

## OPINION

### The Impacts Of Tobacco On Our Environment



M S Sodhar

Present data show that smoke from one cigarette produces ten times more air pollution than a diesel car's exhaust.

Apart from individual health, consuming tobacco has horrendous impacts on our environment. Cigarettes cause pollution in multiple ways. The most prominent impact is air pollution. Present data show that smoke from one cigarette produces ten times more air pollution than a diesel car's exhaust.

More astounding, these particulate materials emitted from smoking degrade the immediate environment and remain for hours in the air. In the manufacturing and processing of cigarettes, billions of trees are cut down every year.

Page No 03

### Heatwaves Effect & Preventive Adaptations In Wheat Crop



Zain Shahzad

Every 1°C increase above the average temperature of 23°C reduces wheat yields by about 10%. More than 40% of the total wheat acreage worldwide is affected by heat stress.

As climate change adversely affects agriculture. Wheat, which is the main crop of Pakistan, has also been greatly damaged by climate change.

Weather patterns and temperatures have been changed over a long period of time by climate change. The dominant cause of climate change since the 1800s has been human activity, even if some of these changes may be considered natural. Fossil fuels like coal, oil, and gases, which retain heat, are mostly to blame for this.

Page No 03

### Versatile Crop Soybean Owns Benefits For Human Health



Abid Zahoor

Are an excellent source of protein and contain all of the essential amino acids that the human body needs.

Soybean is a versatile and important crop that has numerous benefits for both human health and the environment. Originally cultivated in China more than 3,000 years ago, soybeans are now grown all over the world and are a vital source of protein and other essential nutrients.

Page No 04

**Micronutrients, also known as vitamins and minerals, are essential components of a high-quality diet and have a profound impact on health**



## Investing In Skills Necessary To Protect Civilization: President

President and other speakers used the January power outage as a wake-up call for Pakistan's OT cybersecurity, alleging that it was caused by an attack by the foreign hacking group APT.

The president emphasised the value of cyber security and designated it as a national priority. He was speaking at the ACET Solutions-organized first operational technology (OT) conference on cyber-security in Pakistan.

In order to "protect our civilisation," the president emphasised the importance of investing in skills and young Pakistanis. Operational technology (OT) is the study of the systems that manage the machinery in power grids, water treatment facilities, oil

and gas refineries, mines, manufacturing facilities, transportation facilities, and other crucial sectors of the economy.

The president and other speakers used the January power outage as a wake-up call for Pakistan's OT cybersecurity, alleging that it was caused by an attack by the foreign hacking group APT.

Tauseef Farooqi, the chairman of the National Electric Power Regulatory Authority (NEPRA), emphasised the necessity of regulating power companies in accordance with the NEPRA's OT/IT Cyber-security Regulation 2022. All power sector companies must comply with NEPRA's OT/IT Cybersecurity Regulation 2022 by 2023, he

said.

The ongoing conflict in Ukraine and the attack-related disruption of the gasoline supply on the US East Coast highlighted the significance of the OT/ICS Cyber Security Conference.

The conference brought together industrial clients, experts, and policymakers to discuss and address the challenges of OT/ICS. It was aimed at the owners and operators of critical infrastructure. The goal was to give stakeholders a forum to exchange information about best practises, knowledge, and solutions for enhancing the security of critical infrastructure.

Speakers from some of the biggest OT cyber-security

technology providers in the world, like Fortinet, spoke at the conference and stressed the importance of protecting Pakistan's OT. They issued a warning that a lack of cybersecurity might lead to shutdowns or, worse yet, human injury.

According to Fahad Faisal, business development manager for the company, Fortinet, the largest provider of cybersecurity technology worldwide, supports Pakistan's development of cyber-security resilience.

Mubarik Mustafa of ACET Solutions, the biggest provider of OT security services in the area, stated that his organisation will aid in defending the nation's vital infrastructure.

**Character Certificates Issue To Citizens Under One Window System**

More than 1.25 million Character Certificates have been issued to the citizens under the one-window system in the 93 Police Khidmat Centers established across Punjab.

More than 1.25 million Character Certificates have been issued to the citizens under the one-window system in the 93 Police Khidmat Centers established across Punjab. These Police Khidmat Centers have been established by the Punjab Information Technology Board (PITB) in collaboration with the Police Department to provide police related facilities to the citizens. This was told in a meeting presided over by PITB Chairman Faisal Yousaf.

The participants of the meeting were apprised that apart from Character Certificate, 17 more services including FIR copy, Vehicle Verification, Tenant Registration, Missing Documents, General Police Verification, Employee Verification, Missing Report etc are also provided under one roof in the Police Khidmat Centers.

In this regard, Chairman Faisal Yousaf said that the purpose of establishing Police Khidmat Centers is to further improve the atmosphere of trust between the citizens and the police.

In 36 districts across Punjab, the Punjab Police has set up citizen facilitation centres known as Police Khidmat Markaz (PKM) (complete list of centres along with contact details and locations is available here).

As one of Punjab Police's technology partners, Punjab Information Technology Board (PITB) has automated the procedures and created a central-



ly integrated IT system for these facilities to increase operational effectiveness.

A police character certificate is necessary for immigration, working abroad for various organisations, and international travel. Character certification used to be a difficult and time-consuming process for both citizens and police. PKM has streamlined and speeded up the process.

Instead of physically traveling to the district or address where the character certificate is needed, a citizen can now apply for one online from any centre in Punjab.

For instance, the citizen can apply for the certificate directly from PKM in Multan rather than travelling all the way to Mianwali if he or she is currently residing in Multan and needs one from Mianwali (where they previously resided).

## AFD Commits To Support Pakistan Polio Eradication Initiative



Melinda Gates Foundation met with the Special Health Secretary and the National Emergency Operations Center (NEOC) for Polio Eradication on Friday. The delegation travelled to Pakistan for a week to assist with health and social protection initiatives there. The meetings were a part of that trip.

The Pakistan Polio Eradication Initiative (PEI) received commitments from the AFD to support it in immunisation efforts, disease surveillance, polio campaign monitoring, and other technical areas, as well as to cover the \$55 million funding gap (under the PC-1 for polio eradication, 2022–2026).

Dr. Shahzad Baig, the NEOC Coordinator, stressed the importance of the polio infrastructure to Pakistan's healthcare system: "We are incredibly appreciative of the French government's assistance. The COVID-19 response, which drew on the knowledge of polio surveillance teams, demonstrated how the polio infrastructure can provide the most reliable support for

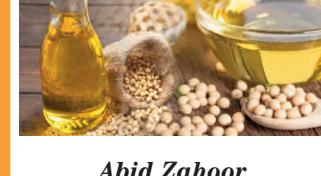
even the most difficult health emergencies, he said.

"The Pakistan Polio Eradication Program is a crucial component of our healthcare system, and investing in polio is an investment in the nation's overall health system."

Agnès Soucat, Director of Health and Social Protection for the French Development Agency, led the delegation, and Jay Wegner, Global Head for Polio Eradication for the Gates Foundation, also led the delegation.

The delegation spoke about how the polio infrastructure was at the forefront of responding to the COVID-19 pandemic and the most recent flood response during a meeting with the country representatives of WHO and UNICEF. After the NEOC meeting, the Special Health Secretary, Mirza Nasir ud Din Mashhood Ahmad, held a briefing at the Ministry of Health and discussed the effects of the floods of 2022, which damaged 2,000 medical facilities...[Read More](#)

## Govt Considering Multifaceted Strategy To Cope Power Shortage Issue



Abid Zahoor

Are an excellent source of protein and contain all of the essential amino acids that the human body needs.

Soybean is a versatile and important crop that has numerous benefits for both human health and the environment. Originally cultivated in China more than 3,000 years ago, soybeans are now grown all over the world and are a vital source of protein and other essential nutrients.

