Vol.20 No. 01

March 2025

subhanau

a greener vision

Plantation Season 2025: Reviving our rural and urban ecosystems with indigenous species

Alternative teas
Gardening

Polar bears
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Sesame seeds
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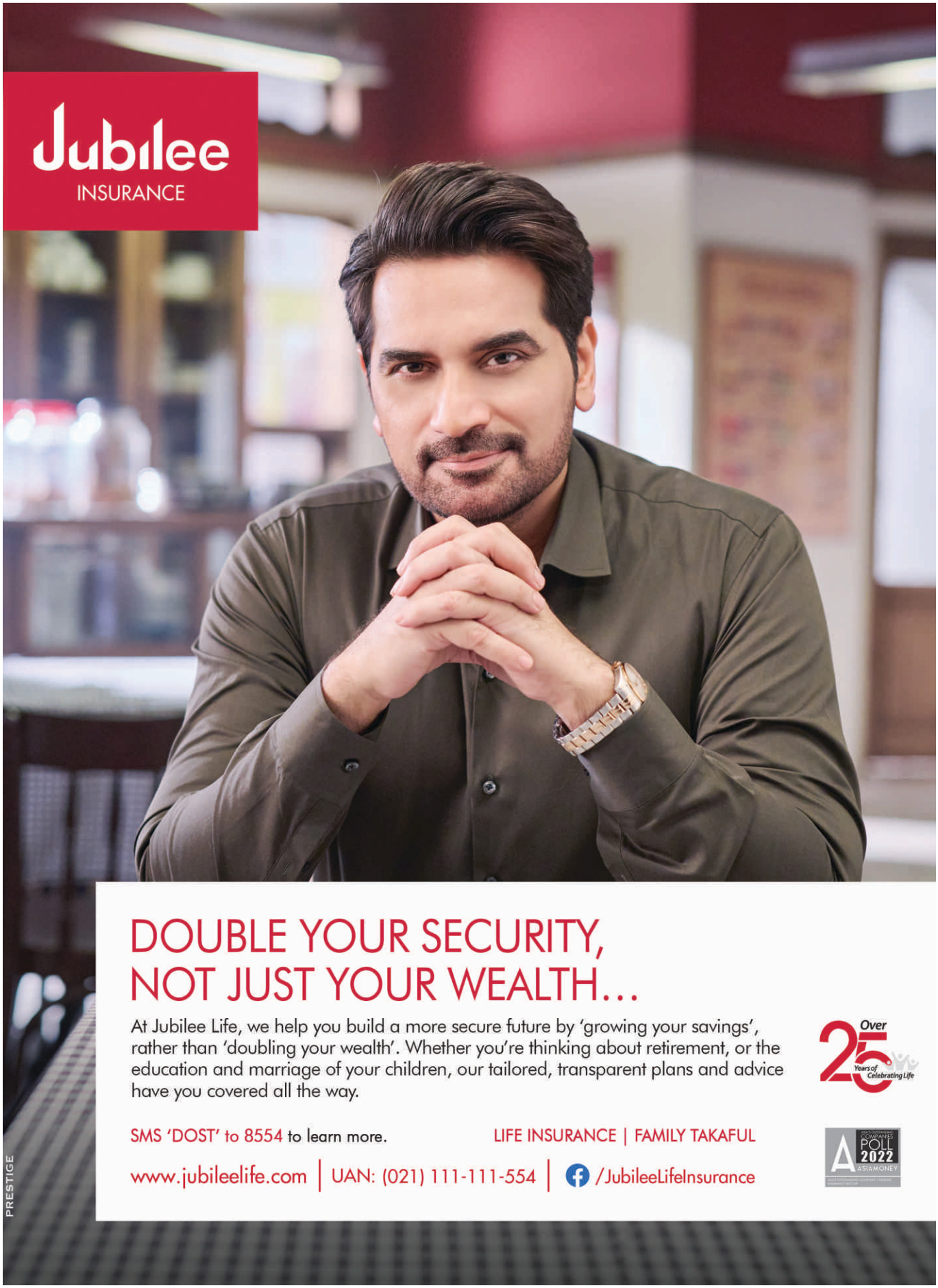
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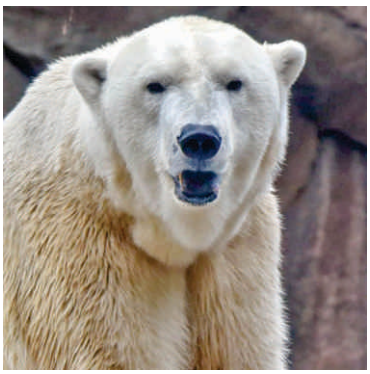

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March 2025

Monthly subh-e-nau Vol.20 No. 01

a greener vision

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Printed at
Hamdard Press (Pvt) Ltd.

Printed by
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/subhenaupk
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Price: Rs. 600 per copy

Letters to the Editor

Cover Story February 2025

The February cover story on the devastating wildfires in Los Angeles was both alarming and deeply thought-provoking. Dr. Farrukh A. Chishtie's analysis of how climate change is intensifying wildfires made me reflect on Pakistan's own climate challenges. As a student of environmental science in Islamabad, I see similar patterns of extreme weather events—heatwaves, flash floods, and smog episodes—disrupting lives. Just as California faces recurring fires, Pakistan must urgently invest in climate resilience to mitigate disasters. We need proactive policies and sustainable solutions before we face catastrophes of similar scale.

Sara Jameel, Islamabad

The connection between neoliberal economic policies and worsening climate crises, as highlighted in the cover story, cannot be ignored. As an environmental researcher in Karachi, I often see how unchecked industrialization and deforestation are exacerbating local climate vulnerabilities. Pakistan, like California, is caught in a cycle where economic priorities overshadow environmental sustainability. Dr. Chishtie's call for systemic change, including Indigenous land stewardship and sustainable energy investments, is something we must take seriously. If we don't prioritize ecological balance now, we will pay a much higher price in the future.

Adnan Raza, Karachi

The February issue's cover story was a powerful reminder that climate change is not just about rising temperatures — it's about human suffering, economic instability, and environmental degradation. As a teacher in Lahore, I try to instill a sense of responsibility in my students to care for the environment. The wildfires in California, though far from Pakistan, hold important lessons for us. We must embrace reforestation, better urban planning, and stricter environmental regulations. Climate education should be central to our national discourse if we want to prepare future generations for the challenges ahead.

Farah Qureshi, Lahore

What is Subh-e-Nau

This journalistic endeavor primarily focuses on the environment and public health sector, and is published every month. The dismal state of affairs in this sector demands public awareness and community involvement for the protection of our natural environment. The magazine cuts across a diverse range of environmental issues, which require thought and conveys action-oriented messages for the general public and decision makers.

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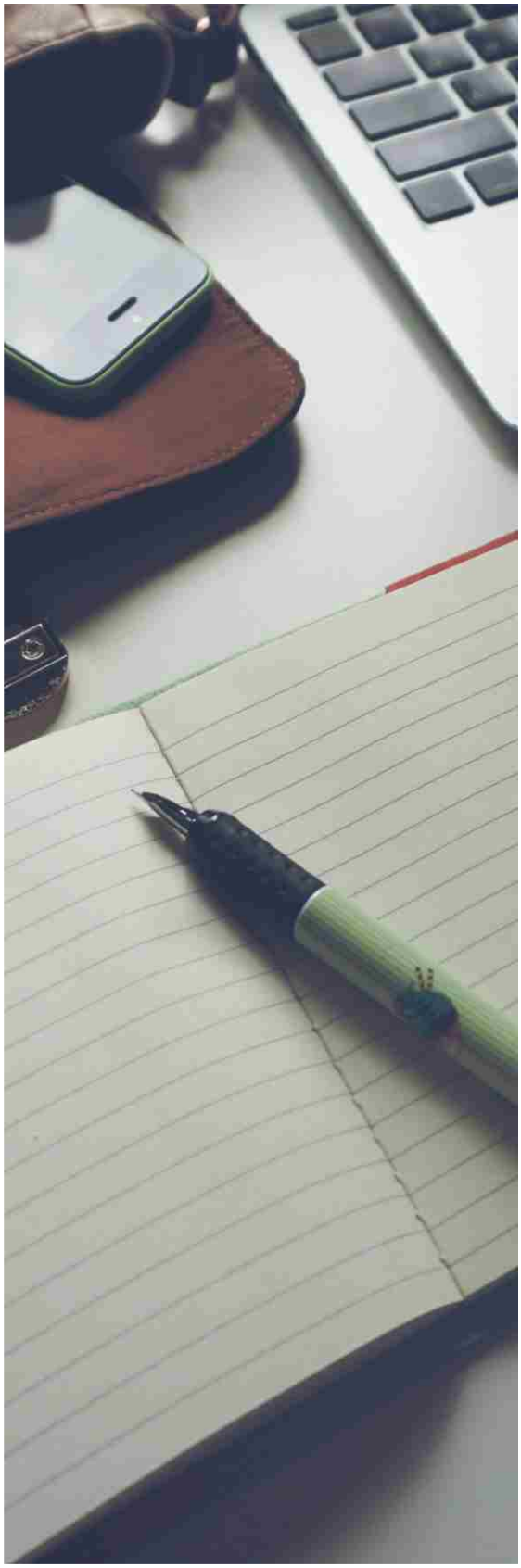


Chief Editor's Message

The arrival of March signals the beginning of the plantation season, a crucial time for reinforcing our commitment to environmental restoration and sustainability. This month, our cover story highlights the importance of indigenous plants and trees in Pakistan and their vital role in mitigating the impacts of climate change.

The cover story, by Dr. Farrukh A. Chishtie, delves into the ecological and climatic significance of native flora. Indigenous species not only provide shade and habitat for wildlife but also enhance soil quality, conserve water, and act as natural barriers against air pollution. In the face of increasing deforestation and urban expansion, preserving and expanding native plant populations is more crucial than ever.

This issue also explores how plantation drives can serve as a tool for climate resilience, especially in regions prone to extreme weather events. Pakistan has already witnessed the devastating effects of climate change, from heatwaves and floods to declining agricultural productivity. By fostering large-scale tree-planting initiatives, we can counteract these challenges, absorb carbon emissions, and promote biodiversity.

Beyond the ecological benefits, planting trees also strengthens community bonds. When local communities, schools, and organizations come together to plant and protect trees, they collectively contribute to a greener and healthier future. At Subh-e-Nau, we encourage everyone to participate in plantation drives, support afforestation efforts, and advocate for policies that protect our natural heritage.

