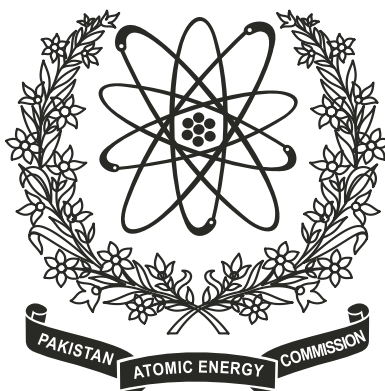


October-December 2023, VOL. 37, NO. 10 - 12



Glimpses from Recent Arrivals



Scientific Information Division
Pakistan Institute of Nuclear Science & Technology
P. O. Nilore, Islamabad

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Your comments/suggestions are highly appreciated.

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AGRICULTURE / BIOTECHNOLOGY / GENETIC ENGINEERING

HEC, CAB AGREE TO PROMOTE ACCESS TO AGRI, BIOSCIENCE RESOURCES (*The News-Dec. 12, 2023*) The Higher Education Commission (HEC), Pakistan and the CAB International have signed a Letter of Intent (LoI) to cooperate for implementation, distribution, adoption and development of educational resources in Pakistan within the domains of agriculture and biosciences. *Myra Imran. (290)*

SUSTAINABLE AGRICULTURE: PART – I (*The News-Dec. 14, 2023*) Pakistan is an agricultural economy, and it is important to reinforce the real contribution of agriculture to Pakistan's GDP. While its direct weightage is approximately 23 per cent, its indirect contributions are in the north of 45 per cent. *Kashif Thanvi & Zafar Masud. (291)*

SUSTAINABLE AGRICULTURE PART – II (*The News-Dec. 15, 2023*) Pakistan needs to look at possible actions which can help the country achieve sustainable agriculture and food security. All our actions should have the sole objective of lifting our productivity levels. Some suggested actions are as follows: First, solutions should be home-grown. Agriculture is the most dynamic of all the sectors in the country. But it is laced with more uncharted territories than any other sectors. It is also quite vulnerable to climate change. *Kashif Thanvi & Zafar Masud. (292)*

ARMAMENT / DISARMAMENT

JUST SAY 'NO' TO URANIUM-ENRICHMENT COOPERATION WITH SAUDI ARABIA (*The ACT-Oct. 2023*) Curbing the spread of nuclear weapons and the uranium-enrichment and spent fuel reprocessing technologies needed to make them has long been in U.S. security interests. Today, this is especially true in the troubled Middle East, where one state, Israel, already is nuclear-armed, and another state, Iran, has amassed a substantial uranium-enrichment capacity. The challenge of containing Iran's capabilities has grown significantly since U.S. President Donald Trump pulled out of the successful Iran nuclear deal in 2018. Further troubles loom ahead. In a interview on Fox News, Saudi Arabia's de facto ruler, Crown Prince Mohammed bin Salman, reiterated his threat that "if Iran obtains a nuclear weapon, we must obtain one as well." *Daryl G. Kimball. (293)*

PENTAGON PLANS MASS AUTONOMOUS WEAPONS DEPLOYMENT (*The ACT-Oct. 2023*) The United States is unable to rely exclusively on existing human-operated weapons systems to prevail in a future war with China and will need to field vast numbers of autonomous weapons systems controlled by artificial intelligence (AI) to meet the challenge, according to Deputy Secretary of Defense Kathleen Hicks. *Michael T. Klare. (294)*

TWENTY-FIVE YEARS OF OVERT NUCLEAR INDIA (*The ACT-Oct. 2023*) When India opted to test nuclear weapons in 1998, the government offered what it argued would be a clear, definitive answer about what it sought to achieve with the tests: "credible minimum deterrence." Nothing more was needed, but nothing less would do. Yet as such officials acknowledged even in the initial years, there was always a tension between the two adjectives that framed their nuclear thinking. That is, the need for credibility would inevitably pull up

the requirements for deterrence beyond a minimum number of weapons. How much was the tricky part. *Christopher Clary*. (295)

PAKISTAN'S EVOLVING NUCLEAR DOCTRINE (*The ACT-Oct. 2023*) In May, Pakistan commemorated the 25th anniversary of nuclear tests that were carried out in response to a series of nuclear blasts conducted by India a few weeks earlier. Islamabad's decision to pursue a nuclear weapons program was largely shaped by its 1971 war with New Delhi, which led to the dismemberment of the country, and India's first nuclear test, in May 1974. Faced with an escalating conventional imbalance vis-à-vis India, Pakistan saw nuclear deterrence as the primary means to establish strategic stability and dissuade India from engaging in a major future conflict. Since then, Pakistan has been trying to come up with solutions to what it deems destabilizing moves by India in the conventional and nuclear domains. *Sitara Noor*. (296)

NEW ARAB ALLIES NAVIGATE: ISRAEL TIES, PRO-PALESTINIAN PUBLIC OPINION AS WAR ERUPTS (*The News-Oct. 13, 2023*) Confronted with the war raging between Israel and Hamas, Arab countries that have normalized relations with Israel in recent years have been forced to balance diplomacy with fiercely pro-Palestinian Arab public opinion. But as analysts predict a long and violent response from Israel in Gaza, the position faced by those nations is expected to become increasingly troublesome. (297)

