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one of the foremost experts on the Amazon, told me that if deforestation continues, parts of the Amazon can tip over from forest to savannah, much like a person becoming diabetic, with similar consequences on the water health of South America. Are we close to this tipping point?

"Some believe that the southern Amazon has already tipped over," Dr Nobre told me. "Indeed, the southern Amazon has become a source of carbon, rather than a sink. I think we are at the edge. With the combined impact of global warming, El Nino, forest fires and current rates of deforestation, I'd say we have about one to two decades before we completely exceed the tipping point." And what would that mean? "Oh boy! It's terrible. About 250 billion tonnes of CO2 [about six times annual global emissions] would be released over several decades into the atmosphere."

Farming animals, at the scale we are, is not sustainable in any sense of the word. Any symphony that sings sustainability but goes silent on this facet sounds off-key.

Until now, I have not mentioned climate change. If the Amazon tips over, the resultant warming will bring famine back into the headlines. For instance, many parts of wheat-growing India are perched on the upper edge of the optimum temperature range for wheat cultivation. As temperatures rise further, yields will fall. Much of Indian wheat relies on groundwater. As that groundwater supply sputters, yields will plummet.

Wheat is not alone. Most crops in India will suffer if they do not adapt to the changing climate. Whether they can adapt fast enough without engineering is unclear. Moreover, India starts on the back foot when it comes to crop climate adaptation, because we have spent the better part of the previous century growing the wrong things in the wrong places.

In pre-colonial India, crop varieties and irrigation systems were designed to cope with swings in rainfall, a must for a country where most of the annual rain falls in about 100 hours. Vast forests moderated flooding and helped maintain dry season river flow. Taxes were usually paid as a share of crop, meaning they were lower in a drought and higher in years with bountiful rains.

Each of these pieces reinforced one another to create a resilient agricultural society that made India fabulously wealthy once. Colonialism changed this.

First, the British cut down vast swathes of forest, destabilising the water regime. Second, they imposed a fixed cash tax on farmers, which made farmers choose to plant cash crops over crops better suited to their local, variable water availability. Canals and dams, built with more than one eye on the return on British capital, accelerated the shift to cash crops. Post-independence, India's newly minted leaders, anxious to cater to their rural voter base and with an ocean of then-unexploited groundwater to tap into, widened this colonial-crop-legacy faultline by doubling down on cash crops. As a result, a large chunk of India's crops does not gel with local water regimes.

This square peg-round hole wound stings especially when an El Nino visits India. Think of the El Nino as the warmer upswing of a giant ocean-air seesaw straddling the Pacific Ocean. The Pacific Ocean seesaw (and there are similar seesaws in other oceans) swings up and down every few years, changing global climate and rainfall patterns alongside.

Finance provides a useful metaphor: many of the financial world's peccadillos lay concealed in a high-liquidity environment, revealed only as monetary conditions tightened. In the same vein, the three-year La Nina (the cooler downswing of the Pacific Ocean seesaw, which helps the monsoon), shielded Indian agriculture somewhat from the talons of the warming climate. Now, with an El Nino in play, there is less "give" in the climate cycle, a tightening of the climate quantitative easing, as it were. Unwise crop choices made in a different era, and climate, are coming to bite, just as bad investments fail as interest rates rise.

One way to adapt is to revert to some of our traditional crops, which can cope with these swings in rainfall. But as long as we have urban palates accustomed to rice and wheat, and as long as the minimum-support-price regime encourages rice and wheat, this adaptation is likely to remain a forlorn hope. It's like subsidising heroin for an addict while asking them to quit. The moment we look at tinkering with this regime (and we can't change if we don't tinker), the predictably shrill chorus of "anti-farmer" erupts.

The path forward

Another way to adapt is to manage the path by which food reaches our plates.

Our path is problematic — we waste food, allow prices to fluctuate wildly and use too much plastic, to name just three issues.

