

Learning by Ear – Environment

05 – Firewood

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Intro

Hello and welcome to Learning by Ear's special series that takes a look at the environment. On today's programme we'll be talking about Africa's dependence on firewood and the devastating effects the demand for charcoal is having on the continent's forests. And coming up in today's Radionovela, we'll tell you about the alternatives that are available. Did you know that it is possible to cook a meal using the heat and light of the sun? We'll also take a look at how the destruction of our forests is changing climate patterns. And we'll hear how tropical forests act as giant water-absorbing sponges – but take the trees away and very quickly the land will become a dry, arid desert. Stay tuned....

Music – 0:30

SFX_Birdsong + SFX_Approaching_Footsteps

1. Moses: Hello, mother

2. Mrs Tekwula: Well Moses, don't just sit there my boy.
Help me with this wood.

SFX_Woodpile_hits_Ground

3. Mrs Tekwula: [catching her breath] ehhehhh! I'm too old
to be carrying firewood so far.
Everyday...soon my body will break.

4. Monica: How far do you walk, Mrs Tekwula?

5. Mrs Tekwula: [claps her hands] Ahhh Monica, it's too
far...over the hill behind the house.

6. Gladys: Does it take long?

7. Mrs Tekwula: One hour – in each direction! Gladys, can
you imagine...two hours of your day just to
collect firewood for cooking. I hope that
when you girls are older there will be
electricity in each house and modern ovens
will be affordable. Who wants some tea?

X-fade into SFX_Small_fire

8. Moses: When I was a young boy, mother, I
remember you were never gone long when
you collected the wood. Maybe thirty
minutes.

SFX_Snapping_Wood

9. Mrs Tekwula: That's because it was easy to find wood. All around the house were trees and small shrubs.

10. Moses: And there was a forest above us on the hill.

11. Gladys: Isn't the forest there any longer. Mrs Tekwula?

12. Mrs Tekwula: Not any longer, Gladys. About five years ago it was cleared to make way for a new farm. Now all you find there are grazing cattle.

13. Monica: It's the same where we live. There used to be trees everywhere. But gradually they have disappeared. It got worse when some of the local women were encouraged to make charcoal to earn a small income.

14. Gladys: I heard at school that in sub-Saharan Africa more wood is used for firewood and charcoal per capita than in any other region in the world.

SFX_Stirring_Tea

15. Mrs Tekwula: eh eh eh eh...it's not good.
16. Moses: Why do we use so much compared to others?
17. Gladys: Because we're so reliant on wood as a source of energy.
18. Monica: And what's more Gladys, populations across our continent are rising so quickly! And that means we are all competing for the same resources. It's no wonder Mrs Tekwula that we are having to walk so far for our wood. There's just not enough for everyone!
19. Gladys: Imagine if we all had electricity. There would be no need for women to spend hours everyday collecting wood. They could use the time to earn money instead.
20. Monica: And every young girl could go to school. So many have to help their mothers instead.
21. Mrs Tekwula: And, Monica, you know what else is different now...the weather! I've lived here all my life and I remember as a little girl we used to get very distinct rainy seasons.

22. Gladys: My mother says the same...

23. Mrs Tekwula: And as a result we knew exactly when to plant our crops and exactly when we would be harvesting...to the day! Now we have no idea. You can plant your seeds and the next day they are washed away by rain. [sounding resigned] I don't understand it...

24. Moses: Let's go for a walk...I want to show you where the forest used to be.

X-fade SFX_Small_Fire into SFX_Birdsong

SFX_Cattle

25. Moses: [Kicking the dusty soil] You see the soil now...it used to be a deep red colour. It looked so rich. Now it's turning to dust.

SFX_Approaching_Vehicle

26. Moses: Good afternoon, sir.

27. James: Hello. My name is James, I work for a local conservation organisation.

28. Moses: Nice to meet you, Mr. James. My name is Moses ...
29. Gladys: I'm Gladys ...
30. Monica: ... and I'm Monica.
31. Moses: So, what brings you here?
32. James: We're trying to encourage people to stop using firewood for cooking...
33. Gladys: We were just talking about the deforestation in this area.
34. James: It's bad, isn't it. These hills are now so heavily farmed...and of course there's the need for firewood.
35. Moses: But why is the soil so dusty now?
36. James: You see, tree roots help to anchor the nutrient rich top-soil in place. Remove the forests and there is nothing to hold the soil together. When it rains the top-soil is simply washed down the hillside. What's left behind isn't so fertile.