The need for action is immediate. As we enter this plantation season, let us all make a concerted effort to protect and restore our environment. Every tree planted today is an investment in a sustainable tomorrow.

Shahida Kauser Farooq
Chief Editor

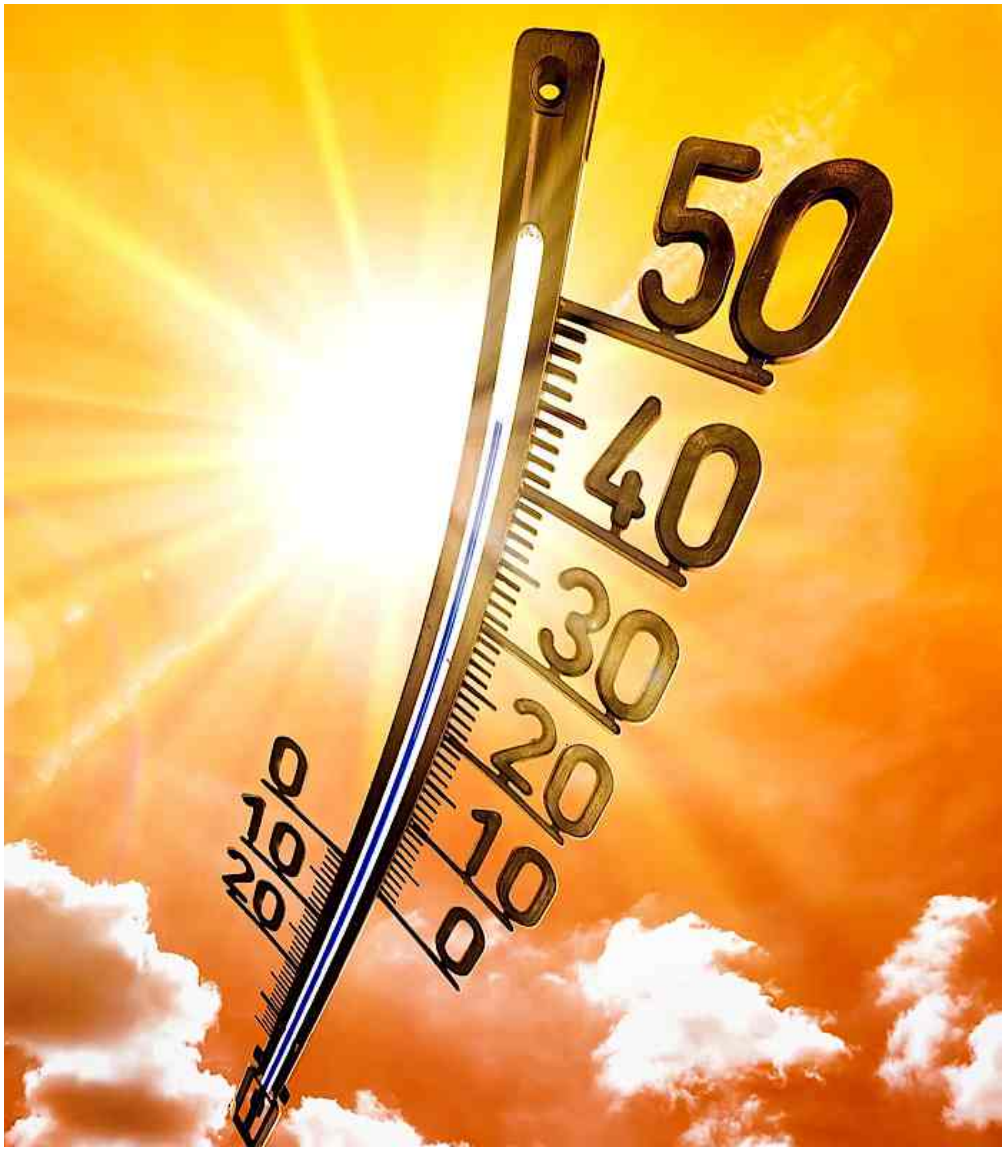
Cover Story

Plantation Season 2025: Reviving our rural and urban ecosystems with indigenous species

Dr. Farrukh A. Chishtie

As March 2025 unfolds, Pakistan finds itself at a critical crossroads in the face of intensifying climate change. Plantation of indigenous across the country is a sustainable, nature-based solution needed now.

The 2022 floods underscored how vulnerable our nation has become to erratic monsoons and extreme weather events. Entire communities were submerged, infrastructure crumbled, and thousands were displaced. Even in the aftermath, severe droughts have recently plagued major urban centers such as Karachi and Lahore, exacerbating water stress and driving up temperatures. These events serve as a stark reminder that we need holistic, long-term strategies to heal our ecosystems—and, importantly, to safeguard our future.



One such approach is to revive indigenous plantation on a national scale, an endeavor that offers both climate adaptation and mitigation benefits. Experience tells us that when we rely on alien or exotic trees, we disrupt local habitats, harm native species, and often fail to realize the full ecological value of a well-rooted indigenous canopy. The importance of planting local species has already been highlighted in earlier campaigns across the

country, underscoring how indigenous trees like Neem, Sheesham, Kachnar, and Sukh Chain naturally cope with local climate conditions while providing shade, clean air, and enhanced biodiversity.

Indigenous trees for climate resilience

Now, as we reflect on the lessons from these disastrous floods and the mounting challenges posed by drought in our cities, it becomes clearer than ever that indigenous plantation is not merely an environmental footnote: it is a powerful, cost-effective, and inclusive nature-based solution. By anchoring local knowledge and expertise—traditionally passed down through generations of farmers, horticulturists, and community elders—we stand a better chance of regenerating depleted soils, replenishing groundwater, and resisting the devastating impacts of heavy rains and unchecked urban sprawl.

This cover story will explore how a nationwide indigenous plantation campaign can help revitalize Pakistan's rural and urban landscapes, highlighting strategies that intertwine ecological restoration with community-led activism. From insights into ancient rainwater-harvesting methods to policies that prioritize tree survival and sustainability, we will discuss a framework that not only promises greener cities and countryside but also helps stabilize our climate. After all, planting

trees is more than just an act of beautification—it is an act of resilience and renewal.

Harnessing Local Knowledge and Community Involvement

In the aftermath of the 2022 floods, the focus on indigenous plantation has taken on an urgency unparalleled in Pakistan's environmental history. Communities across the country continue to grapple with the devastation caused by floodwaters that tore through fragile embankments, while urban dwellers face a lingering drought that heightens water scarcity and soaring temperatures. Strengthening our ecosystems is, therefore, not merely a question of policy, but a matter of survival. By centering local plant species that have evolved in harmony with our climate and geography, we reinforce nature's own buffering capacity—trees stabilize riverbanks, improve soil structure, and regulate water infiltration to reduce the risk of floods and droughts alike.

What makes this effort distinct from previous tree-planting drives

is the recognition that indigenous knowledge—passed down through generations of farmers, local botanists, and horticultural experts—stands as an invaluable source of wisdom. In many rural parts of the country, communities have long used drought-resistant native plants such as Sukh Chain, Kachnar, and Neem to protect farmland from erosion and provide essential shade.

This reservoir of experience, which includes hands-on strategies for rainwater harvesting, natural pest control, and seed-saving techniques, can provide a blueprint for large-scale restoration efforts. By weaving together modern methods with time-tested traditions, we ensure that our reforestation campaigns do more than simply dot the landscape with saplings: we help them flourish sustainably.

Equally critical is the need to raise awareness and participation at every level. From urban students to rural smallholders, each group holds a piece of the puzzle. For example, city administrations, in partnership with local environmental nonprofits, can establish mini "green corridors" in highly congested areas—pockets of biodiversity that help filter air pollution and regulate temperatures. In rural areas, farmers who have experienced crop failure and water shortages firsthand often become the most effective champions of reforestation, sharing success stories about how planting hardy local trees increased yields and stabilized water tables.

Beyond planting, nurturing these saplings to maturity is the true challenge. With limited water resources, especially in semi-arid and drought-prone regions, we must systematically integrate techniques like rainwater harvesting into everyday practice. Rain barrels, rooftop catchments, and irrigation channels linked to sustainable drainage systems can make the difference between a thriving woodland and a withering one.

"What makes this effort distinct from previous tree-planting drives is the recognition that indigenous knowledge—passed down through generations of farmers, local botanists, and horticultural experts—stands as an invaluable source of wisdom. In many rural parts of the country, communities have long used drought-resistant native plants such as Sukh Chain, Kachnar, and Neem to protect farmland from erosion and provide essential shade"

By recovering age-old practices—once passed off as outdated or too modest—alongside modern innovations, we forge an "all-hands-on-deck" approach. It is this synergy that will help build a durable green canopy, capable of withstanding future floods and extreme heat.

Subh-e-Nau's legacy of promoting native species

Subh-e-Nau, both as a publication and an organization, has long championed the cause of indigenous plantation. Dating back to its plantation campaigns of the early 2000s, Subh-e-Nau made sustainability and the promotion of native plant species a foundational element of all tree-planting initiatives. This emphasis stems from a clear understanding of how exotic or invasive species can destabilize local ecologies, threaten bird populations, and fail to provide the same level of environmental resilience as native trees.

Indeed, Subh-e-Nau's commitment to indigenous greenery runs deeper than mere rhetoric. Over the years, the organization has pushed for official recognition of a "National Day for Plantation," advocated for extensive workshops on rainwater harvesting, and demanded that all relevant ministries and public offices take direct responsibility for sustaining the trees planted under their watch.

Even before urban droughts became recurring headlines, Subh-e-Nau highlighted the natural water-saving abilities of local species, urging all participants to learn how these plants harmonize with climate conditions to conserve our most precious resource—water.

As recent events have shown, these lessons are more pertinent than ever. With climate extremes ravaging both rural and urban areas, Subh-e-Nau's early initiatives illustrate how grass-roots action, anchored in scientific research and local knowledge, can yield remarkably durable results. By underscoring indigenous plantation and pairing it with community

education—especially on the vital practice of harvesting rainwater—the organization has consistently spotlighted the essential link between healthy ecosystems and human well-being.

Now, in 2025, the Subh-e-Nau approach serves as a clarion call for government agencies, nonprofits, and citizens alike. Long-term survival hinges on understanding and respecting the delicate equilibrium of Pakistan's varied ecosystems—and that balance is best preserved when we give indigenous trees the attention and priority they deserve.

