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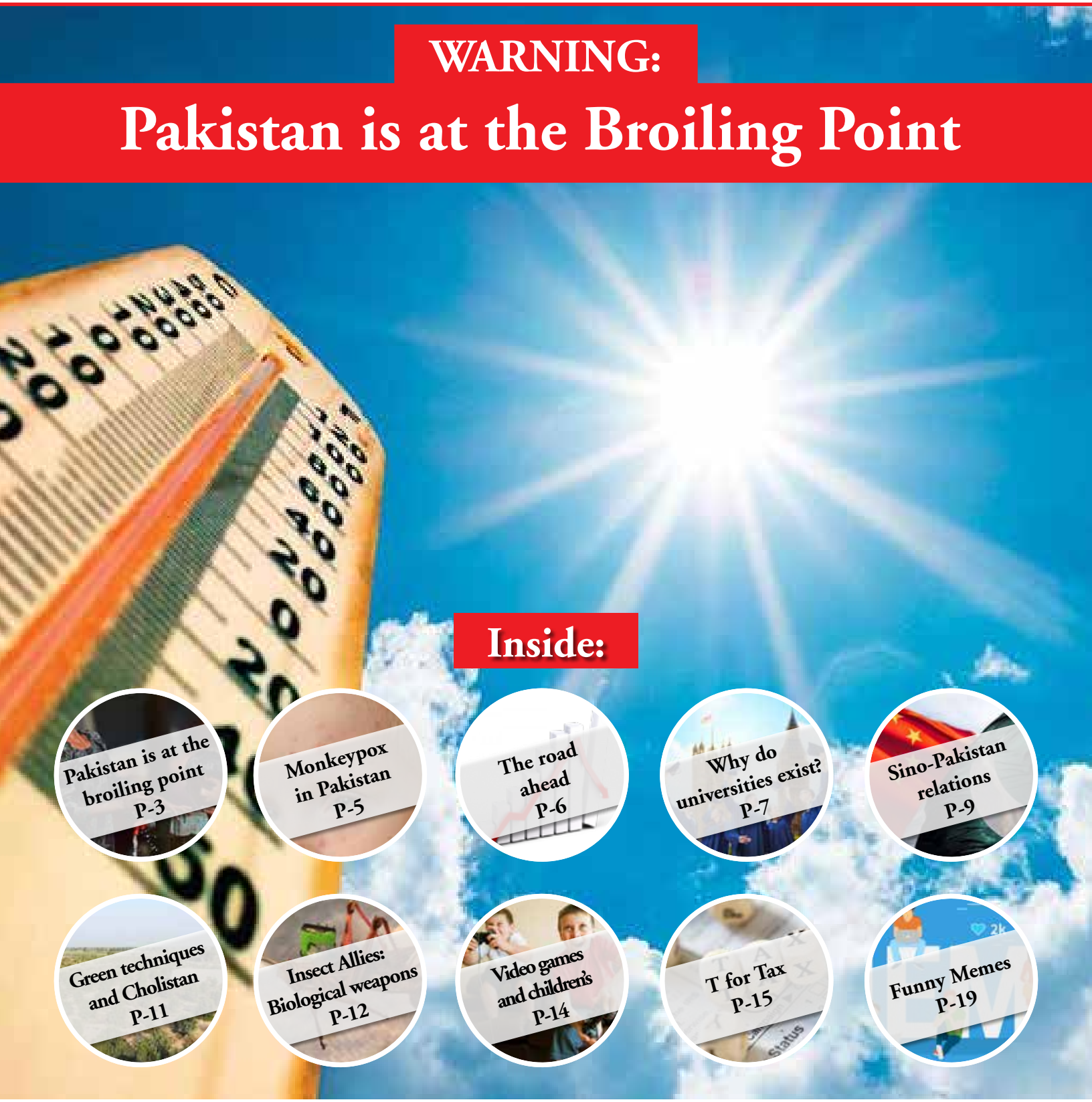
WARNING:
Pakistan is at the Broiling Point



Inside:

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Stay Safe In Heatwave

The country is in the grip of a blistering heatwave, with parts of the nation already scorched by temperatures of nearly 50^{C}. It is causing acute water shortages and a threat to health. This year, mercury shows its wrath comparatively too early.

Amid this scenario, it is imperative to take certain measures to ensure the high temperature does not affect your health. And, that's why general public must take precautionary measures to avoid heatwave which include to stay indoors and in shaded places, use an umbrella/hat/cap/towel when outside. Drink water and salted lassi, lemon water, fruit juices frequently.

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Warning: Pakistan Is At The Broiling Point

By Hadia Sheerazi

This weekend, Pakistan was one the hottest places in the world. My hometown, Karachi, with a population of 25 million, buckled under 102°F (38.9°C) heat.

Jacobabad and Nawabshah, home to nearly 500,000 people, were even hotter, with record-shattering temperatures exceeding 120°F (48.9°C) on multiple days. The 14-day forecast is even worse: Next weekend, Lahore is forecasted to hit 122°F (50°C). As searing temperatures sweep across the fifth most populous (and fifth most climate-vulnerable) country in the world, Pakistanis without reliable access to energy are sweltering in the punishing heat with no reprieve. Rural and low-income districts broil during 9- to 12-hour-long blackouts.

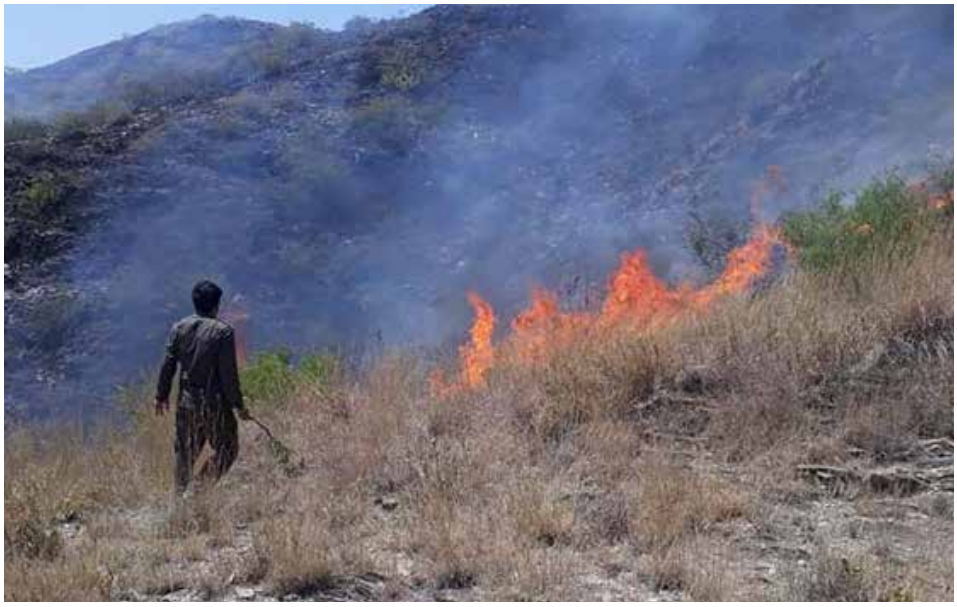
Pakistan's latest energy crisis has dealt a crippling blow to an already overburdened and decrepit grid system unable to meet the surging nationwide demand for electricity. The prices of coal and liquid natural gas, critical inputs for Pakistan's fossil-fueled power plants, continue to skyrocket during the Russian invasion of Ukraine, driving prices far beyond the purchasing power of the impoverished South Asian nation that is currently saddled with over $216 billion in national debt.

This horrific tragedy is unfolding against the backdrop of the ongoing global COVID-19 pandemic, a chronic water shortage coupled with extreme flooding from rapid glacier melt, and as of two days ago, a deadly cholera outbreak infecting thousands in northern Pakistan.

The soaring temperatures also threaten vital exports of cash crops and the food security of 220 million people, a majority of whom already live in acute multidimensional poverty, i.e. experience deprivation in health (nutrition, child mortality), education (years of schooling, school attendance), and living standards (cooking fuel, sanitation, drinking water, electricity, housing and assets).

The National Oceanic and Atmospheric Administration (NOAA) reported that April 2022 was the hottest in Pakistan and India since global record-keeping

The National Oceanic and Atmospheric Administration (NOAA) reported that April 2022 was the hottest in Pakistan and India since global record-keeping commenced in 1880. May 2022 will likely follow suit.



commenced in 1880. May 2022 will likely follow suit.

These unprecedented heatwaves threaten the livelihoods of millions of low-income Pakistanis who are day laborers, farmers and outdoor workers who cannot afford to "take cover" and remain indoors during peak heatwave hours of 11 am to 4 pm. Excessive exposure to high heat combined with high humidity, which limits how much the human body can cool off by sweating, is lethal for the elderly and those with underlying health conditions, but can also quickly become deadly for young and otherwise healthy individuals. The heat also worsens health outcomes for high-risk groups, especially those suffering from asthma and respiratory diseases due to Pakistan having the second worst air quality in the world.

The National Disaster Management Authority, Pakistan Meteorological Department, and state and local governments and disaster management authorities have collectively issued widespread warnings to the wider public about dangerous temperatures and warning signs of deadly heat stroke, especially among children and the elderly, including via emergency text blasts and social media posts.

