

Shades of life

Episode-12

Research & Script: Dr. Anurag Sharma

(Morning Scene)

Manav	:	Mummy... Mummy...SSS...
Vasudha	:	What happened Manav, why are you shouting, I am here in the kitchen.
Manav	:	Mummy, is Islam uncle going back today?
Vasudha	:	Yes, Manav, actually today is the last day of his workshop, that's why he is leaving for his home and...
Shrishti	:	That is why, Mummy, is preparing snacks, for his return journey. (Laughs)
Vasudha	:	But Manav, why you are looking sad.
Shrishti	:	I know mummy why he is sad, Actually when Islam uncle was coming he was afraid of him and now when his going, he is sad, because now he has really become fond of Islam uncle.
Surya Prakash	:	Who is become fond of what, and who is sad.
Shrishti	:	Nothing papa, actually our Manav is sad, because Islam uncle, Brij uncle and Alpana Aunty is going today.
Vasudha	:	Manav, when some one is going, you should see them off, with smile, not with jewning face.
Surya Prakash	:	And with smiling face and on happy note because we have to meet again in future, if you are sad than the other person will also feel sad.

Srishti	:	And Manav, their family must also be waiting for them.
Manav	:	(Sadly) That's all right, but I have so many questions for Islam uncle. I wanted to talk to him on so many topics. I don't know when we will meet again.
Vivek	:	Arey Manav, whenever you want to talk, you can always phone him.
Srishti	:	Yes, if you want, you can go to Islam uncle place, so, stop feeling sad, cheer up.
Manav	:	Whatever, I never like to see, someone going.
Vasudha	:	This feeling is good, everybody feels the pain of parting but there is always a joy of meeting again. (Sound of Door bell)
Vivek	:	Namaste uncle, Namaste Aunty.
Islam	:	Nameskar Vivek, Suryaprakash, Shrishti, Bhabhi, our validictory function have just finished, and we are here.
Manav	:	(Sadly) yes, but to go away.
Islam	:	(Laughs) Suryaprakash, your young brat, I don't know why, always has an expression of frown.
Brij	:	(Laughs) Right Dr. Islam, we have also seen him like that only.
Alpana	:	What happened, Manav, did you get scolded in the morning.
Manav	:	Aunty, can someone feel sad or depressed, when he is scolded for something. Can scolding be the only reason for feeling sad?

Islam	:	Oh, ho... I think it's a serious matter.
Vasudha	:	Nothing serious, actually you all are leaving today, that's why he is feeling sad.
Islam	:	Ok, so, this is the matter our love is making him sad.
Brij	:	Yes, he is sad because we are going away.
Islam	:	But Manav, these winds, ocean water, land, they all get parted from each other daily, but they are never sad.
Alpana	:	And you know why, because, they know that they will meet again.
Manav	:	But Auntie these winds, they never part with each other, they are always together, flowing sometime slowly, sometime fast.
Brij	:	Manav, we can only feel air when it is blowing, when it is blowing, that means it is going away.
Manav	:	But where this air is going, how wind blows?
Islam	:	So, this is the reason, Actually Manav, wanted to know that how air moves, within ocean, atmosphere and land interaction.
Manav	:	Yes uncle... but... I am also sad, because you are going.
Islam	:	(laughs) Manav, happiness-sadness are part of life. Although sometime sad period seems to be more in life but these are phases of life. Never permanent.
Brij	:	And there is no bravery in feeling Sad? How you come out of it, that only matter. (Laughter)
Islam	:	We still have some time. Let's utilize this time. Ok

		Manav we will explain you the relation between winds, sea and land. Ok?
Shrishti	:	Yes, uncle this will be fine and I also have some question, which I will ask as discussion progress.
Alpana	:	That will be fine, what you say Manav.
Manav	:	Yes, Aunty.
Brij	:	But Manav, you to listen with a cheerful mind and happy mood, ok. Than only you will be able to understand the sadness when air & water part each other and happiness when they meet.
Shrishti	:	How can Uncle?
Alpana	:	Just listen Shrishti.
Vasudha	:	And, along with it, have your breakfast also.
Islam	:	That will be fine. (Laughter)
Islam	:	Ok, this blanket of air which surrounds our Earth is called atmosphere.
Alpana	:	There are different layers of atmosphere, which mainly protect us from, the harmful radiation and other things from outer space.
Brij	:	These winds, dries up your cloths, stray trade winds takes ships across the oceans. And 'jet streams' present at high altitude, changes earth's weather with their every turn.
Alpana	:	All this describe the activities of Earth's Atmosphere.
Islam	:	Warmed by the Sun heat, the Stray winds rise from