N. KOREA HAS SENT ARMS TO RUSSIA FOR USE IN UKRAINE: WHITE HOUSE (*The News-Oct. 14, 2023*) North Korea has delivered more than 1,000 containers of military equipment and munitions to Russia in recent weeks for use in Ukraine, the White House said. The statement comes a month after North Korean leader Kim Jong Un traveled to Russia's far east and met President Vladimir Putin, sparking concern among Kyiv's allies over the possibility of a potential arms deal. (298)

WORLD LEADERS CONDEMN ISRAEL'S 'BARBARIC ATTACK' ON HOSPITAL IN GAZA (*The News-Oct. 18, 2023*) Qatar's foreign ministry condemned a deadly strike on a Gaza strip hospital on Tuesday calling the attack a "a brutal massacre" and "a heinous crime against defenceless civilians". In a statement the Gulf state called the attack on Ahli Arab Hospital a "blatant violation of the provisions of international law" and a "dangerous escalation in the course of the confrontations". Turkish President Recep Tayyip Erdogan condemned a deadly strike on a hospital in the Gaza Strip as "the latest example of Israeli attacks devoid of the most basic human values", in a message on social media. (299)

UN NUCLEAR CHIEF WARNS IRAN MUST NOT BECOME 'FAILURE' LIKE N. KOREA (*The News-Oct. 18, 2023*) The head of the United Nations nuclear watchdog has called on the international community to make every effort to prevent Iran from developing nuclear weapons and becoming a "failure" like North Korea. The International Atomic Energy Agency (IAEA) has since 2021 been struggling to monitor Iran's nuclear programme, which Tehran has stepped up, denying that it seeks to build a bomb. (300)

PAKISTAN CONDUCTS SUCCESSFUL FLIGHT TEST OF ABABEEL WEAPON SYSTEM (*The News-Oct. 18, 2023*) In a move enhancing Pakistan's "strategic stability" and improving "deterrence", Pakistan successfully conducted the flight test of the Ababeel

Weapon System, which the military said, would enhance the country's "strategic stability" and improve "deterrence". *Zarmeen Zehra. (301)*

RUSSIA 'HIGHLY VALUES' N. KOREAN SUPPORT AGAINST UKRAINE (*The News-Oct. 19, 2023*) Russia "highly values" North Korea's support for its Ukraine campaign, Foreign Minister Sergei Lavrov said in Pyongyang, with Western concerns mounting over the historic allies' deepening military ties. Lavrov's comments came as he began a two-day visit to Pyongyang that is expected to lay the groundwork for a trip by President Vladimir Putin. "We highly value your principled, unambiguous support for Russia's actions in connection with the special military operation in Ukraine," Lavrov was quoted as saying by Russia's RIA news agency. **(302)**

ISRAEL SAYS HAMAS USED N. KOREA, IRAN WEAPONS IN ATTACK (*The News-Oct. 27, 2023*) The Israeli military said that a portion of the weapons used by Hamas in its October 7 attacks were manufactured in Iran or North Korea. The military made the statement during an official media tour in which it displayed a variety of weapons recovered from communities in southern Israel attacked by the militants. A range of landmines, rocket-propelled grenades (RPGs), and homemade drones were part of the haul displayed. **(303)**

IRAN WARNS US WILL 'NOT BE SPARED' IF WAR IN GAZA CONTINUES (*The News-Oct. 27, 2023*) Iran's Foreign Minister Hossein Amir Abdollahian warned at the United Nations on Thursday that if Israel's retaliation against Palestinian militants Hamas in the Gaza Strip doesn't end then the United States will "not be spared from this fire." **(304)**

SAUDI PUSH FOR ENRICHMENT RAISES CONCERNS (*The ACT-Nov. 2023*) In talks with the United States, Saudi Arabia is pushing for the right to produce nuclear fuel, a move that poses a greater proliferation risk given Riyadh's threats to develop nuclear weapons. Saudi officials have said little publicly about its negotiations on a nuclear cooperation agreement with the United States, but the country has announced ambitious plans to expand its nascent nuclear program by purchasing two large nuclear reactors and enriching domestically mined uranium. *Kelsey Davenport. (305)*

CHINA CONTINUES NUCLEAR BUILDUP (*The ACT-Nov. 2023*) China continues to accelerate its military buildup, including expanding its nuclear stockpile beyond previous projections, and is engaging in provocative actions that raise the stakes in the Indo-Pacific region, according to the latest U.S. Defense Department report on China's military power. China had more than 500 operational nuclear warheads in May, compared to 400 in 2022, and is expected to have 1,000 or more by 2030, the report said. **(306)**

U.S. SAYS NORTH KOREA SHIPPED ARMS TO RUSSIA (*The ACT-Nov. 2023*) The United States accused North Korea of shipping military equipment to Russia for use against Ukraine in violation of UN sanctions. The U.S. mission to the United Nations said on Oct. 13 that North Korea shipped more than 1,000 containers of arms and munitions to Russia "in recent weeks." The transfers "directly violate" UN Security Council resolutions prohibiting North Korea from exporting arms and munitions, the statement said. *Kelsey Davenport. (307)*