Unfortunately, Pakistan's national and local disaster management plans fall short of the necessary levels of funding, inclusivity and urgency to meet the scale of the crisis. This is confirmed by a review of various official documents, including the Karachi Heatwave Management Plan, the Billion Tree Tsunami Afforestation Project (2014), the 10 Billion Tree Tsunami Project (2018), the Inclusive Wealth of Pakistan: The Case for Investing in Natural Capital and Restoration (2021), and the most recent Updated National Determined Contributions submitted to the United Nations Framework Convention on Climate Change at COP26 (2021).

The following are conspicuously absent from Pakistan's current mitigation and disaster management strategies: Key risk-reduction proposals are missing specific strategies that cater to the unique needs and vulnerabilities of disabled individuals and elderly residents, especially those residing in rural and remote communities with limited to no accessibility. The national government may also need to consider earmarking (or raising) emergency funds for food and water during the worst heatwave days to protect farmers, laborers and outdoor workers from exposure.

The Pakistan Cooling Action Plan needs a clear policy directive to buy back and/or phase out R22 and R22 Freon air conditioners that began to be sold at fire sale prices in Pakistan following international bans in more developed countries.

The Ministry of Climate Change must also seek partnerships with European and North American cities to assist with designing and funding the billions that will be needed for robust heatwave management strategies.

Energy poverty and insecurity will continually exacerbate climate risk and result in huge GDP losses, along with stunting the development of Pakistan's youth (over 64 percent of the population is aged 30 and younger), who are facing significant interruptions to their schooling and employment, as well as experiencing adverse physical and mental health as a consequence.

There has never been a clearer clarion call to climate action nor more compelling evidence that climate change is an acute threat multiplier in the poorest, most vulnerable frontline countries in the world. The nightmare scenario for Pakistan is not 2050 or 2100. If nothing changes, and fast, many in Pakistan may not even survive 2030.

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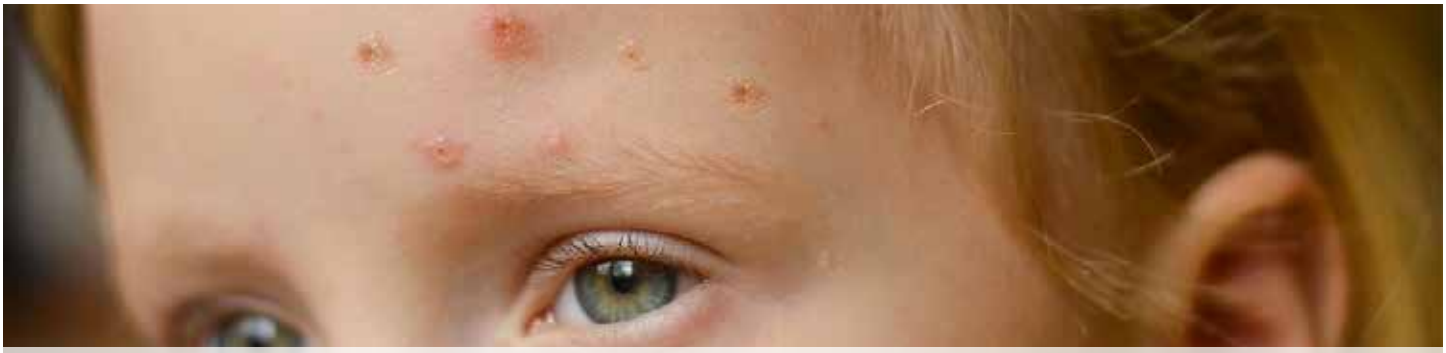
- Hadia Sheerazi is the Program Manager of the Carbon Management Research Initiative at Columbia Climate School's Center on Global Energy Policy.



MONKEYPOX:
EVERYTHING YOU NEED TO KNOW

By Dr Aqeel Khan

The outbreak of Monkeypox disease in some European and African countries is the latest concern among the rest of the countries Monkeypox is a viral infection that has in the past, been spotted in West and Central Africa.

"What seems to be happening now is that it has got into the population as a sexual form, as a genital form, and is being spread as are sexually transmitted infections, which has amplified its transmission around the world," David Heymann, an infectious disease epidemiologist and World Health Organization (WHO) expert.

What is Monkeypox?

Monkeypox is a disease caused by the monkeypox virus (genus Orthopoxvirus). The virus is closely related to other "pox" viruses such as vaccinia, variola major and minor (which cause smallpox) and cowpox virus, according to the Centers for Disease Control and Prevention (CDC).

Monkeypox was first identified in 1958 in monkey colonies, and then again in 1970 in a human in what is now the Democratic Republic of the Congo. In subsequent years, monkeypox outbreaks have cropped up in areas across Central and West Africa, according to the CDC.

Signs and symptoms

After the virus enters the body, it starts to replicate and spread through the body via the bloodstream. Symptoms usually don t appear until one to two weeks after infection. Monkeypox produces smallpox-like skin lesions, but symptoms are usually milder than those of smallpox. Flu-like symptoms are common initially, ranging from fever and headache to shortness of breath. One to 10 days later, a rash can appear on the extremities, head or torso that eventually turns into blisters filled with pus. Overall, symptoms usually last for two to four weeks, while skin lesions usually scab over in 14 to 21 days.

While monkeypox is rare and usually non-fatal, one version of the disease kills around 10 percent of infected people. The form of the virus currently circulating is thought to be milder, with a fatality rate of less than 1 percent.

Transmission

The virus can be transmitted through contact with an infected person or animal or contaminated surfaces. Typically, the virus enters the body through broken skin, inhalation or the mucous membranes in the eyes, nose or mouth.

Researchers believe that human-to-human transmission is mostly through inhalation of large respiratory droplets rather than direct contact with bodily fluids or indirect contact through clothes. Human-to-human transmission rates for monkeypox have been limited.

Health officials are worried the virus may currently be spreading undetected through community transmission, possibly through a new mechanism or route. Where and how infections are occurring are still under investigation.

Vaccines and treatments

Treatment for monkeypox is primarily focused on relieving symptoms. According to the CDC, no treatments are available to cure monkeypox infection.

Evidence suggests that the smallpox vaccine can help prevent monkeypox infections and decrease the severity of the symptoms. One vaccine known as Imvamune or Imvanex is licensed in the US to prevent monkeypox and smallpox. Vaccination after exposure to the virus may also help decrease chances of severe illness. The CDC currently recommends smallpox vaccination only in people who have been or are likely to be exposed to monkeypox. Immunocompromised people are at high risk. The Conversation.

Is Monkeypox fatal?

Monkeypox generally runs its course, resolving on its own, over a period of two to four weeks, according to the World Health Organization. However, severe cases can occur, and today about 3% to 6% of those infected with the disease die from it, the WHO noted. The risk of death is higher among young children. Individuals younger than about 40 to 50 years of age may also be more vulnerable to monkeypox because smallpox vaccinations — which help protect a person from contracting monkeypox — stopped after that disease was eradicated, at different times in different countries.

The Road Ahead

By Fizza Ali

The prevalent economic situation in Pakistan is becoming catastrophic. The new coalition government is trying to steer clear of unpopular but necessary economic decisions, as it inherits an economy troubled by rising inflation, widening fiscal and current account deficits, and shrinking foreign exchange reserves. Ironically, all the parties in the Pakistan Democratic Movement (PDM), which were badly criticising all the tough decisions of the PTI government a few weeks ago from the opposition benches, never realised that they were going to taste their own medicine so soon as they assume power and it is getting bitter and uglier with the passage of time. As per the latest report from the Institute for Policy Reforms (IPR), Pakistan must address its severe external debt and current account deficit problems in order to avoid a Sri Lanka-like default situation. Among other suggestions, the IPR called for making the energy sector financially sustainable, restructuring internal debt, increasing internal sources of energy and mineral resources and ensuring parliamentary scrutiny of all international agreements of economic nature. The coalition government may not have much time to undertake all these fiscal and productivity reforms, but it can initiate changes to restructure the economy for a long-term sustainable turnaround. It is unfortunate that the political parties here do not have much experience in carrying out long-term economic and governance reforms. If the previous government's economic experiments have taught us anything, it is that quick fixes do not work. Hence, it is high time that all political parties reach a consensus to draw up an "Economic Charter", detailing a long-term political roadmap that should be supported by all parties, regardless of which side of the floor they are sitting on, fully backed by the military and the judiciary, in order to avoid a complete meltdown in the near future.

An elected government should deserve to move forward uninterrupted on the agreed roadmap without any compromise or interference, in order to ensure the country's economic stability. If we look back in history, in the 1960s, South Korea was a small economy based on agriculture. Over the next five decades, South Korea managed to maintain its economic growth, and by 2016 it had become the 11th largest economy in the world. The reason is that South Korea had a robust economic growth model in place which was well supported by all sections of the society and had two pillars: human capital accumulation and productivity growth. Similarly, in the 1980s, Vietnam was in a state of severe economic crisis with a 700 percent inflation rate, trade deficit and economic stagnation. In 1986, Vietnam's "Doi Moi" economic growth model was introduced which had five pillars: privatisation; foreign direct investment; end of subsidies to public sector enterprises and busting of domestic cartels and free trade. And as a reminder, Vietnam has signed 56 Free Trade Agreements (FTA's) whereas Pakistan has only signed 5 FTAs).

This goes to show why the country desperately needs a new robust economic growth model as soon as possible to overcome the breakdown we are facing right now. We must embrace three things: savings, investments and productivity. We have to learn from South Korea and Vietnam. We have to privatise. We must end all subsidies to so-called public sector corporations. We need to dismantle domestic cartels. And we must move towards free trade by signing as many free trade agreements as possible, while pushing for more trade with Central Asian economies. Additionally, in-terms of savings, an estimated amount of Rs1 trillion needs to be raised from the energy sector by quadrupling petroleum prices and electricity tariffs for all households using more than 1000 kwh.

