

Episode: 44
Radio Serial Global Warming
Increased Temperatures and Restless Forests

Time: 27 minutes

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Translation: Ms. Sukanya Dutta

Characters

Brother Tree: (Male voice. Heavy, baritone)

Gauri Bird: (Female voice)

Dr. Avinash: 50-55 year old man

Rama : Student of BSc

Baghera Leopard: (Male voice. Commanding and regal)

Signature Tune....Fade out

Anchor: (Welcome + Recap + Intro): Namaskar listeners! Welcome once again to the radio programme on Climate Change and Global Warming. In today's episode we will focus on the effect of increase in global temperatures on forests. Much like the glaciers and the seas, forests too are facing the brunt of climate change. So...what exactly is happening in our forests...let's listen in on the conversation between Brother Tree and Gauri Bird.

Signature Tune

Scene - 1

Forest. A strong breeze is blowing. Leaves are rustling. Dry leaves making sound. Birds chirping. Voices come closer.

Tree: Gauri, where did you disappear in the morning? From where are you returning?

Gauri: I did not go anywhere Brother Tree, I was nearby.

Tree: Well, it is fun for you birds...just flap your wings and off you go!

Gauri: What fun is there in flying, Brother Tree? I did fly away a bit but the weather took a turn for the worse. So, I came back.

Tree: A strong wind is blowing today too. And these days there is no trusting the weather...it doesn't even rain on time these days, let alone the sun shine as it used to.

Gauri: Yes Brother Tree. I was afraid my nest would be blown away...the chicks are still small, you know. (Sounds of baby birds chirping) And anyway it takes enormous effort to gather the twigs, one at a time.

Tree: Yes, the wind is blowing rather strongly, but my old branches are still strong enough to offer protection to your nest. (laughs) What do you say?

Gauri: I cannot vouch for others but I am well aware of your strength. Don't I know how important you are to the existence of all life on Earth? (Swagger in tone) I can speak only for myself though...what do I care about others?

Tree: I know....I know. But when will the humans understand this? (Sad tones) Perhaps when they have lost everything will realization dawn.

Gauri: Don't talk about the humans. (Exasperated tone) They have taken leave of their senses. They are cutting the very tree they are sitting on! (Tauntingly) And after that they claim to be the most intelligent species on Earth...Witless...

Tree: Why are you losing your cool Gauri? They will come to their senses when the situation snowballs out of control. (From far the sounds of axe chopping a tree)

Gauri: Look ...look Brother Tree...they are back! Look how they lack in intelligence! As it is they have decimated the forest. Now they are after the few trees that still remain...their axe spares none. (Sound of the axe chopping wood)

Tree: Thank God, I am ancient...who would need these twisted and oddly shaped branches? Otherwise they would have chopped me.... (Gauri interrupts)

Gauri: (Angrily) Just let them try! I will rip out their eyes with my beak.

Tree: Gauri! Don't be so angry about these villagers. They have chopped down many of our companions but we are on the cusp of an even bigger danger. And if we donot address the menace in time, then ...then I am afraid that no one will survive.

Gauri: (Surprised voice) A menace that is bigger than the one represented by humans!

Tree: Yes Gauri. A danger that is bigger than the danger posed by humans.. You can see the axes...but there are some enemies that remain unseen...invisible. These enemies lurk around us; harm us; kill us but we cannot spot them. And one day humans will have to pay the price in the form of a terrible catastrophe on Earth.

Gauri (Subdued voice): Oho...I have never even heard about such an enemy.

Tree: But I have not only seen such an enemy but I have fought it too. You know I have been standing here for over half a century. The nests that your mummy, and even your grannies, built were on my branches.

The sound of the axe becomes louder; swifter ...then it stops. Sounds of a tree crashing to the ground.

Tree (Sadly): The ignorant have murdered yet another one; taken away yet another life.

Gauri: But Brother Tree...who is that enemy? The one we cannot see? The invisible enemy...who is it?

