

## Football and Life

Episode-10

Research & Script

By

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- Vasudha : What happened Manav! You are totally silent today. Have you fought with someone in the school?
- Srishti : No. Mom, not at all! No fighting-sighting with anybody. Actually Football team of Manav has a match next Saturday with the team of another school. He is worried about this thing only.
- Vivek : Oh Manav what is there to worry in playing?
- Srishti : Vivek Bhaiya! Actually the team of Manav is defeated everytime. However, I do not why, this time Manav declared to the captain Pintu of the other team, that if team of Manav is defeated this time he will leave playing football for good.
- Suryaprakash : Manav, this is quite wrong. First of all you should not have a bet in a game and the other thing is if you have a bet then do a hard practice and win.
- Vasudha : Yes Manav! You will not be able to win with this long face.
- Vivek : Now change your cloths and start practicing in the field.
- Manav : But my dear brother! The team of Pintoo is very strong; we will not be able to defeat that.
- Vivek : Manav! You should have thought about it when you challenged him. Even otherwise the game of football is played with team spirit. If the players gave a good co-ordination between them, they can defeat any team.
- Srishti : Yes, Now get ready and collect your team and start practicing, just go! go!

Manav : No, sister. All the players of the team of Pintoo are very good. We may practice hard; it will not bring us victory.

Srishti : Very bad. Our Manav has accepted defeat even before playing the game. (sound of bell)

Suryaprakash : It seems that Dr. Islam, Brij Mohan and Dr. Alpana ji have come. Let me open the door. (sound of opening the door)  
(They greet each other)

Suryaprakash : Hello Dr. Islam, Dr. Alpana and Dr. Brij! Did you enjoyed the lecture of today!

Brij : Yes, Bhai sahab, it was very good. Today we discussed the role of oceans, seas, rains etc in distribution of nutrients.

Islam : Yes, Suryaprakash, we had an interesting discussion.

Vasudha : Please have water!

Islam : Yes, Bhabhi, give me!

Alpana : What has happened to Manav! Why he is showing a long face! I hope he has not been scolded!

Srishti : No, Alpana Aunty! Actually he is playing a match with a very strong team and had a bet to win!

Vivek : Yes, Aunty! Now instead of doing practice to defeat them, he has already accepted the defeat.

Alpana : Oh Manav! How can you do that? When will you have the match?

Manav : (With a floated mouth). Oh next Saturday.

Brij : It is still a full week before next Saturday. And you have already accepted defeat!

Islam : If all the ocean, strong winds and atmosphere accept defeat in this way and stops activities then what will happen to life!

Manav : What is this Islam uncle! How can you compare

football with oceans and atmosphere!

- Islam : What is the difference Manav! After all, the oceans and the atmosphere also work like a team of football with co-ordination with each other!
- Brij : Yes, with this mutual co-ordination both of them win-football team wins the match and the life wins with the co-ordination of the oceans and atmosphere!
- Alpana : And the life is winning continuously because oceans and atmosphere don't allow to disturb their co-ordination.
- Srishti : How could you say that alpana Aunty.
- Brij : Actually Dr. Islam informed us that last time when he was here, he told about the journey of drop of rainwater.
- Alpana : How this raindrop turned into a vegetable of okra which is the choice of Manav.
- Srishti : Choice!!! (laughter)  
(All laughs)
- Islam : Manav, You might remember that the only the sun is provider of energy to us. Only this energy is used by oceans and atmosphere to run their activities including the movement of atmosphere.
- Alpana : These natural activities are responsible for building up of weather, transfer of nutrients, diversification of life-forms and sustaining life.
- Brij : Look Manav! The sea-water contains material required for the nutrition and growth of marine organisms including the fishes, oysters and couch etc.
- Alpana : Yes, Manav! The sea-water has compounds of Silicon, Carbon, Nitrogen, Phosphorus, Calcium etc. Along with them there are micro-nutrients composed of Copper, Zinc, Cobalt, Molybdenum,

- Iron and Manganese in the sea-water on its upper layer.
- Islam : All these nutrients present in the upper surface in the form of a mixture where there is more sunlight which is used in photosynthesis. This process turns mineral salts into organic matter which provide the basis for life to grow.
- Manav : (With a voice full of worry) I know all this uncle, But how it will help me in winning the football match?  
(laughter)
- Brij : Why not Manav! You will surely win! First lister fully, So, this food-cycle continues in the sea-water at the surface, but after the death of organisms a large amount of organic matter settles on the bottom of the oceans.
- Srishti : Then Uncle, how these nutrients become available to the organisms living in the surface waters of the oceans.
- Islam : My dear Srishti! This is the mutual co-ordination! The bacterial activity transforms these nutrients in the deep bottom of the oceans into ionic form. And the oceanic water-cycles moved by the engines of the sun's energy bring these nutrients back to the surface of the sea where life again starts flourishing.
- Manav : But how this water goes up and down and again up.
- Vasudha : (Sounds of cups): Yes Manav! Now you are really taking interest! And you Bhaisahab and Alpanaji deserve tea and pakodas!
- Suryaprakash : Great! Vasudha has brought the real nutrients!  
(Everybody laughs)
- Alpana : Yes Manav, You wanted to know that how the water from the upper surface goes to the bottom and how it comes up from the bottom. This happens because of higher and lower levels of density.

