

Episode - 10

Fossil Fuel and Environment

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(In this episode we have three passengers, forced to share a single car by the circumstances, talk about the impacts of fossil fuel burning. They have the driver who often chips in with his bit of idea. A brief stop at a tea shop also brings out different dimensions of the issue.)

Characters:

Leela : (a middle aged woman)
Manoj : (a middle aged man)
Prithwi : (a businessman, younger than the other two)
Shakeel : (driver, aged around thirty years)
Lakshmi : (tea shop owner, aged around thirty five)

Crowd at the petrol pump

(A long cue of cars at the petrol pump. There is unrest among the people. Murmur turning into angry shouts.)

Manoj: What do you mean you have no diesel?

Prithwi: Are you joking?

(The feeble answer of the owner is drowned in angry shouts.)

Leela: Is the owner of the pump serious? He really doesn't have any diesel left?

Manoj: But...but...I must fill my tank. Otherwise how am I to travel another thirty kilometers!

Prithwi: Same here. My car has fuel for a maximum of 2-3 kilometers.

Leela: Calm down. Don't panic. The situation is turning serious. I fear that the owner might be manhandled.

Manoj: Sure he will be. He deserves it!

Leela: Come on! We need to be responsible citizens! Violence has never solved any problem. Nor will it today!

Manoj: But he doesn't care about our problems. We do not have another petrol pump in five kilometers.

Prithwi: You are right! I feel so tensed....

Leela: Gentlemen, can I suggest something? Why don't you leave your car here with your drivers and travel with me? By the way, I am Leela.

Manoj: I am Manoj. But why should we travel with you? Why would take the trouble for us?

Prithwi: I am Prithwi. I feel puzzled. We might have different destinations...

Leela: I agree but in the present circumstances there is little you can do. The owner is saying that fresh supply will arrive in an hour but that is too long a time for you to wait. Am I right? And please ignore my trouble presently. You can repay me with a lift on some other day.

Prithwi: Err...right but I have to reach sector eighteen within an hour...

Manoj: And I am to attend a meeting in sector seven...

Leela: Excellent! I can see that I won't have to compromise my route if I am to drop you at your destinations. So why wait? Inform your drivers and get in! I have enough fuel to get you to your destinations. I am here in the queue just to top up my reserves.

Manoj: Umm...ok...give me a minute...

Prithwi: Me too...

Leela: (to herself) Sadly enough, we always tend to overlook easy solutions to a problem. I do not why!

(Car starts. Leela with Manoj and Prithwi leaves the petrol pump.)

Manoj: It's quite hot today. Isn't it?

Leela: Shall I turn on the AC?

Manoj: Please do. I am sweating.

Prithwi: What has happened to our weather? The winter has barely been completed and it's already so hot now!

Leela: Right. But scientists are blaming us for that.

Prithwi: What! Blaming the Indians? These western scientists are so crooked! They will do anything to malign us. Tell me madam, what have we done to damage the weather?

Manoj: Calm down Prithwi-ji. Madam Leela is possibly referring to global warming. Scientists are blaming all human beings for this and not just Indians.

Leela: And those scientists include Indian scientists as well!

Manoj: Yeah. Most climate scientists agree that the main cause of the current global warming trend is human expansion of the greenhouse effect.

Leela: On Earth, human activities are changing the natural greenhouse. Over the last century the burning of fossil fuels like coal and oil has increased the concentration of atmospheric carbon dioxide.

Manoj: This happens because the coal or oil burning process combines carbon with oxygen in the air to make carbon dioxide.

Leela: To a lesser extent, the clearing of land for agriculture, industry, and other human activities has increased concentrations of greenhouse gases.

Prithwi: Are you both engineers? Or...I mean...scientists?

Leela: Not at all. I run a NGO that concerns itself with the plight of street children.

Manoj: I am a stock broker. But what makes you think that we are engineers or scientists?

Prithwi: I don't know....I mean...I thought you have so much knowledge about these things...then you must be....

Leela: Engineers! Ha ha, I can understand Prithwi-ji....you are getting bored with our dry facts.

Prithwi: Not really but...

Leela: Let us have a change. You love to listen to songs? Let me guess...some oldies might be....(to the driver) Shakeel, please play that song...yeah from Pakeezah...right, the one I loaded last week...

