TRANSCRIPT:

Seeds of Life



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Diya Payal: My name is Diya Payal. I am fourteen years old, and I live in Dehradun, in the state of Uttarakhand, India. I live with my mother, my father, and my little brother Shiram.

My father is an accountant. He works at Navdanya Biodiversity Farm. At the organic farm, they grow all kinds of indigenous Indian varieties of seeds that are in danger of becoming extinct. When I discovered that we could lose our heritage seeds, I became very concerned. I decided I wanted to find out more. This film is about what I learned.

My favorite teacher at school gave me a book about biodiversity and I did some research.

Biodiversity of seed and plant varieties is necessary for increasing soil health. Increased soil health is necessary to lead to the cultivation of flourishing crops, which means better human health. Seed biodiversity is declining day by day, as now the diet of people rely on only one or two crops, like rice and beet, due to which, certain seeds and crops are close to being extinct.

My parents told me that industrial farming gives the seeds in farming metals that need pesticides and chemicals to produce the food that we eat. These industrial metals are killing biodiversity.

What is the reason for loss of biodiversity?

Dr. Vandana Shiva: So industrial agriculture is an agriculture based on inputs that are toxic chemicals. And these inputs then require uniformity; therefore, biodiversity must disappear. 85,000 species is what humans ate. Now we grow and trade in about 4 to 12.

Dr. André Leu: We are losing many, many species, and mostly species that we don't even really understand what they do for our ecosystems, but as we lose them, we lose the benefits that come from them.

Diya: So how are they addressing this problem at the organic farm? I spoke to Sheela Godiyal, the Head Seed Keeper at Navdanya.

Sheela Godiyal: My name is Sheela Godiyal. I am from the Tehri Garhwal. We came here to Dehradun 40 years ago. For 17 years, I have been working at Navdanya to save seeds. We work on seeds we farm and conserve seeds here.

Diya: Are the numbers of seeds and their varieties increasing or decreasing?

Sheela: No, no. We keep increasing our varieties. We don't let the varieties reduce. Like our farmer members, there are many who are linked with us–they bring us their seeds. We take the seeds and then sow the seeds in small plots in our farm to conserve and multiply the varieties. Thus, we increase our seeds.

Dr. Shiva: Seed is life. Every life form has its original seed. It could be seeds of plants that are… seeds. You were a little seed: an embryo in your mother's womb. So all life begins with seeds. Foods we eat are grown with seeds, and when you have more diversity of indigenous seeds, you have much more nutrition. If seeds are bred for nourishment, they will give us nourishment. If seeds are bred only for quantity, they will degrade in quality. And when the monocultures are there, they will be devastated if there is excess rain, if there is excess heat, if there is a drought. So seeds of nourishment are seeds of life are seeds that farmers have used over hundreds of thousands of years.

Diya: I love nature, I appreciate the beautiful forest, and rivers, and hills around Dehradun where I live and where my family comes from. I love to walk in nature and to visit the farm where plants and birds and insects and animals and people live in a harmonious relationship with one another. There is a balance in nature. I began to understand that the way we grow food should be in accordance with nature's processes too. We should avoid chemical pesticides that will kill pest weeds because they can kill the insects and plants and animals that we depend upon too. Organic farming builds healthy soil, and healthy soil produces healthy food. Healthy soil is very rich in biodiversity. I decided to talk to the soil scientist to find out more.

Bhavna Simar: My name is Bhavna Simar. I have done my MSN in Remedy Science. I have been working at Navdanya last 5 years. I am a research coordinator and mostly I work in soil lab. Soil is a very necessary part of our work, and it's very necessary for farmers because farmers grow different types of crops for all of us. If your soil is healthy, the crop is healthy, you can eat healthy and you feel healthy. If you throw any harmful chemical in your soil, it kills your soil nutrients and soil microbes. But, if you do organic farming, you can use organic compost.

Diya: What do you mix in all this? In how many days does it mature? And since when have you been making this?

