

'Sustainable farmers conserve biodiversity — bees and animals boost their productivity'

Arshiya Bose is a coffee entrepreneur seeking to empower smallholder farmers protecting ecosystems. Discussing her insights with Times Evoke, she explains what makes sustainable coffee a stronger brew:

My approach to coffee developed during my PhD in human geography at Cambridge where I studied the environmental and social impacts of coffee cultivation. India cultivates a huge amount of coffee — we are the sixth largest coffee grower in the world. Almost all the crop is

exported. Over the last 30 years, there's been an intensification of coffee farming, accompanied by deforestation across coffee-growing districts —

when you remove forest cover from biodiversity hotspots where coffee is grown, like the Western Ghats, you see fewer birds, insects and a shrunken abundance of life. World over, coffee is grown amidst tropical rainforests. How we grow coffee therefore has a significant impact on what happens to these ecosystems.

Layered on that is a human cost. After oil, coffee is the world's second-most valuable commodity. But its benefits are very unevenly distributed — a typical grower in India often doesn't receive enough to make a farm worth running. Coffee is primarily a smallholder produce — 83% cultivators in India work on tiny parcels of land. They often come from indigenous communities and lack



FROM FARM TO FARMER: Most smallholder coffee growers are left drinking only tea — coffee tasting events like this forefront the grower



Pictures Courtesy: A Bose

ALL SUSTAINABLY SORTED: Smallholder women farmers sort coffee produce

safeguards against this huge global market. This explains the exploitation by middlemen and farmers falling into severe debt.

These factors caused me to begin my organisation in 2016, aiming to improve the livelihoods of smallhold-

A CUP THAT CHEERS

er producers. We source coffee from marginal cultivators holding one acre of land. We champion farmers who don't apply chemicals or remove trees from their farms. As a certified Fair-trade company, we source coffee from 650 smallholder producers across Karnataka, Kerala and Tamil Nadu.

These farmers really depend on what the forest gives them — in this case, leaf litter, the leaves that fall from trees, becomes the primary organic input source for coffee plants. Such farmers who rely on the ecosystem have a far better understanding of how to conserve it. They avoid chemicals because they know that these — if you spray pesticides, for instance, you kill bees, which damages the productivity of coffee plants — will wreck this.

Today, the Western version of sustainable products considers this from the perspective of human health and minimising chemicals in what we

ingest. But the indigenous version has an ecosystem approach — these farmers aren't only concerned with humans consuming chemicals. They're also concerned about what those chemicals do to other creatures in the environment. Indigenous knowledge looks at non-humans, the creatures big and small we share space with. This is a much more holistic approach to sustainability.

I'm often asked whether sustainable coffee produces the same yields as chemical agriculture. When coffee is grown directly under the sun, with no tree cover and chemicals pumped in, you'll get very high yields — but for how long is extremely uncertain. Farmers go through cycles of very high yields, followed by very low yields. Meanwhile, the life of the soil and coffee plants is shortened, which means you must keep replanting. An income from such a farm isn't much more than a farm with perhaps slightly lower yields but freedom from buying chemicals at a high price.

Coffee will also be significantly impacted by climate change. When you wipe out insects and trees, you're left depending only on fertilisers and pesticides. With climate change, coffee plants may not produce as much fruit — but, in a farm with more biodiversity, pollinators like bees

improve yields significantly. Ecosystems have already been damaged by chemical agriculture — there are very sad stories of farmers across India buying earthworms to put in the soil because no biodiversity's survived on their farms. Creatures like earthworms are critical to farming though since they replenish the soil with nutrients. Forests are also vital. The temperature in the shade of trees is two degrees cooler and the soil is moist, which allows coffee to flourish. By contrast, if you grow coffee without tree cover, you increase climate impacts on your crop. These are nature's systems — when we damage these, we damage ourselves.



LEAF PATROL: Organic leaf litter used in sustainable coffee needs canopy cover monitored using densiometers

A typical day in the field means talking with farmers on crop status and what they need. We often walk 12 kms a day from hamlet to hamlet, also watching wildlife across these farms — I've seen deer, gaurs, birds, stick insects and elephants ambling by.

But one of my happiest moments came from sharing a cup. An irony about coffee grown by small farmers is how they give everything to middlemen and never get to taste what they grow. In 2018, we did a tasting session where farmers tasted their coffee for the first time — they were astonished by it. The farm-to-fork idea is well-known now but farmers must also experience the goodness of what they grow. Closing that circle delighted me.