Tree: Yes...Yes...I will tell you about it.

Sounds of baby birds chirping. Sounds get louder.

Gauri: Oh dear....my chicks! They must be hungry. We will discuss about the enemies later...the enemy will have to wait....I have to go get food for my chicks. **(Raises her voice)** I am coming, chicks...I will get food for you. **(Voice fades)** Don't chirp so loudly and don't trouble Brother Tree. **(Chicks chirp/ Sound of Gauri's flapping wings...fade out)**

SCENE-2

Car on road near the forest. Sounds of horn. Sound of car stopping.

Rama: Ok...Papaji...Ok....OK...We can park the car here.

Avinash: Yes Rama This seems to be a good place to park.

The engine stops. Sounds of car door being shut.

Avinash: Look around Rama. I have been coming to this forest for the last 25-30 years. This is a really huge forest. It begins from the boundary of this village and extends all the way to those hills on the horizon.

Rama: Wow...really beautiful, Papaji. **(Excitedly)** I will get many varieties of leaves for my herbarium samples. And I will get some lovely photos too. **(Sounds of people walking on dry leaves)**. I plan to submit the best project in class. What a dense forest!

Conversation continues as they walk

Avinash: It is not as dense as it used to be. So much has changed in the last few years.

Rama: Yes, our Professor in college mentioned that global warming has impacted our forests.

Avinash: Your Professor is correct. The increase in the Earth's temperature has affected everything...be it forests or living creatures of all kinds. It has not only accelerated the melting of glaciers but also led to climate change.

Rama: Papaji, from far this forest looked so dense but now that we have entered it, the story seems to have changed quite a bit.

Avinash: That is the root of the concern. Even a few years back there were only a few Pine trees; the forest was populated by Oaks or Quercus, Rhododendrons and Bayberry or Myrica esculenta. The beautiful Deodar clothed the hills here...and the climbing vines that you now see are only the sad remnants of the thick vines that used to grow here...there were so many varieties of the climbing vines.

Bird song and chirping of crickets

Rama: It is not like that anymore. The soil underfoot seems dry too...how the plants will and trees thrive here?

Avinash: Once this trail used to be so wet that it used to be difficult to walk here...Through the year it used to seem that it had recently rained here. And the Pine trees were seen only in the valleys downhill

Rama: But Papaji, I can see Pine trees all around us.

Avinash: That is the trouble, climate change has impacted forests...the very nature of the forest is changing. And this is not happening just in this forest of ours but in all forests, worldwide.

Footsteps. Sounds of crickets/birds chirping.

Rama (Worried tones): If the forests die out...it will affect us all!

Avinash: Yes Rama...the forests are repositories of hundreds and thousands of plants...animals...creepy-crawlies..insects...and these beautiful birds.

Sound of birds...fade into the distance

Rama: Yes, Papaji...not only do these forests grant refuge to the wild animals but also gift us so many things. It feels so good to come here.

Sounds of something moving through the bushes. Growling leopard. Sound comes closer.

Rama (Shouting. Frightened): Papaji...what is that sound? Papaji.

Avinash (Frightened. In anxiety): Rama, looks like there is a leopard nearby. Let's get out of here...Hurry!! Run...to the left...come on ...run.

Sounds of running...dry leaves being crushed underfoot. Heavy breathing...Puffing sounds./ Leopard's roar comes closer.

Rama: (Breathing heavily): Papaji...it is coming closer to us.

Avinash: Don't stop...keep running.

Rama: No Papaji...I cannot run anymore...I will hide behind this tree.

Loud roar of the leopard.

Tree (Loud voice): Stop Baghera..I said STOP! Stop right there.

The leopard's roar fades.

Baghera (With a loud roar): Why did you stop me Brother Tree. I am hungry.

Rama (Frightened and amazed): Whose voice is this? Who is speaking?

Tree: Don't be afraid, my child. It is me...look. Look here.