Exotic species pitfalls: Lessons from the past

Central to the success of a nationwide plantation campaign is a steadfast refusal to compromise on tree quality by using exotic or invasive species. Since well before the cataclysmic 2022 floods, scientific research and field observations in Pakistan have repeatedly shown that certain non-native trees—like the notorious Paper Mulberry or Conocarpus—cause ecological imbalance and pose real threats to both human health and local wildlife. By contrast, indigenous trees have co-evolved with local climates, soils, and animal species, forming intricate connections that help stabilize the land, sustain bird populations, and naturally filter water resources.

We only must look at how exotics have fared in areas such as Islamabad or parts of Balochistan to see the pitfalls. Paper Mulberry, introduced decades ago for quick greening, led to severe pollen allergies and supplanted native flora. Once the floods of 2022 arrived, these weak-rooted, invasive species were ill-equipped to fortify embankments or absorb the deluge, contributing to extensive erosion and damage. By contrast, resilient indigenous trees in nearby areas suffered fewer losses, highlighting their role as frontline defenders against extreme weather.

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This stark difference underscores the unique adaptability and ecological benefits that local tree species bring. Indigenous vegetation provides more than simply a canopy of green: it offers habitats for a variety of pollinators, birds, and other animals critical for maintaining biodiversity. The deeper roots of these trees enhance soil stability and water infiltration, which is vital not only for preventing flash floods but also for replenishing groundwater in drought-stricken urban areas. With climate impacts growing more pronounced each year, an integrated approach—where indigenous knowledge, water-conservation practices, and native species selection come together—stands as one of the best nature-based solutions for both climate adaptation and mitigation.

Socioeconomic benefits of native tree planting

Beyond ecological benefits, an

What Is Climate Change?

Climate change refers to long-term shifts in temperature, rainfall patterns, and other aspects of Earth's climate, driven primarily by rising levels of greenhouse gases in the atmosphere. Although the planet's climate has always undergone natural variations, modern human activities — such as burning fossil fuels and clearing forests — are accelerating these changes at an unprecedented rate.

For Pakistan, climate change manifests through more intense and erratic monsoon rains, scorching heatwaves, recurring droughts, and the rising threat of floods. As witnessed during the catastrophic 2022 floods, these events can wreak havoc on infrastructure, agriculture, and entire communities. By intensifying both flood and drought cycles, climate change underscores the need for nature-based solutions like indigenous plantation — an approach that not only absorbs carbon but also helps safeguard water resources, stabilize riverbanks, and protect biodiversity.

indigenous-centric plantation strategy yields substantial social and economic dividends. In many rural regions, farmers are turning to native trees as a protective buffer for their crops, providing natural shade, attracting beneficial insects, and helping regulate local microclimates. This approach has proven especially pivotal in the Punjab and Sindh provinces, where drought conditions and soaring temperatures have caused considerable damage to both cash and subsistence crops. By integrating indigenous trees into their fields—often as windbreaks or boundary markers—farmers have not only boosted their yields but also reduced dependency on expensive chemical inputs.

Small- and medium-sized enterprises can also benefit. In areas with thriving plantations of Neem, Sheesham, or Acacia, new economic opportunities emerge in the form of carpentry workshops, essential-oil extraction, and even eco-tourism. The revival of indigenous greenery attracts birdwatchers, nature enthusiasts, and casual visitors seeking respite from the urban sprawl—an avenue for local communities to develop sustainable income streams. Meanwhile, in the cities, entrepreneurs are exploring urban reforestation projects that partner with municipal councils and private businesses to create “green belts,” offering cooler, healthier public spaces for residents.

To make these gains more than just one-off success stories, we must recognize the role of public engagement and community ownership. Subh-e-Nau’s model of direct outreach—through workshops, open plantation drives, and on-site demonstrations—has been instrumental in helping citizens relate to the idea that indigenous plantation can directly improve their health, finances, and long-term climate resilience.

Nationally, the momentum to establish local stewardship committees—groups of volunteers trained to maintain saplings, share water-harvesting methods, and keep biodiversity records—has only just begun. Yet these are precisely the grassroots structures we need to ensure that the benefits of native reforestation flow back into local economies, reinforcing a sense of collective responsibility for Pakistan’s natural heritage.

Climate adaptation meets mitigation through reforestation

Another core advantage of embracing indigenous plantation lies in the explicit link it forges between climate adaptation and mitigation—two strategies often discussed in policy circles yet seldom executed in a cohesive manner. Trees, particularly those that are well-suited to local conditions, serve as carbon sinks, absorbing greenhouse gases while simultaneously buffering against the impacts of extreme weather. When the 2022 floods ravaged low-lying districts in Sindh and Punjab, regions with higher coverage of native species—like Babool and Acacia—experienced less soil erosion and faster water absorption, proving once more that healthy ecosystems can minimize climate risks.

Crucially, this "nature-based solution" framework extends beyond just absorbing carbon. Indigenous trees and the broader vegetative cover they support help regulate local temperatures, reduce heat islands in congested cities, and lend themselves to integrated water management through techniques such as rainwater harvesting. In other words, by planting the right trees in the right places—and ensuring their long-term survival—we advance both adaptation (by creating more drought- and flood-resilient landscapes) and mitigation (by pulling more carbon dioxide out of the atmosphere).

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Building on this synergistic approach, several local governments are now experimenting with pilot programs that combine environmental stewardship with social uplift. For instance, community-led cooperatives in parts of Khyber Pakhtunkhwa and Balochistan are sharing seeds and saplings, training each other in water conservation, and jointly monitoring the growth of newly planted areas. These collaborative models not only safeguard saplings from neglect or encroachment but also strengthen social cohesion, helping neighbors look out for each other's farmlands and water reserves.

Yet, success hinges on integrating such efforts into a larger national policy. As climate impacts become more pronounced, stand-alone projects will not suffice. Subh-e-Nau's call for systematic coordination—across ministries, forest departments, research institutions, and grassroots NGOs—remains critical. From distributing appropriate seedlings to providing technical know-how for rainwater harvesting and sustainable irrigation, a large-scale, well-coordinated plan is the only way to ensure that newly planted trees become a permanent and thriving part of Pakistan's ecological future.

A snapshot of some Indigenous and Naturalized trees

Kachnar

Sukh Chane

Chanar

Amaltas

Sheesham or Tahli

Phulahi

Neem

Imli

Jhaoo

Thespesia

Arjuna

Babool

National Plantation Day: A unifying call to action

A cornerstone of this unified approach is the annual National Plantation Day, a tradition spearheaded by Subh-e-Nau that has evolved into a nationwide call to action. Originally set for August 18, this day was conceived to galvanize individuals, civil society, and government agencies to plant indigenous trees and actively learn methods of sustainable stewardship.

More than just a symbolic event, National Plantation Day can become a rallying point for communities to coordinate mass plantings, exchange local saplings, and share practical knowledge on everything from soil preparation to rainwater harvesting.

Over the years, the celebration of National Plantation Day will broaden its scope. Schools can potentially organize drives where students plant and adopt a tree, local forest officials set up free seedling distribution camps, and NGOs conduct open workshops on composting and water conservation. Perhaps most remarkably, many families will turn the day into a generational activity—children, parents, and grandparents coming together to place seedlings in ground they can collectively nurture. This inclusivity cements a sense of long-term commitment, ensuring that saplings do not wither due to neglect once the day's excitement passes.

In March 2025, as we reflect on the progress and challenges still facing our reforestation efforts, National Plantation Day stands out as a shining possibility of continuity and cooperation we can realize across Pakistan. Each year, thousands of new volunteers can join the ranks of seasoned tree-planters who have already witnessed firsthand the benefits of expanding indigenous tree cover—whether in the form of safer river embankments, cooler neighborhoods, or the return of native bird species to suburban parks.

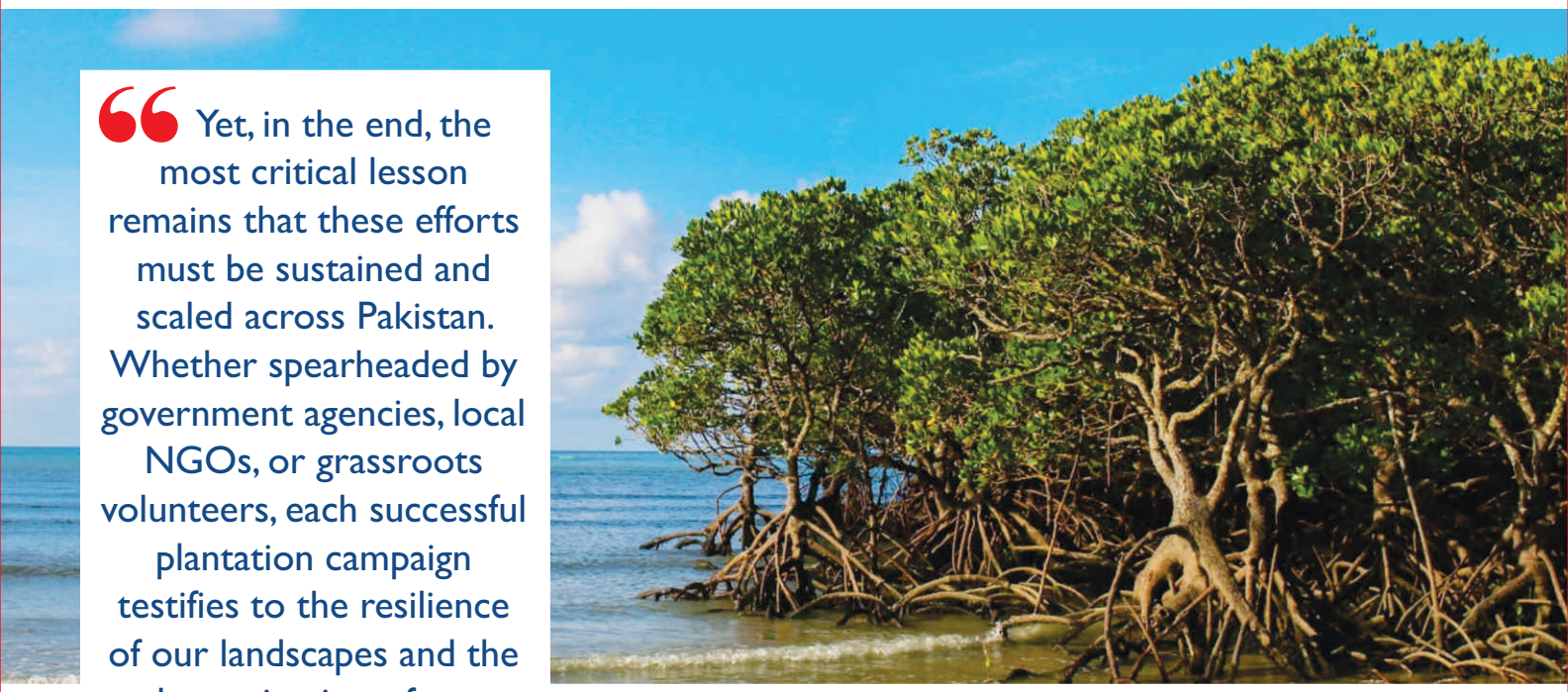
By fostering a spirit of collective responsibility, National Plantation Day also reinforces the idea that environmental protection is not a solitary task, but rather a shared duty spanning all segments of society. When government agencies and citizens join hands in a single, synchronized initiative—even if it lasts just one day—it ignites a spark that can burn all year long. In essence, this annual event serves as both a reminder of our past successes and a stepping stone toward more ambitious, integrated, and resilient strategies that honor Pakistan's unique ecological heritage.

