്ത കമ്പി വലയിലൂടെ കടത്തിവിടുന്നു. അപ്പോൾ കട്ടിയുള്ള മാലിന്യവസ്തുക്കൾ അ കമ്പി വലയിൽ അടിഞ്ഞുകിടക്കുന്നു. ജലം മണ്ണിനടിയിലേക്ക് താഴ്ന്നിറങ്ങുന്നു.

**വിദ്യാ :** അപ്പോൾ ഫിൽട്രേഷനോ?

**ഉസ്മാൻ :** അത് നമ്മുടെ മണ്ണിലൂടെയും ചരലിലൂടെയും കടത്തിവിട്ട് ജലത്തെ അരിച്ചെടുക്കുന്നു.

**വിദ്യാ :** ഇതെല്ലാം അറിയാനുള്ള കാരണം?

**ഉസ്മാൻ :** ഈയടുത്ത് കർഷകർക്കുള്ള ബോധവൽക്കരണ പരിപാടി പീവീസ് അർക്കേഡ് എന്ന ഓഡിറ്റോറിയത്തിൽ വെച്ച് നടത്തുകയുണ്ടായി. അതിൽ ഞാനും പങ്കെടുക്കുകയുണ്ടായി.

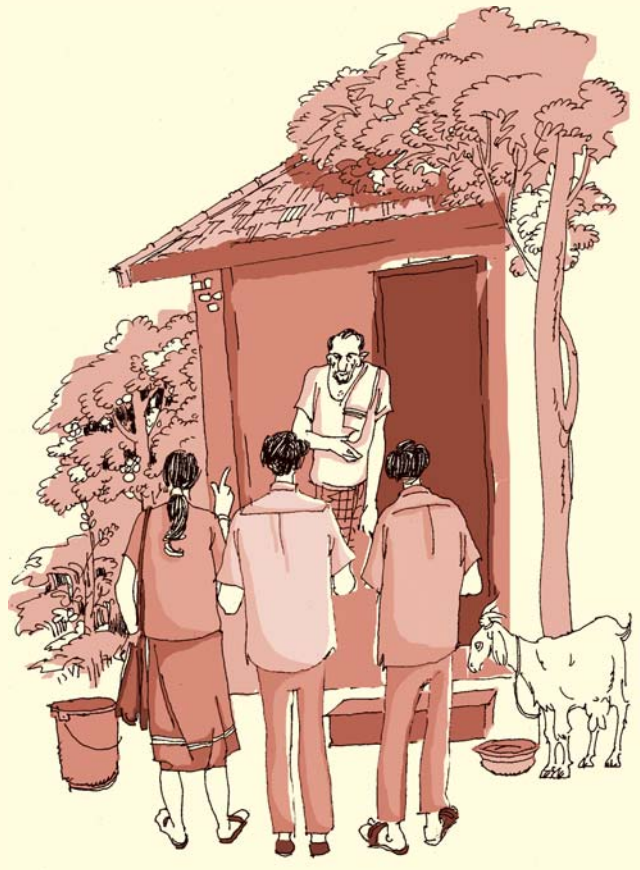
**വിദ്യാ :** സ്ക്രീനിങ്ങും ഫിൽറ്ററേഷനും ആ പരിപാടിയുമായുള്ള ബന്ധം എന്തായിരുന്നു?

**ഉസ്മാൻ :** പ്രത്യേകിച്ച് ബന്ധമൊന്നുമില്ലെങ്കിലും ഭൂമി നേരിടുന്ന പ്രശ്നങ്ങളെക്കുറിച്ച് പരിപാടിയിൽ സൂചിപ്പിക്കുകയുണ്ടായി. അതിൽ ഒന്നായിരുന്നു മാലിനീകരണം. അദ്ദേഹം, അതായത് ഞങ്ങൾക്ക് ക്ലാസ് എടുത്തുകൊണ്ടിരുന്ന ആൾ-പേർ ഞാൻ ഓർക്കുന്നില്ല ഈ സ്ക്രീനിങ്ങും ഫിൽറ്ററേഷനും അദ്ദേഹം പറഞ്ഞുതന്ന ഒന്നായിരുന്നു.