Page No 04

The current administration is therefore actively working on solutions to avoid load shedding this summer and give businesses and regular consumers relief from the intense heat.

"Since Pakistan has already declared that it will not construct any new power projects that depend on imported coal and ensure that 60 percent of its power comes from local sources by 2030, rising fuel prices and the new energy situation resulting from the Ukraine war have also forced Pakistan to utilise its domestic resources like hydel, solar, wind, and Thar coal."

In order to give people the most relief possible, we are taking practical measures to overcome load-shedding by concentrating on generation, transmission, and energy conservation the minister of the power division said.

In just 10 months, the current administration has already added 1,980 MW of inexpensive electricity to the grid from Thar coal reserves, in addition to 720 MW

and 1100 MW from Karot Hydropower and K-3 nuclear power plants.

Minister claimed that from 2013 to 2018, the China Pakistan

Economic Corridor (CPEC) projects successfully added over 10,000 MW of electricity to the national grid under the leadership of the Pakistan Muslim League (PML-N) government, led by the then-Prime Minister. He said that the efforts of the previous PML-N administration had prevented load shedding and left extra power in the system.

He stated that with the official commissioning of the 1320 MW Shanghai Electric Thar Coal Project under the CPEC, total power generation from Thar coal stood at 2640 MW. Another 330 MW Thal Nova Thar coal project that would help lower summer load-shedding and lower the power rate was already synchronised in February...[Read More](#)



## Nutritionists Stress Need For Formulation Of National Nutrition Policy



According to Dr. Umar Farooq of NUMS, analysis of the data at hand would reveal that 50% of Pakistan's population suffers from nutrient deficiencies of some kind.

The importance of creating a national nutrition policy (NNP) was emphasised by nutritionists and dietitians on Sunday in order to increase public awareness of the importance of nutrition and its effects on the health of current and future generations.

They were addressing a seminar put on by the Department of Nutrition and Dietetics (DND) at the National University of Medical Sciences (NUMS), which was held to commemorate "March Nutrition Month," which is observed annually with the theme "Fuel for the Future" around the world.

In his remarks, Dr. Abdul Momin Rizwan, Head of the Department of Nutrition and Dietetics at NUMS, stated that for a nation like Pakistan, which suffers from a triple burden of malnutrition, including overnutrition, undernutrition, and hidden hunger (micronutrient deficiencies), which are incredibly common in the nation, it is crucial to have a National Nutrition Policy (NNP).

The NNP, which will be carried out at the national and provincial levels with specific objectives, can address these problems. He claimed that while some good work was being done in the public and private sectors, it was not producing the desired results to eradicate malnutrition.

A consensus on NNP among the provinces was required for the formulation of such a policy, according to Shahid Fazal, a nutrition expert and regional advisor at Nutritional International, an international non-governmental organisation, to ensure uniformity in its implementation at the provincial level to achieve the set goals.

Shahid Fazal stated that the cost of malnutrition in Pakistan is \$7.6 billion annually, according to a report released by the Pakistan Scaling Up Nutrition (SUN) Secretariat at the Ministry of Planning, Development, and Reform in partnership with the World Food Programme (WFP).

According to Dr. Umar Farooq of NUMS, analysis of the data at hand would reveal that 50% of Pakistan's population suffers from nutrient deficiencies of some kind. He claimed that the nation's unchecked urbanisation and shrinking agricultural areas would worsen non-communicable diseases and the problem of food security.

Malnutrition must be addressed at the national level in all of its facets. According to a senior policy advisor at the Global Alliance for Improved Nutrition (GAIN), some policy work had begun under the planning commission's chairmanship, and GAIN was also assisting them in drafting the NNP, which was anticipated to be completed this year...[Read More](#)

## China's Renewable Energy Expertise Can Benefit Pakistan: Experts



China is sharing wind power technologies, like wind turbines, with Pakistan, helping to lower cost of nation's electricity production.

"Pakistan can gain from experience of China in renewable energy, including solar and wind energy, through cooperation with that country. Opportunities for Sino-Pak cooperation include project investment and development, technology training, and assessment of renewable energy sources," said China Wind Energy Association secretary-general Qin Haiyan.

Qin attributed China's growing wind power market to factors like the Renewable Energy Law and a steady domestic market in a webinar titled "Pakistan's Green Energy Pathways: Inspirations from China," which was hosted by energy and environmental thinktank Renewable First (RF).

He continued by saying that over the past ten years, China has significantly decreased the levelized cost of electricity (LCOE) for onshore and offshore wind projects, with an offshore project reduction of 60%.

China, the world's largest wind power market for 14 years running, is sharing wind power technologies, like wind turbines, with Pakistan, helping to lower the cost of the nation's electricity production. According to the secretary-general, China's installed wind power capacity would surpass 396 GW by the end of 2022.

Leo Deng, a Pakistan-based consultant on the power project, stated in an interview with Gwadar Pro that China has built more than 20 power plants in collaboration with Pakistan and trained thousands of local wind energy professionals.

Gwadar Pro continued by stating that wind and solar power are the least expensive modern methods of producing electricity and might significantly lessen Pakistan's reliance on high-priced imported fuels. Indicative Generation Capacity Expansion Plan (IGCEP) 2047, published by NEPRA, predicts that Pakistan's total power generation will rise from 33,000 megawatts in 2020 to roughly 168,200 megawatts in 2047, with wind and solar power making up 23% of the energy mix by 2030, up from 3% in 2020. Leo thinks that Chinese and Pakistani businesses have a great opportunity to work together and improve the supply chains both upstream and downstream...[Read More](#)

# PAKISTAN

## 5000 Professors Postpone Protest Call Against HEC's New Funding Policy

As HEC attempted to clarify new funding policy through notice, over 5000 teachers who were scheduled to protest against revision of fund policy have postponed their scheduled plan.

As the Higher Education Commission (HEC) attempted to clarify the new funding policy through a notice, over 5000 teachers, including assistant professors, associate professors, and professors, who were scheduled to protest against the revision of fund policy have postponed their scheduled plan.

APTTA, a group of professors who represent Tenure Track System (TTS) faculty across Pakistan, had previously announced that on March 15, 2023, they would assemble outside the HEC office to demonstrate against the organization's new policy, which they believed would ultimately ruin their future.

HEC had informed all universities through the new funding

policy that it would not be able to fund any new TTS programmes while capping the funding for current TTS faculty, which also merged with the ongoing budget of universities.

Financial and grant restrictions have been cited by the HEC as the cause of the demise of its own indigenous TTS programme, which was launched in 2003 and provided highly qual-

fied PhD teachers with alluring compensation packages at public universities while bearing a sizable portion of their benefits.

However, the HEC has made it clear through the notice—a copy of which is on file with this scribe—that the payment of salary contributions and career advancement of current faculty hired under TTS are protected as per the updated TTS funding pol-

icy for 2022–2023. New appointments and time-barred cases, however, will not be supported.

Additionally, in accordance with the HEC, the commission's contribution must be standard for differential payments above the BPS salary set by the relevant government.

According to HEC, it has been made clear in a letter to all public sector universities and higher education institutions that for current TTS faculty members whose cases have already been funded by HEC and whose cases are not time-barred, it is guaranteed that HEC will continue to pay its contribution, including the differential amount above the BPS set by the Government (Federal/Provincial), gratuity/13th TTS salary, TTS annual increment, and the impact of promotions.

To this end, the HEC Finance Division has already sent a revised TTS allocation for 2022–2023 for the institutions' approval...[Read More](#)



## COMSTECH Organises Randomized Clinical Trials Training In Uganda

Clinical trials, according to Mr. Mussinov, offer a solid scientific foundation for future advancements in the medical sciences.