We are believed to lose about a third of our food to rot and damage as it travels from farm to fork. Indeed, not understanding where and why we waste our food shows our apathy. Moreover, price swings in vegetables are legendary: we all wept when tomatoes cost more than Rs 200 per

kg, but there is scarcely a peep when they cost less than Rs 10.

To lessen waste and to keep prices stable requires us to store crops better and process more of our crop (tomato into puree; milk into powder). But storing and processing need investment, ideally from the private sector. Why is this not happening at scale? Look to the chaos that ensued when the farm laws were first announced. Any company or politician thinks twice about entering the farm-produce sector. Honestly, why bother? So, investments remain lower than we need, waste remains high and prices yo-yo each year. The sad part is, storing and processing crops can create climate resilience and the desperately needed jobs in rural India, as I have explored in my book, Watershed (2021).

Plastic is an issue closer to the consumer end of the food supply chain. Estimates of how much plastic is used in the manufacture, packing and transportation of food are, once again, uncertain. When I raised this issue with an expert group, the answer was essentially "Ummm...". Meanwhile, the evidence of mismanaged plastic in the food supply chain is strewn in every drain in India, and when we look closely enough, in ourselves.

A 2022 Dutch study found plastic particles in human blood — especially polystyrene and PET, both of which are used in food packaging. Even in the face of tightening plastic management rules, we don't yet fully know how much plastic waste is generated. How can we hope to manage what we do not measure? And hence, in this industry perhaps more than any other, greenwashing is rife.

Recently, I flew with an airline that generated a net profit of Rs 1.41 crore every hour in the quarter ending June 2023. And yet, when one peruses this company's sustainability report, one sees that against waste management, their actions involve "To reduce food wastage on our flights, perishables are served to passengers only against pre-booked orders and only non-perishables with longer shelf life are available for instant orders." How much has food waste fallen? That is not shared.

They go on to say, that in FY 2022-23, they replaced 83 million single-use plastic offerings with biodegradable options. Yet plastic remains rife in the food offering — single-use plastics lining tin cans, multi-layered packaging, plastic bottles. Worse still, I noticed the crew collecting plastic and food waste together routinely. That's like dieting for a week only to pig out a big bowl of decadent fudge on Sunday. Unhelpful, at best.

Lastly, in an example of greenwashing at its finest, they say: "We have upcycled 5,000+ waste items that resulted in income generation for a community of women supported by the project." Oh God. This is literally moving deck chairs on the Titanic. But they are not alone. "Sustainable" is as ubiquitous today as "ecom" was right before the Tech Crash of 2000, or "leveraged investment" was on the eve of the 2008 global financial crisis. Not a comforting thought.

We have a humdinger of a challenge ahead of us: not only do we have to feed more people, we must do so as the climate conspires against us. Consider climate action a relay race with hurdles. In the first leg of the race, the runner was driven by a combination of conscience and curiosity, to overcome the hurdle of ignorance and inertia. That part of the race is run.

The next leg of the relay is about action at scale, where the runner is driven by enlightened self-interest ("let's do it or we're screwed") to overcome entrenched interests and greenwashing. Policy that could help grow food sustainably faces political pushback from entrenched interests and is therefore not crafted or not implemented evenly, allowing greenwashing to paper over cracks. And so, greenwashing is the hurdle to overcome now in climate action.

In recent months, I have felt fear on this front. Not fear of inaction. But of inanity masquerading as heroism in the face of catastrophe.

That's where resetting the image of sustainable eating can help. We underappreciate the power of our human frailties. More of us will likely eat millets and less animal product every day not because it is climate-resilient but because a celebrity or influencer showed how cool eating this way is.

Seen in this light, the G20 dinner hosted by President Droupadi Murmu that showcased millets as haute cuisine was a great first step. If more influencers and celebrities espoused truly sustainable eating (and they would if they believed they could be called out for greenwashing), this could shift mindset, and get voices across the political spectrum to publicly commit to sustainable eating. Then maybe the next time we tinker with policy, the sopranos of the "anti-farmer" chorus will remain a little muted.