Avinash: Rama...it is the tree speaking...the tree behind which you are hiding....a speaking tree!

Tree: Yes, here you will be able to understand the languages spoken by the plants and the trees...even the languages spoken by animals and birds.

Avinash: Do you know us? You have saved our lives...we are beholden to you.

Tree: Yes, I know you but you have perhaps not recognized me. I am Brother Tree and you are Avinash.

Avinash (Totally amazed): Yes...yes I am.

Tree: Mr Avinash I have known you since you were a boy and used to come to this forest.

Avinash (Happily): Rama, this is the same tree which I used to visit in my childhood. (Raises his voice) Thank you Brother Tree...you saved our lives today or else the leopard would have made a meal of us.

Loud roar from the leopard

Tree: Avinash, you cannot blame Baghera...what choice does he have? You have seen for yourself the pathetic state of the forest. (Loud roar from the leopard.) Baghera, relax now!

Baghera (With low growl): You tell me Brother Tree what am I to do? (Growls)

Avinash: Don't be frightened Rama, these are all our friends.

Sounds of birds chirping Sound comes close.

Tree: Ah! Here comes Gauri.

Rama: Oh what a pretty name this bird has. Gauri! Can the sparrow also speak with humans?

Gauri (chirping): Why not? We regularly talk with humans but they pretend not to understand.

Avinash: Well said, Gauri....we have never understood nature. We have simply exploited nature.

Gauri: Brother Tree was telling us that a danger greater than that posed by humans is confronting us now. It is something of which even you are afraid...Brother Tree...tell us more about it.

Tree: Gauri, I was referring to climate change. Climate change is the new enemy of this jungle. Haven't you noticed how the planet is heating up with every passing year?

Avinash: So right, Brother Tree. Even the forests have not been able to escape the consequences of global warming. The forest has changed so much over the last few decades.

Gauri: I am sorry but I have not understood you Avinashji.

Avinash: Gauri...look the fact is that globally, the Earth is heating up. The culprits are some atmospheric gases that surround the Earth.

Baghera: How does this warming affect the forests?

Rama: I'll tell you Baghera. You are aware that all creatures and all the plant life in the forest are closely associated with one another. See, how Brother Tree has allowed Gauri to build her nest on his branches...he has provided an address for her home. You too catch the forest-dwelling rabbits and deer for your meals.

Baghera: That is alright but what connection does it have with global warming?

Avinash: There is a connection. Just be patient and listen carefully. You too pay attention, Gauri. (in explanatory tones). Global warming is impacting the forests in many ways. The increase in temperature is leading to drier soils. Because of the increase in warmth, the trees put forth extra leaves and twigs...this leads to increase in transpiration via the extra leaves. So extra water leaves the plants.

Gauri: I still have not understood.

Avinash: Look...on one hand the soil is getting drier. On the other hand plants are drawing and releasing extra water from the already dry soil. This drought-like situation makes the trees weak. Because of the heat, insect population is rising and the attack of pest insects is on the upswing too.

Rama: But Papaji, you said this used to be a dense forest and that pine trees were few here. How did that change?

Avinash: This is also a result of global warming. Just take a look at the hills there...the peaks that used to be covered with ice and snow are barren rocks now. The ice has melted. Trees that grew in the lower reaches and valleys are now able to colonize the upper slopes because of the increase in temperature.

Rama: So, the treeline is advancing uphill. However, not all species of plants are able to adapt to this increase in temperature. These species are dying out.

Baghera: Ah! Now I understand why the forest is thinning out. But where have all my prey gone?

Avinash: Baghera, your prey the deer and rabbits have left this forest and gone to greener grassland areas. However, not all animals can migrate to a new location like this...for example, Baghera...it is not easy for you.

Baghera: You are correct Avinashji. The moment I leave the forest, humans take me to be a predator and attack me with the intention of taking my life. (Somewhat angrily) Although the fact is that it is they who have trespassed in our forests...it is not us that have gone into their localities.