A two-day training on "Randomized Clinical Trials" was organised by COMSTECH in association with the Islamic University of Uganda in Kampala, Uganda. Prof. Dr. M. Iqbal Choudhary, the coordinator general of COMSTECH, welcomed the online training workshop participants.

According to him, the goal of this training is to increase capacity in the crucial field of clinical trials for drug development.

He said that the clinical trials conducted as per international standards, following the principles of good clinical practices, the healthcare code of ethics, and biosafety, and in compliance with regulatory and sponsor requirements are critically important for the successful outcome of the drug, vaccine, biological, and even diagnostics development processes.

He emphasised the significance of OIC nation growth and increased participation in this area. He said that the goal of this international workshop is to close the capacity gap.

This is a crucial step in the protracted process of a drug, biologic, or vaccine moving from the preclinical stage to a clinically validated product, according to Dr. Choudhary. Askar Mussinov, assistant secretary general of the OIC for science and tech-



nology, posted his message online.

In support of this two-day training, he said, I am thrilled to share this message with you all. COMSTECH and IUIU's joint initiative is supported by the Organization of Islamic Cooperation (OIC), according to him, who also emphasised the vital role that clinical trials play in the creation of safe and effective treatments for both common and undertreated diseases.

Clinical trials, according to Mr. Mussinov, offer a solid scientific foundation for future advancements in the medical sciences. He stated that it is crucial for OIC states to build this sector's foundation and capacity for dis-

cussion and the development of new medications.

Dr. Ahmad Fahim, a COMSTECH consultant on health initiatives, Dr. Abdur Rashid, a programme officer for COMSTECH, Ms. Maham Yameen, the head and consultant nephrologist at Maaroof International Hospital, Prof. Dr. Mujtaba Quadri, the director of ORIC at Indus Hospital, and Prof. Dr. Khalid Saeed Khan, a distinguished scholar for COMSTECH, also took part in the training from Pakistan. More than 100 participants from around the world took part online, while 60 researchers from Uganda attended the training in person.

## Arçelik Establishes Research And Development Center At NUST

Arçelik manufactures cutting-edge home appliance products using cutting-edge technologies in nine different countries.

The National University of Science and Technology in Pakistan serves as the second R&D center for Dawlance's parent company, Arçelik (NUST). Arçelik is the second-largest manufacturer in Europe, with operations in 53 nations, 83 subsidiary companies, and 30 R&D facilities worldwide. Arçelik manufactures cutting-edge home appliance products using cutting-edge technologies in nine different countries.

Arçelik opened an R&D center in Karachi for fostering innovations in Pakistan in 2017, shortly after buying Dawlance, and is now investing more money to open an Arçelik Global Research & Development (R&D) Center at the National University of Sciences and Technology (NUST) in Islamabad to speed up its efforts to expand in the Pakistani market.

The president of Koç Holding Consumer Durables Group, Dr. Fatih Kemal Ebiçliolu, the pro-rector of NUST RIC, Air vice marshal (retired) Dr. Rizwan Riaz, the chief production and technology officer of Arçelik, Nihat Bayz, the CEO of Dawlance, Umer Ahsan Khan, and Pakistani officials were all present at the ceremony to inaugurate the new R&D centre.

This historic agreement was

signed at the NUST University in Islamabad by the Chief Executive Officer of Dawlance (Pakistan), Mr. Umer Ahsan Khan, and the Pro-Rector of RIC, Air Vice Marshal (Retired) Dr. Rizwan Riaz.

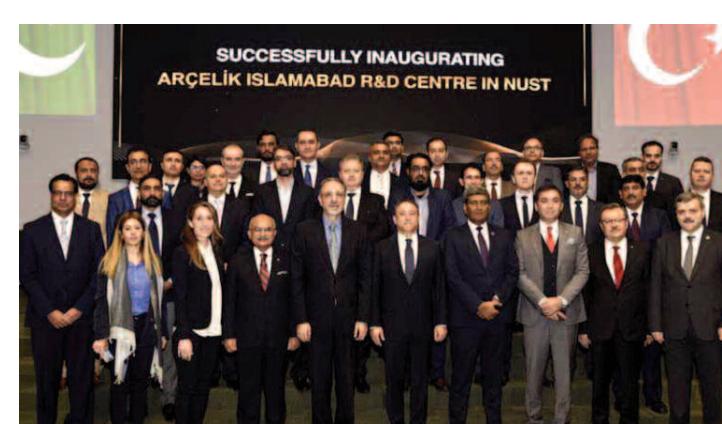
With the help of this initiative, Pakistan will have a workforce that is competitive on a global scale by deploying highly qualified engineers to train the youth in cutting-edge skill sets.

Dr. Fatih Ebiçliolu, President of Consumer Durables at Arçelik's parent company, Koç Holding, said during the inaugu-

ration, hubs, in our opinion.

Pakistan has a very high potential for information technology development and is on course to become a STEM leader. We think that the NUST R&D center will contribute to the strategic national goal of Pakistan. This R&D centre, the first of Arçelik's 30 R&D facilities, will support the requirements of all Arçelik's subsidiaries worldwide with a focus on software development.

Arçelik plays a leading role in global home appliance industry due to its R&D skills and commitment to developing sustain-



ration that "consistently creating value for our stakeholders, expanding and diversifying our global reach, and putting our customers first are the pillars of Koç Holding vision."

Pakistan is a significant emerging market for regional manufac-

turing, R&D, and future export able, innovative, smart, digital home solutions. Innovative technologies introduced to consumers in Pakistan promise up to 50% conservation of energy, promise environmental sustainability and protect the ecology of the planet for future generations.

These include Vitamin Fresh technology, Nature Lock technology, Aqua Smart washing technology, Blast Air Conditioner, which offers a 30% stronger air flow, enhancing comfort and convenience.

All product categories in Dawlance, including refrigerators/freezers, split air conditioners, washing machines, water dispensers, TVs, and small domestic appliances, are serviced by Arçelik's R&D centre in Karachi (SDAs). All facets of product design and development, such as structural design, modelling and analysis, system design and testing, embedded software design, and design implementation, are staffed with experts.

Pakistan's sole manufacturer of appliances has this capacity. Umer Ahsan Khan, the CEO of Dawlance, said: "Arçelik's partnership with NUST, Pakistan's leading technology institute, demonstrates our commitment to foster technological advancements in Pakistan and enable the professional development of the youth."

Arçelik has been wisely investing in research, modernise production, and offer the best products. Through learning about Arçelik's global quality standards, regulatory compliance, and best practices, the young engineers at NUST will gain invaluable experience..."[Read More](#)

# OPINION

Executive Editor  
A. M. Zaidi

Chief Editor  
SAMZ Paras Ali

Managing Editor  
Hina Ali Mustafa

News Editor  
Sayyed Shehzar Abbas

Technology Editor  
Sayyed Shozib Abbas

Web Editor  
Raja Hamid

Bureau Chief  
Syed Ali Raza

Head Office  
Technology House  
21-C, Street 7, Royal City, Lehtrar Road, Islamabad, Pakistan  
Tel: 0092 316 532 77 03

Bureau Office  
C-89, Sheraton Heights, Abul Hassan Ispahani Road, Karachi, Pakistan  
Tel: 0092 333 57 55 926

Email: info@technologytimes.pk  
URL: www.TechnologyTimes.pk

Published by: SAMZ Paras Ali for "Foundation for Comprehensive Social Development (FCSD)".



M S Sodhar

*The impacts of tobacco put tremendous pressure on the air quality index and are one of the main reasons why developing countries are unable to improve their air quality. Can one imagine a desire for one cigarette that costs a lot for the environment? A sane mind must discourage the temptation of smoking and the production of useless products not just for our own sake but for our planet Earth*



## The Impacts Of Tobacco On Our Environment

**P**resent data show that smoke from one cigarette produces ten times more air pollution than a diesel car's exhaust.

Apart from individual health, consuming tobacco has horrendous impacts on our environment. Cigarettes cause pollution in multiple ways.