Dr. M.P. Singh: To make vermicompost, farmers take animal waste and dried leaves and mix it in with the dung. The earthworms eat it all and do manure delivery within 45 days, increasing the compost matter by 10 times, like nitrogen, phosphorus and potassium.

Dr. Leu: Now, if we start working with nature, if we start rethinking it and we bring in other plants that give us ecosystem services. So, for instance, we can bring in plants that actually help our crop by giving it nitrogen for free so you don't actually pollute the world with synthetic nitrogen fertilizer. You can bring in plants that are host plants–they have little flowers that attract the beneficial insects that will give us our pest control for free.

Bhavna: You do mixed cropping, maybe you grow a different type of crop in your field. That means different type crops give different type nutrients of our soil. If you do biodiversity based organic farming, you no need any other chemical composition. It's very useful for your soil.

Diya: I spoke to some local area farmers about their farming methods.

Thakur Das: My name is Thakur Das and I've been practicing organic farming for 12 years. In our farming pratice we grow crops such as paddy rice, corn, and vegetables, fodder and all. We cultivate many crops.

Diya: Why do you practice organic farming?

Thakur: When we used to go to Navdanya for meetings, there we learned about the harmful effects of chemical farming, which is why we left chemical farming and directed ourselves toward organic farming. We have our own farm animals and from the animals we get enough dung to make our own compost. That is why we don't need to purchase chemicals to put in our farms.

We call this paddy rice variety kasturi.

Prakasha Devi: That's it.

Diya: How long have you been farming?

Prakasha: We've always farmed. But for 10 years we have been associated with Navdanya and have been practicing organic farming.

Diya: What do you grow?

Prakasha: Now we grow wheat, paddy rice, maize, peanuts, pulses and more.

Anjali Rana: Turmeric…

Prakasha: Ginger…

Anjali: Chilies.

Prakasha: The produce from organic farming that our children and we eat is not harmful to us, whereas chemical inputs used in farming are a cause for many diseases.

Dr. Shiva: Chemicals are very intolerant of diversity. When you measure the true biological productivity, the more biology you have, the more productivity you have. And more when you take biodiversity and measure the nutrition in it. The food that we eat, it produces far more nutrition by acre. The new varieties might look like they yielded more, but yielded more weight, not nourishment. So industrial agriculture's monoculture, chemical inputs, it produces commodities, and agriculture that is ecological, biodiverse, is working with the laws of nature, it works on recycling, it works on diversity, and most importantly, it nourishes the soil which nourishes us.

Diya: Our grandparents and ancestors worked with nature and not against it as modern industrial methods do. I decided to visit the village where my grandparents and other relatives live. They live in villages close to each other in the foothills of the Himalayas. My family on both my mother and father's sides have been practicing organic farming for generations. When we arrived in our village of Faldakot, I spoke to my grandmother.

Grandmother's Friend: How many years have you been living here? Eighty two years.

Saraswati: I've grown old, I have children and grandchildren and great-grandchildren, so what's the point of knowing how many years?

I'm not telling you a lie.My name is Goddess Saraswati. (The Hindu Goddess of wisdom)

Diay: Then, I interviewed my mother and her two sisters.

What is your name and what do you do and how long have you been farming?

Kanta Devi: My name is Mrs. Kanta Devi. I farm and live in the village.

Diya: Your name?

Prabha Payal: My name is Mrs. Prabha Payal. I live in the village of Faldakot and we farm at home at a small scale level.

Diya: For how long have you been farming?

Prabha: About 15 years.

Meenakshi Payal: My name is Meenakshi Payal and I am Diya's mother. Before I married, I helped my parents. Then I married and helped here for two to three years. Then I moved to Dehradun with my husband.

Diya: Next, we walked to my mother's family village of Nali Badoli to talk to my grandparents there.

For how long have you been living here and since when have you been farming?