RUSSIA TEST FIRES NUCLEAR-CAPABLE BALLISTIC MISSILE (*The News-Nov. 06, 2023*) Russia said on Sunday it had successfully test-launched an intercontinental ballistic missile capable of carrying nuclear warheads from one of its submarines. The launch of the “Bulava” missile, the first in just over a year, comes as Russia ramps up nuclear rhetoric since revoking its ratification of a key nuclear test ban treaty. “The new nuclear-powered strategic missile submarine cruiser Emperor Alexander the Third has successfully launched the Bulava sea-based intercontinental ballistic missile,” the defense ministry said. (308)

BIDEN BRIEFED ON CHINESE EFFORT TO PUT MILITARY BASE IN OMAN (*The News-Nov. 11, 2023*) President Joe Biden has been briefed on what his advisers see as a Chinese plan to build a military facility in Oman, people familiar with the matter said, amid a broader effort by Beijing to deepen defense and diplomatic ties with the Middle East. Biden was told that Chinese military officials discussed the matter last month with Omani counterparts, who were said to be amenable to such a deal, said the people, who asked not to be identified discussing private deliberations. They said the two sides agreed to more talks in the coming weeks. (309)

PAF’S JF-17 BLOCK 3, SUPER MUSHSHAK TO PARTICIPATE IN DUBAI AIR SHOW (*The News-Nov. 14, 2023*) Pakistan Air Force (PAF) is poised for a resounding participation at the prestigious Dubai Air Show 2023, featuring its highly advanced JF-17 Thunder Block 3 fighter jet alongside the versatile Super Mushshak aircraft. The five-day mega event that began on Monday, marks the first-ever appearance of the PAF’s JF-17 Thunder Block-III aircraft in an international air show, symbolizing Pakistan’s commitment to innovation and excellence in aviation. (310)

BBC CLAIMS PAKISTAN SOLD ARMS TO UKRAINE (*The News-Nov. 14, 2023*) The British Broadcasting Corporation has claimed to be in possession of documents that purportedly show Pak arms sale to Ukraine, an allegation Pakistan has been rejecting consistently. In its report, the BBC Urdu says that former Pak army chief Qamar Javed Bajwa addressed the passing-out parade of the British Royal Military Academy. As he saw the Pak-UK relations touching “historic heights”, a British military cargo plane landed at PAF Base Nur Khan in Rawalpindi. In future, the plane would land at the same base for five times. (311)

NUCLEAR MIRAGE: U.S. NUCLEAR COOPERATION WITH SAUDI ARABIA (*The ACT-Dec. 2023*) Before the violent attack by Hamas on Israel in the early morning hours of October 7, Israel and Saudi Arabia had been inching toward a bilateral agreement on normalizing relations, reportedly brokered by the United States. *Sharon Squassoni*. (312)

U.S. TO DEVELOP UNANTICIPATED NEW NUCLEAR BOMB (*The ACT-Dec. 2023*) The U.S. Defense Department unexpectedly announced its intention to develop an additional variant of the B61 nuclear gravity bomb, to be known as the B61-13. The Pentagon acknowledged its hope that the B61-13 variant would help catalyze the stagnant retirement process of the B83 megaton gravity bomb. *Shannon Bugos*. (313)

CHINA, U.S. HOLD RARE ARMS CONTROL TALKS (*The ACT-Dec. 2023*) China and the United States held long-awaited talks on nuclear arms control the first such meeting in

nearly in five years. Although the meeting in Washington produced no specific result and no specific date for follow-on talks was announced, U.S. officials said the discussion, which occurred amid rising nuclear and geopolitical tensions, was worthwhile simply because it took place. *Shizuka Kuramitsu*. (314)

NUCLEAR-FREE WORLD (*The News-Dec. 05, 2023*) This past week New York City was invaded by nuclear abolitionists from around the world coming together as part of civil society, scientific, and affected communities, to support, strengthen, and move forward with the universalization of the Treaty on the Prohibition of Nuclear Weapons, TPNW, as the United Nations convened the Second Meeting of States Parties to the Treaty. They gathered to celebrate what has been achieved and with hope and conviction for the complete elimination of these weapons to achieve a future free from the threat of their use. Robert Dodge. (315)

ASTRONOMY / COSMOLOGY / SPACE SCIENCE

CHINA'S NEW MISSION WILL ALSO CARRY PAKISTANI SATELLITE TO MOON (*The News-Oct. 02, 2023*) China's new mission to the moon, Cheng E6, will also carry a Pakistani satellite to the moon. The China National Space Administration (CNSA) has stated in a statement on the social media site Waco that the Chang'e 6 mission will be launched to the moon in the first half of 2024. The mission will carry payloads to the moon from Pakistan, European Space Agency, France and Italy. (316)

NAMIRA SALIM FIRST PAKISTANI TO FLY OFF INTO SPACE (*The News-Oct. 07, 2023*) Namira Salim, the founder and chairperson of nonprofit Space Trust, has become the first Pakistani in space as she left her journey beyond the skies with Virgin Galactic. (317)