The most prominent impact is air pollution. Present data show that smoke from one cigarette produces ten times more air pollution than a diesel car's exhaust.

More astounding, these particulate materials emitted from smoking degrade the immediate environment and remain for hours in the air. In the manufacturing and processing of cigarettes, billions of trees are cut down every year.

Considering statistics by Imperial College London, the 32.4 million tonnes (Mt) of green tobacco harvested in 2014, used for the production of 6.48 Mt of dry tobacco in the six trillion cigarettes manufactured worldwide in 2014, contributed almost 84 Mt of CO<sub>2</sub> emissions to climate change—approximately

0.2% of the global total.

Also, China alone harvests over three million tons (Mt) of leaves and trees for the tobacco industry. Another burden on the air is burning coal and other fossil fuels to produce cigarettes and tobacco for commercial use.

The impacts of tobacco put tremendous pressure on the air quality index and are one of the main reasons why developing countries are unable to improve their air quality. Can one imagine a desire for one cigarette that costs a lot for the environment? A sane mind must discourage the temptation of smoking and the production of useless products not just for our own sake but for our planet Earth.

Tobacco and land degradation

In addition to it, cigarette waste contributes a lot to land pollution due to its non-biodegradable nature.

Cigarette butts never disappear and lead to land degradation by being carried as runoff and drains to rivers, beaches, and oceans. They have long been the single most collected item on the world's beaches,

with a total of more than 60 million collected over 32 years.

To curb land and soil pollution, environmentalists and world leaders can ban the use of plastic, just as they have turned a blind eye to cigarettes.

Consuming tobacco and water scarcity Along with this, tobacco is also a big source of water scarcity. One report calculates the environmental impact of a single smoker over their lifetime: a person smoking a pack of 20 cigarettes per day for 50 years is responsible for 1.4 million litres of water depletion. In industries, tobacco production uses more

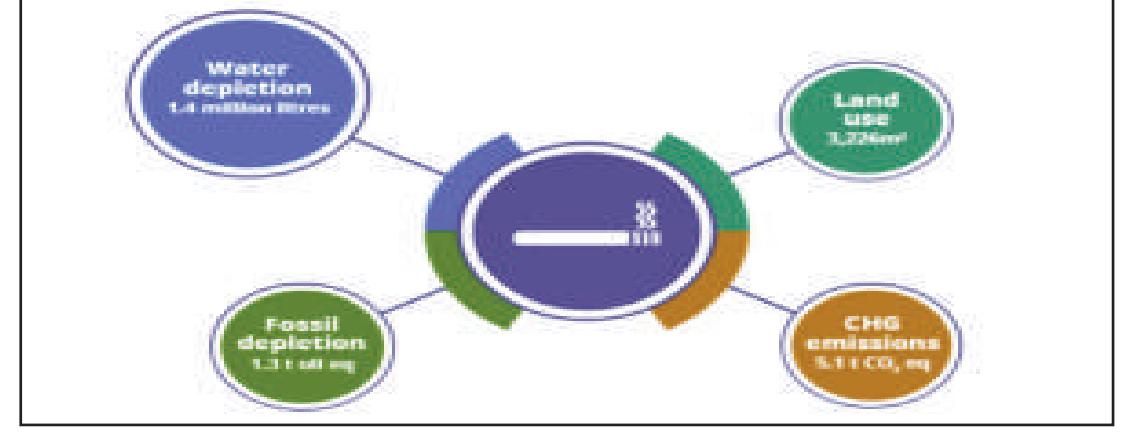
than 22 billion tonnes of water.

In the wake of these figures, tobacco and the consumption of cigarettes have devastating impacts on the environment, particularly for developing nations such as Pakistan. Before it gets too late, developed and developing nations must limit the use of tobacco for the sake of our environment and ecosystem, as every step would be beneficial. The world should learn from the act of New Zealand, whose parliament recently passed a bill that will completely make tobacco illegal for those who are born after 2009. This

gesture of restricting smoking will bear fruit for coming generations and our environment.

The world has to make a choice: either to benefit the tobacco industries by not banning tobacco or to restrict tobacco by safeguarding lives and our planet.

The options lie between short-term gain with prolonged devastation and long-term sustainability with short-term pain. Pakistan also needs to increase the levy on tobacco and limit the use of cigarettes, as the country is already the eighth most vulnerable in the environment.



"As technology accumulates and people in more parts of the planet become interdependent, the hatred between them tends to decrease, for the simple reason that you can't kill someone and trade with him too."

—Steven Pinker



Zain Shahzad

*The high temperature causes an increase in transpiration that causes drought, resulting in low productivity. The heat stress disrupts the integrity of chloroplasts, leaf senescence, and ultimately the photosynthesis of grain. The ageing of leaves during grain filling reduces the chlorophyll content of leaves*



## Heatwaves Effect & Preventive Adaptations In Wheat Crop

**E**very 1°C increase above the average temperature of 23°C reduces wheat yields by about 10%. More than 40% of the total wheat acreage worldwide is affected by heat stress.

As climate change adversely affects agriculture. Wheat, which is the main crop of Pakistan, has also been greatly damaged by climate change.

Weather patterns and temperatures have been changed over a long period of time by climate change. The dominant cause of climate change since the 1800s has been human activity, even if some of these changes may be considered natural. Fossil fuels like coal, oil, and gases, which retain heat, are mostly to blame for this.

People, agriculture, and wild animals all face new threats because climate change is responsible for our existence. Dry spells, thunderstorms, heat waves, ablation, warmer oceans, and more frequent and severe droughts may all directly injure animals, devastate the habitats on which they depend for survival, and have a disastrous impact on people's way of life and communities.

5% of people on the planet are already feeling the conse-

quences of climate change that is driven by humans. The model was developed under drought conditions, and the results showed that global warming is leading to severe droughts in 60% of the world's wheat growing areas.

Currently, drought affects 15% of grain productivity. Heat stress is the main environmental factor limiting grain yield. Every 1°C increase above the average temperature of 23°C reduces wheat yields by about 10%. More than 40% of the total wheat acreage worldwide is affected by heat stress.

For humans, wheat is a crucial cereal crop. With billions of people depending on it for food, it is one of the most commonly grown and consumed crops in the world. In many nations, including Pakistan, a crop of wheat is a staple meal that is used to manufacture a wide range of goods, including bread, pasta, noodles, crumpets, and muffins. Moreover, it is utilized in the creation of biofuels and as animal feed.

Wheat is an excellent source of nutrients such as vitamins, minerals, dietary fiber, and carbs. It is especially high in iron, which is necessary for the production of red blood cells, and B vitamins, which are crucial for energy metabolism.

Consuming foods made from whole grain wheat has been

associated with a decreased chance of contracting long-term illnesses like heart disease, type 2 diabetes, and certain cancers. Overall, wheat is a crucial crop for the world's economy as well as human nourishment.

Temperature increases have a variety of effects on wheat crop production in Pakistan. Wheat grain quality declines as a result of climate change because it disrupts the distribution of vital nutrients and photoassimilates.

The high temperature causes an increase in transpiration that causes drought, resulting in low productivity. The heat stress disrupts the integrity of chloroplasts, leaf senescence, and ultimately the photosynthesis of grain. The ageing of leaves during grain filling reduces the chlorophyll content of leaves.

Wheat development and growth are greatly hampered by high temperatures. High temperature stress reduces photosynthetic activity. Heat stress decreases the molar proportion of more unsaturated lipids during the grain filling stage, while high temperature stress increases the percentage of less unsaturated lipids throughout the blooming and grain filling stages.