**വിദ്യാ :** ഇത്രയും സമയം ഞങ്ങൾക്ക് വേണ്ടി ചെലവഴിച്ച ഇക്കാക്ക് ഒരുപാട് നന്ദി രേഖപ്പെടുത്തുന്നു. അതോടൊപ്പം ഇനിയും ഒരുപാടു കാര്യങ്ങൾ ഇക്കാക്ക് മനസ്സിൽ സൂക്ഷിക്കാൻ കഴിയട്ടെ എന്ന് പ്രാർത്ഥിക്കുകയും ചെയ്യുന്നു.

### അപഗ്രഥനം

നമ്മുടെ പ്രദേശത്തെ മാലിന്യ നിർമാർജ്ജനം തൃപ്തികരമല്ല. എന്തുകൊണ്ടെന്നാൽ ഇന്നു മാലിനമായിക്കൊണ്ടിരിക്കുന്ന ഘടകങ്ങളാണ് ജലം, വായു, മണ്ണ് എന്നിവ. ഇവയെല്ലാം ഞങ്ങളുടെ പ്രദേശത്ത് മാലിനമാവുന്നുണ്ട്. എന്നാൽ ഒരു ഗ്രാമപ്രദേശമായതിനാൽ ശബ്ദമാലിനീകരണം ഇവിടെ കുറവാണ്. ഞങ്ങളുടെ പ്രദേശത്തെ കർഷകർ, ജൈവവളമിട്ടാൽ വിളവ് ലഭിക്കാൻ കാലതാമസമെടുക്കുന്നതിനാൽ രാസവളമാണ് ഉപയോഗിക്കുന്നത്. രാസവളം ഉപയോഗിച്ചാൽ വേഗത്തിൽ വിളവ് ലഭിക്കും. എന്നാൽ ഇത് മണ്ണിലെ സൂക്ഷ്മ ജീവികളെ നശിപ്പിക്കുകയും, മണ്ണിന്റെ ഫലപുഷ്ടി നഷ്ടപ്പെടുകയും, മണ്ണിന്റെ ഘടനയെ തന്നെ മാറ്റി മാറിക്കുകയും ചെയ്യുന്നു. ഞങ്ങളുടെ പ്രദേശത്തെ മണ്ണിൽ ധാരാളം പ്ലാസ്റ്റിക് ഉൽപ്പന്നങ്ങൾ അടിഞ്ഞു കിടക്കുന്നു. ഇത് ഞങ്ങളുടെ പ്രദേശത്തെ കൃഷിയിടങ്ങളിലുമുണ്ട്. ഇങ്ങനെയാവുമ്പോൾ കൃഷിയിടങ്ങളിലെ സസ്യങ്ങളുടെ വളർച്ച തടസ്സപ്പെടുന്നു. ചിലർ പ്ലാസ്റ്റിക് കുട്ടിയിട്ട് കത്തിക്കുന്നു. ഇങ്ങനെ ചെയ്യുമ്പോൾ 'Carbon monoxide' എന്ന വാതകം ഉണ്ടാവുകയും ഇത് സൂര്യനിലെ അൾട്രാവയലറ്റ് രശ്മികളിൽ നിന്ന് നമ്മെ രക്ഷിക്കുന്ന ഓസോൺ പാളികളിൽ വിള്ളലുകൾ ഉണ്ടാവുകയും ചെയ്യുന്നു. ഇങ്ങനെ മാതൃകമായ UV rays ഭൂമിയിലെത്തുകയും അർബുദം പോലെയുള്ള മാതൃകരോഗങ്ങൾക്ക് കാരണമാവുകയും ചെയ്യുന്നു.



ഇതിനുപുറമെ ഞങ്ങളുടെ പ്രദേശത്ത് വാഴ നട്ടുവളർത്തുന്ന വലിയ സ്ഥലത്ത് ഫ്യൂറഡാൻ എന്ന രാസവളം ഇടുന്നു. ഇത് മറ്റു ജീവികളെ ബാധിക്കുന്നു. ഉദാ:- നമുക്ക് കോഴിയെത്തന്നെ യെടുക്കാം. ഇവ പാടത്തും പരിസരത്തും ഭക്ഷണം കൊത്തിക്കൊരിച്ച് നടക്കുന്നു. ഇവ വാഴത്തോട്ടത്തിലും കടക്കാറുണ്ട് ഫ്യൂറഡാൻ ഇട്ട മണ്ണിൽ നിന്ന് ആഹാരം ഭക്ഷിക്കുന്നതു മൂലം ഇവയുടെ ജീവൻ അപകടത്തിലാവുന്നു.