- The writer is an Advocate of the High Courts of Pakistan and an Executive Member of the International Bar Association.

Why Do Universities Exist?

By Rameez Mahesar

Have you ever gone through the mission statement of your university before you applied there for admission? This is an attention-grabbing question that I have been asking students again and again. What is most shocking for me is that they answer 'no' to that question.

The next question which I ask them is: why do you not read the mission statement of your university? Since I invariably carry with myself FAQs (Frequently Asked Questions) about different subjects which I ask people. Securing answers to the latter question, students complain that the universities have not mentioned their mission anywhere on their websites.

On the other hand, they are not introduced ever by their teachers to the mission of the university; it could be imparted during introductory classes in the initial days of new students every year. A hard-to-accept truth is; universities start failing badly when their students are unacquainted with what the mission their universities do have.

Many universities leave their mission statements on notice boards, but students are not ready to read them at all. Some universities are not serious about producing and uploading a strongly effective mission statement on their websites.

This is a serious concern for both students as well as university authorities. It is the mission that really tells people what exactly the universities are for. It sets some agenda to be implemented across universities. It explains the purpose of a university and secures accurate answers to the question that this piece asks: why do universities exist?

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Those who read the mission statements of universities do not get what in reality those statements are highlighting. The answer is quite simple. Those mission statements are written blurrily with lousy language. Or these missions are recklessly impractical in most universities. For example, if a university has mentioned in its mission 'discovery of new knowledge' as a top-notch objective, it seems practical nowhere. No discovery, no research, no creativity, no exploration. Phew!

Let's again interfere with the central question for this piece: why do universities exist? I asked a few students to answer that question. Prior to answering this question, universities highlight more opposite to what they are actually providing. It's a globally recognized fact that the universities are the places of knowledge creation and its dispersion. But today, students answered, saying they have entered university solely for career development.

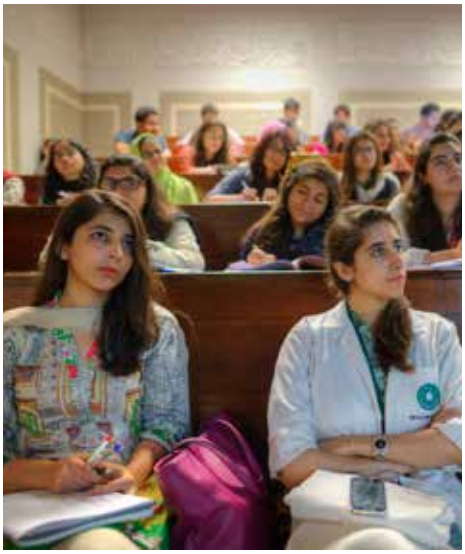
Aligned with their answer, I do believe that the universities have now turned into job-oriented places rather than unavoidably remaining education-oriented places. Do they really not exist to provide people with jobs in lieu of any new knowledge?

Most importantly, universities actually have two roles to play; research and teaching. Through research a university brings and circulates possibly new thoughts; with the help of teaching it shapes them all. This process enables students to distinguish between true and what is just seemingly true.

Since these two ingredients are truly an asset of universities, generally speaking, I have the right to label them to

be the wings of universities like birds have. No bird can ever fly without its wings, even it can never go high with just one wing; balance matters most. Correspondingly, teaching and research are such kinds of wings which can outstandingly help universities fly through the ceiling. If the wings– teaching and research– of universities are used badly, universities can possibly receive very poor marks.

Many universities have been focusing on just one of the two, by dint of which they move like a lame man who moves not so long and can get tired in less than no time. Likewise, none of the two can ever show a stellar performance singlehandedly in the universities. However, they must keep their eyes circumspectly upon both the pillars equally.



A university must adopt carefully new teaching methods which can lead students to arise with creative ideas to change the world. This innovation is only possible when research and teaching are equally strongly performed. I am free to say that the universities must implement it practically as their biggest mission. Throughout the very first days, students must be taught about the mission statement of their universities so that they might have a clear view of how and what they should expect from universities. Sadly, hard evidence shows that the students are left bereft of a fair understanding of why they come to universities.

Universities have an outstandingly huge place in our society so it is of great importance to extrapolate here that societies want to be clear about what the universities are for.

To them, universities have now turned machines to produce degrees to award people after they have consumed four consecutive years of their hard struggle. Throughout those four years, they are taught short-term priorities to achieve; it can never guarantee a beautiful success rather it could turn frequently irrelevant.

To this end, universities must have a clear view of their long-standing value to society which lets them be adaptive in main concerns from generation to generation.

Many argue that the universities must stay institutions of learning for the sake of learning; they must be primarily devoted to deepen and extend the human understanding of real global society.

A university must adopt carefully new teaching methods which can lead students to arise with creative ideas to change the world. This innovation is only possible when research and teaching are equally strongly performed. I am free to say that the universities must implement it practically as their biggest mission. Throughout the very first days, students must be taught about the mission statement of their universities so that they might have a clear view of how and what they should expect from universities.

Sino-Pakistan Relations New Dimensions

By Syed Ali Nawaz Gilani

On the occasion of the 71st anniversary of diplomatic relations between Pakistan and China both the nations deserve congratulations. These two brotherly countries have stood by each other at all times. In particular China has not only been heavily involved in Pakistan's reconstruction projects but also its engineers and workers have sacrificed their lives, for that act of bravery the Pakistani nation is grateful to the people's of China. The ideal friendship between China and Pakistan is a threat to their enemies. These forces keep trying to weaken the relations between Pakistan and China by that way but which is not possible because China and Pakistan have proved in every age of difficulty that their friendship is as strong as china wall. Recently Pakistan's Prime Minister MuhammadShahbaz Sharif telephoned Chinese Minister Li Keqiang. China also expressed its deep regret over the attack on the Confucius Center and vowed that the friendship would be further strengthened in the future.

In a phone call on May 16, Premier Li said that China and Pakistan are friendly neighbors and steel friends. China always prioritizes its relations with Pakistan in its diplomacy with neighboring countries.

According to Prime Minister Li, China is ready to strengthen strategic ties with Pakistan, promote cooperation on major projects such as the China-Pakistan Economic Corridor, and strengthen bilateral staff exchanges to prevent the Corona epidemic.Prime Minister Li pointed out that the recent attack on Chinese nationals in Karachi has shocked and angered the Chinese people and strongly condemned this terrorist attack.

It is sid that Relations between Pakistan and China have been described as higher than mountains, deeper than seas, stronger than steel, dearer than the light of eyes, sweeter than honey.

Prime Minister Li expressed hope that Pakistan would bring the perpetrators to justice as soon as possible, make every effort to handle the prosecution, reassure the bereaved families and the injured and help Chinese institutions and citizens in Pakistan.

Prime Minister Sharif also expressed deep sorrow over the deaths and injuries of Chinese nationals in the Karachi terrorist attack and said that he would strengthen security measures for all Chinese institutions and citizens in Pakistan to prevent such incidents from happening again.

It is true that the friendship between China and Pakistan is not such that a few incidents can weaken it because it has a history of its own.

Formal relations were established in 1951 when Pakistan became one of the first countries to end official diplomatic relations with the Dominion of the Republic of China (Taiwan) and recognize the rule of the People's Republic of China over mainland China. Bilateral relations have grown from the initial Chinese policy of neutrality to a partnership with Pakistan. Their Diplomatic relations were established in 1950, border issues were resolved in 1963, military aid began in 1966, a strategic alliance was formed in 1972, and economic cooperation began in 1979. China has become the third largest supplier of arms to Pakistan and the third largest trading partner.

Maintaining close ties with China is a central part of Pakistan's foreign policy. Pakistan has played a key role in bridging the communication gap between the People's Republic of China and the West by facilitating the historic visit of US President Richard Nixon to China in 1972.

It is sid that Relations between Pakistan and China have been described as higher than mountains, deeper than seas, stronger than steel, dearer than the light of eyes, sweeter than honey. In terms of Pakistan's recent support for China, in July 2019, Pakistan was one of the 50 countries in Xinjiang that supported China's policies, signing a joint letter to the UNHRC on China's human rights record. Appreciating the remarkable achievements, claimed that security and safety had now returned to Xinjiang and that the human rights of people of all ethnic groups were being protected and that

the propaganda against it was false.

In addition, in November 2019, Pakistan was one of the 54 countries that signed the Joint Declaration in support of China's Xinjiang policies. Supported the National Security Act. Political relations as well as strong military ties between China and Pakistan. This alliance between the two neighboring East Asian countries is geographically important.

Strong military ties were also aimed primarily at countering regional Indian and American influence. In recent years, the relationship has been strengthened by ongoing military plans and agreements between Pakistan and China. It accounts for about 47% of arms exports. Since 1962, China has been a reliable source of military equipment for the Pakistani military. The training aircraft includes tailor-made training aircraft for Pakistan Air force. China has designed state-of-the-art tailor-made weapons for Pakistan, making it a strong military power in the South Asian region.

China is the largest investor in Pakistan's Gwadar Deep Sea Port, located at the mouth of the Strait of Hormuz. Both the United States and India see it as a potential launch pad for the Chinese navy, enabling them to launch submarines and warships in the Indian Ocean. China has recently pledged about 43 billion dollars in investment.