PAKISTAN JOINS CHINA'S CLUB OF LUNAR BASE PARTNERS (*The News-Oct, 21, 2023*) Pakistan has joined China's expanding club of partners in an ambitious project to build a research station on the moon's south pole, an area of "mystery, science and intrigue". Pakistan's caretaker Prime Minister Anwaar-ul-Haq Kakar, who is currently in China to attend the Third Road and Belt Forum (BRF), jointly witnessed the signing of an initial cooperation agreement with Chinese Premier Li Qiang in Beijing. (318)

ASTEROID DUST CAUSED 15-YEAR WINTER THAT KILLED DINOSAURS: STUDY (*The News-Oct, 31, 2023*) Around 66 million years ago, an asteroid bigger than Mount Everest smashed into Earth, killing off three quarters of all life on the planet -- including the dinosaurs. This much we know. But exactly how the impact of the asteroid Chicxulub caused all those animals to go extinct has remained a matter of debate. The leading theory recently has been that sulphur from the asteroid's impact -- or soot from global wildfires it sparked -- blocked out the sky and plunged the world into a long, dark winter, killing all but the lucky few. (319)

COMPUTER / INFORMATION TECHNOLOGY

GOOGLE'S NEW PHONE TO RUN AI ON DEVICE (*The News-Oct. 05, 2023*) Google on Wednesday said its latest premium-priced Pixel phone would have powerful generative AI

models running independently on the device, as the search engine giant seeks to lure buyers away from the latest iPhone. Running on a powerful chip, Google's Pixel 8 Pro would carry out certain AI functions on the device itself instead of relying on transfers from cloud data centers that require heavy bandwidth. (320)

EDUCATION

PAKISTAN'S PROSPERITY LIES IN IMPLEMENTING SKILLS EDUCATION: MINISTER (*The News-Oct. 11, 2023*) Federal Minister Madad Ali Sindhi attended the 'Laptop Distribution Ceremony' as the chief guest, organized by National Skills University (NSU). Madad Ali Sindhi said that skills development and technical education can play a critical role in the economic prosperity of the country. He said that institutions like the National Skills University need to be developed in every district of the country. He said that NSU's curriculum and teaching-learning practices must be replicated nationwide due to its unique nature. (321)

PAKISTAN, FINLAND JOIN HANDS FOR EDUCATION (*The News-Nov. 01, 2023*) Federal Minister for Federal Education and Professional Training, Madad Ali Sindhi, welcomed Ambassador Hannu Ripatti of Finland to discuss this transformative partnership. The primary objective of this collaboration is to exchange expertise and knowledge in the field of vocational and technical training, with a focus on upgrading educational institutions in Pakistan. *Jamila Achakzai.* (322)

SAUDI ARABIA EXTENDS SCHOLARSHIP OFFER TO PAKISTANI STUDENTS (*The News-Nov. 07, 2023*) The Kingdom of Saudi Arabia (KSA) has made a significant announcement, offering 700 fully funded scholarships to Pakistani students, enabling them to pursue their higher education dreams in Saudi Arabia's top 25 universities. This expansion comes as an enhancement of an already generous scholarship program previously comprising 600 scholarships, now increased to 700. The Royal Embassy of Riyadh issued an official notification detailing the scholarship opportunities available to Pakistani students. These scholarships are available for a diverse range of academic levels, including Diploma, Bachelor's, Master's, and PhD programs. (323)

DURBEEN'S FIRST BATCH OF BED PROGRAMME STARTS TEACHING AFTER GRADUATION (*The News-Nov. 07, 2023*) To make the teaching sector better and more dignified in Sindh, Durbeen has started special initiatives under which the first batch of the four-year BED programme has graduated and started teaching. This batch of 25 students was trained by teachers from national and international universities, who developed a special Singaporean-style curriculum for them. *Babar Ali Awan & Syed Mohammad Askari.* (324)

FOUR-YEAR DEGREE PROGRAMME NECESSARY TO MASTER THE ART OF TEACHING: SHEHZAD ROY (*The News-Nov. 07, 2023*) Eminent singer and social worker Shehzad Roy has said that when we initially opted for a four-year degree programme, there was a discussion about whether a short one-and-a-half or two-year programme would be enough, but then we chose a four-year programme because we believe that teaching is a science like the field of medical science and we recognize that a long-term programme to master teaching is necessary and better. (325)

EDUCATION REVOLUTION BECKONS AS 25 TO 28 MILLION CHILDREN IN PAKISTAN FACE EXCLUSION (*The News-Nov. 11, 2023*) In a resounding call for national reckoning, Zehra Arshad, the Executive Director of the Society for Access to Quality Education (SAQE) and National Coordinator of the Pakistan Coalition for Education (PCE), declared a state of emergency for education in Pakistan. With an estimated 25 to 28 million children currently out of school, Arshad asserted, "We, as a nation, no longer have the luxury to treat education with indifference and neglect that consequent governments have meted out in the past." *Jamila Achakzai. (326)*

HEC ANNOUNCES CHINESE SCHOLARSHIPS (*The News-Nov.17, 2023*) The Chinese Scholarship Council is offering Pakistani students and scholars to study and conduct research at Chinese universities. According to the details, the scholarships were being offered through the Higher Education Commission (HEC) of Pakistan in the academic year 2024-25. Designated Chinese universities offer a wide variety of academic programs in science, engineering, agriculture, medicine, economics, legal studies, management, education, history, literature, philosophy, fine arts, etc., for scholarship recipients at all levels. **(327)**

