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Water Hyacinth Podcast and Scientist Interview

Eichhornia crassipes

It may have pretty purple flowers, but Eichhornia crassipes can be a green menace. Introduced to Africa from the neotropics, this invasive weed is choking Lake Victoria, the world's second largest lake. Water hyacinth has carpeted vast stretches of the lake, fouling fishing nets and blocking harbors. Ari Daniel Shapiro teams with reporter in the field, Gastive Oyani, to speak with local fishermen and botanist Helida Oyieke. They learn how the lake and the lives of the people who depend on it are responding to this weedy challenge.

Transcript

Ari: For the Encyclopedia of Life, I'm Ari Daniel Shapiro. And this is: One Species at a Time.

Otieno: You can see the broad leaves that can make it to float on the water.

Ari: This is the Kenyan portion of Lake Victoria – the second largest freshwater lake in the world. And fisherman Charles Otieno is looking at a plant that's bobbing all along the surface. It's called Eichhornia crassipes, or the water hyacinth.

Otieno: It is beautiful because it has some flowers – purple in color.

Ari: But this beautiful water hyacinth – it's not from here. Most likely it's from Brazil. It arrived in Kenya in the 90s, and it's making real trouble on Lake Victoria.

See, the water hyacinth can reproduce vegetatively – meaning it doesn't have to rely on seeds or spores. It sends out lateral roots that shoot stems up to the surface. That means that in no time at all, a water hyacinth plant can fan out to form a green carpet on the surface of the lake. Back in its native Brazil, beetles help keep the growth under control. But not in Kenya.

These watery, floating fields of water hyacinth – they get blown around by the wind and get trapped in a narrow gulf of Lake Victoria. The gulf where the Kenyan fishermen cast their nets.

Otieno: By the time the hyacinth moves, when it will find my net or lines, it will drag it towards another place.

Ari: The water hyacinth makes other mischief too. Sometimes a fisherman takes a boat onto the lake, but can't find a place to re-dock…because the water hyacinth has choked off the shore.

Oyani: And, when you are blocked…

Ari: That's our friend Gastive Oyani who recorded the fishermen for us.

Oyani: When you are blocked and inside the lake, what do you do?

Otieno: You need to look for another nearest beach, but maybe you cannot penetrate through the water. So, nothing you can do. You just wait until tomorrow.

Ari: Hoping that by tomorrow, the water hyacinth will have been scattered by the wind. But because fishermen don't have refrigerators on their boats, failing to return to land means their fish will go bad.

Oyeike: We're dealing with communities who rely on subsistence fishery.

Ari: Helida Oyeike is a marine botanist and chief research scientist at the National Museums of Kenya.

Oyeike: So if they don't go out on a specific day, the catch for the day is not there, and there are no resources for the day.

Ari: That means that fishermen, like Tobias Otieno, have to fish every day.

Tobias: Sometimes we cannot go to the lake…ok, we cannot get money to survive.

Oyani: So it force you maybe to do other things, which are not giving you good money, like fishing.

Tobias: Like fishing, yeah.

Ari: Helida Oyeike says it's no wonder there's another local name for the water hyacinth.

Oyeike: Some have even gone as far as calling it HIV/AIDS of the lake. But since it does not originate from our region, it does not have a native name. So people are describing it but in a very derogatory manner to show how bad it is.

Ari: The Kenyan government tried introducing those Brazilian beetles – the ones that feed on water hyacinth – into Lake Victoria. But the beetles found other local plants more appetizing.

Oyeike: The local communities, it's like some of them were even saying, "They're eating our potato leaves!"

Ari: Officials have also tried using mechanical means to extract and grind up the water hyacinth. But no one's built a machine that can do the job and float on the lake. Some feel the government should be doing more, like fisherman Charles Otieno who's got an idea for turning the plant into a profitable opportunity.

Otieno: I think the government should employ more people – maybe the jobless youths. Every beaches where the water hyacinth are, they go there in the morning, they pluck it out and then at the lorries they come and then collect the water hyacinth. Ok? That's another method of employment to the youths.

Oyeike: You know, sometimes we need to listen to these local communities. Sometimes they might have an answer to things that even scientists don't have.

Ari: Oyeike does admit that whatever solution's developed, it will have to be implemented by all three countries owning the lake – not just Kenya, but Tanzania and Uganda as well.

So for now, the water hyacinth goes on jamming the Kenyan portion of Lake Victoria. The numbers of Nile perch and tilapia are down.

But it's not all bad, actually. Turns out there are more catfish and lungfish in the lake than ever before. These fish associate with the mud, and water hyacinths trap mud in their roots. And local communities – especially the women – have gotten creative too.

Oyeike: They've started talking of how best can we make use of it now that it's here.

Ari: So the women are weaving baskets and mats out of the water hyacinth, and selling its purple flowers in the markets.

So the water hyacinth – it's an invasive species that's become both a curse and a blessing. Joel Oyeike – Helida's husband – shared another Kenyan name that reflects that dichotomy.

Joel: Ford…it's not a real name.

Ari: Like a Ford?

Joel: Like a Ford car. Do you know, Ford car … it terrorized people because most government vehicles – police vehicles were Ford cars. But at the same time the Ford trucks were very useful to them.

Ari: Increasingly, Kenyans are learning to share Lake Victoria with this unrelenting plant. And without intervention, the water hyacinth will go on creating opportunities for some, and hardships for others, all in a place that's an ideal new habitat for itself.

Ari: Our series, One Species at a Time, is produced by Atlantic Public Media in Woods Hole, Massachusetts. I'm Ari Daniel Shapiro.

Meet the Scientist

Meet Dr. Helida Oyieke, the scientist featured in the Water Hyacinth podcast:

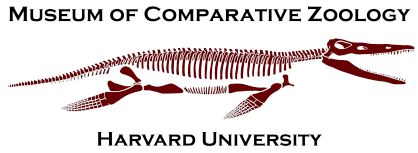
Where do you work?
Director for Research and Collections at the National Museums of Kenya.

What do you study?
Botanical sciences, Plant Physiology and Biochemistry and Aquatic botany, plant physiology and biochemistry.

How and when did you become interested in science?
As a child I was always fascinated by nature and I always wanted to know more about how the various components of nature worked. I could go to the field, pick grasshoppers and flowers and observe the different parts with keen interest. When I started my primary education there was a subject in class called nature study which then became my favorite since it was all about

nature. It subsequently evolved into biology as I advanced higher up with my education. I thereafter found myself getting more and more interested in biological sciences which coincidentally, became my best subject and I studied it all the way up through university.

What do you like most about science?
Science is about everyday life, when I sit, walk or bend, science is at play; when I am cooking for my family, it is about maximum benefit from the food nutritionally etc. We are never conscious of the science in everyday life but it is what governs our lives every minute.



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