As we discussed above, high temperatures have a significant impact on crop growth

and development, leading to decreased yield and quality. Agronomic practices can help mitigate the effects of high temperatures in several ways. Here are some examples:

**Crop selection:** Choose heat tolerant varieties that are adapted to high temperatures can help reduce the impact of heat stress on wheat. These varieties have traits that include a deeper root system, better use efficiency, and the ability to maintain photosynthesis under high temperature conditions.

**Planting date:** Planting wheat earlier in the season will avoid the severe hot period of the season and reduce the impact of high temperatures because the crop can attain the required growing degree days for optimum or maximum yield.

**Soil management:** Proper soil management practices such as soil tillage, soil organic matter management, and soil nutrients management can help to improve soil water retention capacity and soil structure, which can reduce the effect of high temperatures on crop yield and growth.

**Irrigation management:** Proper irrigation management can help minimize the effect of heat stress by providing crops with adequate water to cool themselves through transpiration. Ensuring that plants

receive enough water during the heading and grain filling stages is critical to minimizing the effect of high temperature stress.

**Mulching:** Mulch can help maintain soil temperatures and preserve soil moisture. Mulch can be made from a variety of materials, including straws, leaves, or other organic matter. It can help reduce water loss from the soil, which can help maintain soil moisture levels and reduce the effects of high temperature stress on the plant.

**Fertilization:** Proper fertilization can improve crop growth and development, minimizing the effects of extreme heat on crop growth, yield, and quality.

**Plant density:** Adjusting plant density (the optimum plant population) can help to reduce the competition for resources among plants and improve the efficiency of water and nutrient uptake, which ultimately helps the crop better cope with high temperatures.

**Harvest management:** Harvesting during cooler parts of the day can reduce the impact of high temperature stress on crops by reducing the risk of moisture loss and wilting.

**Provide shade:** Provide temporary shade for the wheat plants during the hottest part

of the day. This can be done with shade cloth or by planting crops that provide shade. Providing shade can help reduce the amount of direct sunlight that reaches the wheat plants, which can lower the temperature of the plant and reduce water loss through transpiration.

**Apply foliar sprays:** Foliar sprays containing plant growth regulators or nutrients can help mitigate the negative effects of high temperature stress on wheat plants. These sprays can help to improve photosynthesis, reduce water loss through transpiration, and improve the plant's ability to withstand heat stress.

**Manage pests and diseases:** Manage pests and diseases that can decrease the plant's tolerance to high temperature stress is important. Pests and diseases can weaken the plant and reduce its ability to overcome stress, so it is important to maintain good pest and disease management practices.

Overall, a combination of these agronomic practices can help to mitigate the impact of high temperatures on wheat crop and increase their resilience to changing climate conditions in Pakistan as well. We must be adopting some of these strategies to secure our staple food crop and our basic needs, which are fulfilled by the wheat crop.

# OPINION



Abid Zahoor

*Soybeans are also important from an environmental perspective. They are a nitrogen-fixing crop, which means that they are able to take nitrogen from the air and convert it into a form that can be used by other plants. This reduces the need for synthetic fertilisers, which can be expensive and have negative environmental impacts*



TUESDAY, MARCH 21, 2023

## Versatile Crop Soybean Owns Benefits For Human Health

**S**oybeans are an excellent source of protein and contain all of the essential amino acids that the human body needs.

Soybean is a versatile and important crop that has numerous benefits for both human health and the environment. Originally cultivated in China more than 3,000 years ago, soybeans are now grown all over the world and are a vital source of protein and other essential nutrients. In this article, we will explore the many benefits of soybeans and why they are so important.

### • Nutritional Benefits:

Soybeans are an excellent source of protein and contain all of the essential amino acids that the human body needs.

This makes soybeans a valuable protein source for vegetarians and vegans who may not consume animal products. Soybeans also contain a range of other essential nutrients, including iron, calcium, magnesium, potassium, and vitamins B and E.

Soybeans have been shown to have a number of health benefits as well. Studies have suggested that consuming soy products may help to reduce the risk of heart disease, lower cholesterol levels, and improve bone density. Soybeans may also have anti-inflammatory properties, which may help reduce the risk of certain types of cancer.

### • Environmental Benefits:

Soybeans are also important from an environmental perspective. They are a nitrogen-fixing crop, which means that they are able to take nitrogen from the air and convert it into a form that can be used by other plants. This reduces the need for synthetic fertilisers, which can be expensive and have negative environmental impacts.

Soybeans can also be used as a sustainable alternative to animal feed. Livestock production is a major contributor to greenhouse gas emissions, deforestation, and other environmental problems. By using soybeans as a source of protein for livestock, we can reduce the environmental impact of animal agriculture.

Soybeans can also be used to produce biofuels, which are renewable and have a lower carbon footprint than traditional fossil fuels. This is because soybeans can be grown using sustainable agricultural practices, and converted into biodiesel without producing harmful emissions.

### • Economic Benefits:

Soybeans are an important crop for many countries around the world. They are a major export for countries like Brazil and the United States and are an important source of income for farmers and other agricultural workers. Soybeans are also used in a wide range of industries, from food and beverage production to pharmaceuticals and cos-

metics.

Soybeans are one of the most widely cultivated and consumed crops in the world, and for good reason. These legumes are not only an excellent source of plant-based protein, but they also contain a variety of essential nutrients that are important for overall health and wellbeing. In this article, we'll explore the many benefits of soybeans and why they should be a part of a healthy diet.

### HEALTH BENEFITS:-

a) High in Protein: Soybeans are one of the best plant-based sources of protein, containing all the essential amino acids that the body needs. A 100-gram serving of soybeans can provide around 36 grams of protein, making it an excellent choice for vegetarians and vegans who may struggle to get enough protein in their diet.

b) Heart Health: Soybeans are rich in antioxidants and healthy fats, including omega-3 and omega-6 fatty acids. These nutrients have been shown to lower cholesterol levels, reduce inflammation, and improve heart health. In fact, several studies have found that consuming soy protein can reduce the risk of heart disease by lowering blood pressure, improving blood lipid levels, and reducing arterial stiffness.

c) Menopausal Symptoms: Soybeans contain natural compounds called isoflavones, which have been found to help

alleviate menopausal symptoms such as hot flashes and night sweats. These compounds mimic the effects of estrogen in the body, helping to reduce the severity of menopausal symptoms without the risks associated with hormone replacement therapy.

d) Digestive Health: Soybeans, a versatile crop, are a good source of dietary fiber, which is important for maintaining digestive health. Fiber can help regulate bowel movements, prevent constipation, and reduce the risk of colon cancer. Additionally, soybeans contain oligosaccharides, which are a type of prebiotic that can help support the growth of beneficial bacteria in the gut.

e) Bone Health: Soybeans are a rich source of calcium, which is

essential for building and maintaining strong bones. In fact, soybeans contain more calcium than any other legume. Additionally, soybeans contain other bone-healthy nutrients such as magnesium, zinc, and vitamin K.

f) Cancer Prevention: The isoflavones in soybeans may also have anti-cancer properties. Several studies have found that consuming soy products can help reduce the risk of certain cancers, including breast and prostate cancer.

### • Conclusion:-

Soybeans are a versatile and important crop that provide a range of benefits for human health, the environment, and the economy. They are a valuable source of protein and other essential nutrients and have been shown to have a number of health benefits.

Soybeans are also a sustainable alternative to animal feed and can be used to produce renewable biofuels. As such, it is clear that soybeans will continue to play an important role in our agricultural systems and in the global economy for years to come.



Mubeen Bin Yamin

*Providing vitamin A supplements to children ages 6 to 59 months is highly effective in reducing deaths from all causes where vitamin A deficiency is a public health concern*



## Micronutrients Deficiency And Interventions

**M**icronutrients, also known as vitamins and minerals, are essential components of a high-quality diet and have a profound impact on health.