(Song plays for a few seconds. *The producer can change the song as per her/his choice.*)

Shakeel: (Suddenly applies the brakes. The car stops with a jerk.) These dirty fellows will never learn....always creating one problem or the other...

Prithwi: What happened?

Shakeel: Broken glasses spread all over the road. My tyres would have been punctured had I been a split second late.

Leela: You saved us Shakeel!

Shakeel: Just hold on...I have to take the car back and then turn it from that side....

Manoj: I am thinking that if this had happened a few weeks ago what could the situation have been....

Prithwi: Why are you saying so? What was there a few weeks ago?

Shakeel: I can understand sir. It is the smog you are referring to....am I right?

Manoj: Absolutely right. Visibility on this road was next to nil even at 10am in the morning then. Everyone must have experienced this terrible phase.

Prithwi: Right. This has become a routine in winter every year now!

Leela: (Giggles) I cannot but bring back the same topic Prithwi-ji. We are responsible for this scenario.

Prithwi: You mean burning fossil fuel?

Leela: Absolutely right! Just think of our capital city Delhi. What a pitiable situation the citizens suffer when the smog is dense and refuses to clear away!

Manoj: Schools were closed, traffic jam everywhere....life almost comes to a standstill.

Prithwi: But this time they were saying that burning of firecrackers during Diwali caused this mess!

Leela: That is of course true. But the real culprit is fossil fuel like coal, petrol and diesel.

Shakeel: Madam, I remember one doctor of Delhi saying that in the city of Delhi, exposure to the air is equal to smoking maybe ten cigarettes a day. So even quitting smoking doesn't help.

Manoj: From 2002 to 2012, vehicle numbers have increased by as much as 97%, contributing enormously to the pollution load and direct exposure to toxic fumes. Smog is just one effect that we can see.

Prithwi: But what can we do? If we are to have development then we need more cars!

Leela: Not really. But as far as doing something good is concerned we can say that we are doing it right now!

Manoj: I don't get you...

Leela: At present we are traveling in a single vehicle instead of three. That's called sharing and this can definitely bring down the pollution level. Further, this is the sustainable way of living!

Prithwi: I agree but most of us want a car of their own! Sharing doesn't suit them.

Leela: I am not saying that we should not own a car individually. But the spirit of sharing is that on any given day not all vehicles will be on road. Any one car can carry two or three passengers. The use of vehicles can be rotated. Today my car, tomorrow yours, the day after Manoj-jis....like that...

Manoj: Yes I agree. We can save a lot of fuel that way. By the way, your vehicle is a hybrid one, no?

Leela: If you mean a diesel source plus electricity...then no, its not a hybrid one.

Prithwi: I was recently reading about a hybrid car. The literature said that at low speeds, the engine is turned off and the car is driven only by the electric motor. Then, when maximum acceleration is needed, both work together. At stages between, any excess power generated by the engine is used to recharge the batteries that power the electric motor. The battery is big enough so that the electric motor can power the car for up to 1.25 miles.

Leela: Oh, I have read that too. It's a very expensive model!

Manoj: You are right. These types of car models are very expensive. Very few can afford that.

Leela: My car has a simple combination. Petrol and gas. CNG.

Prithwi: I am not sure but Compressed Natural Gas...I mean CNG is also a fossil fuel. So can't that pollute?

Manoj: Prithwi-ji, you seem to have shut your ears from all the discussion around CNG. It is the cleanest burning transportation fuel on the market today. CNG burns cleaner than petroleum based products because of its lower carbon content. CNG produces the fewest emissions of all other fuels and contains significantly less pollutants than petrol.

Leela: But Prithwiji has a point. In 2010, the Central Pollution Control Board attributed about 7% of particulate matter pollution from CNG-run vehicles. The study said that CNG vehicles contributed to about 10% of the total nitrogen dioxide load in the capital.

Prithwi: (Phone rings. Prithwi picks up the phone.) Yes....right...but why....well, we can't do anything about that....we shall see....bye...(disconnects the phone) Sorry, that was a phone from my office. In fact I run an export agency.

Manoj: Anything serious?

Prithwi: My secretary said that our client has cancelled today's meeting. So...in a way...I don't have the time pressure (giggles)...you know!

Leela: (Laughs) What meaning should I make out of that? Shall I ask Shakeel to slow down or we have a few minutes for tea from some roadside stall?

Manoj: Tea? Now?