Mangroves and other key native species

While calls for large-scale planting often focus on sheer numbers, choosing the right species is just as vital. Indigenous trees are uniquely tailored to Pakistan's terrain and climate, and each variety offers specific benefits to both local ecosystems and communities. From easily recognizable names such as Sukh Chain, Kachnar, Chanar, Sheesham (Tahli), and Phulah (of the Kiker family) to road-friendly species like Babool, Amaltas, and Saimal, these trees not only create shade and absorb floodwaters but also support native birdlife and pollinators (see pictorial on other indigenous species for more).

For coastal regions, mangroves provide a remarkable layer of natural defense against storm surges, rising sea levels, and tsunamis, offering protection to vulnerable communities along Pakistan's southern shoreline. Unlike exotics that may struggle in saline environments, indigenous mangroves thrive in brackish waters, stabilizing shorelines through their complex root systems and sustaining a host of marine life.

Each of these species—be it a towering Chanar in the northern highlands or the hardy Neem in more arid zones—contributes to a greener landscape in a way that invasive varieties simply cannot replicate. They preserve soil quality, improve groundwater recharge, and create habitats that foster biodiversity. Indeed, a key principle of Subh-e-Nau's reforestation drives has always been to prioritize such native trees, often supported by detailed pictorials and guides that outline how to plant, care for, and propagate each species. These references highlight distinctive leaf



> “Yet, in the end, the most critical lesson remains that these efforts must be sustained and scaled across Pakistan. Whether spearheaded by government agencies, local NGOs, or grassroots volunteers, each successful plantation campaign testifies to the resilience of our landscapes and the determination of our communities. With every plantation season, and with every seedling we nurture, we reaffirm a commitment to preserving our shared heritage and securing a livable future for generations to come”

shapes, flowering patterns, and seasonal cycles, all of which help local communities recognize the tremendous potential of indigenous flora.

By ensuring that we plant trees that naturally belong here—and by tapping into generations of local expertise in cultivation—we solidify the framework for a thriving, sustainable Pakistan. Rather than a haphazard attempt to introduce quick-growing but ecologically incompatible trees, this indigenous-first mindset guarantees longer survival rates, stronger defenses against climate extremes, and enduring benefits for every segment of society.

Forging ahead in a sustainable manner

The challenges posed by the 2022 floods, the recent urban droughts, and the spiraling effects of climate change demand a united, long-term strategy—one that places indigenous knowledge at its heart. Over the course of these pages, we have seen how native trees not only reinforce ecological balance but also serve as powerful tools for climate adaptation and mitigation. From preventing soil erosion to replenishing groundwater, and from supporting local livelihoods to bolstering coastal defenses, indigenous species provide tangible, cost-effective solutions that benefit all sectors of society.

Yet, in the end, the most critical lesson remains that these efforts must be sustained and scaled across Pakistan. Whether spearheaded by government agencies, local NGOs, or grassroots volunteers, each successful plantation campaign testifies to the resilience of our landscapes and the determination of our communities. With every plantation season, and with every seedling we nurture, we reaffirm a commitment to preserving our shared heritage and securing a livable future for generations to come.

By embracing indigenous plantation, Pakistan invests not only in verdant forests and thriving habitats but also in the health and prosperity of its people. It is a choice that honors our ecological roots, fosters sustainable growth, and answers the urgent call of a rapidly changing climate.■

Amber Ajani

Polar bears facing deadly climate threats

The largest and the most carnivorous member of the bear family, the polar bear is struggling to survive in the harsh reality of climate change.

Found throughout the Arctic region in countries of Alaska, Canada, Russia, Greenland and Norway, they are used as a flagship species by conservation organizations to flag the reality of climate change. A recent Nat Geo video showing a starving Polar bear on iceless land went viral on social media highlighting the peril these bears are in. In order to understand the link between climate change and starving polar bears, let us look at how these bears survive in the Arctic.

The polar bears are said to have evolved from a common ancestor of the brown bear, according to recent findings. As these bears moved North, they went through a series of evolutionary changes to adapt to the harsh environment and extreme cold. From head to toe,

their bodies are superbly adapted to withstand the seasonal shifts in the Arctic weather. Their ears and tails are small to minimize heat loss and bodies are covered by thick fur which extends to cover even their feet to provide warmth and grip on ice. There is a thick layer of fat, called blubber, beneath their fur which provides insulation and buoyancy and serves as nutritional and energy reserve when food cannot be found. Contrary to popular belief, the fur of polar bear is not white! It is actually transparent with hollow tubes filled with air and underneath is black skin which efficiently absorbs heat from the sun. Its clear fur helps the bears blend in with their surroundings and appear white against the snow.

Polar bears are excellent swimmers and though born on land, they spend most of their lives on sea ice. Their scientific name, *Ursusmaritimus,* also translates into sea bear. They mainly eat ringed and bearded seals because they require large amounts of fat and calories to survive. They hunt seals in wide cracks in the sea ice or at breathing holes. They use the sea ice as a hunting platform and wait patiently for seals to surface near their breathing holes or at the edge of the sea ice. As global temperatures rise, the sea ice melts earlier and forms later with each passing year, leaving less time for the polar bears to hunt. It also means that due to a loss of sea ice, these bears have to swim greater distances in search of prey which exhausts their fat and energy reserves. When they do not get access to seals, polar bears resort to eating fish, eggs, vegetation, reindeer, rodents, birds, berries and even human garbage.

So great is their plight that only 20,000-25,000 of them are found in the Arctic region which led IUCN to classify them as vulnerable in 2008. Their habitat, namely, sea ice is shrinking and their numbers in the wild are declining. It is predicted that the Arctic will be completely free of ice by the next century which will leave these bears without a home.

A question that begs to be asked here is, are we ready to allow these bears to go without a home and possibly disappear? We, humans, have an intrinsic connection to nature and wildlife and we find comfort in them. We all want a world where we live in harmony with nature- a world where not just polar bears but all species get a chance to survive and thrive. But, how do we get there?

First of all, we need to stop emitting greenhouse gases. And I mean a complete ban on fossil fuels. We all need to transition to renewable energy sources such as solar and wind power as soon as possible. Renewables might be costly at the installation phase, but they pay for themselves within 5 years. Secondly, we need everyone to help tackle climate change. Everyone should join in the fight, spread awareness, and demand a shift to a cleaner, greener world. It is possible if enough of us believe in it. As they say, "The power of people is greater than the people in power", so actions at the grassroots are bound to lead to change present policies. ■

Zahrah Nasir

Alternative Teas

Beyond the usual black tea and milk, there are many other types of teas which can be cultivated in your garden.

Winter sun drying of nasturtium flowers

Pakistan is a nation of tea drinkers. As are so many other nations around the world despite the fact that regular black tea, laced with milk and tons of sugar is extremely bad for you health and, these days, hard on the budget too! However, do not despair as there are literally dozens – perhaps even hundreds – of healthy alternative teas around and many of these are quite easy to grow in the garden or in pots.

The health benefits of herbal teas differ depending on the herbs used. This also varies depending whether just a single plant is used in the preparation or a mix selected for a specific reason.

Some herbs teas give a wake up boost in a morning; others are relaxing and aide sleep while many others are simply and refreshingly tasty and delightfully aromatic to drink.

Packaged herbal teas are, these days, quite widely available in the market but, despite their list of contents – not all, especially those originating in the Far East and

China have such a list. One can never be one hundred per cent sure as to the exact contents and as to whether or not they are as organic as some are claimed to be as, like with other so called 'organic' products, depending on the laws in their country of origin, they may only contain a mere one per cent of organic material in order to qualify to be labeled as organic!

Growing your own – organically of course – is the easiest, cheapest and surest option.

Pine needles make a healthy tea

Herbal teas can be made from a wide variety of plants. This could be from their flowers, leaves, stems, roots and even the seeds of some and, amongst the most commonly available plants are: Chamomile, thyme, sage, aniseed, dill, rose petals, rose hips, lemon balm, agastache, basil, rosemary, hibiscus, eucalyptus, moringa oleifera, and, for those who enjoy a hike in the unpolluted hills and mountains, pine needle tea is an absolute must!

An extremely wide selection of herbs are suitable for cultivation in pots, trays and other containers but deep rooted, perennial varieties – and trees of course – are, unless dwarf varieties, best grown directly in the ground.

Herbs which thrive in pots, etc. include the following: Chamomile, thyme, sage, lemon balm, lemon verbena, nasturtiums, agastache, rosemary, lemon grass, oregano/marjoram, basil, borage, plecanthrus (often called Cuban or Spanish thyme here in Pakistan), geraniums, parsley, tarragon, viola/pansies/sweet violets, raspberry, blackberry and strawberry leaves, plus apple tree leaves and, of course, many varieties of mint with regular green mint, peppermint, apple mint and lemon mint topping the extensive list.

The added advantage of growing herbs in pots/containers is that they can be moved from winter sun to summer shade quite easily depending on their preferred 'personal' requirements and the season.

A good basic potting mix for herbs, both for starting off their seeds and for growing mature plants is one which is well draining and rich in organic matter with the following being ideal. 50% homemade organic compost/well rotted organic manure, 25% sweet earth and 25% river sand. Do not use sea sand as this contains far more salt than the majority of herbs – unless they are natural to sea-side conditions – will tolerate.