In 2008, Pakistan purchased military equipment from China for better quality of defense weapons and forces to counter the relentless onslaught of foreign militants. In the past China has played a key role in developing Pakistan's nuclear infrastructure, especially as increasingly strict export controls in the West make it difficult for Pakistan to obtain plutonium and uranium enrichment equipment elsewhere. The Chinese help build the Khushab reactor which plays a key role in plutonium production in Pakistan.

China has also provided technical and material support for the completion of the Chashma nuclear power complex and plutonium reprocessing facility, which was built in the mid-1990s.

On January 26, 2015, at the end of Raheel Sharif's two-day visit to Beijing, Chinese Foreign Minister Wang Yi described Pakistan as China's "irreplaceable, all-weather friend." Sharif also met with Yu Zhengsheng, MengJianzhu and XuQiliang. On April 19, 2015, China concluded the sale of eight conventional submarines worth 5 billion, the largest arms sales by China in its history. The two countries are cooperating in counter-terrorism. China, Pakistan and Afghanistan have cooperated to enhance regional stability. Foreign Minister Wang Yi has said that China wants to use Xinjiang as a base for economic development in the region.

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Pakistan has been one of China's major trading partners. Bilateral trade volume exceeded US 20 billion for the first time in calendar year 2017, according to China Customs. In 2017, China's exports to Pakistan increased by 5.9% to 18.25 billion. Economic trade between Pakistan and China has recently increased and a free trade agreement has signed. Economic relations between the two countries continue to dominate by military and technical transactions and China has promised to increase its investment in Pakistan's economy and infrastructure.

On April 22, 2015, China released its first foreign investment plan under the Belt and Road Initiative for the development of a hydropower station near Jhelum, according to China Daily. When it comes to economic cooperation, the mother of all these projects is the China-Pakistan Economic Corridor, the biggest project of the century and the major project of which is Gwadar Port.

CPEC will connect Pakistan with China and Central Asian countries through the highway connecting Kashgar to Khanjarab and Gwadar. The port of Gwadar in southern Pakistan will serve as a trade nerve hub for China as most of its trade will conduct exclusively through the oil port. Shanghai is the only commercial port in the country that is more than 16,000 kilometers away. The voyage takes two to three months during which time ships are exposed to pirates, bad weather, political rivals and other threats. Instead using the Gwadar port will reduce the distance and potentially cost.

The plan seeks to increase market presence in Chinese businesses Haier in home appliances, China Mobile in telecommunications and Huawei, and in the mining and minerals market already established by China Metallurgical Group Corporation (MCC). It would not be an overstatement to say that the future of China and Pakistan is link to the CPEC and Belt and Route Initiative project. The CPEC will raise the flag of success all over the world and the economic condition of the people of Pakistan will also be improve with the proud China with zero poverty.

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Green Desert Techniques And Cholistan

Prof. Dr. Muhammad Suleman Tahir

Pakistan is facing severe challenges due to global climate change which is a serious threat to the well-being and prosperity of the people. Already Pakistan is facing recurring heat waves, droughts, riverine & flash floods, landslides, and sea storms or cyclones.

Due to global climate change, the frequency of such events has increased and a significant increase in temperature across the country has been observed. Now, in this summer season, Pakistan is suffering from the disastrous effects of heat-wave.

The severe effects of heat-wave were evident in desert areas, especially in Thar and Cholistan deserts. Cholistan desert covers an area of 25,800 square km in the Bahawalpur, Bahawalnagar, and Rahim Yar Khan districts of southern Punjab. The desert stretches about 480 km in length, with a width varying between 32 and 192 Km.

The human and livestock population in the desert is 0.1 and 2.0 million, respectively. The mainland use in the area is livestock rearing. Agricultural farming is not practiced due to the unavailability of irrigation water and low rainfall. More than 81% of the desert is under small and big sand dunes, while 19% consists of alluvial flats and sand hummocks.

The area is affected by severe desertification due to poor vegetation cover, severe wind erosion and very severe soil salinity. In the summer season temperatures raised to 48 °C and sometimes rise over 50 °C during periods of drought. Water is collected seasonally in a system of natural pools called Toba, or man-made pools call Kund. Subsoil water is found at a depth of 30–40 meters but is typically brackish, and unsuitable for most plant growth.

Desert greening is the process of man-made reclamation of deserts for ecological reasons, farming and forestry, but also for reclamation of natural water systems and other ecological systems that support life. Desert greening has the potential to help solve global water, energy, and food crises. Desert greening is more or less a function of water availability. Water can be made available through saving, reuse, rainwater harvesting, desalination and wastewater treatment.

A novel type of desalination is done with the Sahara Forest Project. This project uses solar stills for the generation of freshwater. Another novel technique is cloud seeding, either by artificial means or through the action of cloud-seeding bacteria that live on vegetation.

In the Morrocan city of Ouarzazate, the government is using wastewater for irrigation after its proper treatment, which is helping to green the drylands or deserts in the region. The Sahara Forest Project is using solar panels and wind turbines to help with their water issues. Large-scale solar and wind farm research has shown that such strategies can significantly change the climatic conditions around those farms.

These farms can increase the heat and humidity in their vicinity which is good for plant growth. Solar and wind farms can also drive an increase in rainfall, as was seen in Sahel in the Sahara desert, Africa.

One way to make the desert soil fertile is by adding pyrogenic carbon. Pyrogenic carbon is nothing but the product of incompletely burnt organic matter. Examples of pyrogenic carbon include charcoal, black carbon, and soot. Recent research has shown that adding sources of pyrogenic carbon is a way to regenerate degraded and infertile soils, bringing them back to fertility.

The plants that are used in desert greening projects are often those that love salt. This means that these plants can grow in conditions with high salt concentrations in the water. If the land is being used for agriculture, sustainable farming practices need to be employed. Crop rotation, permaculture, hydroponics, etc., are all key to keeping the soil viable over the long term. In addition to farming practices, intelligent landscaping can drastically reduce or prevent soil erosion, allowing fertile topsoil to remain in place.

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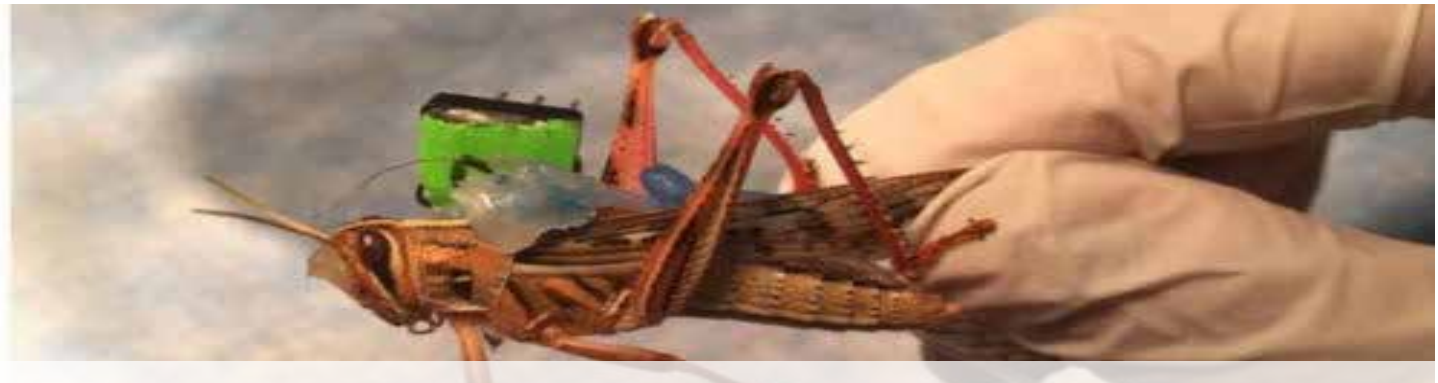


Insect Allies: A new form of biological weapons

The conflict between Russia and Ukraine has led to a global food crisis, at a time of climate change, pollution, and other threats to the food supply. In the predictable future, food problems will be a permanent fixture in the world, while conflicts arising from "wars on crops" will also become an international issue of great concern.

Since 2016, the advanced military research institute in the US proposed a defense program, known as the "Insect Allies," which it said was to confront potential food supply risks. However, the Pentagon uses insects to deliver a "genetically engineered virus" that could affect crop growth by altering which genes the plants express, media reported.

After being announced, the plan has received wide criticism from scientists and experts around the world, warning that the Insect Allies might open an easily weaponized technological "Pandora's box."

The intentions of the Pentagon are also in question – is it really to save humanity from starvation, or will it, on the contrary, deliberately cause a humanitarian crisis in order to serve some "military aims."

Experts reached by the Global Times said the Insect Allies is turning this concern into a real potential danger. "Why do they use insects as carriers? Why does the US build bio-labs near other countries like Russia? When the Pandora's Box is opened, a series of disasters will follow," said an expert.

However, this is just a tip of the iceberg as a project with a potential biological weapons threat. In addition to the Insect Allies program, the US has conducted biological experiments around the world in said notorious "bio-labs" disregarding human safety and natural ethics while blatantly violating the "Biological Weapons Convention."

Insects become 'bioweapons'

The Defense Advanced Research Projects Agency (DARPA) is a research and development agency in the United States Department of Defense responsible for developing high-tech military applications.

Ever since DARPA announced the Insect Allies in the name of preventing disaster and increasing productivity, controversies surrounding the proposal have never stopped swirling.

According to the DARPA website, the program is pursuing "scalable, readily deployable, and generalizable countermeasures" against "potential natural and engineered threats" to food supply with the goals of preserving the US crop system.