ചില കൃഷിക്കാർ കൃഷിയിടങ്ങളിൽ അമിത രാസവളപ്രയോഗം നടത്തുന്നു. ഇത് മണ്ണിൽ നിൽക്കില്ല. ഒരു മഴയിൽ ഒലിച്ചുപോയി അടുത്തുള്ള ജലാശയങ്ങളെ മലിനമാക്കുന്നു. അതുകൊണ്ട് ഞങ്ങളുടെ പ്രദേശത്ത് വായു, ജലം, മണ്ണ്, എന്നിവ മലിനമാകുന്നു. എന്നാൽ ഇവയ്ക്കിടയിൽ മാലിന്യങ്ങൾ ആഴ്ചയിലെങ്കിലും നിർമാർജ്ജനം ചെയ്യാൻ സാധിച്ചത് ഞങ്ങളുടെ പ്രദേശത്ത് നടത്തിക്കൊണ്ടുവരുന്ന കുടുംബശ്രീ, അയൽകൂട്ടങ്ങൾ, എന്നീ പദ്ധതികൾ മൂലമാണ്. ഈ പദ്ധതിയിലെ അംഗങ്ങൾ വീടുകൾതോറും കയറിയിറങ്ങി മാലിന്യങ്ങൾ നീക്കം ചെയ്തിട്ടുണ്ട് എന്നുള്ളതാണ് വാസ്തവം. പ്ലാസ്റ്റിക്കിന്റെ അമിത ഉപയോഗം മനുഷ്യരാഷിക്കുതന്നെ നാശം വിതച്ചേക്കാം. ഇങ്ങനെ പറയുമ്പോൾ ദിവസംതോറും ഭൂമിയിലെ ജന്തുജാലങ്ങൾ നാശത്തിലേക്ക് നീങ്ങുകയാണെന്ന് പറയാം.

**നിഗമനം**

മലിനീകരണത്തിനിടയാക്കുന്ന മാലിന്യങ്ങൾ തങ്ങളുടെ ജീവിതത്തിൽ ഇടയാക്കുന്ന ദുരന്തങ്ങൾ അവനവൻ തന്നെ മനസ്സിലാക്കണം. പ്ലാസ്റ്റിക്, രാസവളം എന്നിവയുടെ ഉപയോഗം കഴിയുന്നത്ര ഒഴിവാക്കുക. ഉപയോഗിക്കുന്ന പ്ലാസ്റ്റിക് തന്നെ “Recycle” ചെയ്ത് വീണ്ടും ഉപയോഗിക്കുക. രാസവളം ഉപയോഗിച്ച് ഉണ്ടാക്കുന്ന വിഷവിളകളേക്കാൾ ജൈവവളം ഉപയോഗിച്ച് ഉണ്ടാക്കുന്ന വിളകളാണ് നല്ലത് എന്ന ചിന്ത ഓരോ വ്യക്തിക്കും ഉണ്ടാവണം.

**നിർദ്ദേശങ്ങൾ**

മാലിന്യവസ്തുക്കൾ പലതും പുനരുപയോഗിക്കാൻ കഴിയാത്തവയാണ്. പുനരുപയോഗിക്കാൻ കഴിയാത്തവയായ പ്ലാസ്റ്റിക് കാരിബാഗുകൾ പോലുള്ള വസ്തുക്കളുടെ ഉപയോഗം കുറയ്ക്കുക. പ്ലാസ്റ്റിക് കുന്നുകൂടാതെ “Recycle” ചെയ്ത് ഉപയോഗിക്കുക.

ഇങ്ങനെ മാലിന്യങ്ങൾ നിർമാർജ്ജനം ചെയ്യുന്നതു വഴി മലിനീകരണത്തിൽ നിന്നും നമുക്ക് മുക്തി നേടാൻ സാധിക്കും.

**അവലംബം**

- 7-ാം തരത്തിലെ സയൻസ് ടെക്സ്റ്റ് ബുക്ക്.
- കർഷകരും മറ്റു വ്യക്തികളുമായുള്ള ചർച്ച.
- 8-ാം തരത്തിലെ ബയോളജി പുസ്തകത്തിൽ നിന്നു ലഭിച്ച അറിവുകൾ.
- ഹോസ്പിറ്റൽ ജീവനക്കാരുമായുള്ള അഭിമുഖ സംഭാഷണം.
- മാതാപിതാക്കളിൽ നിന്നു കൈമാറിവരുന്ന അറിവുകൾ.
- “പരിസ്ഥിതിയുടെ കാഴ്ചപ്പാട്” എന്ന പതിപ്പിൽ നിന്നു ലഭിച്ച അറിവ്.