Consuming a diverse range of nutrient-dense foods alongside breastfeeding is the ideal way for young children to get essential micronutrients in their diets. But in many parts of the world, children's diets contain insufficient micronutrients, and deficiency in these nutrients is widespread.

Micronutrients, also known as vitamins and minerals, are essential components of a high-quality diet and have a profound impact on health. While they are only required in tiny quantities, micronutrients are the essential building blocks of a healthy brain, bones, and body.

Millions of children suffer from stunted growth, cognitive delays, weakened immunity, and disease as a result of a deficiency of micronutrients. For pregnant women, the lack of essential vitamins and minerals can be catastrophic, increasing the risk of low birth weight, birth defects, stillbirth, and death.

Main deficiency of micronutrients:

Iodine:

Deficiency is the primary cause of preventable brain damage in children. Its most devastating impacts occur during foetal development and in the first few years of a child's life.

Globally, 30 percent of the world's population lives in areas with iodine deficiency. Iodine is required during pregnancy and infancy for the infant's healthy growth and cognitive development.

Globally, an estimated 1.8 billion people have insufficient iodine intake. Iodine content in most foods and beverages is low. Fortifying salt with iodine is a successful intervention—about 86% of households worldwide consume iodized salt. The amount of iodine added to salt can be adjusted so that people maintain adequate iodine intake even if they consume less salt.

### Vitamin A:

Deficiency affects about one third of children living in low and middle income settings, mainly in sub-Saharan Africa and South Asia. Vitamin A deficiency weakens the immune system and increases a child's risk of dying from infections like measles and diarrhoeal illnesses.

Vitamin A supports healthy eyesight and immune system functions. Children with vitamin A deficiency face an increased risk of blindness and

death from infections such as measles and diarrhoea. Globally, vitamin A deficiency affects an estimated 190 million preschool-age children.

Providing vitamin A supplements to children ages 6 to 59 months is highly effective in reducing deaths from all causes where vitamin A deficiency is a public health concern.

### Iron:

Deficiency can lead to anaemia, which increases the risk of hemorrhage and bacterial infection during childbirth and is implicated in maternal deaths. In turn, babies may be born prematurely and suffer from infections, learning disabilities, and delayed development.

Almost 40 percent of pregnant women and more than 40 percent of children under 5 in developing countries are anaemic. About half of these cases are estimated to result from iron deficiency. Iron is critical for motor and cognitive development. Children and pregnant women are especially vulnerable to the consequences of iron deficiency. Iron is a leading cause of anemia, which is defined as a low haemoglobin concentration.

Anemia affects 43% of children younger than 5 years of age and 38% of pregnant women globally. Anemia during pregnancy

increases the risk of death for the mother and low birth weight for the infant.

World Health Organization (WHO) recommends iron and folic acid supplements for reducing anaemia and improving iron status among women of reproductive age. Fortifying flour with iron and folic acid is globally recognised as an effective, low-cost intervention.

### Zinc:

Deficiency impairs immune function and is associated with an increased risk of gastrointestinal infection. It is also a contributing factor in child deaths due to diarrhoea. Zinc deficiency is especially common in lower income countries due to the low dietary intake of zinc-rich foods and inadequate absorption.

Zinc promotes immune functions and helps people resist infectious diseases, including diarrhoea, pneumonia, and malaria. Zinc is also needed for healthy pregnancies.

Globally, 17.3% of the population is at risk for zinc deficiency due to dietary inadequacy.

Zinc supplements reduce the incidence of premature birth, decreases childhood diarrhoea and respiratory infections, lowers the number of deaths from all causes, and increases growth and weight gain among infants and young children.

Calcium, vitamin D, and folate deficiencies are a particular concern during pregnancy and can lead to a number of health complications for both the mother and growing baby.

Vitamin D builds healthy bones, vitamin D deficiency causes bone diseases, including rickets in children and osteomalacia in adults. Vitamin D is required for muscle and nerve functions. Vitamin D helps the immune system resist bacteria and viruses.

Folate (vitamin B9) is essential in the earliest days of fetal growth for the healthy development of the brain and spine. Ensuring sufficient levels of folate in women prior to conception can reduce neural tube defects (such as spina bifida and anencephaly).

Providing folic acid supplements to women ages 15–49 and fortifying foods such as wheat flour with folic acid reduces the incidence of neural tube defects and neonatal deaths.

How deficiency of micronutrients prevented and treated?

UNICEF supports the following strategies to prevent and treat micronutrient deficiencies in women and children:

Dietary diversification strategies help families access a range of nutrient-rich foods.

They involve educating caregivers on appropriate infant

and young child feeding practices and improving the use of locally available foods. Supplementation programs provide specific micronutrients that are not available as part of the regular diet.

Supplementation is especially important at times when the body has particularly high micronutrient needs—for example, during pregnancy—that are difficult to meet with diet alone.

One example is iron and folic acid supplements for pregnant women, which can reduce the risk of low birth weight, maternal anemia, and iron deficiency.

Home fortification programs provide carers with micronutrient powders to sprinkle on the foods they prepare for children at home. This can significantly improve the dietary quality of complementary foods for children from 6 months to the age of 2 or older.

Home fortification empowers carers and provides them with the tools to improve the family diet without requiring a major change to their dietary practice.

These strategies, together with the prevention and treatment of infectious diseases, can minimise micronutrient depletion and reduce micronutrient deficiencies among vulnerable groups.



Haseeb Ahmad

*Despite the significant benefits of digitalization in education, it also comes with several challenges. One of the most significant challenges is the lack of infrastructure and internet connectivity. In Pakistan, a large number of students come from rural areas where access to the internet and digital devices is limited*



## Digitalization Of Education Ecosystem Of Pakistan

**D**igitalization in the education ecosystem refers to using digital technologies to enhance teaching and learning processes, student assessment, and administrative processes.

Digitalization is the process of converting physical assets, documents, or services into digital form.

In recent years, the education ecosystem in Pakistan has undergone significant changes, and one of the most significant changes is the digitalization of education.

The pandemic has accelerated the pace of digitalization in education, making it imperative for schools, colleges, and universities to adopt digital technologies to continue educating students remotely. This article will explore the digitalization of the education ecosystem in Pakistan, its challenges, and the way forward.

Digitalization of the Education Ecosystem

Digitalization in the education ecosystem refers to using digital technologies to enhance teaching and learning processes, student assessment, and administrative processes. In Pakistan, the education ecosystem has seen a significant shift from traditional classroom teaching to online learning.

The pandemic has forced educational institutions to adopt digital technologies to continue educating students remotely. As a result, schools, colleges, and universities have been forced to adopt digital platforms such as Learning Management Systems (LMS), video conferencing tools, and digital content creation tools.

### Challenges

Despite the significant benefits of digitalization in education, it also comes with several challenges. One of the most significant challenges is the lack of infrastructure and internet connectivity. In Pakistan, a large number of students come from rural areas where access to the internet and digital devices is limited.

Therefore, it is challenging for students in these areas to access digital education resources. Additionally, digital literacy is also a significant challenge, as many students and teachers lack the necessary skills to effectively use digital tools for teaching and learning.

Another challenge is the lack of digital content in Urdu, Pakistan's national language. Most of the digital content available for education is in English, making it difficult for students who are not proficient in the language to understand and learn effectively. Additionally, there is

a lack of standardization in digital education. Different schools, colleges, and universities use different digital tools, which can be confusing for students and parents.

### Way Forward

To address the challenges of digitalization in the education ecosystem, the government, educational institutions, and private organizations need to work together. The government can provide infrastructure and internet connectivity to rural areas to ensure that all students have access to digital education resources. Additionally, the government can also invest in creating digital content in Urdu to make it more accessible to students.

Educational institutions need to provide digital literacy training to students and teachers to ensure that they can effectively use digital tools for teaching and learning. Moreover, institutions need to standardize the use of digital tools to make it easier for students and parents to navigate the digital ecosystem.