If growing herbs directly in the garden ensure that top quality soil conditions (similar to those mentioned above) are maintained and keep your herbs mulched – this feeds them, restricts the growth of weeds and conserves moisture – especially during the summer months or when growing on exposed roof tops, which can get surprisingly hot even during the winter months. They are hot in the day and extra cold at night in winter, hence, rooftop gardening can be quite a different challenge than gardening at ground level, so please keep this in mind.

Different herbs have different medicinal properties so please do NOT experiment with them unless you know exactly what you are doing. Combining an 'incorrect' combination of herbs can, in some cases, act to increase their potency so both care and knowledge are an absolute must and accurate research on each individual herb, its uses, potency, precautions and growing conditions is strongly recommended. Surely there is not room, in just one article, to provide all of the necessary information here. Do not, however, let this put you off from starting out by making teas with well known species such as mints, lemon grass, hibiscus flowers, Moringa oleifera leaves and pine needles – spruce and cedar being the best – which, to the surprise of many, are very high in vitamin C and, as well as fighting tuberculosis, are delicious made in to soup. They can also be used, fresh or dried, in both vegetarian and savory dishes or made in to a rather interestingly flavoured soup.

Herb teas, in various guises and made from an amazing variety of ingredients are, after pure water, the oldest drink known to man and all can be made from either fresh or dried ingredients.

Depending on the ambient temperature and hours of direct sunlight, some herbs can be sun dried whilst others are best hung up in bunches and dried, more slowly, in a shady but airy place where ventilation is unrestricted. This is especially true for herbs containing oil – such as basil and rosemary – as the oil quickly

Sun drying green mint on a stainless steel tray

> A good basic potting mix for herbs, both for starting off their seeds and for growing mature plants is one which is well draining and rich in organic matter with the following being ideal. 50% homemade organic compost/well rotted organic manure, 25% sweet earth and 25% river sand

Fragrant roses make fragrant tea

Drying rose petals

evaporates in direct summer sunshine so should only be sun dried during the much cooler winter months.

Herbs, depending on stem length and leaf size, can be hung up, in bunches to dry, spread out on special drying racks, slow dried on or in woven baskets. They can be dried more quickly on stainless steel trays or dried in solar dryers which are, at long last, being slowly introduced here but, at the moment, mostly designed for drying fruit and mushrooms.

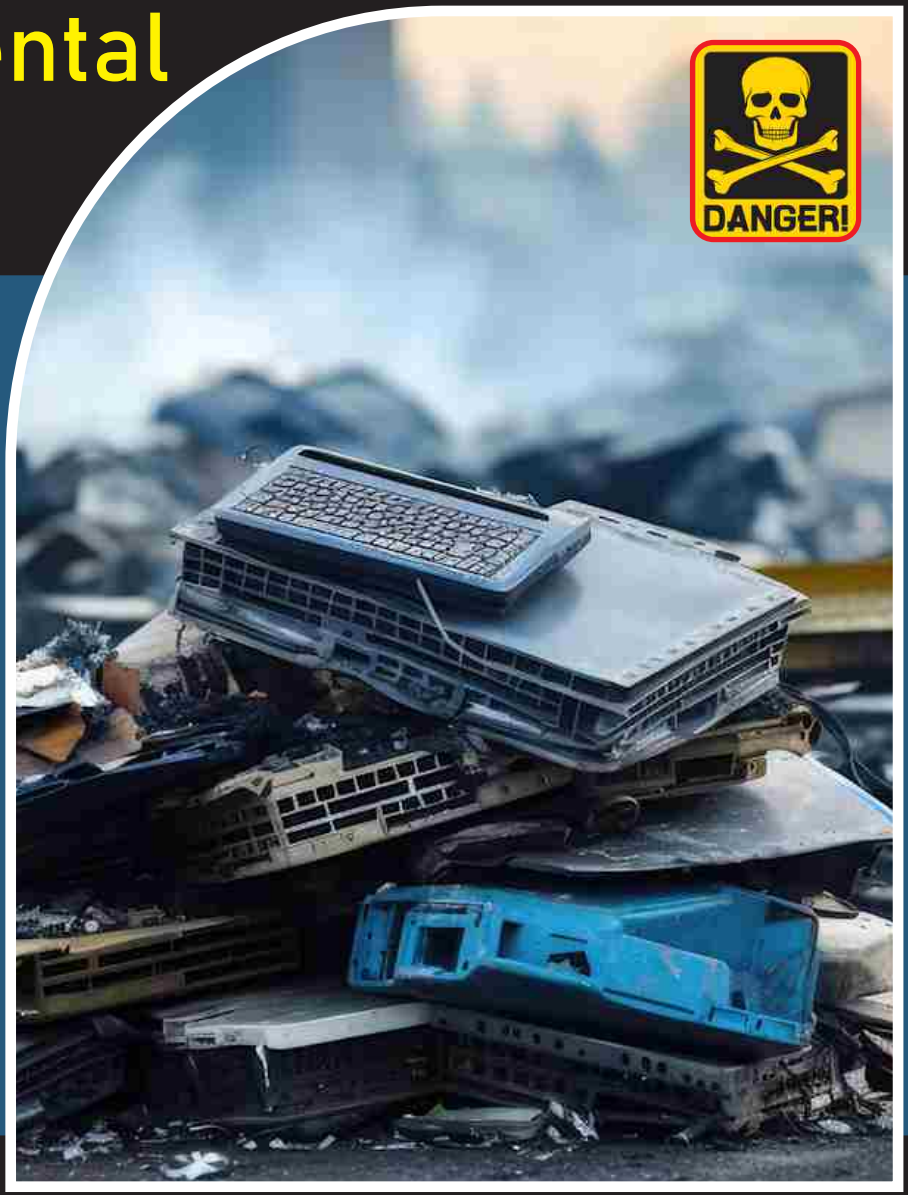
Herbal teas can be given an extra 'zap' by adding a little dried citrus peel – orange, lemon, grapefruit – which most people throw away but which has a wide variety of uses. The white 'pith' on the inside of the peel should be carefully cut off with a sharp knife prior to slicing the selected peel in to narrow strips for drying and using in tea, in pilau, in cakes and in many other dishes.

Making herb tea is a simple exercise. You can either infuse it – as with black tea or, if being made from something like pine needles or dried rosehips, it is usual to add the ingredients to boiling water and allow to simmer for 15 – 30 minutes depending on the strength required.

- **Useful tips:** Store dried herbs, be these flowers, leaves, roots or whatever, in airtight containers, clearly dated and labeled, in a cool, dark place and, if a sweetener is needed, use either, pure organic honey or raw, brown sugar – organic if you can get it. ■

Sultan Kiani

Disposable electronics causing extensive environmental damage



We are surrounded by electronics—from digital watches, cell phones and computers to home appliances, medical equipment, vehicles, and airplanes. Electronics are now everywhere! Despite their usefulness, electronics have some downsides, like their significant contribution to environmental degradation.

One major issue the world is facing is electronic waste, also known as "E-Waste," this is when electronic products reach the end of their life cycle.

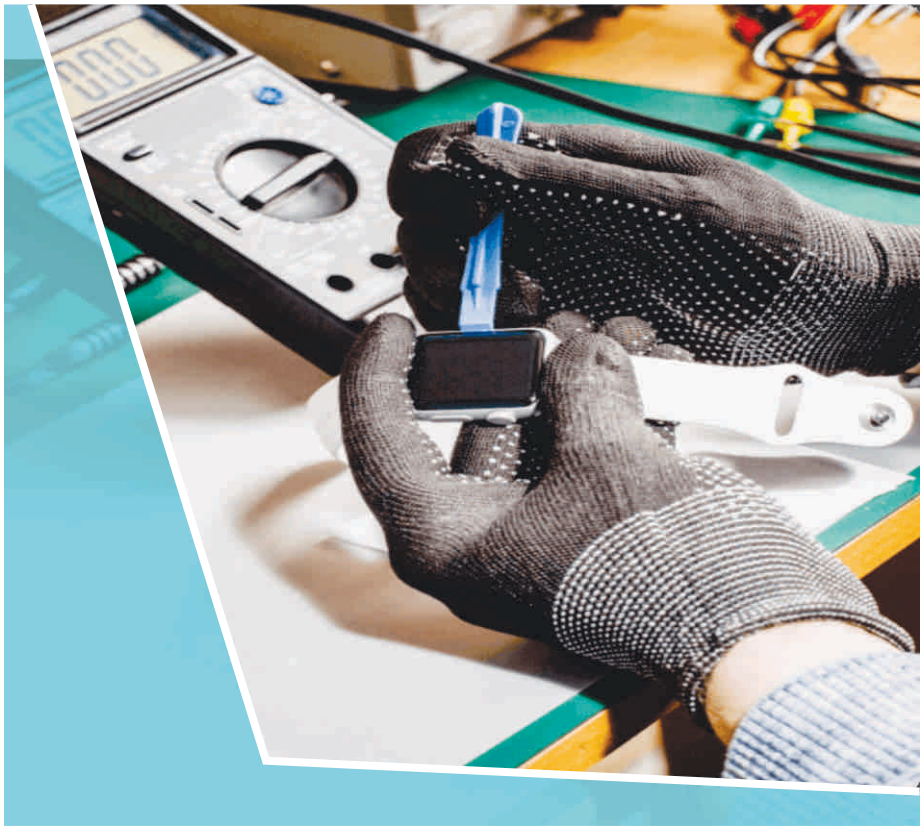
It is seemingly a normal phenomenon as we know everything eventually dies.

However, I became aware of the issue when my emergency light recently stopped working. The battery-powered light was purchased not long ago, but its backup time dropped drastically, making it almost useless. The only fault was the worn-out battery not holding enough charge so the battery replacement should have fixed it. But here comes the problem, replacing the battery wasn't easy. In fact, it was a challenging task even for a DIY enthusiast. The issue is mainly due to the unit's design, which

the manufacturer intentionally made to be irreparable. I was able to replace the battery with one of the two identical lights, but ended up breaking the other one, which is now dead scrap. If it had been made repairable, we could have revived the light, as its PC board, body shell, and LEDs were all working.