- Srishti : You mean the salinity of sea-water!
- Vivek : Yes, you are right! The sea-water becomes saline because of the soil which is brought by rivers into the oceans. This soil contains salts which are joined by the salts oozed out of volcanic explosions in the oceans.
- Brij : Very good Vivek! You have a great knowledge of oceanic activities.
- Manav : But Vivek Bhaiya! How the salt is related to the up and down movement of the sea-water!
- Islam : This is what we call the mutual co-ordination where everybody is performing its sole, in the same way as forward and backward players in a football team. Same is the role of energy and salt in the sea.
- Manav : Please tell me how!
- Alpana : Please tell me how!
- Alpana : Listen Manav! The density of water is influenced in the oceans by difference in salinity and temperature. Cold and salt water is denser. So, this cold and salt water settles at the bottom of the sea. The warm water with less salinity has low density and comes up on the surface of the oceans.
- Brij : In this way the different layers of the sea water differ in density. This is what causes the churning of oceans. When the oceans of the polar regions send cold and heavy salt water to the bottom these currents are borne.
- Alpana : Running on the bottoms of the oceans these currents move towards hot water near the equator. Here the winds play their role and they push the surface water towards polar region and the cold water from the bottom of the sea moves to upper surface.
- Brij : Then this water warms up and proceeds towards the poles. Winds propel this surface water and it reaches on poles. After that this surface water, full of nutrients, fulfils the needs of different organisms

and the cycle is repeated.

- Srishti : Very interesting!
- Alpana : Yes, Srishti, These are some wonderful activities of the nature and you start appreciating them as much as you understand them.
- Islam : Actually my daughter, these activities happen because the sun does not warm our planet uniformly. Where on one side the solar heat is felt much more at the equator, on the other side the solar energy is felt lowest at the polar regions.
- Brij : Now, just as the difference in density and temperature cause activities in different layers of the oceans, in the same way there are various mutual activities in the oceans and atmosphere on the whole earth.
- Alpana : There is a definite cycles of water and winds which are caused by the temperature and density.
- Vivek : Islam uncle, last time you told us that the oceans get warmth from upper surface to the lower layers and the atmosphere gets warmed up from its lower layers. Isn't it?
- Islam : Yes, Vivek, you are right.
- Vivek : But, uncle how does make any difference!
- Islam : Dear Vivek, as it was told by Dr. Alpana the difference between density and temperature produces a cycle. This is the cause of building regions of low and high pressures in the atmosphere. These cycles continue to run to bring unity in the diverse densities. These are the activities of atmosphere which creates different kinds of weather.
- Alpana : The winds flowing on the surface of the oceans not only causes the waves, also takes away the heat of the surface water to make it cool and then they go up themselves.
- Srishti : Yes, Aunty, we know this.

Manav : But, How will I win the match of football.

Vasudha : See, Manav is still playing football. (laugh)

Brij : I think this is very nice of Manav, that even with all this serious discussion he has not forgotten football. Dear Manav! If you could understand the mutual relation of the oceans and atmosphere they your winning is assured!

Manav : How will it help in winning the match.

Islam : Just listen Manav! How large is this globe and 72% of this globe is covered by oceans. And they are also the largest storehouse of the heat.

Alpana : Do you know Manav, that only the upper 10 feet layer of the oceans contains as much heat as is stored in the whole atmosphere?

Brij : Yes, and much more wonderful fact is this that the oceans have a astonishing capacity of transferring this heat through all the small and large cycles and flow.

Islam : For example, that the hot water coming from the equator moves with a speed of 4.5 billion cubic feet per second across the gulf of the Atlantic ocean. It means that this hot water consumes so much energy in moving towards north which is equivalent to burning five billion tonnes of coal.

Srishti : My god! So much energy!

Alpana : Yes, Srishti! Have you ever thought that why the winds move in the coastal areas near the seas or nearby regions of the big lakes or in the lower *Tarai* regions of the hills.

Vivek : I think Aunty, it must be happening because of different in the atmospheric pressure!

Brij : Yes, Vivek, usually this is the cause of the movements of the winds, however it is difficult to predict the occurrence of strong winds, but there are some winds which moves with such a definite

regular event, just as the rise and setting of sun.