Jagdish Negi:We as a people have been living here for about 400 to 500 years. Our ancestors used to farm and we also farm. We learned most of our farming methods from our ancestors and the same principles continue on.

Maya Negi: Right now we are preparing for the winter crops.

Diya: And in these many years, have you noticed a change in the climate?

Maya: Yes, there are changes.

Diya: Like?

Maya: Like sometimes there is heavy rainfall, sometimes there is no rainfall. And when it does not rain at all, then there is no farming.

Diya: Climate change is a long-term shift in earth's average weather patterns which is mostly caused by human activity such as burning fossil fuels, deforestation, and ecologically-damaging land use practices. Healthy biodiversity is not only related to a healthy environment, but it's also related to weather patterns and climate change.

Have you noticed any change in the climate in the past years?

Thakur: Let me tell you about this year. Usually the monsoons start around June 15th and last

through July and August for two full months. This year the monsoons began in July with little rainfall. Summer lasted through July and August. It was extremely hot, like in June. Because of this, the crops were damaged and contracted diseases.

Kanta: The climate has changed in such a way that it doesn't rain at all, or isn't timely. Therefore, we can't farm crops according to season. For example, we have stopped cultivating wheat.

Anjali: Climate change is causing a lot of changes like drought and unseasonal rainfall or even hail.

Dr. André: What we call industrial agriculture–It's bare ground with a monoculture. That is what we call an ecological desert. When you clear these ecosystems, all the carbon in those trees gets burnt, the carbon in the soil gets released, and the fertilizers they use create greenhouse gases. And this is challenging our climate and causing all the other problems that we see: the droughts, forest fires. The more biodiversity that we have, the more plants and animals we can put back in the system, the more greenhouse gases we can take out of the atmosphere to make sure we have a livable planet.

Diya: It is all connected. We are a part of nature. If we take care of nature, nature will take care of us. It's the cycle of life. This way of thinking includes our spiritual tradition Stu.

What is the significance of the Hariyali prayer ritual?

Meenakshi: During the Hariyali prayer ritual, Goddess Durga is worshipped. We invite our relatives and pray for seven days. Then we do a fire ritual and sow barley seeds.

Unknown Speaker: Hariyali is related to our winter crop season. During this time we worship the nine avatars of Goddess Durga. During Hariyali we sow barley seeds and then uproot the saplings. Then, we take home the barley saplings with hopeful prayers, for a bountiful winter harvest.

Meenakshi: And joy and happiness prevails.

Unknown Speaker: And joy and happiness prevails in families.

Diya: It starts with seeds, it extends to the earth, to the elements, the air, the animals, the families, the elders, the ancestors, the communities and the culture. Everything is connected through seeds of life. I began to think about what young people could do to help. We could learn how to grow food and save seeds, speak up against industrial seeds and junk foods. We could compose our food waste. We can avoid plastic and other pollution that puts toxins into the environment.

Dr. André: The easiest way to regenerate our planet, to stop the degeneration, is by the choices you make and I'd say the first one is–I call–voting with your wallet. If you buy highly processed toxic foods from industrial systems, you give them money, those systems survive. On the other hand, if you buy certified organic, you build that, you change farming at its source.

Sheela: We want to save our seeds and bring awareness to more farmers to save their own

seeds. We save our own seeds and sow our own seeds with the wisdom that our parents and grandparents taught us. We want to bring awareness to everyone, to save their own seeds.

Dr. Vandana: We are part of nature, we are not separate from nature. We wouldn't be alive if we didn't have trees that gave us oxygen to breathe, we wouldn't be alive if we didn't have streams and groundwater wells that gave us water to drink. We wouldn't be alive if the soil and the seeds didn't give us food. So nature supports us. My message to everyone is 'now you have to become mothers of mother earth'.

Diya: Together we can regenerate the earth with our mind, heart and hands. We can all do our part to have a peaceful relationship with nature. To protect and preserve biodiversity, on which we all depend.