More manufacturers are creating fragile and disposable electronics compelling consumers to purchase new units. This practice extends beyond low-cost electronics like Chinese emergency lights to other commonly used electronics such as electric space heaters, instant water heaters, smartphones, and smart watches etc. Even renowned multinational brands are doing the same. Smartphone manufacturers, for example, make repairs excessively expensive, forcing customers to opt for a replacement rather than fixing the repairable unit.

> “E-waste recycling unit workers in developing countries operate in hazardous conditions without adequate ventilation, proper personal protective equipment (PPE), and are rarely covered by occupational health insurance”



Renowned electronics brands often make repairs excessively expensive, forcing customers to opt for a replacement rather than fixing the repairable unit

Some smartphone makers are also notoriously known for slowing down devices by introducing bugs through software updates, thereby prompting unnecessary upgrades. The same applies to smart watches from various brands; they are either disposable or too complicated and expensive to repair. Manufacturers tend to prioritize profit over sustainability. Such product design and business strategies are not only unethical but also unsustainable.

The issue of e-waste has emerged as one of the most pressing environmental challenges in recent decades. Electronic waste is hazardous to the environment and public health as it contains heavy metals, carcinogens, plastic and other toxins like arsenic. Thus, their waste management, recycling and disposal is a complex and dangerous job. Strict safety protocols must be followed at various levels to minimize the risk. Unfortunately, these precautionary measures are often neglected in developing countries like Pakistan due to weaker regulations, limited financial resources, and inadequate technology. Also, substandard disposable Chinese electronics are more commonly imported into these countries. The

lack of effective disposal mechanisms further exacerbates the already awful situation.

Workers in unsafe, makeshift recycling factories are often directly exposed to the toxic elements of electronic waste, where the concept of occupational health and safety is virtually nonexistent. E-waste processing involves dismantling, burning, and using volatile and corrosive chemicals for metal extraction. These processes release toxic gases and carry an extreme risk of occupational accidents and illnesses. Typically, workers operate in hazardous conditions without adequate ventilation, proper personal protective equipment (PPE), and are rarely covered by occupational health insurance. Common health issues faced by e-waste processing workers include respiratory problems, blurred vision, ocular inflammation, deep cuts and burns, cancer, and other chronic medical conditions.

Moreover, e-waste also has severe environmental impacts. According to a United Nations Institute for Training and Research (UNITAR) report, 62 million tons of e-waste was generated globally in 2022. This staggering volume of waste represents an increase of more than 80% compared to 2010. Experts predict that electronic waste could rise to 82 million tons by 2030!

It is increasingly becoming more problematic in developing countries with lax health and safety regulations. Improper electronic waste recycling and disposal is responsible for soil contamination, air and water pollution including groundwater contamination which could be devastating as the world is already facing serious water shortage. Persistent pollutants can also be harmful to biodiversity and wildlife. Once entered the food chain, it could eventually cause damage to human health in the form of toxic vegetables and meat. This alarming situation calls for the urgent need for reforms in manufacturing practices and changes in consumer behavior worldwide. The following suggested measures could bring a positive change leading to solution to a serious environmental problem:

E-waste recycling unit workers in developing countries operate in hazardous conditions without adequate ventilation, proper personal protective equipment (PPE), and are rarely covered by occupational health insurance

Purchase Good Quality Products: As consumers, we should prioritize better quality products built to last long and are designed to be repairable. While substandard alternatives may seem cheaper, their poor quality means they easily break and are often not repairable. Even minor faults can leave you with no option but to discard the entire unit.

Prefer Repairs: If a product can be safely repaired, we should choose repairs over unnecessary replacements as this helps us save money and preserve natural resources.

Encouraging Innovative Startups: Entrepreneurs should explore innovative ways to transform discarded electronics

Innovative startups should focus on restructuring e-waste recycling units to make them safe and eco-friendly

> Local and international environmental organizations should run effective campaigns promoting sustainable manufacturing practices. Environmental pressure groups must also urge regulators to enforce stricter laws against disposable and substandard electronics

into useful items. This could involve refurbishing broken gadgets, giving them new life, and reselling them, or harvesting their usable parts to repair damaged products.

Similarly, new manufacturers could market their products as reliable and repairable at competitive prices.

Startups should also focus on restructuring e-waste recycling units to make them safer. The government and international aid agencies need to support and promote businesses that create job opportunities while reducing waste.

Government Regulations: The first step to conserve resources and minimize waste is to reduce consumption. Stricter regulations are needed to discourage the manufacturing, import, and sale of disposable, substandard machines. Policies should prioritize the production and import of high-quality, repairable products. Introducing product certifications, like the Energy Star rating, could also be beneficial in this regard. Additionally, there is a need to restructure and enforce e-waste disposal rules more effectively to ensure the safe recycling and disposal of discarded electronics, protecting public health and minimizing environmental impact.

Advocacy & Awareness: Local and international environmental organizations should run effective campaigns promoting sustainable manufacturing practices. Environmental pressure groups must also urge regulators to enforce stricter laws against disposable and substandard electronics.

Addressing this issue demands collective action from consumers, businesses, activists, and policymakers to transition toward more ethical and sustainable production and consumption practices. If no serious action is taken, the ever-growing electronic waste will continue to accumulate, posing severe environmental and public health risks worldwide. A shift toward a more sustainable future is not just necessary, it is urgent! ■

Dr. Mahjabeen

Unlocking the power of fasting & exercise

In today's fast-paced world, it's easy to get caught up in the hustle and bustle of daily life and neglect our health. Chronic diseases like obesity, diabetes, and heart disease are on the rise, and it's clear that something needs to change.

As a doctor, I've seen first-hand the transformative power of fasting and exercise. When combined with a clean living lifestyle, these two practices can have a profound impact on our overall health and well-being.

But what exactly is fasting, and how can it benefit our health? How does exercise fit into the equation, and what are the best ways to combine these two practices for optimal results? In this article, we'll delve into the science behind fasting and exercise, and explore the practical tips and strategies for incorporating these practices into your daily life.

Whether you're looking to improve your physical health, boost your energy levels, or simply feel more vibrant and alive, this article is for you. So, let's get started on this journey to clea

> Fasting has also been linked to increased production of human growth hormone (HGH). HGH is essential for cellular regeneration, growth, and repair. During fasting, the body produces more HGH, which can lead to improved muscle mass, bone density, and overall cellular health

> One of the primary mechanisms by which fasting exerts its beneficial effects is through autophagy. Autophagy is the body's natural process of recycling and removing damaged or dysfunctional cells and proteins. During fasting, autophagy is stimulated, allowing the body to clean out damaged cells and proteins, and recycle them for energy

living, and discover the incredible benefits that await us.

The Science of Fasting: Unlocking the Body's Natural Healing Processes

Fasting, or the abstention from food and drink, has been practiced for centuries for its numerous health benefits. But what exactly happens in the body during fasting, and how can it lead to improved health and well-being?

Autophagy: The Body's Natural Recycling Process

One of the primary mechanisms by which fasting exerts its beneficial effects is through autophagy. Autophagy is the body's

natural process of recycling and removing damaged or dysfunctional cells and proteins. During fasting, autophagy is stimulated, allowing the body to clean out damaged cells and proteins, and recycle them for energy.

Insulin Sensitivity and Glucose Metabolism

Fasting has also been shown to improve insulin sensitivity and glucose metabolism. When we eat, our body releases insulin to help regulate blood sugar levels. However, with regular fasting, our body becomes more sensitive to insulin, allowing for more efficient glucose uptake in the muscles. This can lead to improved blood sugar control, reduced inflammation, and a lower risk of chronic diseases like type 2 diabetes.

Human Growth Hormone (HGH) and Cellular Regeneration

Fasting has also been linked to increased production of human growth hormone (HGH). HGH is essential for cellular regeneration, growth, and repair. During fasting, the body produces more HGH, which can lead to improved muscle mass, bone density, and overall cellular health.

Benefits of Fasting for Overall Health

The benefits of fasting extend far beyond autophagy, insulin sensitivity, and HGH production. Regular fasting has been shown to:

- Improve mental clarity and focus
- Enhance fat loss and weight management
- Reduce inflammation and oxidative stress
- Improve immune function and reduce the risk of chronic diseases.

Combining Fasting and Exercise for Optimal Health

While fasting and exercise are both powerful tools for improving health, combining them can lead to even more impressive benefits.

Enhanced Fat Loss and Weight Management

Combining fasting and exercise can lead to enhanced fat loss and weight management. When you fast, your body is forced to adapt to using stored fat for energy. Exercise, particularly resistance training and HIIT, can further enhance this process by increasing the body's energy demands.

Improved Insulin Sensitivity and Glucose Metabolism

Combining fasting and exercise can also lead to improved insulin sensitivity and glucose metabolism. When you fast, your body becomes more sensitive to insulin, allowing for more efficient glucose uptake in the muscles. Exercise, particularly aerobic exercise, can further enhance this process by increasing the body's energy demands.

Increased Human Growth Hormone (HGH) Production

Combining fasting and exercise can also lead to increased production of human growth hormone (HGH). HGH is essential for cellular regeneration, growth, and repair. When you fast, your body produces more HGH to help preserve muscle mass and bone density. Exercise, particularly resistance training and HIIT, can further enhance this process by increasing the body's energy demands.

Tips for Safely Combining Fasting and Exercise

While combining fasting and exercise can be beneficial, it's essential to do so safely. Here are some tips to keep in mind:

1. Start slow: If you're new to fasting or exercise, start with short fasts (12-14 hours) and gradually increase the duration as your body adapts.

2. Listen to your body: If you feel weak, dizzy, or experiencing other negative side effects, stop fasting or exercising and consult with a healthcare professional.

3. Stay hydrated: Drink plenty of water during your fasts and exercise sessions to stay hydrated and prevent dehydration.

4. Electrolyte balance: Consider adding electrolyte supplements or consuming electrolyte-rich foods during your fasts to maintain electrolyte balance.

As we conclude this article, we recognize that for many individuals, fasting is not just a choice, but a sacred obligation. During the month of Ramadan, millions of Muslims around the world fast from dawn to sunset, abstaining from food and drink for up to 18 hours a day.
While intermittent fasting and alternate-day fasting have been shown to have numerous health benefits, whole month fasting during Ramadan presents a unique opportunity for spiritual growth, self-reflection, and physical detoxification.

As we've discussed throughout this article, fasting can have a profound impact on our physical and mental health, from improving insulin sensitivity and glucose metabolism to increasing human growth hormone production and enhancing autophagy.

However, it's essential to remember that fasting during Ramadan can also present unique challenges, particularly for individuals with pre-existing health conditions or those who are new to fasting.