		earth surface to higher altitude at Equator. And As this warm air rises at equator and moves towards poles, and spread the heat to remaining Earth and along with heat, it also take dust, sand, to various parts of planet.
Alpana	:	These winds blowing over ocean bring moisture to continents, and courses rain, snowfall etc.
Manav	:	But how this winds moves?
Brij	:	Manav, this wind blows because Sun does not warm the Earth evenly.
Alpana	:	Earth's atmosphere get very small quantity of heat directly from Sun. Actually Sun just warm surface, and than releases this heat to the wind blowing over it's surface.
Shrishti	:	We know this Aunty, that first Earth is heated and then heat released from it, warms the air from lowest to higher layer.
Brij	:	Very good Shrishti. And then what happens?
Shrishti	:	Uncle, this warm air rises up and when this hot air rises up, it causes low pressure area below, and cold air takes it's place.
Islam	:	Oh, really very nice Shrishti, but how come you know so many things about circulation of air.
Shrishti	:	Uncle, some from you and some phenomenon was explained to us by Vivek Bhaiya. (Laughter)
Alpana	:	Very Good Vivek. Ok, Shrishti, the cold air which takes the place of hot air, from where this cold air comes.

Manav	:	This cold air comes from these regions of Earth which either absorbed very less quantity of heat coming from Sun, or Either, it has not released the absorbed heat into the atmosphere.
Shrishti	:	Yes, for example polar regions.
Brij	:	Shrishti and Manav you both are very intelligent.
Vasudha	:	All credit goes to Vivek.
Vivek	:	Although I tell them many things, but it is their interest and intelligence that they remember so many things.
Islam	:	Surya prakash, it's really very commendable, that your all these kids are very intelligent and amazingly talented. Keep it up. (Laughter)
Alpana	:	Ok... So, as Shrishti and Manav had just told, that this can happen at many levels. For example, as we had told you earlier, that at local level like the breeze blowing from Sea to Seashore and from Seashore to Sea. Or at Global level, like hot air from equator rises up and move towards poles.
Shrishti	:	And this make the complete circulation of Atmosphere and Earth. Is it?
Brij	:	Yes Shrishti by why this circulation in Atmosphere ocean?
Vivek	:	Can I tell Uncle?
Brij	:	Yes, yes, Vivek, why not.
Vivek	:	Uncle, as you have told that in ocean, circulation occurs in form of gyres. Similarly, in Earth's atmosphere, this circulation takes place mainly in from of three major

		hoops or cells. First is Hadley cell, second is Ferrel cell and third is Polar cell.
Alpana	:	Very good Vivek, you have really understood the system well. It's always good to have interest in subject other than your course.
Islam	:	Yes, it broaden you vision and view about various aspects of life and also about this planet.
Brij	:	Ok, Now let's understand, how these three type of circulation are formed. As you know that atmosphere above polar region is cold and atmosphere above equator is warm.
Manva	:	Uncle, in these region, the land below, the atmosphere are also hot and cold. So, what is so great about it? (Laughter)
SuryaPrakash	:	It seems, Manav is coming out of its sadness.
Islam	:	Yes, It should be like this only, neither very happy nor very sad. Ok, Now tell me if Earth's atmosphere would have been stationary than what would have been the consequence?
Vivek	:	Than uncle, than the atmosphere of Polar region would have become more and more cold, and at Equator very-very hot.
Brij	:	Right Vivek, but actually what happen the hot air from equator rises up and moves towards poles and pushes the cold air of poles. And this cold air move close to the surface of Earth towards Equator.
Alpana	:	The movement of Hot and Cold air, that is when hot air rises and cold air takes its place, it is called Convection. And because of this Convection, temperature of Earth is almost constant.

Islam	:	If Earth would have been Stationary that is not rotating on its axis, than what would happen?
Shrishti	:	Uncle, than also Earth's atmosphere would have done same circulation from equator to poles.
Islam	:	Very good, but because of this situation these six loops, won't be there.
Manav	:	Six loop!!! What Six loops?
Brij	:	Hadley Cell, Ferrel Cell and Polar Circulation, these loops?
Manav	:	But uncle, there are three loops, Not six.
Vivek	:	Manav, three loops on Northern Hemisphere and three loops on Southern Hemisphere. So, how many are there.
Manav	:	Got it, Six loops in total.
Alpana	:	And the formation of these loops in both Hemisphere is because of Coriolis effect as you already know.
Shrishti	:	Yes, Aunty, we know this.
Alpana	:	So, because of this Coriolis Effect, Earth has this amazing atmospheric circulation. Hot air in the Hadley Cell rises from the equator and dives downwards at 30 degree latitude also known as "Horse latitude". By this time the hot air becomes a bit cold and most of it returns to the equator. This whole circle is Hadley Cell
Brij	:	Yes, but still the remaining air move towards the poles and approximately at 60 degree latitude they collide with the cold winds coming from the polar regions. Then they rise and move towards the equator. This circle is Ferrel Cell.
Islam	:	And the winds coming from the polar regions absorb the heat from the earth and rise and move towards their place of origin meaning the polar regions. This is Polar