It states that the program, "by applying targeted therapies," seeks to mitigate the impact of incursions, including naturally occurring threats to the crop system and "threats introduced by state or non-state actors," which can quickly jeopardize national security.

The Insect Allies program aims to transfer modified genes to plants through insect vectors along with the plant viruses they transmit, which involves three technical areas – viral manipulation, insect vector optimization, and selective gene therapy in mature plants, according to DARPA.

To achieve this goal, the $45 million project has founded at least four research institutes, the media reported previously.

It is reported that one of Insect Allies' experiments in 2017 involved maize and tomato plants and dispersal insect species including leafhoppers, whiteflies, and aphids.

However, DARPA's concept and the intention behind it have hardly convinced scientists. As early as in April 2018, an article on Science warned that the crop-protecting insects from Insect Allies "could be turned into bioweapons."

"If successful, the technique could be used by malicious actors to help spread diseases to almost any crop species and devastate harvests, they say. The research may be a breach of the Biological Weapons Convention," read the Science article, quoting European scientists.

"The program may be widely perceived as an effort to develop biological agents for hostile purposes and their means of delivery," the critics noted.

Germany's Max Planck Institute also indi-

cated that the Insect Allies "could easily be misused for developing biological weapons."

In a critical review published in January 2022 on Society of Environmental Toxicology and Chemistry, scientists noted that "the combination of a virus-induced genetic modification of crop plants in the field using genetically modified insect vectors poses a greater risk than the hitherto existing use of genetically modified organisms." In 2019, Forbes listed Insect Allies on the list of "Tech Ethics Issues We Should All Be Thinking About." "Is this a biological weapon? Will it motivate other countries to develop the technology in defense? " Forbes asked.

Zhang Jie, an expert from the Institute of Plant Protection under the Chinese Academy of Agricultural Sciences (CAAS), told the Global Times that the possibility of using insects as vectors for harmful bacteria and viruses to attack crops and cause a food crisis not only exists, but also has a lot of room for expansion. He said that three main crops – rice, wheat and corn – all have deadly viruses, bacteria, or fungi. In reality, targeted pests, such as rice planthoppers and wheat aphids, can carry different viruses to infect the crops, causing huge losses. "It would be deadly to transform an insect into a bioweapon, because until now, viruses in crops have been very difficult to control. Once an infected crop develops symptoms, it is almost impossible to save. And the virus keeps variating, creating even more difficulties in prevention," Zhang said.

Zhou Huanbin, Zhang's colleague who studies genome editing, told the Global Times that in the gene editing of crops, some principles must be followed, one of which is to minimize the risk of uncontrolled spread of gene-edited crops. Also concerning the controllability of the project, Gregory Kaebnick, an ethicist at the Hastings Center bioethics research institute in New York, was quoted by AP as saying that once they are introduced into the fields, insects and microbes "might be impossible to remove." He warned that the Insect Allies technology could "end up being destructive."

The Insect Allies plan has been labeled as a "biological weapon" by Western scholars since the day it was announced, triggering a big discussion in Western academic circles and the media about whether the plan violates the United Nations' Biological Weapons Convention (BWC). "Because of the broad ban of the Biological Weapons Convention, any biological research of concern must be plausibly justified as serving peaceful purposes. The Insect Allies program could be seen to violate the Biological Weapons Convention, if the motivations presented by DARPA are not plausible," the Max Planck Institute article noted.

As the cornerstone of international biological arms control, the BWC was ready for signing in 1972 and went into effect in 1975, with more than 180 state parties. However, the US first pushed for the striking down of the BWC, but later became the only country to oppose the establishment of a multilateral verification mechanism for the convention.

"To use insects as a vector to spread diseases is a classical bioweapon," Silja Voeneky, a professor of international law at the University of Freiburg in Germany, told The Washington Post. According to Voeneky, in this program, using insects as a key feature is "particularly alarming, because insects could be deployed cheaply and surreptitiously by malevolent actors."

Her worry is echoed by Chinese military expert Song Zhongping, who also called the Insect Allies technology a "typical form of biological weapons."

"It could reduce crop yields in targeted countries and artificially create food crises there. Then it loses its independence in the food sector and might become dependent on US food exports, including genetically modified food, which is part of biological warfare," Song said.

Song believes that the US really needs to explain why insects are to be used as vectors in this research, especially as insects could quietly disseminate viruses into crops in other countries. "It is not difficult to understand why the US will set up biological laboratories around rival nations, because only in these places can the labs ensure the localization of the species they use in experiments," he said. "For instance, it would be problematic if they bring American insects to a lab in Ukraine and release them in Russia."

Long history of insect vector use: The Insect Allies program is just one of many instances in which the US' research was accused of causing dire consequences around the world especially through the use of biological laboratories. The US openly admitted that it runs 336 biological laboratories in 30 countries around the world, including 26 in Ukraine. However, the contracts suggest that the US has signed contracts with 49 countries, way more than it had admitted to.

The Pentagon has a long history of using insects as disease vectors. According to a partially declassified 1981 US Army

report, US biological warfare scientists conducted multiple experiments on insects. In the 1980s, the United States Army Medical Research Institute of Infectious Diseases came up with experiments to see "if sand flies and mosquitoes could be vectors of Rift Valley Virus, Dengue, Chikungunya, and Eastern Equine Encephalitis." The US Army researched their potential as bio-weapons, according to Bulgarian investigative journalist Dilyana Gaytandzhieva.

Under a US Army operation codenamed May Day in the same decade, Aedes Aegupti mosquitoes were dispersed through ground based methods in Georgia state of the US. The mosquitoes are alleged to be the vectors of dengue, chikungunya and the Zika virus. Gaytandzhieva also revealed that the Pentagon has allegedly performed entomological warfare tests in countries such as Georgia and Russia.

In 2014, the US-built Lugar Center near Tbilisi, capital of Georgia was equipped with an insect facility and launched a project called "Raising Awareness about Barcoding of Sand Flies in Georgia and Caucasus." Two other programs were also undertaken at the center in the following years.

As a result, Tbilisi has been infested with biting flies since 2015, which have developed non-typical behavior from what they have previously exhibited, such as the newly emerged flies surviving indoors year-round, and being also highly resistant to cold. The biting flies were also found in nearby Dagestan region of Russia.

Moreover, while conducting research into deadly viruses and bacteria, the US was unable to ensure the security of its biological laboratories.

The Pentagon admitted in 2015 that since 2003, live samples of anthrax were mistakenly sent from the Dugway Proving Ground military base near Salt Lake City, Utah, to all 50 states as well as nine countries, including the UK, South Korea, and Germany.

- Courtesy Global Times-

Video games can help boost children's intelligence

Web Report

Screen time of any kind is generally considered to be a negative influence on a child's development but a new study from a team of European researchers makes a strikingly different case, presenting evidence that playing video games may actually boost a child's intelligence.

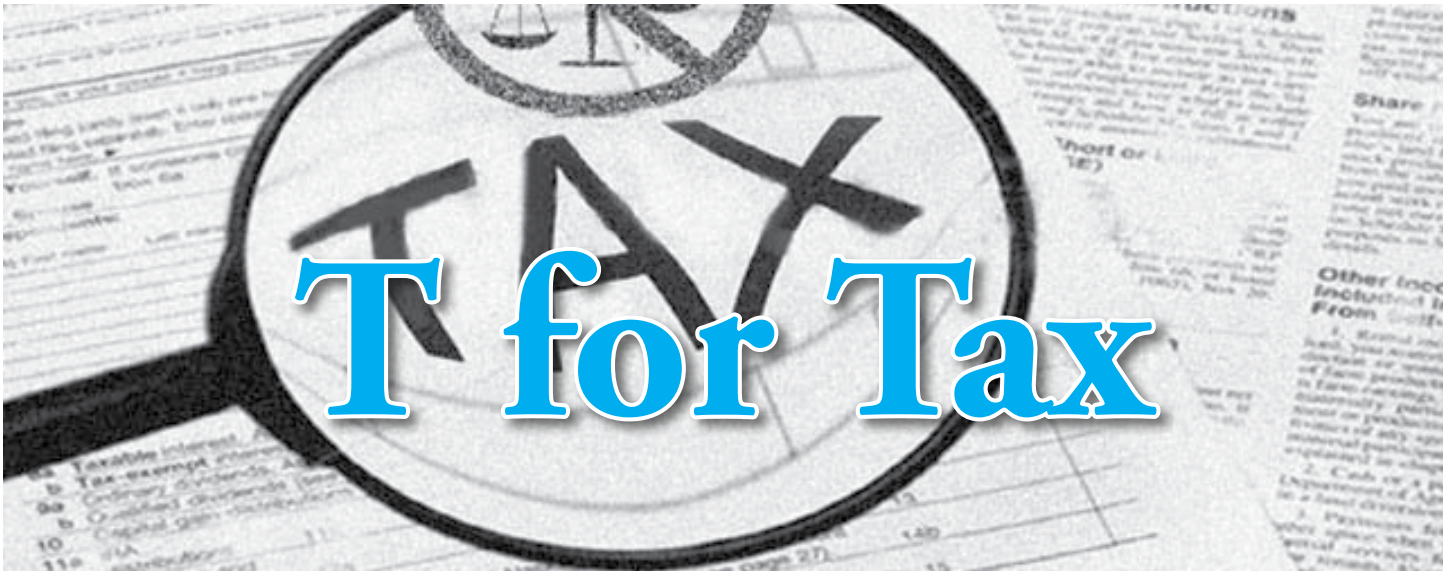
Despite decades of research looking at the effects of television or video games on adolescent development, the digital landscape of the last decade has dramatically reshaped a child's relationship with screens. This means screen time now spans a multitude of different activities, including socializing with friends on smartphone apps, watching TV, playing video games, and even doing school work on a laptop. Over recent years researchers have started to home in on specific types of screen time and how they influence a variety of outcomes in children. The sheer heterogenous nature of digital screen use in the 21st century has made it impossible to simply state all screen time is bad.