37. Monica: And Mrs Tekwula, that's Moses' mother, was just telling us that the rain pattern is changing.
38. Moses: But why would that be so?
39. James: Well forests act as giant sponges. When it rains they absorb the water. Some of this water then evaporates back into the air through a process known as transpiration. This causes rain clouds to form and more rain falls again.
40. Gladys: So what alternatives are there?
41. James: Well, Gladys, there are several alternatives, even for those without electricity.
42. Moses: Like...
43. James: Well the first is just an adapted stove that still burns firewood.
44. Monica: So that's no improvement then, is it?
45. James: Well yes and no. They still require wood BUT they are far more efficient than an open fire. In fact we believe some designs are fifty percent more efficient. In other

words you only need half as much wood
each week.

46. Moses: And the other alternatives?

47. James: Let me show...I have one in back of the
land-rover.

SFX_Open_Vehicle_Door + SFX_Pulling_Out_Metal_Object

48. Monica: What is that?

49. James: This, Monica, is what we call a solar
cooker.

50. Monica: A what?

51. James: It's a device which only uses sunlight to
cook. Because they use no fuel they cost
nothing to run and they help slow
deforestation.

52. Moses: It looks like some contraption from outer
space!

53. James: [laughs] There are in fact several different
types of solar cooker but they are all based
on the same idea – and that is that you

cook your food with the sun's heat and light only.

[collective 'Ah']

54. James: This particular one is called a Panel cooker...the panels concentrate the light and heat from the sun into a small cooking area. In this cooking area you place a small, dark pan.

55. Gladys: And does it cook food like a normal fire, or oven.

56. James: Well it can typically withstand temperatures of up to 150 degrees Celsius without melting. This isn't as hot as a conventional oven but it is still hot enough to cook food over a longer period of time.

57. Moses: [laughing] I have to say I am not to sure what my mother would make of it...

58. James: Well let's go find out!

Music – 0:30

Did you know? – Forests as water reservoir

Did you know that rainforests act as giant sponges? They soak up the rainfall brought by tropical storms while anchoring the soils and releasing water at regular intervals. In a sense, they act as reservoirs of water. Rainforests lie along the Earth's equator, forming a ring around the planet. They receive a HUGE amount of rainfall – at least 200 centimetre a year and in some areas as much as 1000 centimetre. Remarkably, rainforests generate their own rain – in fact as much as 75 percent of the rain that falls over the rainforests is self-generated.

Here's how: when rain falls over rainforests, very little actually reaches the forest floor. The rain is almost entirely intercepted by the forest canopy. Some of this water is used by the trees, some is returned to the soil and eventually rivers and streams. But in tropical forests as much as fifty percent is released back into the air through a process called transpiration. This is why rainforests are such humid places. This water then forms rain clouds and falls back as rain.

So what happens when the forest is cut down? Well, there less moisture is released back into the atmosphere. As a result fewer rain clouds form and there is a decline in rainfall. If rain stops falling, then within a few years an area can become arid with the strong tropical sun baking down on the scrubland. An example of this is the Island of Madagascar. Madagascar was once covered in tropical jungle. But today less than 10 percent of the rainforest remains and the country is largely a red, treeless desert.

The forests of Africa cover an area of more than 500 million hectares and constitute some 17 percent of the world's forest. But, this is just a fraction of what once existed. In West Africa, for example, 90 percent of the region's original forest has been lost.

Tropical rainforests are the most bio-diverse ecosystem on the planet. But the flora and fauna depend on the water that that is stored by the forest. Take away the forest and the reservoir runs dry.

Outro

And that's all for today's Learning By Ear special environment focus on firewood and deforestation, written by Richard Lough. So take note and remember that our forests are more than just a source of firewood. They are invaluable ecosystems and an integral part of the water cycle. Thanks for being with us. If you want to hear the programme again or tell friends about it, go to our website at www.dw-world.de/lbe. Good Bye.