Leela: I shall not force you. But since Prithwiji has time and there is nothing wrong in celebrating our combo travel....so if you can spare say ten minutes then it might turn out to be a perfect tea party. Say what? (Everyone laughs)

Manoj: Umm...well...seems ok....I shall just text my office that I shall be a late by ten minutes. Thanks to Leela Madam. (Laugh)

Leela: Ok then...Shakeel...please find a respectable tea stall for us...

Shakeel: We have one about five hundred meters ahead.

(Car accelerates. Sound of moving car continues for a few seconds and then stops. Door opens and then shuts.)

Shakeel: O bahinji...prepare some tea for us. Come madam, come sirs, here are a few seats.

Lakshmi: Just two minutes...I have just fired my chulah....please sit down...I shall serve you hot tea...

Manoj: There was no need to announce the firing of the stove...I mean chulah. The smoke says it all.

Leela: Oh what a mess.....hello, what's your name....

Lakshmi: I am Lakshmi madam.

Leela: Right Lakshmi, could you do something about the smoke? It seems we won't be able to taste your tea if this smoke remains.

Lakshmi: Please don't be cross with me madam. The smoke will subside soon. Arre Bablu...place the chairs on that side....please sit there madam....the smoke will not reach you...

Prithwi: (Sitting down) Coal! The most widely used fossil fuel Leela-ji! From Chandni Chowk to China, it's all the same.

Shakeel: (Comes forward) Sir...since you mentioned China...one of my cousins got a job in Beijing recently. He has written to his mother that the city is choking with smog. Every morning people come out with masks on their faces. Driving is also very difficult!

Leela: Coal is responsible for about 40 percent of the deadly fine particulate matter known as PM 2.5 in China's atmosphere, according to a study.

Shakeel: What is PM madam?

Leela: PM here stands for particulate matter. You know those fine particles that are often left by speeding cars! But Shakeel...you please park the car in some shaded area...otherwise it will warm up and we shall need more AC.

Shakeel: I shall do it right away madam!

Manoj: Our AC machines at home or our electric gadgets or...anything that runs on electricity....we head back to coal. In spite of all the hullabaloo about alternative energy we are still largely dependent on coal.

Prithwi: My secretary scans her newspaper very minutely everyday. She is always very excited about international affairs. The other day she was giving me some figures about coal usage in China.

Manoj: What figures? Share with us please...

Prithwi: Right. She was saying that China consumes almost as much coal annually as all other countries combined, and coal burning in the country is the biggest source of both air pollution and greenhouse gas emissions.

Leela: But I was reading in the New York Times that growth in China's coal consumption has begun to slow. Let's hope that alternative energy replaces coal and petroleum in a big way.

Manoj: China has a peculiar position in this regard. It is at the top of the list of countries producing solar power using photovoltaic panels and at

the same time it is the biggest polluter due to large scale coal consumption.

(Lakshmi arrives with tea. Serves the three.)

Leela: Ah, finally the steaming brew is here! It seems from the smell that a little bit of ginger has been added. But the smoke sort of spoiled our mood in the beginning.

Manoj: Can't you switch to kerosene Lakshmi?

Lakshmi: We tried sir but....it is very difficult to get kerosene. We do not have a ration card and outside the ration shop the kerosene we can get is costly.

Leela: But you need to pay for coal too...how do you afford that?

Lakshmi: Somehow we manage madam....I have some work to do. I will come back to collect the cups. Enjoy your tea.

Prithwi: She is avoiding your questions. It often happens that poor people collect bits of coal from the rail yard and often from the places where coal is dumped for onward selling.

Leela: Yeah I know. They steal the coal and usually employ their children for doing the job. We have often addressed this issue in our projects.

Prithwi: Fuel is the ultimate mover Leela-ji. Our family budgets has to carry a heavy burden due to the increasing expenses.

Manoj: And poor people like Lakshmi scrapes in whatever she can and in whatever way she can...

Leela: But Manoj-ji, you suggested kerosene as an alternative but that is another great damager of the environment. It contributes handsomely to global warming!

Manoj: I know, I know. But you can't help it. Light produced by kerosene lamps is extremely important for the twenty percent of the world's population that lacks access to electricity. In fact, previous reports estimate that 77 billion liters of liquid fuel, mostly kerosene, are used annually to light houses without electricity.

Leela: There are silver linings of course. I heard Gurgaon as a whole is switching over from kerosene to LPG. The gas connections are being provided under the Pradhan Mantri Ujjwala Yojana.