So the very particular focus of this new research was to investigate the relationship between video game use and intelligence. To evaluate the admittedly abstract metric of "intelligence", the researchers first accounted for socioeconomic backgrounds and the presence of genes related to intelligence. "For our study, we created an intelligence index from five tasks: two on reading comprehension and vocabulary, one on attention and executive function (which includes working memory, flexible thinking and self-control), one assessing visual-spatial processing (such as rotating objects in your mind), and one on learning ability over multiple trials," explain Torkel Klingberg and Bruno Sauce, two of the researchers working on the study.

Around 5,000 children were followed for two years. Aged between nine and 10 years at baseline, the participants completed the cognitive tests at the beginning and end of the study. Screen time was self-reported and divided into three categories: watching, socializing and gaming.

At the beginning of the study the researchers detected no association between time spent gaming and below- or above-average intelligence. Interestingly, however, high levels of watching TV and videos, or socializing online, was slightly linked to lower levels of intelligence at baseline. After two years the follow-up results were even more surprising.

"While children who played more video games at 10 years were on average no more intelligent than children who didn't game, they showed the most gains in intelligence after two years, in both boys and girls," write Klingberg and Sauce. "For example, a child who was in the top 17 percent in terms of hours spent gaming increased their IQ about 2.5 points more than the average child over two years." At follow-up social media use was not associated with any change in intelligence but watching TV or online videos could be linked to a small increase in intelligence. The researchers note this increase was too small to be statistically significant.



T for Tax

Muhammad Umair Zeb
Finance and Tax Analyst
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SHINING A LIGHT ON UNFAIRNESS IN OUR TAXATION SYSTEM

"The rub becomes more abrasive when taxpayers feel the state does not give anything back to them."

One of the bigger issues with our tax system is the deep-rooted unfairness that has been built, by default but often by design, into the system. Those who are documented and in the tax net, by choice but often due to the nature of their job/business, pay a lot. At the same time, those who are able to avoid documentation have been getting away with paying very little or nothing for a long time, and, to add insult to injury, many have been rewarded repeatedly by the state through amnesties of one sort or another. In addition, the state has removed many taxes to again benefit particular classes, while there are also entire sectors that have, at one time or another, been exempted from taxation.

How should those who are in the net and have to pay all taxes feel about the tax system and about the state?

The other side of the unfairness is that most of those who have to pay taxes or are fine with paying these taxes also feel they do not get much in return from the state. The state offers health and education facilities of poor quality generally speaking. Most of those who are in the middle-income and higher-income groups choose to access private providers in these areas. The provision of water and sewerage, waste collection and even security is often supplemented by accessing private sector providers or is wholly dependent on the ability to buy services from private providers.

Many taxpayers feel that the unfairness extends further. Several taxpayers are able to buy services from the private sector but many citizens, who do not have enough resources, depend on services (water, sewerage, health, education, security) provided by the state. They get poor quality service. So, even for those who depend on the state, if the state, from the revenues collected through a system that lacks fairness and is coercive in parts, cannot provide for those who depend on it, how can citizens feel comfortable with such a situation?

The rub becomes more abrasive when taxpayers feel the state does not give anything back to them.

Income tax rates go from five per cent to 35pc. If you are in the middle or a bit above that in terms of your monthly income, and happen to be in the tax net — true for almost the entire salaried class and documented businesses — it is likely you are, on average, paying 15pc to 20pc of your income towards income tax alone. The salaried do not even get to pay this; they get their salaries post-income tax deductions.

Then there is the sales tax which, on most goods and many services, is around 16pc to 17pc. There are special levies and taxes on the provision of a lot of goods and services that have inelastic demand (good and services where price increases do not dent demand by much) or from where the state can collect tax easily and with low-collection expenditures.

These include telephone bills, gas and electricity provision as well as petroleum products. Twenty-five per cent of the amount I paid for my electricity bill this month was additional taxes and surcharges. The level of taxation on petroleum products, though kept a lot opaquer on purpose, is substantial too. All other services, road tax and local water and other surcharges included, are taxed as well.

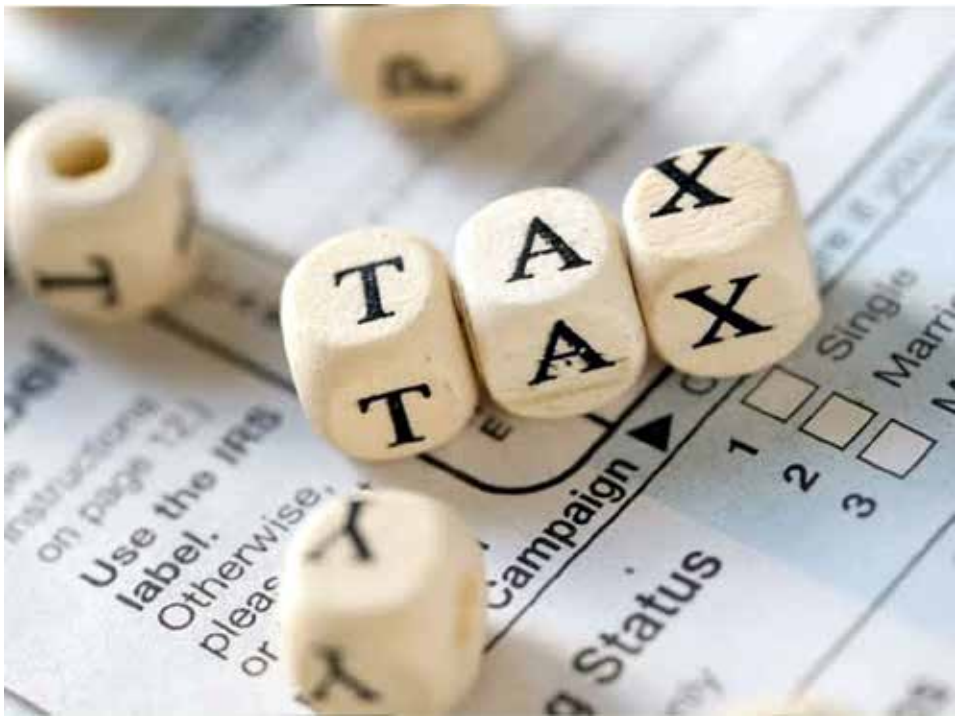
Salaried people and those who happen to be documented and in the tax net, probably and on average, end up giving about 50pc of their income back to the state in the form of one tax or another. This is not, by any means, an insignificant proportion.

Those who are not in the tax net and/or may have been given exemptions, on average just end up paying the indirect taxes. The unfairness is clear. Why should the agriculturalists not be taxed? Why should traders pay much less, or people making gains in property markets or capital markets?

To say that the state is unable to build taxation systems for them is part of the unfairness. This situation has persisted over decades. Why has the state failed to create a fairer system over these decades?

But the rub becomes a lot more abrasive when taxpayers feel the state does not give anything back to them, for all the tax they pay or have to pay.

Most of the taxpaying population rely on private provisions for access to health, education, water, waste collection, and even services like security. There are no pension benefits or other benefits for employees in the private sector. I will, post 60, get Rs9,000 a month from the old-age benefit scheme. This too is money that is largely employer contribution.