Private organizations can also play a vital role in supporting digitalization in education. They can invest in creating digital content in Urdu, providing digital devices to students, and sponsoring digital literacy programs in

schools and colleges.

### Conclusion

Digitalization has the potential to transform the education ecosystem in Pakistan. However, to realize its full

potential, the government, educational institutions, and private organizations need to work together to overcome the challenges of digitalization.

By providing infrastructure,

internet connectivity, and digital literacy training, we can ensure that all students have access to digital education resources and can learn effectively in a digital environment.

### DIGITALIZATION OF EDUCATION ECOSYSTEM IN PAKISTAN

by: Haseeb Ahmad Ayazi

**To address the challenges of digitalization in the education ecosystem, the government, educational institutions, and private organizations need to work together. The government can provide infrastructure and internet connectivity to rural areas to ensure that all students have access to digital education resources. Additionally, the government can also invest in creating digital content in Urdu to make it more accessible to students**



Muzamil Hassan

**A**ccording to the Food and Agriculture Organization (FAO), in 2020, Pakistan produced 253,032 metric tons of cluster beans, making it the world's fifth-largest producer of the crop. In a study conducted in Pakistan's Punjab province, researchers found that cluster beans had a higher net return per hectare compared to wheat and cotton crops in the region



## Growing Cluster Bean Crop: A Smart Investment For Pakistani Farmers

**A**ccording to the Food and Agriculture Organization (FAO), in 2020, Pakistan produced 253,032 metric tons of cluster beans, making it the world's fifth-largest producer of the crop.

Agriculture employs more than 40% of Pakistan's workforce and accounts for nearly 19% of the country's GDP. However, the agriculture sector in Pakistan is facing numerous challenges, including water scarcity, soil degradation, and declining crop yields. To address these issues, farmers and policymakers are exploring alternative crops that can grow in arid and semi-arid regions of the country. One such crop is cluster bean (*Cyamopsis tetragonoloba*), commonly known as guar.

This drought-tolerant crop is well-suited to Pakistan's climate and can be grown in arid and semi-arid regions. The primary reason that cluster beans are grown is for their seeds, which are abundant in guar gum, a water-soluble polysaccharide that is extensively utilized in the food, pharmaceuti-

cal, and oil sectors.

According to the Food and Agriculture Organization (FAO), in 2020, Pakistan produced 253,032 metric tons of cluster beans, making it the world's fifth-largest producer of the crop. In a study conducted in Pakistan's Punjab province, researchers found that cluster beans had a higher net return per hectare compared to wheat and cotton crops in the region.

The net return per hectare for cluster beans was estimated at PKR 51,872 (approximately USD 312), compared to PKR 46,057 (USD 276) for wheat and PKR 27,508 (USD 165) for cotton. In a field experiment conducted in Pakistan's Sindh province, researchers found that cluster bean had significantly higher water use efficiency (WUE) compared to cotton.

Secondly, cluster bean is a nitrogen-fixing crop, which means it can convert atmospheric nitrogen into a form that plants can use. This property makes it an excellent crop for improving soil fertility and reducing the use of nitrogen fertilizers.

Thirdly, cluster bean has a high yield potential, producing up to 6 tons of seeds per hectare. This high yield can contribute to farmers' income and enhance Pakistan's economy, especially in arid and semi-arid regions where crop productivity is low.

potential of 200,000 metric tons.

For increasing agricultural output in Pakistan, cluster bean is a potential crop due to its many benefits. Firstly, it is a water-efficient crop that requires less irrigation than other major crops such as wheat, rice, and cotton. Cluster bean requires only 3330 m<sup>3</sup> of water per hectare, compared to 10000 m<sup>3</sup> of water for cotton and 15000 m<sup>3</sup> of water for rice. This makes it an ideal crop for water-scarce areas, where water is a limiting factor for agricultural productivity.

Secondly, cluster bean is a nitrogen-fixing crop, which means it can convert atmospheric nitrogen into a form that plants can use. This property makes it an excellent crop for improving soil fertility and reducing the use of nitrogen fertilizers.

Thirdly, cluster bean has a high yield potential, producing up to 6 tons of seeds per hectare. This high yield can contribute to farmers' income and enhance Pakistan's economy, especially in arid and semi-arid regions where crop productivity is low.

Lastly, cluster bean is a low-input crop that requires minimal fertilizer and pesticide applications, reducing the cost of production and making it a cost-effective crop for small-scale farmers. Cluster bean requires only 30–40 kg of nitrogen, 20–30 kg of phosphorus, and 15–20 kg of potassium per hectare, which is significantly less than other major crops such as wheat and cotton.

In addition to its benefits for farmers, cluster bean also has

environmental benefits. As a drought-tolerant crop, it can reduce the pressure on Pakistan's limited water resources and act as a nitrogen-fixing crop. It can improve soil health and reduce soil degradation. Furthermore, it is a non-GMO crop, making it an environmentally friendly choice for farmers and consumers. Cluster bean cultivation has been increasing steadily in recent years. In 2019–20, the total area

under cluster bean cultivation in Pakistan was 225,500 hectares, which produced 252,400 metric tons of cluster bean seeds. This represents a 13.7% increase in the area under cultivation and a 10.6% increase in production compared to the previous year.

These statistics indicate that cluster bean cultivation is gaining popularity among farmers in Pakistan, and its potential for enhancing agricultural productivity is being recognized.





## Logistics Industry In Africa Advancing With Help Of Technologies

According to Rand Merchant Bank (RMB), intra-African trade could increase by up to 30% over the next five years, thanks in part to digitization and blockchain.

The past two years have seen unprecedented supply chain disruptions in the global logistics industry, including port closures, high freight costs, staff and material shortages, and geopolitical crises. These issues have highlighted the need for resilience and adaptability to be built into the supply chain and exposed weak spots.

Logistics operators must make use of the tools and technologies at their disposal to anticipate and avoid potential sources of disruption, such as changes in the price of oil and geopolitical tensions. The pandemic has highlighted the value of data and transparency in supply chains. Thanks to a trustworthy data system, businesses can quickly pinpoint issues and disruptions, put fixes in place, and forecast the future.

Sensors, dashboards, and other data-collection devices and technologies are being adopted by industry to harness structured and unstructured data streams in order to improve end-to-end supply chain visibility.

By gathering and using the right data, logistics companies can develop and implement optimised strategies along supply chain segments, increase visibility, and improve service levels. Big data analytics is expected to become commonplace within the next five years.

According to Rand Merchant Bank (RMB), intra-African trade could increase by up to 30% over the next five years, thanks in part to digitization and blockchain.

In terms of documentation, Africa's logistics industry is still largely paper-based. By implementing digital alternatives for customs clearance and other processes, trade can be streamlined, resulting in lower administrative costs and increased efficiency.

Blockchain technology has the potential to help remove many barriers to international trade, similar to how the African Continent Free Trade Agreement (AfCFTA) allows for the free and easy flow of goods, capital, and information across national borders.

Trade finance, track-and-trace, customs cooperation, transportation management, and procurement are examples of these. Such benefits significantly lower trading barriers, providing a financial incentive to put them in place as soon as possible. According to estimates, supply chains account for roughly 60% of total global carbon emissions and 90% of emissions associated with a specific product...[Read More](#)

## Death Toll Rises To 522 Amid Cyclone Freddy In Southeast Africa



The number of fatalities caused by the unusually long-lasting tropical Cyclone Freddy in southeast Africa has increased to 522 according to authorities.

The number of fatalities caused by the unusually long-lasting tropical Cyclone Freddy in southeast Africa has increased to 522 according to authorities.

increased to 522 according to authorities in Malawi, Mozambique, and Madagascar. The number of fatalities increased to 438 on Saturday, according to the disaster management authorities in Malawi, the country that was most severely affected by the cyclone.