USAID LAUNCHES STRATEGIC PLANNING AT PAKISTANI UNIVERSITIES (*The News-Dec. 05, 2023*) The United States Agency for International Development (USAID), through the Higher Education System Strengthening Activity, organized a five-day workshop to launch strategic planning at Pakistani public sector universities. University administrators and faculty learned how to develop and implement strategic plans to improve their universities' management, market-relevance, and student support services. **(328)**

ENERGY / NUCLEAR ENERGY

CHINA BUILDING UP NUCLEAR CAPACITY FASTER THAN EXPECTED, SAYS US (*The News-Oct. 05, 2023*) China is developing its nuclear arsenal faster than US projections had previously anticipated, according to a Pentagon report released. China possessed "more than 500 operational nuclear warheads as of May 2023 -- on track to exceed previous expectations" the Department of Defence said in its annual China Military Power Report, issued annually and mandated by Congress. **(329)**

TRANS-CASPIAN URANIUM SHIPPING ROUTE FROM KAZAKHSTAN NOT YET ROUTINE: CAMECO (*NWK-Nov. 01, 2023*) An official at Canadian uranium company Cameco said the trans-Caspian route for shipping Kazakh uranium to the West is not yet consistent. Cameco Managing Director of Marketing Lisa Aitken said during the Nuclear Energy Institute's annual uranium conference in Charlotte that "I wouldn't call it yet well-established or routine. We do get our material, but it tends to have some delays. *Andrea Jennetta. (330)*

UK GOVERNMENT COULD SPEND UP TO \$24 BILLION ON SMR COMPETITION FUNDING (*NWK-Nov. 01, 2023*) The UK government could spend up to GBP20 billion (\$24.25 billion) in contract funding under its program for the development of one or more small modular reactor designs in the UK, according to a July contracting notice and supporting documents seen by two industry participants and confirmed by a government spokesperson. *Oliver Adelman. (331)*

MICHIGAN LEGISLATURE PASSES 100% CLEAN-ENERGY MANDATE BY 2040 (NWK-Nov. 08, 2023) Democratic lawmakers in Michigan passed a bill mandating the full decarbonization of the state's power grid by 2040 as part of an end-of-session legislative push, with Governor Gretchen Whitmer, also a Democrat, expected to sign the measure into law soon. *Jason Fargo. (332)*

CZECH STUDY SEES SMRS AS VITAL FOR ENERGY SECURITY, STRESSES SUPPLY CHAIN POTENTIAL (NWK-Nov. 08, 2023) Small modular reactors are “an opportunity to ensure the energy security of the Czech Republic,” according to an evaluation of the market opportunities and challenges of SMRs adopted by the Czech Cabinet. “We see small and medium sized modular reactors as a further addition to the modern energy mix of the Czech Republic — both for electricity and heat production. Our aim is that during the 2030s and 2040s, small and medium sized reactors will compliment large reactors,” the minister for industry and trade, Jozef Sikela, said. *Chris Johnstone. (333)*

NEW NUCLEAR PLANTS, BORSSELE REACTOR LIFE EXTENSION A FOCUS OF DUTCH ELECTION (NWK-Nov. 15, 2023) Plans to build two large reactors and extend operation of the Netherlands's sole existing nuclear power plant, Borssele, have been one of the leading topics in the campaign for early elections to the main decision-making lower house of parliament Nov. 22. Nuclear energy divides the three political parties expected to win most votes and seats in the 150-seat House of Representatives. *Chris Johnstone. (334)*

COSTS OF DELAYS AT BRAZIL'S ANGRA-3 NUCLEAR REACTOR PROJECT INCREASE (NWK-Nov. 15, 2023) The planned 1,405-MW Angra-3 reactor project in Brazil is facing costly delays, Brazilian officials have said, with the monthly cost estimated at around Real 100 million (\$20.4 million), a figure that encompasses the ongoing project expenses and the unrealized benefits that a completed reactor would provide. *Vladimir Pekic. (335)*

NUCLEAR INDUSTRY JOBS GROWING GLOBALLY BUT SKILLS SHORTAGE REMAINS: IEA (NWK-Nov. 21, 2023) Employment in nuclear energy continues to increase worldwide, surpassing 1 million jobs in 2022, but a shortage of skilled nuclear labor could hinder the technology's deployment in new markets, the International Energy Agency concludes in a new report. *Andrea Jennetta. (336)*

TURKEY TARGETING 7.2 GW OF NUCLEAR CAPACITY BY 2035: MINISTER (NWK-Nov. 21, 2023) Turkey has reduced its planned short-term development of nuclear power plant capacity and is now targeting the commissioning of just 7.2 GW by 2035, the country's energy minister said. The new target was announced by Alparslan Bayraktar in his presentation of his ministry's budget for 2024 to the Turkish parliament's Planning and Budget Commission. *David O'Byrne. (337)*