- Srishti : How it happens Uncle!
- Islam : Actually my daughter, as explained by Dr. Alpana there are winds moving all the time on the coast of oceans and the banks of large lakes. It happens because the sun heats the land more quickly than the oceans. This causes the upward movement of the hot air from the land and the cold air of the oceans and large lakes takes its place on the land.
- Alpana : This happens in the day time while it is reversed in the night. The land is cooler in comparison to the water, therefore the winds from the coastal areas move towards the waters. These are examples of some small cycles which continue activities in localized areas.
- Srishti : And what happens in the *Tarais* areas of the hills!
- Islam : When sun rises in the *Tarai* regions, it warms the air above and on the sides of the hills. These hot winds are light in weight and rise upwards going out of the *Tarai* regions. This forms a cycle which continues through out the day. That means that the cold winds blow.
- Alpana : And when in the night winds above and on the sides of the hill become cooler, these sense winds reach downwards to the *Tarai* regions and blow throughout the night.
- Srishti : But, it happens in very few regions and how the cycle of oceans and atmosphere moves on the whole earth.
- Brij : See, we have told you about the journey of these cycles from the equator towards the polar regions. We will tell you more about the atmospheric cycles. For now, we will tell you about the various cycles of the oceans, the flow of its currents etc.
- Manav : But Uncle, how will it help me in winning the football match?

- Islam : (gets angry) Dear Manav, we are trying hard to make it clear, but you are still sticking with the same dilemma! Don't you understand that surface currents, climatic, control, flow in different waters, evaporation, ruined, high and low pressures and the humidity etc are numerous events making it difficult to have neutral cooperation and coordination.
- Manav : Yes, Uncle I have understood all this, but what you want to tell me?
- Suryaprakash : At least he has understood something! (laughter)
- Srishti : Uncle! I think broadly we can say that the oceans control the weather of the earth and they make it hot and cold. They provide humidity as well as dryness to the air and also control the speed and direction of the winds. Isn't it?
- Islam : Excellent Srishti! You have made it so simple, that even we could not have simplified it so much.
- Alpana : Yes, Srishti, in addition to what you have explained so nicely, a lot of water of the oceans get evaporated to create clouds which condense and come down in the form of rains.
- Birj : The current of the hot oceanic water makes the cold season little less problematic and the cold waves provide some respite from the hot season.
- Islam : Yes, these are some examples which make it clear that the oceans have a great impact on the climate of the earth.
- Alpana : In our climatic system these oceans play the role of thermal engines.
- Manav : How is that?
- Srishti : Yes, Manav, if you go on repeating football, football, how will you understand all this! We have been already told that the oceans absorb more heat in comparison to the land and ice.

Vivek : Yes, these oceans absorb solar heat on the equator and then move it towards the polar regions in the form of different flows.

Srishti : That is why the oceans are called the storehouse of the heat. Manav, did you understand all this.

Manav : Yes, sister!

Islam : The oceanic movements are many. These flows move around in the form of loops and their movements are called 'gyres'.

Manav : Oh Uncle, I think it is enough for today. Please tell about the gyre movements of the oceanic flows next time. I have to go for practice of football.

Islam : Yes Manav, this is what we wanted from you. We will surely tell you about the interaction of oceans and atmosphere, but now you should work hard to practice football and you must win.

Brij : Yes Manav the captain of your football team must be like our sun to provide energy to the whole team.

Vivek : And Manav, your team's forwards should be like the cycles and flow of oceans and atmosphere who must reach to their destination moving from here to there.

Alpana : And that destination is goal!  
(laughter)

Manav : Yes, Auntie now the goal is the mission of my life – Chuk they India - so I move on!

Suryaprakash : It is wonderful that today Manav has understood the importance of action and his worry about the outcome of the action was futile.

Vasudha : Dear brothers Islam, Brij and Dr. Alpana, all of you have connected the knowledge about our planet earth so beautifully with the football of Manav, that anybody will get excited.

Islam : Bhabhi ji, the whole life is surviving on a very delicate balance and mutual coordination. One who

understands it will be a sure winner. (laughter)

(change of the scene)

Manav : (happily) Mummy, Mummy, Bhaiya, Srishti, Papa, I have won!

Vasudha : Oh, it is great!

Happy : Yes, Aunty, we did five goals and the team of Pintoo could make only two goals. Three goals were shot by Manav!

Suryaprakash : Very good Manav! You must have now realized the advantage of having self-confidence!

Manav : No papa, I can't have the whole credit. It was teamwork. We played like a unit and we have won.

Srishti : So, Manav you have played in total coordination like the sun, ocean and atmosphere and that brought you the victory.

(laughter)

Vivek : So, with these words of Srishti let me offer icecream to all of you.

(a noisy laughter from all)

(End with music and theme song)