Lazarus Chakwera, the president of Malawi, announced a 14-day period of national mourning on Thursday. There are hundreds of evacuation centres set up across the nation for survivors, with 345,000 people impacted by the heavy rains, floods, and landslides and tens of thousands of people left homeless in Malawi...[Read More](#)

## Scientists Hope To Save Last 2 Northern White Rhinos From Extinction

The northern white rhino is functionally extinct, but an international group of scientists have been working to bring it back from the brink.

The Ol Pejeta Conservancy in Kenya is home to the last two northern white rhinos left on Earth, Najin and Fatu. They are mother and daughter and cannot reproduce naturally, as there are no males left for them to mate with. As the mercury rises, they will retire to a shady spot and have a siesta, watched over by armed guards. The northern white rhino is functionally extinct, but an international group of scientists have been working to bring it back...[Read More](#)



The German Federal Ministry for Economic Cooperation and Development and the European Union are each contributing €47 million to the implementation of FISH4ACP (BmZ).

The Food and Agriculture Organization of the United Nations (FAO) has been implementing a major fisheries and aquaculture development program that has shown significant potential to boost these industries in Côte d'Ivoire, Senegal, Tanzania, Guyana, and the Marshall Islands, increasing their self-sufficiency, creating jobs, and maintaining biological stock levels.

The nations are the first five of 12 African, Caribbean, and Pacific (ACP) states that FISH4ACP, a global aquaculture program for the development of the fish value chain, has examined.

This Organization of African, Caribbean, and Pacific States (OACPS) initiative is being carried out by FAO and focuses on increasing the productivity and sustainability of the value chains in fisheries and aquaculture...[Read More](#)

## AI To Fundamentally Reshape African Fintech Companies



Nigel Green, the CEO and founder of deVere Group, predicts that AI will fundamentally alter the financial services sector.

It is impossible to overstate the potential impact of artificial intelligence (AI) on African financial technology (fintech) companies. Nigel Green, the CEO and founder of deVere Group, predicts that AI will fundamentally alter the financial services sector.

He mentioned how it would alter both how people live and how businesses operate. The deVere Group is an independent asset management, financial advisory, and fintech company.

Green highlighted how chatbots and virtual assistants could be used by African fintech companies to provide personalised customer service around-the-clock.

Additionally, it has the ability to analyse enormous amounts of data in real-time, which will help financial institutions spot fraudulent

activity and unusual behavioural trends. As a result, they would be able to make decisions more quickly and effectively by analysing data to gain insights into potential opportunities and risks.

Financial institutions can make better trading decisions thanks to their algorithms' ability to precisely evaluate market reports and forecast upcoming trends and patterns.

Through the automation of compliance procedures and the identification of potential non-compliance hotspots, the use of AI in fintech would also assist businesses in adhering to regulatory and reporting requirements.

Although there may be advantages, there are concerns about the moral and social ramifications, such as bias and privacy. Green, however, thinks that AI has the power to significantly improve a range of sectors, including business, healthcare, education, and public services.

The fintech sector in Africa has already embraced AI technology, and many businesses are looking into its potential. For instance, the Nigerian fintech startup Kuda Bank introduced a chatbot feature in 2021 that allows users to conduct transactions via messaging services.

Real-time updates on account balances, transaction histories, and other services are also provided by the chatbot. Zande Africa, a South African fintech company,

uses AI to offer microloans to small businesses, and Lendable, a Kenyan fintech company, uses AI-powered solutions to process loan applications quickly...[Read More](#)

## Starlink Satellite Internet Service Now Available In South Africa

Two South Africans, according to information obtained by MyBroadband, were able to access the Starlink network locally after signing up for the company's just-launched "Roam" service.

Starlink satellite Internet service from SpaceX is available in South Africa if you can import its customer premises kit and pay a monthly subscription fee of more than R3,600. Two South Africans, according to information obtained by MyBroadband, were able to access the Starlink network locally after signing up for the company's just-launched "Roam" service.

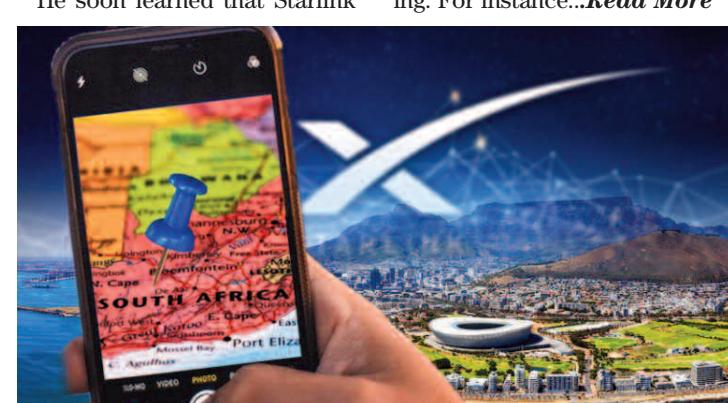
James Coetzee, a resident of Johannesburg and co-founder of the specialised Wi-Fi connectivity company QuickConnectWireless, was one of them. The business has been looking into how Starlink might help be used in rural South Africa.

It is possible to pre-order a Starlink kit using a South African address, but the product

won't be delivered until the region's implementation of the service is complete. Fortunately for Coetzee, Starlink has already begun operations in the UK, where his business also has a location.

Coetzee brought the kit to South Africa to test it out after Starlink introduced its portable service for recreational vehicles, which enables use while traveling and outside of the user's primary country.

He soon learned that Starlink



## Skin Eating Fungal Plague Rapidly Increasing Across African Wildlife



Scientists warned on Wednesday that a dangerous, skin-eating fungus has been rapidly destroying African wildlife since the turn of the century.

The highly contagious fungus known as Bd—Batrachochytrium dendrobatidis—kills frogs, toads, salamanders, and other amphibians by attacking the skin and causing heart attacks. It probably existed in amphibian populations for decades before human activity, most likely the wildlife trade, unintentionally spread it throughout the world.

Scientists warned on Wednesday that a dangerous, skin-eating fungus has been rapidly destroying African wildlife since the turn of the century. This discovery shed light on an unrecognised amphibian plague that has caused more species to go extinct or become close to going extinct than any other pathogen and now threatens to wipe out even more across the African continent.

Despite the fact that Bd, which has been dubbed the worst disease ever recorded, has wiped out hundreds of amphibian species worldwide and led to the decline of hundreds more, species found in Africa were once believed to have been immune to the scourge.

Contrarily, new research suggests Bd is already well-established across Africa and has simply gone unnoticed, as reported in a paper published on Wednesday in *Frontiers in Conservation Science*. Despite isolated cases of Batrachochytrium dendrobatidis being found as early as the 1930s, the fungal infection only really started to spread across the continent in 2000. A decade later, more than 20% of samples tested positive for the infection, with some regions seeing as many as 74%. The findings, which the researchers said are consistent with some reports of amphibian extinctions and die-offs, indicate that the fungus has been overlooked rather than absent and indicate a serious threat to Africa's diverse array of amphibian species...[Read More](#)

## FAO Implements Fisheries, Aquaculture Development Program In Africa

# *International Day of Forests*

*21 MARCH*

*“ Preserve  
The Forests,  
Protect  
The Future”*

21  
M  
A  
R  
C  
H

*World  
Down  
Syndrome  
Day*

**World Down Syndrome Day**

World Down Syndrome Day is observed on 21 March each year in order to raise public awareness of Down syndrome (Down syndrome is a genetic disorder caused by the presence of third copy of chromosome-21. Most people have 46 chromosomes in all of their cells, but in people with Down syndrome they have 47 chromosomes and because of that they look differently and learn differently.) The day is celebrated since 2012 with the recommendation of United Nations General Assembly.