By combining the spiritual benefits of Ramadan with the physical benefits of fasting, exercise, and clean living, we can unlock optimal health and well-being. Remember to be mindful of your body's needs, stay hydrated, and prioritize self-care during this blessed month.

May this Ramadan bring you peace, prosperity, and optimal health! ■


COUNTRY
BUILDERS & DEVELOPERS
LIVE YOUR DREAMS WITH US
WE ARE ALL IN THIS
TOGETHER
WE CAN MAKE A
DIFFERNCE
CLIMATE CHANGE
IS REAL
COUNTRY
BUILDERS
IS COMMITTED TO SUSTAINABILITY

Abdul Aleem Chaudhry

The health benefits of drinking water from eco-friendly clay pots (Matkas)

In today's so-called modern world, where materials like glass, steel, and plastic dominate our kitchens, ancient traditions are often forgotten. One such tradition, drinking water from clay pots or pitchers—commonly known as *Matkas* in Urdu is slowly disappearing despite its numerous health benefits.

There was a time when *Matkas* were a common sight in South Asia, specifically Indo-Pak households, not only keeping water cool but also providing several health advantages. With the growing reliance on refrigerators, the legacy of drinking from clay pots has faded. However, this ancient practice holds much wisdom that still merits attention.

Natural cooling with clay pots: Clay's porous nature makes it an excellent material for storing water, providing a natural cooling effect. Unlike modern containers made from glass, steel, or plastic, clay pots maintain a lower temperature by allowing water to evaporate slowly through tiny pores. As a result, water stored in clay pots remains cool and refreshing, especially in warm climates, without the need for electricity or refrigeration. The freshness of water

from clay pots offers an invigorating sensation, ideal for quenching thirst during hot summer days.

Balancing the body's pH levels:

One of the most notable health benefits of drinking water stored in clay pots is its ability to balance the body's pH levels. Clay contains alkaline elements that interact with water, reducing its acidity. This can be particularly beneficial for people suffering from acidity, indigestion, or other gastric issues.

Chemical-free and eco-friendly:

Modern plastic containers are a major environmental concern due to their harmful impact on ecosystems and potential to release toxic chemicals like BPA (Bisphenol A) when exposed to heat. These toxins have been linked to various health risks, including hormonal imbalances and cancer. In contrast, clay pots are entirely free from harmful chemicals, providing a natural, biodegradable, and safe alternative for storing drinking water.

Rich in natural minerals:

Clay pots naturally enrich the water they store with essential minerals like calcium, phosphorus, and magnesium. These minerals are vital for strong bones, healthy muscles, and efficient metabolic function. Over time, drinking water from clay pots can help keep the body energized and vibrant.

"Modern plastic containers are a major environmental concern due to their harmful impact on ecosystems and potential to release toxic chemicals like BPA (Bisphenol A) when exposed to heat. These toxins have been linked to various health risks, including hormonal imbalances and cancer. In contrast, clay pots are entirely free from harmful chemicals, providing a natural, biodegradable, and safe alternative for storing drinking water"

Preventing Common Ailments:

Regular use of clay pots for storing drinking water offers several health benefits, including protection against common ailments. As mentioned earlier, the alkaline properties of water from clay pots prevent issues like acidity and indigestion.

Reviving a healthy tradition:

In a fast-paced world where convenience often trumps health considerations, it is essential to revisit ancient practices that offer long-term benefits. The shift to plastic, glass, and metal containers may have made life easier, but it has also come at the expense of our well-being. Drinking water from clay pots is not only a healthier choice, but it also reconnects us with our roots and traditions.

Availability:

Clay pots are still readily available in local markets, especially from artisans who specialize in making earthenware. Choosing these eco-friendly, traditional vessels not only promotes a healthier lifestyle but also supports local craftsmanship and preserves a dying art.

The benefits of drinking water from clay pots go beyond tradition; they offer a natural and healthy alternative to modern containers. From keeping water cool without refrigeration to balancing the body's pH levels, clay pots provide a time-tested solution for good health. As we seek more sustainable and health-conscious alternatives, perhaps it is time to revive this ancient practice for the betterment of both our health and the environment. ■

Justin McCurry

‘An act of betrayal’: Japan to maximise nuclear power 14 years after Fukushima

More than a decade after the triple meltdown at the Fukushima Daiichi power plant, Japan is again turning to nuclear power as it struggles to reach its emissions targets and bolster its energy security.

In a draft strategic energy plan due to be approved by the cabinet this month, the trade and industry ministry signalled it was ditching attempts to lessen Japan’s reliance on nuclear power in the wake of the Fukushima disaster – the world’s worst nuclear accident since Chornobyl 25 years earlier.

The document dropped a reference to “reducing reliance” on nuclear energy that had appeared in the three previous plans and instead called for a “maximisation” of nuclear power, which

Photo Credit: Eugene Hoshiko/EPA

Tanks containing treated radioactive wastewater at the Fukushima Daiichi nuclear power plant. Japan is looking to ditch efforts to lessen its reliance on nuclear power, despite the Fukushima disaster

An aerial view of the Fukushima Daiichi nuclear in Okuma in 2022. The 2011 meltdown there was the worst nuclear accident since Chornoby

“Nuclear plants are not where the Japanese government should be investing its money,” says Aileen Smith, executive director of the Kyoto-based group Green Action. “Many nuclear plants are old, and the technology they use is even older. The costs of retrofitting are high, so even operating existing plants is no longer commercially viable”

will account for about 20% of total energy output in 2040, based on the assumption that 30 reactors will be in full operation by then.

The plan envisages a share of between 40% and 50% for renewable energy – compared with just under a third in 2023 – and a reduction in coal-fired power from the current 70% to 30-40%.

The push to restart reactors idled since the plant was struck by a tsunami triggered by a magnitude-9.0 earthquake has been condemned by climate campaigners as costly and dangerous.

“Nuclear plants are not where the Japanese government should be investing its money,” says Aileen Smith, executive director of the Kyoto-based group Green Action. “Many nuclear plants are old, and the technology they use is even older. The costs of retrofitting are high, so even operating existing plants is no longer commercially viable.”

Ageing reactors – those at least 40 years old – make up 40% of those in operation around the world, but only 20% in Japan, according to a recent study by the Yomiuri Shimbun. In the US, by contrast, 64 of the country’s 94 reactors – 68% of the total – will have been operating for at least 40 years by the end of the year, the newspaper added.

But unlike many other countries that use nuclear power, Japan is vulnerable to powerful earthquakes and tsunami of the kind that wrecked Fukushima Daiichi.

“Earthquakes are the biggest danger, and they could strike old or new reactors,” Smith says. “The more reactors you have in operation, the greater the risk. It’s as simple as that. Retrofitting would mean spending huge sums of

money on all those old reactors when the government could instead be putting its money into renewables."

Officials say reactors will need to be restarted if Japan is to meet an expected increase in demand for power, partly driven by AI-related data processing centres and semiconductor factories, as well as achieving net zero by the middle of the century.

But campaigners say government plans to persist with ageing reactors would leave Japan vulnerable to another major accident. "Ageing in nuclear power plants is a highly complex subject that has the potential to fundamentally challenge the safety and integrity of a nuclear reactor," says Hisayo Takada at Greenpeace Japan.

"As reactors operate, they are subject to enormous pressures and temperatures, all of which contribute to major stresses. The prospect of Japan operating ever more reactors to 60 years and beyond is evidence of a major experiment being conducted on the country. It has the potential to be catastrophic."

Instead, Takada adds, the government should do more to promote renewables.

"The climate crisis demands the rapid decarbonisation of society, with energy and the production of electricity a priority," she says. "The only technologies that exist today that can deliver on the short timescale we face with the climate crisis are improved energy efficiency and expanding renewable energy."

"The post-Fukushima closures of reactors forced Japan to rely more heavily on imported fossil fuels; it is now the world's second-largest importer of liquefied natural gas after China and the third-largest importer of coal"

The triple meltdown at Fukushima Daiichi shook Japan's confidence in nuclear power. Before the disaster, 54 reactors were in operation, supplying about 30% of the country's electric power. Just 14 reactors have been restarted, while others are being decommissioned or awaiting permission to go back into service.

The accident caused a radiation leak, forcing more than 160,000 people living nearby to flee their homes and turning entire communities into ghost towns. Decommissioning the plant is expected to cost trillions of yen and take four decades.

The post-Fukushima closures of reactors forced Japan to rely more heavily on imported fossil fuels; it is now the world's second-largest importer of liquefied natural gas after China and the third-largest importer of coal.

In the 14 years since, utilities have restarted 14 reactors, including one in the region destroyed by the 2011 tsunami, despite opposition from local residents. From June this year, nuclear plants can remain in operation beyond the previous limit of 60 years provided they undergo safety upgrades.

Last year the No 1 reactor at Takahama nuclear plant in central Japan became the first to receive approval to operate beyond 50 years. Four reactors have already been operating for more than 40 years, with three more due to reach the milestone this year.

Sections of the media have reacted with horror at the prospect of a significantly bigger role for nuclear and accused politicians of hypocrisy.