And as demand for sustainable food goes up, farmers can change what they grow, and the crop patterns can become sustainable. Maybe. There are still a lot of "ifs" along the way. Perhaps in the luxury of the clean air today, we cannot see clearly how to move forward. In a month, as the smoke from our unsustainable food choices stings our eyes, perhaps we will see more clearly.

culture

A nosedive into the past

A new book on perfumes traces India's affection for certain aromas through millennia. Highlights include links to ancient Greece and Rome, hints of ancient mysteries and lore



(Clockwise) Lady Making A Garland by Raja Ravi Varma, 1895. A Roman fresco of a port city from the 1st century CE. A double-pot distillery used to extract essential oils from flowers, as depicted in the late-15th-century book of recipes N'imatnama, by the Sultan of Mandu. WIKIMEDIA COMMONS, SAHAPEEDIA, TARUN VISHWA

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Rose, jasmine, sandalwood, saffron, oud and vetiver. When Divrina Dhingra (below) had to pick six fragrances that exemplified the Indian experience, from ancient times through to the present day, these are the ones she zoomed in on. Her new book, The Perfume Project (September 2023; Westland), seeks to explain why.

Dhingra, 41, a lifestyle journalist, is also a trained perfumier who studied at the Grasse Institute in France, and worked as a fragrance development manager in India.

The idea of researching fragrances first took root during her time as a Master's student in New York. Certain smells would evoke memories of home so strongly that she began to seek them out.

How far back do these associations go, she wondered?

As a passion project began to take shape, she conducted research, on fragments of memory, fondness and association preserved in art and writing, poetry, costumes and dance, going back thousands of years. "It came together very slowly," says the Delhi-based writer. Over six years, in fact.

What were some of her most precious findings? Take a look.

Adulteration was so prevalent that Pliny the Elder complained about it.

"There is nothing so much adulterated as saffron," the Roman scholar wrote, in his book Natural History (c. 77 CE).

In a tussle dating to at least the Roman Empire, adulterants were used to increase weight and improve colour in highly priced aromatics. Substances such as turmeric, other parts of the saf-



from flower, even minute bits of twig were mixed in with saffron, for instance.

Contrary to popular belief, perfumes today are far less adulterated, Dhingra says. "There are simply more tests to verify the purity of base essential oils."

The Greeks had a heady kind of aromatic fever.

They believed that the afterlife was spent in a heaven where every person would find a limitless quantity of perfume. Elysium was, in fact, a realm where rivers of perfume flowed. This, understandably, boosted the trade in aromatics with India.

Ancient Rome did not equate fragrance with divinity, but was likely a bigger buyer, since theirs was a larger, more hedonistic aristocracy. There, perfumes were used in food, uncorked for ambience at banquets, slipped into the water at bathhouses, and used in temples (as offerings) and homes (as air-freshening status symbols).

The Mughal era was likely a time of eye-wateringly strong aromas.

Perfumes in this era contained an unsparring number of precious substances of animal origin, including musk and the more-potent civet oil (taken from glands in the musk deer and civet cat, respectively). Mixed with large quantities of floral extracts, these were not fragrances for the faint-hearted.

One composition, said to help keep the skin cool in summer, involved elements of rose, musk, ambergris (extracted from the sperm whale), orange-flower extract, basil and agarwood. It must have been eye-watering, if memorable.

Historians suspect that at least part of the appeal of such a mix lay in the fact that very few could afford it. Some of the ingredients were so rare that there was a whole body of lore dedicated, for instance, just to what it took to get at ambergris. But those are stories for another time.

{ ALWAYS AT THE MOVIES }

Anupama Chopra



Behind the curtain

Organising a film festival is stressful and chaotic. Working on two, more so. But, always, the magic outweighs the madness

In nine years of helping to curate and organise film festivals, I've come to realise that this job requires a touch of masochism. The first and biggest hurdle: raising the money.