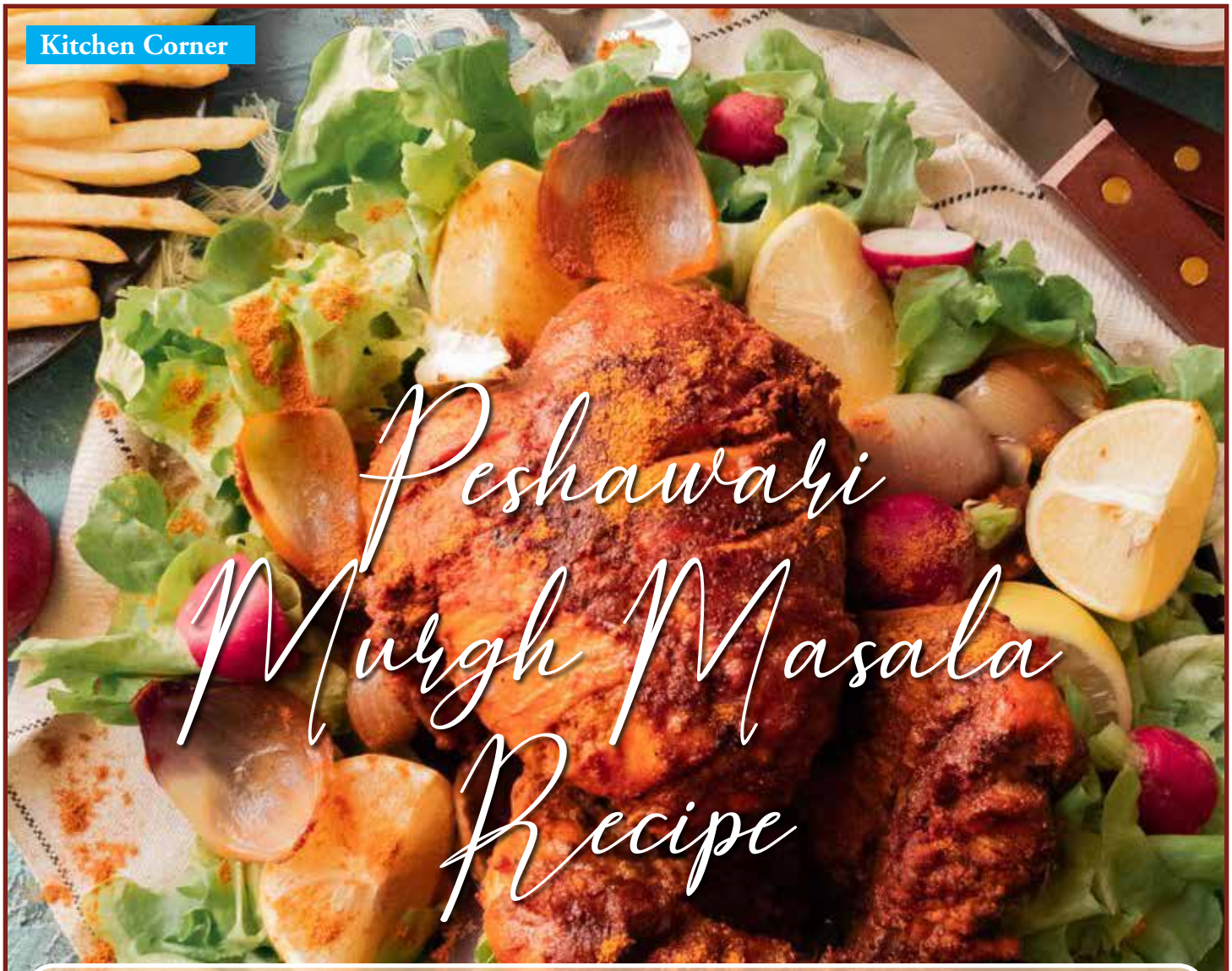


And, to make matters worse, the quality of services that the state provides, is generally poor. So, citizens who have to depend on state provision for any access to these services continue to suffer while those who pay taxes are doing their part and more. This adds to the perceived and real unfairness of the system.

Despite promises made by successive governments, the state has been unable or unwilling to expand the tax net. But the need for revenues and the pressure to generate revenues increases every year. The state, whether it likes it or not, ends up either relying on indirect taxes or on milking those who are already in the tax net even more. Both options increase the unfairness of the tax system. We need a way forward that will disrupt this dynamic. If it is not disrupted the ability of the state to generate more revenues, even with coercive means, will go down and this could be disastrous for our economic growth and stability. The impact on citizen loyalty and social contract can be significant as well.

Income tax rates go from five per cent to 35pc. If you are in the middle or a bit above that in terms of your monthly income, and happen to be in the tax net — true for almost the entire salaried class and documented businesses — it is likely you are, on average, paying 15pc to 20pc of your income towards income tax alone. The salaried do not even get to pay this; they get their salaries post-income tax deductions.

Kitchen Corner



Peshawari Murgh Masala Recipe

INGREDIENTS

Boneless chicken500 grams
Small sized onion1
Tomato4
Green chilies4-5
Ginger garlic paste2 tbsp
Black cardamom1
Cinnamo1 piece
Whole cumin½ tsp
Cloves2
Tomato paste1 tbsp
Salt1tsp
Red chili powder1 tsp
Turmeric½ tsp
Tara garam masala1tsp
Fenugreek seeds2tsp
Green coriander 2tbsp
Oil½ cup

METHOD

Heat oil in a pan, sauté 1 small sized onion, 1 black cardamom and 1 cinnamon.
Now add 500 grams of chicken and allow cooking until light brown.
Then add 2 tbsp garlic ginger paste, 4 tomatoes, 1/2 tsp whole cumin, 2cloves, 6-8 whole black pepper corns,1tsp salt,1/2 tsp turmeric powder, 1tsp crushed red chili, 1tsp of tara garam masala, 1tbsp tomato paste and green chilies.
When gravy leaves oil then add 2 tsp of fenugreek seeds and keep on simmer for 2-3 min.
Garnish with green coriander and serve.

Horoscope For The Month Of June 2022

Aries

March 21 - April 19

Your ruler, Mars, will be in your sign all month, expanding your ambition and hunger for success. Follow it, as you only get this energy once every two years. Do keep an eye on underlying insecurities about leadership and aspiration coming to the surface—and know that these are wonderful opportunities to analyze and heal them.

Taurus

April 20 - May 20

Unlike May, June comes with luckier stars for you, Taurus! Venus, your ruler, spends most of the month in your sign, helping you attract your heart's desires. Make any bold moves before June 22, and especially around June 11. The incredible force of nature, Uranus, will continue to instigate the birth of new ideas that can catapult you to success. Even by making small adjustments, you open the door for exciting people and business projects to enter your life.

Gemini

May 21 - June 20

It's birthday time, Gemini! As you go about your celebrations, you should be running into people who could help you materialize your dreams—thanks to go-getter Mars making major moves in your eleventh house of networking. Another one of your allies is Mercury, amplifying your eloquence, starting June 13.

Cancer

June 21 - July 22

You love Gemini season, as it brings the introspective energy that you enjoy. Hide in your cocoon for most of June, to prepare for your upcoming rebirth. However, do try to network, as you have some stellar influences to meet new people who can uplift your career efforts.

Leo

July 23 - Aug 22

Let the fun begin! Saturn's retrograde is like music to your ears, as the teacher planet begins to slow down—and with it, the emotional challenges that it has brought you in the recent weeks. Your ruler, the Sun, spends most of the month in Gemini, creating opportunities for you to have fun and spend time with some of your favorite people.

Virgo

Aug 23 - Sep 22

Your ruler, Mercury, goes direct on June 3, so spend the first few days of the month integrating all the lessons it bought you. Make your power moves after the full moon, between June 16 and June 20, which is when Mercury and the Sun will be activating your sector of career and public success.

Libra

Sep 23 - Oct 22

Your ruler, Venus, is in a strong position most of the month, which should amplify your powers of attraction. It will also be connecting with the Lunar North Node of Destiny, so from June 12 to June 20, serendipity plays a huge role in your life. The people that enter your life now come with a mission, so be open to their enlightened messages.

Scorpio

Oct 23 - Nov 21

If May brought changes to your relationships, the astrology of June starts putting the pieces together. Venus in your sector of relationships brings sensuality, connection, and maybe even the chance of you or your partner to receive more money (check out your money horoscope for 2022). This is especially true around the June 14 full moon.

Sagittarius

Nov 22 - Dec 21

It's a month for you to work it, Sagittarius! The Gemini Sun illuminates all the avenues that could eventually lead to enriching partnerships. Mercury, the master of deals, will also be helping you succeed, maybe even bringing the signing of a contract under the June 14 full moon, which happens in your sign.

Capricorn

Dec 22 - Jan 19

What the current astrology has been teaching you is that experiencing fun and pleasure is productive—and that's one of June's themes for you! Within this powerful process of transformation, the June 14 full moon helps you release any old subconscious patterns so you can move with more freedom and joy, Capricorn.

Aquarius

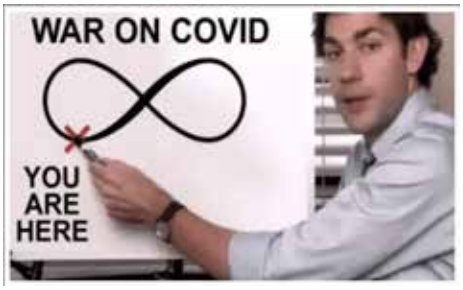
Jan 20 - Feb 18

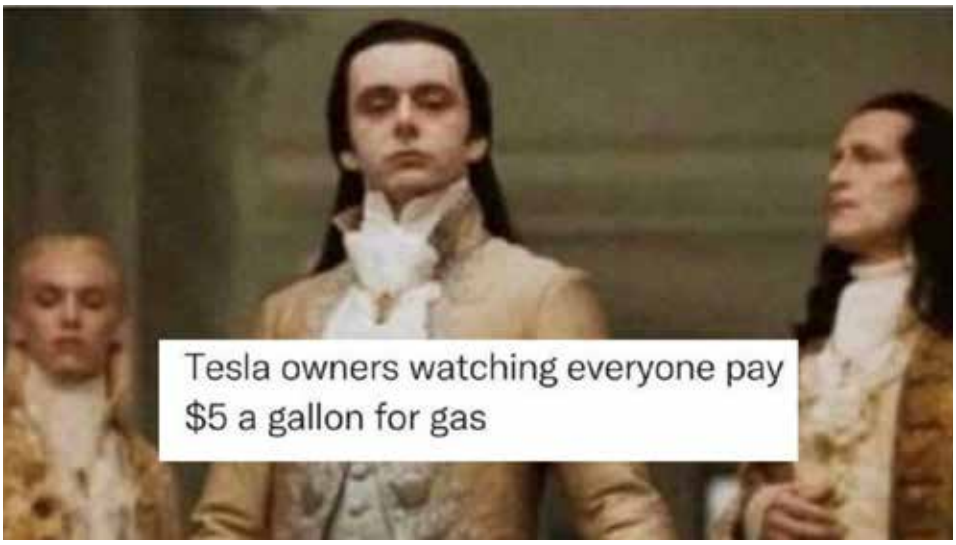
It's a great month for you! For starters, Saturn goes to sleep in your sign, meaning that until October 22, life should become less taxing for you. May that be a reason for a celebration? The stars say "Yes," so go out and have fun with your favorite people while the Sun is in the fun sign of Gemini, until June 20.