Tree: Yours is righteous anger! But see, the humans are also paying for their folly.

Gauri: That is all very well. But how does global warming affect me? Why should I be concerned?

Avinash: It concerns you as well, Gauri. Tell me, are you finding it difficult to catch insects for food?

Gauri: No, not at all...I am happy. My chicks are too. (Chicks chirp)

Aviansh: It may make you happy but there is a cause for concern hiding here too.

Gauri: What is it?

Avinash: Because of global warming, spring is following quickly on the heels of winter. Before, we used to have long winters and the incidence of insects was controlled because insects multiply slowly in the cold and the larval stage is prolonged under conditions of low temperature. However the increase in temperature is proving to be a boon for the insects.

Gauri: I know....it is quite difficult to find insects in winter but during the rainy season and in summer it is not difficult at all.

Tree: But Gauri...these insects are enemies to us trees.

Gauri: That is why I gobble them up, Brother Tree.

(All laugh)

Avinash: Climate change has not only impacted the life cycle of insects but has left no creature untouched. Not only this, climate change has catastrophically affected rainfall, cyclone or storm and snowfall patterns on a global scale. And of course, its impact on forests is evident too.

Tree: How so, Avinash ji?

Avinash: It is evident that because of global warming some regions are getting incessant heavy rains while other areas are battling droughts. Storms are gaining strength and striking oftener. When such storms hit forested areas they wreak havoc on the trees. If many trees in a forest fall because of the storms, it leads to trouble for the creatures of the forest.

Rama: Forest fires are also a major issue aren't they, Brother Tree?

Tree: Yes...very right. Look Gauri...how the last forest fire burnt my branches...thankfully it rained and the fire was put out....this saved my life....or else....

Avinash: Yes, Brother Tree. A warmer climate causes soils to lose moisture and to be drier for longer. And dry conditions make forests more vulnerable to fire because the dry leaves and branches act like kindling. This leads to a loss of trees...it is a vicious cycle, really.

Baghera: True. Water sources are drying up in the forest. Sometimes I have to travel very far in search of water. And if I leave the forest then my life is in danger...you know in the days when the forest was denser we did not lack water either!

Tree: Our life cycles are inextricably linked to the water cycle.

Gauri: How so, Brother tree?

Tree: Look, when fog descends on the forest, it brushes against my leaves...and tiny droplets of moisture accumulate on the surface of the leaves. These dew drops drip off the leaves and wet the forest floor providing a source of water for the plants and sustenance for many thirsty creatures.

Gauri: How interconnected everything is in the forest...I was not aware of this.

Baghera: Now I understand why good hunting is becoming so rare. Global warming has led to dry soil. This means less grass and herbs can grow on this soil. If there is no grass and edible herbs and water...why will rabbits live in the area? No wonder they left. (Sadly) But not all animals can leave the forest!

Avinash: It is not you alone who is facing such a problem, Baghera. Many plant species are on the same boat. Take the Pine tree for example. Ever since the hilly areas have started facing shorter, milder winters and longer spells of summer, the Pine trees have expanded their territory too and advanced into areas of higher elevation. But not all trees have been able to expand their territories like this; they have failed to adapt and are facing extinction.