Prithwi: Is it? That's a good piece of news. In fact such news gets drowned in the flood of cricket and political news.

(Lakshmi arrives to collect the empty cups.)

Lakshmi: Was the tea ok madam?

Leela: Perfect! We enjoyed it.

Manoj: Let me pay.

Leela: Not at all. The honour is entirely mine. (Calling aloud) Shakeel, finished your tea? Come, we need to start.

Shakeel: Coming madam!

Prithwi: Yes, we need to speed off now.

(Car arrives. Door opens and closes. They leave the spot.)

Manoj: What is that paper Leela-ji?

Leela: Oh this one. An old issue of some local tabloid.

Manoj: Hand it to me please. The headline on the backpage...I can't fully read that....seems interesting...

Leela: Here it is...oh, smog again..the European story....

Manoj: (Rustle of paper) Hmm...it says that...umm... The French and British capitals are grappling with dangerous levels of air pollution this week - conditions in winter help smog stick around. The mayor of Paris wants to ban diesel cars to stem it.

Prithwi: It was in December, no? I can remember that Paris was also experimenting with odd and even numbered cars in order to reduce the load of cars on the roads. Just like Delhi.

Leela: Yes London is also notorious for such fogs. Who can forget that great fog of 1952?

Prithwi: What happened in 1952? Tell me please...

Leela: It was a period of cold weather, combined with windless conditions, collected airborne pollutants – mostly arising from the use of coal – to form a thick layer of smog over the city.

Manoj: Yes. It lasted for five days and then dispersed quickly when the weather changed.

Prithwi: Is London better these days?

Manoj: Well the tabloid says that in London, the mayor has issued an air pollution alert and urged drivers to voluntarily leave their cars at home.

Prithwi: Let me rad....umm..it says... Most of the pollution is caused by cars - particularly diesel cars, which emit up to 95 percent of nitrogen dioxide from exhaust. That is why Mayor Hidalgo has ordered half the cars off the roads of Paris today.

Manoj: And listen to this one also, the British newspapers are blaming filthy air blowing from across the channel from the French side.

Leela: Ha ha...this British-French blame game continues...always....

Prithwi: But how does smog form actually?

Leela: Well, the science is like this.... Smog is created through the chemical reaction of sunlight, nitrogen oxides and volatile organic compounds in the atmosphere, which generates airborne particles and ground-level ozone.

Prithwi: Ozone? I heard that ozone is at a very high level of the atmosphere...and it saves us from harmful rays of the sun. You have that at ground level too? Interesting!

Manoj: Yes it is definitely interesting. Ground-level ozone is a colorless and highly irritating gas that forms just above the earth's surface. It is called a secondary pollutant because it is produced when two primary pollutants react in sunlight and stagnant air.

Leela: Primary pollutants are nitrogen oxides and volatile organic compounds.

Prithwi: That means cars again?

Leela: Ha ha...don't get so tensed Prithwiji.... it is true that about 95 per cent of nitrogen oxides from human activity come from the burning of coal, gasoline and oil in motor vehicles, homes, industries and power plants.

Manoj: Volatile compounds from human activity come mainly from gasoline combustion, upstream oil and gas production, and from the evaporation of liquid fuels and solvents.

Prithwi: And this ozone is harmful?

Leela: Of course. Ozone is known to have significant effects on human health. Exposure to ozone has been linked to pre-mature mortality and hospital admissions for a range of reasons and asthma symptoms.

Manoj: Ozone can significantly impact vegetation and decrease the productivity of some crops also.

Prithwi: Ohh...where to go! It means that every litre of gasoline that we burn actually contributes to our ill health!

Shakeel: Sir we are entering Sector Eighteen. Please tell me where to drop you.

Leela: See, at present you have nowhere to go but your office.

Prithwi: Ha ha, true. But we had a nice discussion Manoj-ji. At least I have been benefited a lot.

Manoj: Same here Prithwi-ji. I picked up quite a few things as well. We must thank our host Leela-ji!

Prithwi: Definitely. Shakeel bhai just keep to the left. There the green building on the left....yeah....right...stop here please.

(Car stops. Door opens. Prithwi says 'good bye' to everyone.)

Manoj: We shall remember this day Prithwiji. And, of course, tell your news loving secretary about our discussion.

(All break out in laughter.)