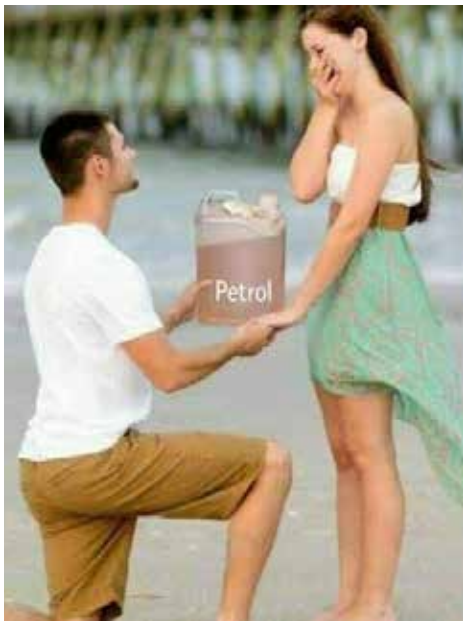
Pisces

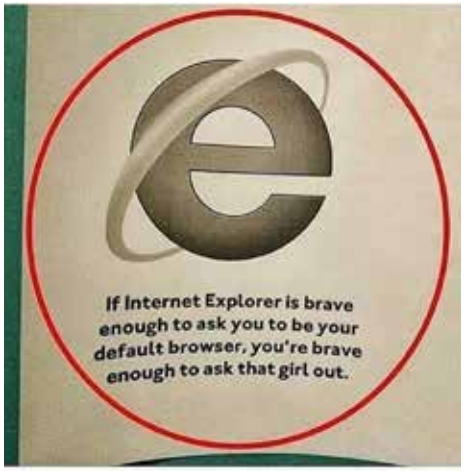
Feb 19 - March 20

In June, your sector of communication is receiving powerful blessings, Pisces. If you've been working on a media, writing, or marketing project, you could download some major inspiration and ideas until June 20. You love the energy of water sign pal Cancer, and as the Sun illuminates this sign, you receive cosmic approval to work less and enjoy life more as summer arrives on June 21. The last few days of the month are ideal for getting lost in a creative project that you have been watering for a while now.



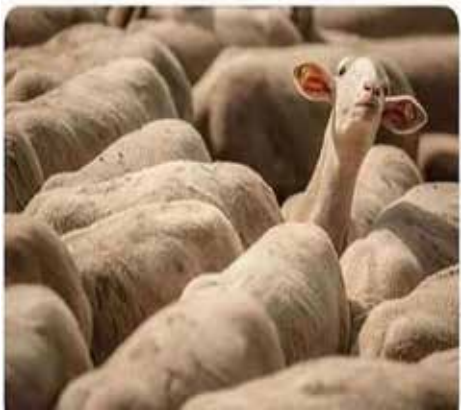


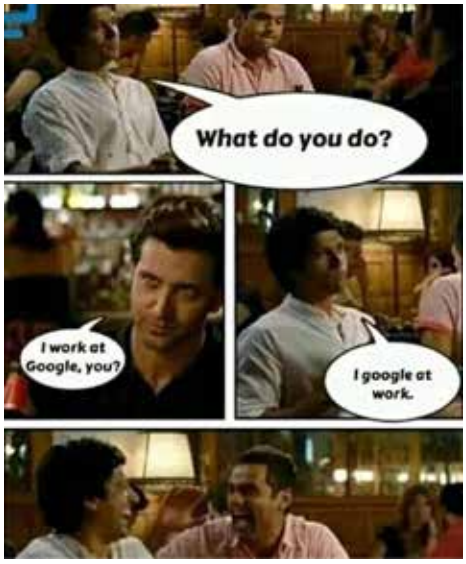


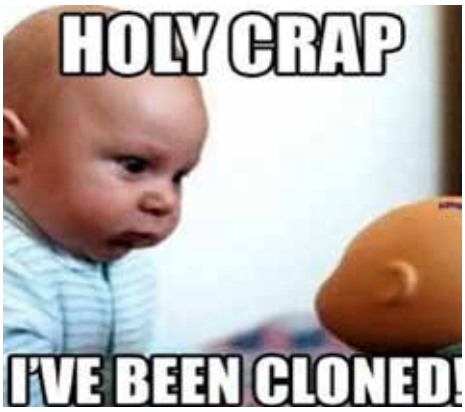


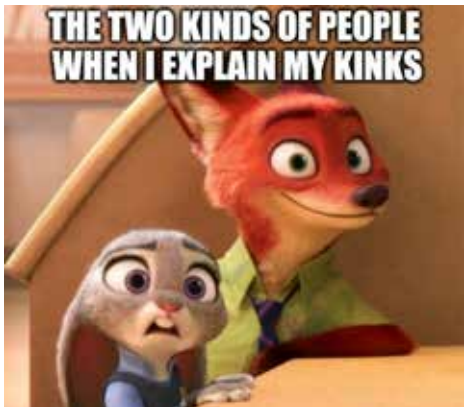
Most inspiring quote ever! 😂

When you Arrive in hell and you can't see your best friend

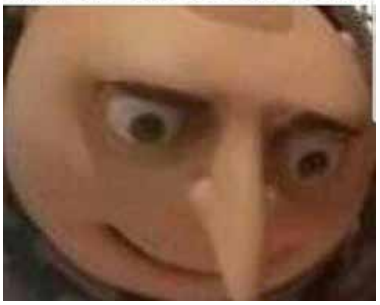








When you flush the toilet and the water starts rising



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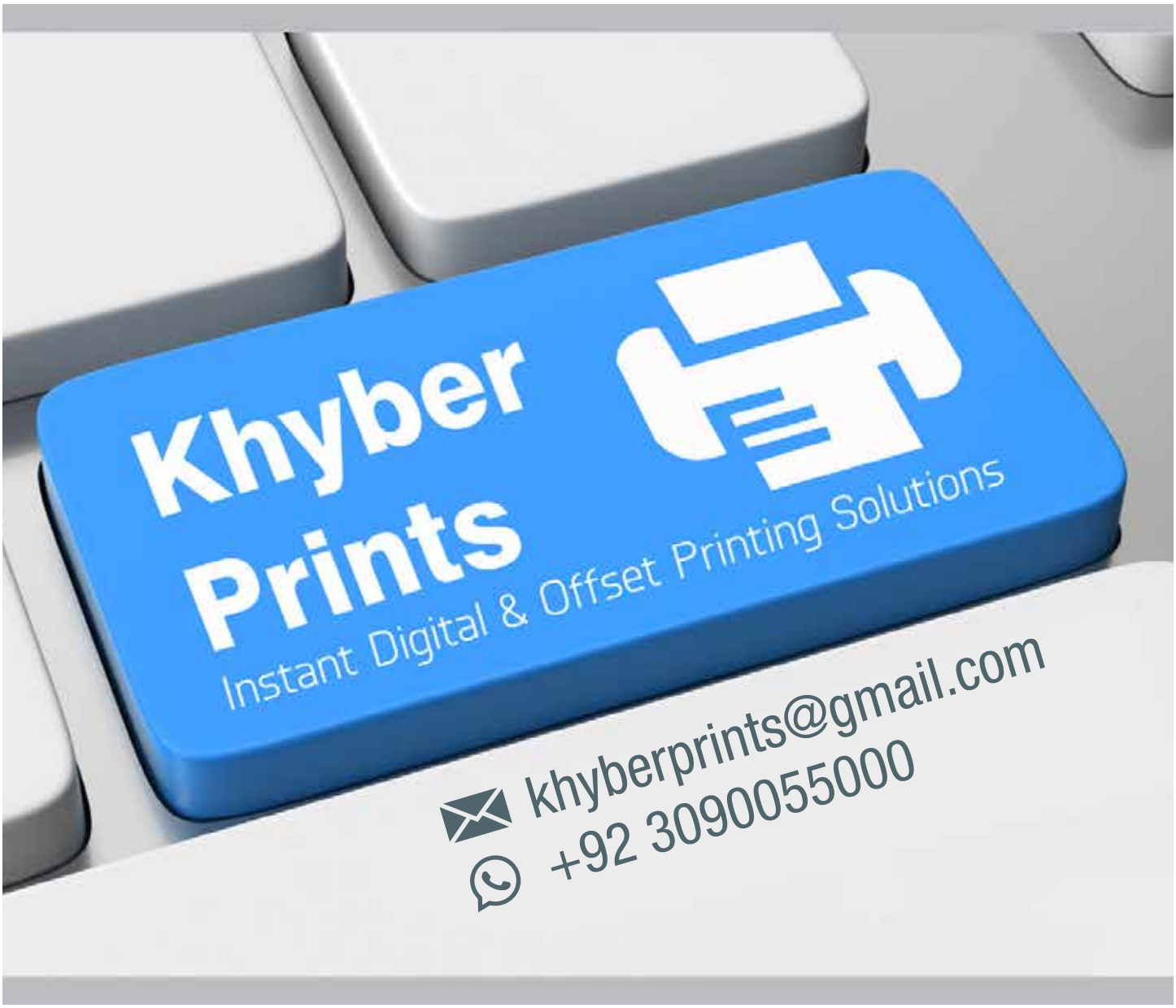

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