EDF TO OPTIMIZE, STRETCH REFUELING CYCLES TO BOOST NUCLEAR OUTPUT (NWK-Nov. 21, 2023) EDF plans to boost output from its French reactor fleet over the coming years by optimizing the annual 43 planned refueling and maintenance stops for its 56 reactors, EDF's head of nuclear operations Etienne Dutheil said. *Andreas Franke. (338)*

TARGET OF 2027 FOR FIRST FRENCH EPR2 REACTOR AT PENLY IS ‘TOO SHORT’: NUCLEAR SPECIALIST (NWK-Nov. 29, 2023) The 2027 target for the start of construction at the Penly nuclear plant of the first of six new EPR2 reactors in France is too short,” Yves Marignac, lead specialist for nuclear power and fossil fuels at the independent French energy think tank, Negawatt, said during a Nov. 24 interview. Marignac is also one of 34 members of the French nuclear regulator ASN’s permanent expert group on pressurized nuclear equipment, a post he has held since 2017. Negawatt describes itself as pro-renewables and critical of nuclear power. *Chris Johnstone. (339)*

BANGLADESH TO LOAD FUEL INTO ROOPPUR NUCLEAR PLANT BY NOVEMBER 2024 (NWK-Nov. 29, 2023) Bangladesh plans to load fuel into the 2.4-GW Rooppur nuclear plant under construction in the country by November 2024, the secretary of Bangladesh’s science and technology ministry, Md. Ali Hossain, said in an interview. The first load of fuel for the plant was delivered by air from Russia to Dhaka, Bangladesh’s capital and Hossain said that Russia has now completed delivery of all the fuel required for the plant’s first two years of operations. The fuel arrived in seven different flights and was transferred by road from Dhaka to the Rooppur plant site, some 215 kilometers (114 miles) away, after its arrival, Hossain also noted. *Mahammad Aziz-ur-Rahman. (340)*

BRAZIL’S ELETRONUCLEAR LOOKS TO CAPTURE, PURIFY HYDROGEN AT ANGRA NUCLEAR PLANT (NWK-Nov. 29, 2023) Brazil’s nuclear generator Eletronuclear has unveiled a new project to capture, purify and find a use for hydrogen that is already produced at its Angra nuclear plant in Rio de Janeiro. The project aims to capture and purify 100 mt of clean hydrogen per year from the plant’s two reactors, promising a new era in renewable energy applications, Eletronuclear said. *Vladimir Pekic. (341)*

INDIA BUILDING 1,000MW HYDROPOWER PROJECT ON CHENAB (*The News-Dec. 05, 2023*) India is erecting the first-ever hydropower project on MaruSadar, the right bank tributary of Chenab River, with live dam storage of 99,000 acre-feet, having capacity to generate 1,000MW hydropower generation. However, it is pretending that it will have live storage of 88,000 acre-feet with a faulty design of spillways in sheer violation of the Indus Waters Treaty (IWT) 1960, according to experts. The project will be completed within two years. **(342)**

ENVIRONMENT / ECOLOGY

ALL OUT EFFORTS TO BE MADE TO MAKE PINDI SMOG-FREE CITY (*The News-Oct. 12, 2023*) Commissioner Rawalpindi Divisional, Liaquat Ali Chatta said that all-out efforts would be made to make Rawalpindi city a smog free area. During a visit to Vehicle Inspection and Certification System (VICS) Seham Depot, ChorHarpal, he said the vehicle fitness checks are mandatory to ensure anti-smog measures. The Commissioner said, action in accordance with the law will be taken against smog emitting vehicles. Secretary, Regional Transport Authority (RTA) Rashid Ali and representatives of Transport Unions were also present on this occasion. **(343)**

EYES, THROAT, BREATHING PROBLEMS SOAR AS SMOG REACHES DANGEROUS LEVEL (*The News-Oct. 20, 2023*) Data collected from IQ Air revealed that with an AQI of 279, Lahore remained on the top of the world most polluted cities the second consecutive day. Rest of the top nine most polluted cities in the world were Baghdad, Iraq (190), Beijing, China (188), Delhi, (186), Dhaka, (159), Mumbai (156), Jakarta, Indonesia (156), Wuhan, China (155), Kolkata, (154) and Krasnoyarsk, Russia (154). On the other hand, the City witnessed a hazy day and a number of citizens while talking with the scribe complained about irritation in throat, burning of eyes and difficulty in breathing. They demanded the caretaker chief minister announce holidays in schools as this kind of atmosphere was very dangerous for the schoolchildren. *Ali Raza. (344)*

SMOG TURNS LAHORE INTO A TOXIC ZONE (*The News-Nov. 01, 2023*) Smog has turned the provincial metropolis into a 'poisonous gas chamber' where citizens were facing serious health problems as the Air Quality Index (AQI) reached 255. Tuesday was the third consecutive day when Lahore was on top of the world's most polluted cities. The remaining top polluted cities after Lahore were Delhi, (237), Beijing, (178), Dhaka, (157), Mumbai, (154), Karachi, (153), Chengdu, (153), Jakarta, (153), Istanbul, T (146) and Kuwait City, (146). The sudden increase in smog has raised serious questions over the performance of the provincial government, district administration, Environmental Protection Agency (EPA) and Environmental Protection Department (EPD), which seemed helpless in the implementation of the SOPs to counter smog. **(345)**