**PUZZLES ON CLIMATE CHANGE AND POLLUTION**

A	E	R	O	S	O	L	S	I	P	U	C	O
U	R	S	D	I	M	H	P	G	H	M	A	P
T	R	T	E	S	U	O	H	N	E	E	R	G
O	B	P	M	A	B	T	E	O	F	T	P	T
M	N	O	I	Y	K	B	G	I	F	H	O	I
O	C	K	S	H	M	R	N	T	I	A	O	M
B	V	L	S	J	V	E	A	A	C	N	L	S
I	Z	Q	I	D	F	W	H	T	I	E	F	L
L	X	A	O	S	A	O	C	S	E	I	R	E
E	V	F	N	M	S	P	E	E	N	P	Y	U
S	Y	T	S	I	D	N	T	R	C	O	B	F
Q	M	U	O	T	F	E	A	O	Y	M	R	L
W	L	M	U	F	G	E	M	F	Y	S	E	I
I	N	D	U	S	T	R	I	E	S	E	P	S
C	R	H	F	I	O	G	L	D	J	P	O	S
V	K	I	L	U	U	B	C	P	R	F	L	O
B	B	I	T	Y	R	T	U	N	R	E	F	F

Aerosols, Automobiles, Greenhouse, Industries, Deforestation, Fossil fuels, Car pool, Methane, Green power, Climate change, Emissions, Efficiency,

**ACTIVITIES OF WWF-INDIA, KERALA STATE OFFICE**

● **Nature Education Camp at Wayanad 21<sup>st</sup>- 25<sup>th</sup> May 2007**

WWF-India, Kerala State Office conducted a five-day Nature Education Camp at Wayanad from May



21<sup>st</sup> to 25<sup>th</sup> 2007. Twenty nature enthusiasts from the State of Andhra Pradesh and Karnataka participated in the camp. They were taken to Thirunelly, Kuruva Island and Tholpetty for Nature Watch 'Feel the Kalindi' and trekking up to Pakshipathalam were the other interesting events at Thirunelly. They enjoyed the serenity of both these places and visited the very old Thirunelly temple. The trip to Tholpetty was exciting as most of them had the luck of spotting the wildlife.

### ● World Environment Day 2007

WWF-India, Kerala State Office in association with Bharat Petroleum Corporation Limited (BPCL) Kochi Refinery and Rajagiri Higher Secondary School, Kalamassery, Ernakulam observed World Environment Day 2007 at Rajagiri Higher Secondary School on June 5<sup>th</sup> and 6<sup>th</sup>, 2007. Fr.Varghese, Principal



of the school inaugurated the programme on 5th June. Mr.A.K.Sivakumar, Education Officer and Mr. Sreejith, Project Officer conducted the programmes. The seminar on the second day i.e. 6<sup>th</sup> June, was attended by 120 students. The first session on "Our Lifestyle and Environment" was led by Sri.C.R. Neelakantan and the second session on "Climate Change at Global and Local level" was led by Prof. H. S. Ram Mohan, Atmospheric Science Dept., CUSAT.

The programme at Thiruvananthapuram was organized for the trainees of Tata Consultancy Services at Technopark Campus. Mr. Renjan Mathew Varghese, State Director, Kerala State Office delivered the lecture

on 'Climate Change and its Impacts'. The lecture was followed by a very lively quiz on recent developments in the field of nature and environment. About 120 trainees attended the programme.

### ● Teachers Training Workshop in association with CPREEC, Chennai

A Teachers Training Workshop was conducted for the school teachers of Thiruvananthapuram district on



29<sup>th</sup> June 2007 at Museum Auditorium, Thiruvananthapuram. The workshop was organized jointly with CPREEC, Chennai. Twenty-nine teachers participated in the programme. Following the introductory session, Dr.A.Bijukumar, Principal Scientific Officer, Kerala State Biodiversity Board presented the topic 'Significance of Nature Conservation and Environment Education'. Following this A.K.Sivakumar, led the session on 'How to run Nature Clubs?'. The third session on methods of ecosystem interpretation was led by Dr.T.Sundaramoorthy, Head, Biodiversity Conservation Education from CPREEC. Based on these three sessions, the participants were asked to prepare a draft action plan for this academic year with the objective to ensure their as well as their students participation in environment education and conservation activities.

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