- Tree:** Take me...the Deodar for example. Cedrus deodara to give my full name...Well, my species colonizes lands at elevations between 2000 to 24000 meters. But my species is dying out in most areas...there are hardly any new Deodar forests these days.
- Gauri:** You are right Brother Tree...I often fly long distances but rarely so I see members of your community.
- Avinash:** Correctly observed Brother Tree. Not all species of trees and plants can colonize or thrive in new areas. Your winged seeds are dispersed over long distances but fail to find suitable soil and climatic conditions. So, they fail to germinate and give rise to new seedlings. Only those plants that have been able to adapt to the changed climatic conditions are surviving. Not the others.
- Tree:** Right. I have observed that drought-tolerant plants are surviving better. These plants can manage with less water, and even grow back after forest fires. They can manage the situation well and so, survive.
- Gauri:** But we need to save the forests from global warming...aren't you considering any steps?
- Avinash:** Of course we are! We are considering the ways by which the greenhouse gas emissions can be controlled; these are the gases responsible for the increase in the Earth's temperature. It is imperative that we strike a balance between progress and the environment.
- Rama:** Papaji, what is the state of our country's forests? I mean are India's forests too shrinking at an alarming rate
- Avinash:** Look Rama, according to the report release by The Ministry of Environment, Forest and Climate Change the forest cover has increased in the period between 2015 to 2017. In 2015 the forest cover was 701495 sq. Km. In 2017 there has been an increase of 6778 sq. Km.
- Tree:** This is good news indeed. However, I am concerned about the changes taking place IN the forests...We cannot afford to ignore these changes. See...there...see that Rhododendron tree?
- Avinash:** Yes Brother Tree I remember collecting the lovely flowers of the Rhododendron as a kid.
- Tree:** But with climate change many things have changed. The flowering time has changed for this tree. The winter season is so brief that the processes of emergence of new leaves, budding and flowering have become compacted. All this happens very quickly. This confuses the nectar-seeking honey bees.
- Baghera:** It is crystal clear that global warming has not just affected plants but also all creatures that get sustenance from plants. These creatures are having to modify their habits.

Rama: You all are our friends...the trees and plants are soaking up the carbon di oxide being relentlessly emitted. And you are giving us oxygen in exchange. The forest is a novel natural filter for us. However climate change is hell bent on upsetting the balance. (Serious voice) If we do not wake up and take stock soon, the entire forest framework will collapse.

Tree: Gauri, see this is why I had called climate change our greatest enemy; An enemy that has posed a problem not only for us but for all human beings too.

Baghera: But the root cause behind this problem is the humankind. (Angrily) They should be punished for this. (Growls)

Gauri: Yes...yes...humans must be punished for their actions.

Tree (loud voice): Don't get so angry, Baghera...calm down.

Baghera: (Growling very loudly): No, Brother Tree the humans are responsible for turning our verdant forests into a barren wasteland. For their own comfort and luxury they have placed our existence under threat. They should be punished. (Growls loudly).

Tree: Stop Baghera. Stop. Do not advance. Stop!

Baghera: No Brother Tree, the uncontrolled advancement by humans has heated up the Earth, melted the glaciers, dried up the rivers and lakes....and brought us...to the brink of extinction. They must be punished. (Growls)

Sounds of fast running/ Strong wind blowing/ a sense of being afraid

Rama (shouting loudly out of fear) : Help...help me Papaji..save me.

The sounds of a leopard running softly fades.

Scene Three

Morning. Birds chirping.

Rama (mumbling): Help...help me Papaji..save me. The leopard will kill me.

Footsteps come close.

Avinash: Rama...Rama..what is wrong? What leopard? Where is it?

Rama (sleepily mumbling): Oh...where am I? Where is the leopard? (Reassured tones) Oh...I am at home...what a fright I had.

Avinash: Looks like you had a nightmare. Did you visit a forest in your dreams? (Slight laughter) Looks like a leopard attack woke you up!

Rama: Yes, Papaji. It was definitely a nightmare but what I dreamt about was quite factual and correct.

Avinash: Is that so? Well, what was it that you dreamt?

Rama: Papaji, I felt the sadness of the Plants. I realized how global warming has heated the Earth and affected our beautiful Plant Kingdom drowning it in despair. (Rather philosophically). If the people of the Earth do not take corrective steps then it will not take much time for the nightmare to become a reality.

Avinash: (Laughingly): Rama, you are sounding so wise ..but get up and get ready. You have to go to college...don't get late, now.

Rama: Yes Papaji...we have to be wise (Mumbling to herself) lest we are too late!