My earliest taste of this was in 2014. The Mumbai Film Festival was in its death throes because no sponsor could be found (this is the largest privately funded festival in the country). I jumped into the fray because I believed that the home of Hindi cinema must have its own festival.

Like door-to-door salesmen, filmmaker Kiran Rao, then-artistic director Smriti Kiran and I went from one corporate office to another, armed with our laptop and pitch deck. "But what is the ROI," we were often asked. It was the first time I had heard the term "return on investment".

It took seven or eight months of this, and then Star (now Disney) came on board, and later Jio. The latter continues to support the festival and I continue to be the festival director. The next edition will run from October 27 to November 5.

But to complicate life further, this year, I



Stills from Rima Das's film Toru's Husband, and the animated short Taar by Tsering Lhanzes. Both tales of struggling families were screened at the Himalayan Film Festival.



Many parts of wheat-growing India are perched on the upper edge of the optimum temperature range for wheat cultivation. As temperatures rise further, yields will fall. Much of Indian wheat relies on groundwater. As that groundwater supply sputters, yields will plummet

versity. Humans and farmed animals now account for 96% of the weight of all mammals. Sometimes, I wonder if we realise that we are waltzing along a precipice.

Humans are part of the whole, and the whole is being ravaged. According to the United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, extinction rates today are tens to hundreds of times higher than the average during the past 10 million years, and the pace is accelerating. And yet, we continue on this road.

Take the Amazon. Brazilian agriculture is the child of deforestation. Soy cultivation (most of which goes to feed livestock) and cattle ranchers in particular have deforested an area in the Amazon roughly the combined size of Spain and Germany. Bite something long enough, paraphrasing Nietzsche, and it bites back. Carlos Nobre,

also took on the curating and co-hosting of the Himalayan Film Festival, held from September 29 to October 3, in Leh.

I'm a great lover of the mountains and the combination of mountains and movies was irresistible. The festival was led by commissioner Padma Angmo and the Leh department of information and public relations, while my company Film Companion was in charge of the editorial palette: curation, masterclasses, workshops and a pitch tank.

It was held at the Sindhu Sanskriti Kendra, an auditorium nestled in the mountains. There were masterclasses by Vikramaditya Motwane, Amit Sharma and Kenny Basumatary. Rima Das showed and discussed her exquisite new film, Toru's Husband (about a man trying to keep his business afloat in small-town Assam, amid the pandemic).

We screened Ladakhi films alongside blockbusters such as Jawan. There were some eclectic stories on view too, including Romi Meitei's heartbreaking Elkhoigi Yum (Meitei for Our Home; about an isolated fishing community's struggle to survive). Avinash Arun's poignant Three of Us (Hindi; about a woman revisiting sites of her childhood while battling early symptoms of dementia) and Rizza Ale's It Is This (about a new generation seeking a semblance of freedom in snowboarding, in Kashmir).

In a highlight, the short-film competition was won by a young woman from Ladakh, Tsering Lhanzes. Her animated work, Taar, is about a mother and daughter on a journey, after their home is flattened by an avalanche. I returned from Leh and jumped headlong into the Jio MAMI Mumbai Film Festival. The festival is back after three years, with a new chairperson, Priyanka Chopra Jonas; and a new venue, the Nita Mukesh Ambani Cultural Centre.

Organising a festival is chaotic, stressful, and sometimes deeply unrewarding. I have, for instance, been shouted at in the lobby of a PVR theatre, by attendees who didn't get seats at the screening of a coveted film. But I gladly do it, year after year. Because it is a privilege to help celebrate cinema.

One evening at the Himalayan Film Festival, we sat in the outdoor amphitheatre listening to a local band called Luyangs. We swayed to the music as the sunlight slowly faded over the mountains, and just then, a flock of birds soared overhead. It was magic.