HYDROGEN HYPE (*The News-Nov. 01, 2023*) As our planet's temperature rises, so does the hype around hydrogen. But hydrogen isn't the climate savior it's made out to be. Hydrogen is a dangerous distraction, and we should not fall for it. Technological fixes to climate change are tempting, and the Biden administration has not resisted the lure of hydrogen: The Department of Energy recently announced a massive \$7 billion build out of seven hydrogen hubs nationwide, the first of several such investments. **(346)**

ARTIFICIAL RAIN PLANNED AS SMOG REVISITS (*The News-Nov. 17, 2023*) The Punjab government has started planning to carry out artificial rain in the provincial capital, which will be the first of its kind in the country. In this regard, Provincial Environment Minister Bilal Afzal and Education Minister Mansoor Qadir presided over the meeting here. The meeting discussed evaluation of short, medium and long-term measures to control smog in the City. Consultation on artificial rainfall to eliminate smog was also held and it was decided that preparations should be made regarding artificial rain in the City on November 28 or 29, when there is possibility of a cloudy weather. **(347)**

WWF PRESIDENT CALLS FOR BRUSHING ASIDE 'VICTIM' MENTALITY TO DEAL WITH CLIMATE CHANGE (*The News-Nov. 27, 2023*) Climate change has become an issue of global justice as many countries that are not responsible for heavy emissions of greenhouse gases are bearing the brunt of it. World Wide Fund for Nature (WWF) President Dr. Adil Najam said while speaking at a session on the concluding day of the Adab Festival Pakistan 2023. *Zubair Ashraf*. The session was titled 'Climate Catastrophes in Pakistan: how to shock proof for the future'. It was moderated by Aisha Sarwari. **(348)**

PAKISTAN'S CLIMATE PLAN (*The News-Dec. 03, 2023*) World leaders are currently attending the 28th Conference of the Parties (COP28) to the United Nations Framework Convention on Climate Change. This summit holds immense significance as nations grapple with the accelerating impacts of climate change. For Pakistan, a country ranked as the eighth most vulnerable to climate change impacts, the stakes are particularly high. *Dr. Khalid Waleed. (349)*

CHENNAI AIRPORT RUNWAY FLOODED AS CYCLONE MICHAUNG NEARS INDIA (*The News-Dec. 05, 2023*) Rains lashed southern India's city of Chennai on Monday ahead of the landfall of a powerful cyclone, with a crocodile spotted swimming the streets and cars floating away. **(350)**

FREEZING RAIN TO CLOSE MUNICH AIRPORT (*The News-Dec. 05, 2023*) Munich airport will close to inbound and outgoing flights on Tuesday morning as freezing temperatures and heavy snowfall caused travel chaos in southern Germany. There would be no take-offs or landings from the usual opening of the airport at 6:00 am local time (0500 GMT) to noon on Tuesday, the transport hub announced late on Monday. "The reason for this is the forecast freezing rain in the night from Monday to Tuesday, which is expected to make safe flight operations impossible in the morning," the airport said in a statement. **(351)**

PAKISTAN'S CLIMATE HEROES (*The News-Dec. 11, 2023*) As many as 40 million Pakistanis, roughly one in every six individuals, go to bed hungry each night. Couple that with extreme weather conditions, rising cost of living, and water scarcity, and you have a disheartening recipe of compounding challenges that cast a long shadow over the nation's wellbeing. When a nation with a rich agricultural heritage fails to cultivate pulses, it lays bare the systemic flaws in its governance, administration, and agricultural policies. Pakistan's prolonged neglect of food legumes by its policymakers has given rise to a jarring disparity between supply and demand, driving prices to unprecedented heights and burdening its federal reserves. **(352)**

CLIMATE ACTION AND GLOBAL SECURITY (*The News-Dec. 12, 2023*) United Nations Secretary-General António Guterres recently warned: "Present trends are racing our planet down a dead-end three-degree temperature rise". He is right. Unless we act decisively – beginning at the United Nations Climate Change Conference (COP28) underway in Dubai – the threat that climate change poses to humanity will become nothing short of existential. *Wopke Hoekstra & Josep Borrell Fondles. (353)*

CLIMATE CHANGE: A HEALTH EMERGENCY (*The News-Dec. 13, 2023*) On December 3, the recently concluded United Nations Climate Conference (COP28) in Dubai marked the celebration of the inaugural 'Health Day'. This is the first time that the conference has included a day focusing on health as one of the key issues in the global climate agenda. *Raza Hussain Qazi. (354)*

DUBAI CLIMATE SUMMIT ADOPTS WORLD'S FIRST TRANSITION FROM FOSSIL FUELS (*The News-Dec. 14, 2023*) Nearly 200 nations meeting in Dubai on Wednesday approved a first-ever call for the world to transition away from fossil fuels,

tackling the top culprit of climate change after years of avoidance although at-risk countries said far more action was needed. (355)