Noting that the prime minister, Shigeru Ishiba, had promised to try to bring nuclear-power generation "to as close to zero as possible" during his campaign for the leadership of the ruling party last autumn, the Asahi Shimbun said: "If the government's abrupt and irresponsible about-face in the draft plan isn't an act of betrayal against the public, what is?" ■

(Courtesy: Guardian UK)

NEWS MAKER

Pakistan secures $15 billion ADB funding for renewable energy and infrastructure

The Asian Development Bank (ADB) has approved a $15 billion funding package for Pakistan to enhance renewable energy projects and modernize infrastructure. The funds aim to expand solar and wind energy capacity, upgrade roads and transport systems, and improve water resource management. This investment is expected to bolster economic growth and reduce reliance on fossil fuels.
(Courtesy: Reuters)

Pakistan hosts International Water Security Summit 2025

Islamabad welcomed global experts and policymakers for the International Water Security Summit, held on March 10–12, 2025. The event focused on sustainable water management, addressing Pakistan's water scarcity crisis, and strategies for climate resilience. Discussions emphasized investment in water conservation, smart irrigation systems, and policies to protect water resources for future generations.
(Courtesy: Dawn)

Pakistan reports major breakthrough in electric vehicle production

Pakistan's automotive sector has achieved a milestone with the production of its first locally manufactured electric vehicle (EV). The EV, developed in collaboration with international partners, marks a significant step towards reducing carbon emissions and dependence on imported fossil fuels. The initiative aligns with the government's long-term strategy for sustainable transportation.
(Courtesy: Business Recorder)

Government launches Green Pakistan Initiative to combat deforestation

In a major step towards environmental sustainability, the government has announced the Green Pakistan Initiative, aiming to plant 500 million trees by 2030. The program seeks to restore forest cover, mitigate climate change effects, and protect biodiversity. Officials have called on citizens, businesses, and NGOs to actively participate in afforestation efforts.
(Courtesy: The Nation)

Pakistan's trade deficit narrows amid export growth

Pakistan's trade deficit has decreased by 12% in the first quarter of 2025, driven by strong export performance in textiles, IT services, and agriculture. Officials attribute the positive trend to policy reforms, currency stabilization, and increased global demand for Pakistani products. Analysts predict continued improvement in trade balance with further economic stabilization.
(Courtesy: The Express Tribune)

Pakistan joins global agreement on plastic waste reduction

Pakistan has signed an international agreement to reduce plastic waste and promote circular economy practices. The agreement includes commitments to cut single-use plastics, improve waste management systems, and boost recycling efforts nationwide. Environmental activists have welcomed the move, urging strict implementation to protect ecosystems.
(Courtesy: The Guardian)

Pakistan's literacy rate rises as education reforms take effect

The Ministry of Education has reported a 5% increase in Pakistan's literacy rate following the implementation of nationwide education reforms. Expanded access to digital learning tools, teacher training programs, and community-driven literacy campaigns have contributed to the progress. The government plans to further invest in primary and secondary education to sustain growth.
(Courtesy: BBC News)

Pakistan's agriculture sector adopts AI-driven farming solutions

In a bid to enhance agricultural productivity, Pakistan is embracing artificial intelligence (AI)-driven farming solutions. AI-powered sensors, drones, and automated irrigation systems are being introduced to optimize crop yields and water usage. Farmers are receiving training to integrate these technologies for improved food security and sustainability.
(Courtesy: The Economist)

Pakistan unveils new strategy for climate-resilient urban planning

The government has launched an urban planning strategy focused on climate resilience, sustainable housing, and smart city development. The strategy aims to modernize urban infrastructure, improve public transport, and enhance green spaces to address climate change impacts in major cities.
(Courtesy: The Express Tribune) ■

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Creature of the Month

Red Fox

The red fox is one of the most adaptable and widespread mammals, found across North America, Europe, Asia, and even parts of North Africa. With its beautiful reddish-orange fur, bushy tail, and clever hunting skills, the red fox is known for being both cunning and resourceful. These omnivores eat a variety of foods, including small mammals, birds, fruits, and even insects. They are excellent hunters, using their sharp hearing to locate prey even under the snow!
Foxes are also highly social animals, often communicating with a variety of barks, howls, and even playful body language.
Fun fact: Red foxes use their tails as a blanket to keep warm during cold winter nights!

Source: National Geographic: Red Fox

Flower of the Month

Daffodil

Daffodils are one of the first flowers to bloom in spring, bringing a splash of bright yellow to gardens and fields. They symbolize new beginnings and hope, making them the perfect flower for March! Daffodils are also known as narcissus and are native to Europe and North Africa. These flowers thrive in sunlight and can grow in various soil types, making them a popular choice for gardeners.
In folklore, daffodils are associated with good fortune, and in some cultures, they are believed to bring prosperity when given as a gift.
Fun fact: Daffodils contain a natural compound called galantamine, which is used in medicine to help treat memory-related conditions.

Source: Britannica: Daffodil Flower

Poem

Spring's Arrival

The frost melts fast, the days grow bright,
A golden sun sends warming light.
The birds return, the rivers run,
A sign that spring has just begun.

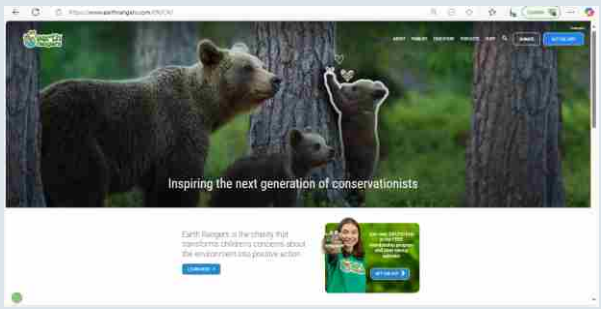
Blossoms bloom in colors bold,
A wondrous sight for young and old.
The world awakes from winter's rest,
March brings new life—its very best.

Lily Hart

Interesting website

Earth Rangers

https://www.earthrangers.com



Earth Rangers is a Canadian environmental education and conservation organization aimed at children and families. Through their website and app, kids can engage in various activities, learn about wildlife, and participate in missions that promote environmental stewardship. The platform offers interactive content, educational resources, and opportunities for children to get involved in real-world conservation projects.

Quote

"Spring adds new life and new beauty to all that is."

~ Jessica Harrelson

International days

March 03

World Wildlife Day

A day to celebrate the incredible variety of wildlife on our planet and raise awareness about the importance of conservation.

March 21

International Day of Forests

Forests provide us with clean air, water, and shelter for countless species. This day encourages everyone to protect and restore forests around the world.

March 22

World Water Day

Water is essential for all life on Earth! This day highlights the importance of sustainable water management and clean water access for all. ■

Jawad A. Chishtie

Sesame seeds: A nutritional powerhouse

Sesame seeds may be small, but they pack a powerful punch of nutrients and health benefits. Used for centuries in both culinary and medicinal applications, these tiny seeds are loaded with essential nutrients, making them a valuable addition to a healthy diet.

Sesame seeds are an excellent source of essential minerals, including calcium, magnesium, zinc, and iron. They are particularly beneficial for maintaining strong bones, supporting metabolism, and enhancing immune function. These seeds are also a great plant-based source of protein and healthy fats, making them a nutritious choice for vegetarians and vegans.

Heart Health Benefits

Sesame seeds are rich in heart-friendly compounds like lignans and phytosterols, which help lower bad cholesterol (LDL) levels and improve overall heart health. Their natural antioxidants, such as sesamin and sesamol, play a vital role in reducing inflammation and preventing cardiovascular diseases. Regular consumption can contribute to better blood pressure regulation and a healthier circulatory system.

Supports Digestion

Packed with dietary fiber, sesame seeds promote healthy digestion by

preventing constipation and supporting gut health. Fiber aids in smoother digestion and helps maintain a balanced gut microbiome, essential for overall well-being.

Bone Strength and Joint Health

With a high concentration of calcium and phosphorus, sesame seeds are excellent for bone health. They help in preventing osteoporosis and improving bone density, making them particularly beneficial for aging individuals. The natural anti-inflammatory properties of sesame also assist in relieving joint pain and arthritis symptoms.

Boosts Skin and Hair Health

Sesame seeds are a powerhouse of vitamin E and essential fatty acids, which nourish the skin and hair. They help combat oxidative stress, reduce signs of aging, and keep skin looking radiant. Additionally, sesame oil has been used traditionally for scalp massages to promote hair growth and strengthen roots.

A Natural Antioxidant Source

Sesame seeds contain powerful antioxidants that help neutralize harmful free radicals in the body. These antioxidants support overall health by reducing the risk of chronic diseases, including cancer and neurodegenerative disorders.

Regulates Blood Sugar Levels

Sesame seeds have a low glycemic index and are rich in healthy fats and fiber, which help regulate blood sugar levels. This makes them a great addition to the diet of individuals managing diabetes or those looking to stabilize energy levels throughout the day.

How to Incorporate Sesame Seeds into Your Diet

There are many ways to enjoy sesame seeds in daily meals:

- Sprinkle them over salads, soups, or stir-fries.
- Add them to smoothies for an extra nutrient boost.
- Toast sesame seeds and mix them with yogurt or oatmeal.
- Incorporate them into homemade energy bars and baked goods.

Moderation is Key

While sesame seeds offer incredible health benefits, moderation is important. Consuming them in excessive amounts may lead to digestive discomfort or allergic reactions in sensitive individuals. If you have a sesame allergy, avoid consumption and check food labels for hidden sources.

Sesame seeds are a tiny yet mighty superfood that can enhance overall health in numerous ways. Whether you use them for cooking, skincare, or as a dietary supplement, they are a simple yet effective way to boost nutrition and well-being naturally. ■

Mahvish Chishtie

Sesame seeds are not only a nutritious ingredient but also a delicious addition to many traditional Pakistani dishes. Here are two delightful and health-boosting recipes. Enjoy!

Sesame Ladoo (Til Ka Ladoo)

Ingredients

1 cup sesame seeds
½ cup jaggery (gud), grated
1 tablespoon ghee
2 tablespoons water
½ teaspoon cardamom powder (optional)

Instructions

In a pan, dry roast the sesame seeds over low heat until golden and aromatic. Set aside. In the same pan, heat ghee and add grated jaggery with water. Stir continuously until the jaggery melts and forms a sticky syrup. Add cardamom powder if using. Quickly mix in the roasted sesame seeds and stir well to coat them evenly. While the mixture is warm, grease your hands with ghee and shape small ladoos by rolling the mixture between your palms. Allow them to cool and set before enjoying. These ladoos are perfect as a healthy snack or a festive treat..

Sesame Chicken Karahi (Til Wali Chicken Karahi)

Ingredients

500g chicken, cut into pieces
2 tablespoons sesame seeds
2 tablespoons oil or ghee
1 onion, finely chopped
2 tomatoes, chopped
2 green chilies, chopped
1 teaspoon ginger-garlic paste
½ teaspoon turmeric powder
1 teaspoon red chili powder
½ teaspoon cumin powder
Salt to taste
Fresh coriander leaves for garnish

Instructions

Dry roast sesame seeds until golden brown and grind them into a fine powder. Set aside. Heat oil or ghee in a karahi (wok) and sauté onions until golden brown. Add ginger-garlic paste and cook for a minute until fragrant. Stir in the chicken pieces and cook until they turn white. Add chopped tomatoes, green chilies, and spices (turmeric, red chili powder, cumin powder, and salt). Cook until the tomatoes soften. Sprinkle in the ground sesame seeds and stir well to coat the chicken with the flavors. Cover and let it cook for another 10–15 minutes on low heat until the chicken is fully cooked and tender. Garnish with fresh coriander leaves and serve hot with naan or roti.■

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