		circulation.
Manav	:	Amazing
Islam	:	The most amazing thing is that all these winds meet and then part and instead of feeling sad on parting they move forward and perform the functions assigned to them.
Brij	:	Hadley's cell is responsible for the north-east trade winds in the northern hemisphere and the south east trade winds in the Southern hemisphere.
Shrishti	:	Uncle, these winds are called trade winds because the ships moved in the direction of these winds only with help of their sails. And merchants traveled across the oceans for trading.
Alpana	:	Yes, It happened exactly like that only.
Islam	:	So due to the these winds becoming hot and cold area of high pressure and low pressure are formed and this circle keeps on going, sometimes fast, sometimes slow.
Manav	:	Yes, like hurricane, cyclone.
Alpana	:	Yes.....
Sound of door bell		
Vasudha	:	I'll go and see
Sound of door opening		
Vasudha	:	Arey Namaste Mrs. Malhotra, Come Happy.
Manav	:	Namaste Aunty
Malhotra	:	Namaste,namste, actually Happy told me you were leaving today so I came to meet you all.
Surya prakash	:	Come, come ,do sit down
Vasudha	:	Have some tea with us , Mrs Malhotra.
Malhotra	:	Thank you. My Happy tells me all about your conversations. Really they are very interesting, full of facts
Islam	:	Bhai Both Happy and Manav are very intelligent.
Malhotra	:	Yes and Happy wanted to ask some questions to you.
Islam	:	Go ahead son.
Happy	:	Uncle, How many oceans, rivers are there on this earth.
Manav	:	Should I tell? Five. Pacific ocean, Atlantic ocean,

		Indian ocean, Antartic ocean and artic ocean . And all these oceans are joined together.
Brij	:	Very good Manav, You know a lot
Happy	:	Uncle which is biggest and deepest of all the oceans?
Shrishti	:	Pacific ocean is the biggest and deepest. Do you know that Maraiwas trench is so seep it is about 11 km deep.
Manav	:	And the smallest and the most shallow is Arctic ocean.
Happy	:	Thank you Manav.
Vivek	:	One minute Hapy,Have you come here so that we can do your homework or what?
Happy	:	Yes Vivek Bhaiya.
Vivek	:	And I thought you were realy interested in oceans etc.
Islam	:	Now we'll have to also ask you some questions.
Manav	:	But how will I be able to answer your questions Uncle.
Islam	:	You'll be able to give. So tell me what good the oceans do for us.
Manav	:	Oceans give us food and minerals.
Happy	:	They also give us oil and gas
Shrishti	:	And what else do they give us?
Manav	:	That's all they give.
Brij	:	Okay and what about this climate, rain, and seasons. Don't you get these from the coordination of earth, ocean and atmosphere.
Islam	:	Tell me what lesson do you learn from the balance and coordination of the oceans, earth and atmosphere.
Manav	:	That we should do all our work with sincerity and should not delegate our work to others.
Alpana	:	And that sorrow of meeting, parting should not hinder your work and you should rise above all these emotions and perform your functions.
Suryaprakash	:	It will soon be time for your train. Lets make a move Bhaisahab
Islam	:	Okay Vivek, shrishti, Happy and Manav so Bye for now.
Shrishti	:	See Uncle, Manav has become sad again.
Islam	:	Oh Manav, son I explained so many things and you are still sad I have so may expectations from you. I would like you to understand the mysteries of nature and bring them forward for others. You be like the wind and

		water who meet for the joy of others and part as well.
Alpana	:	Just like water parts from the wind to become rain and bring joy to us. Do you understand Manav.
Manav	:	Yes, I do understand. Now I'll feel sad at parting but remember the joy of meeting again. I was always afraid of you Uncle but I was wrong I'll miss you Uncle.
Islam	:	Son, this remembrance is our friendship and who is our friendship like?
Manav	:	Like Wind and Water.