HEALTH / MEDICINE / SAFETY

ALVI STRESSES ON IMPORTANCE OF MENTAL HEALTH AWARENESS (*The News-Oct. 10, 2023*) Today we observe World Mental Health Day, with an obvious theme that 'Mental health is a universal human right'. This is to raise awareness about the importance of mental health, the effects of mental illness on the lives of the people, and the need for support within the family, then recognition of the problem, getting over social taboos to get professional help, says a press release. (356)

AL-SHIFA BEGINS CORNEA TRANSPLANTATION WITH CUTTING-EDGE TECHNOLOGY (*The News-Oct. 11, 2023*) The Al-Shifa Trust Eye Hospital has authorized the use of Bowmann Layer Transplantation (BLT) for the treatment of keratoconus, an eye disease that affects cornea, after reviewing two years' postoperative outcomes. The hospital has begun treating keratoconus patients using cutting-edge Swiss femtosecond laser technology, which is expected to benefit many people in Pakistan who have keratoconus and are awaiting corneal transplantation. According to Major General (r) Rehmat Khan, President of the Al Shifa Trust, the trust has become the first hospital in Asia to employ femtosecond laser technology in public for the treatment of Keratoconus, an eye condition that damages the cornea. (357)

PAKISTAN SEES 'ALARMING' RISE IN CONSUMPTION OF ANTIBIOTICS (*The News-Oct. 11, 2023*) An alarming increase in consumption of antibiotic medicines has been observed in Pakistan where antibacterial medicines of Rs. 134.5 billion were consumed in 2022 alone, federal health officials revealed. The consumption of antibiotics was up by 17 percent in 2022 as compared to 2021 when antibacterial medicines of 115.2 billion rupees were consumed, said health officials while citing the data by IQVIA, a global provider of advanced analytics, technology solutions, and clinical research services. (358)

CALL FOR EYE HEALTH TO BE RECOGNISED AS VITAL PART OF HEALTHCARE (*The News-Oct. 12, 2023*) The theme for this year's World Sight Day, 'Universal Eye Health,' underscores the urgent need to address the eye health disparities existing in our society. In Pakistan, millions of people continue to face significant challenges in accessing adequate eye care, resulting in unnecessary vision loss and impaired quality of life. (359)

GLAUCOMA MAJOR CAUSE OF BLINDNESS (*The News-Oct. 14, 2023*) Glaucoma is a major cause of blindness and unfortunately, there is no cure yet for glaucoma, early diagnosis is the first step to protecting your eyes. Everyone is at risk of developing glaucoma from children to the elderly. Older adults are more likely to develop glaucoma, but babies can be born with glaucoma. Glaucoma is the second leading cause of blindness in the world, according to World Health Organization. (360)

TIME TO TAKE CARE TO AVOID RESPIRATORY TRACT INFECTIONS (*The News-Oct. 17, 2023*) The number of cases of respiratory tract infections, colds, flu and throat

infections are reported to have increased in this region of the country because of a sudden fall in temperature particularly at night and in the morning. According to health experts, it is time for individuals to take extra care to avoid seasonal infections that may hit the population severely in the days to come. It is important that in the existing weather conditions, the rise in pollution is a major factor behind the increase in the number of cases with respiratory tract infections. The healthcare facilities in the twin cities of Islamabad and Rawalpindi have already started receiving a significant influx of patients with complaints of respiratory tract infections particularly throat infections. (361)

EARLY DIAGNOSIS CRUCIAL TO SAVE 35,000 BREAST CANCER PATIENTS EVERY YEAR: ALVI (*The News-Oct. 20, 2023*) President Dr. Arif Alvi said more than 100,000 women in Pakistan were diagnosed with breast cancer every year, of which 35,000 could not survive due to detection of the disease at late stages. He said the diagnosis of breast cancer at stage 1 had higher survival rates compared to stages 3 and 4 of the disease. In an interactive session with journalists of print and electronic media here at the Aiwan-e-Sadr, the president along with his wife Samina Alvi stressed breaking social taboos about breast cancer and importance of the media's role in sensitizing the general public. (362)

WHO TO PROVIDE ANTIVIRAL DRUG COURSES FOR MPOX TREATMENT TO PAKISTAN GOVT (*The News-Nov. 03, 2023*) The World Health Organization (WHO) has agreed to provide 25 treatment courses of experimental antiviral drug 'tecovirimat' to the government of Pakistan for 'compassionate use' in the treatment of Mpox (formerly Monkey Pox) on very tough conditions, officials said. *M. Waqar Bhatti.* (363)

RARE INFECTIOUS DISEASE' KILLS YOUNG MAN (*The News-Nov. 09, 2023*) Two cases of an 'extremely rare' infectious disease have been reported from the federal capital where a 23-year-old man was killed by Leptospirosis while a woman survived the infection following treatment at the Pakistan Institute of Medical Sciences (PIMS) Islamabad, officials said. *M. Waqar Bhatti.* (364)

US SURGEONS PERFORM WORLD'S FIRST WHOLE EYE TRANSPLANT (*The News-Nov. 10, 2023*) A team of surgeons in New York has performed the world's first transplant of an entire eye in a procedure widely hailed as a medical breakthrough, although it isn't yet known whether the man will ever see through the donated eye. The groundbreaking surgery involved removing part of the face and the whole left eye -- including its blood supply and optic nerve -- of a donor and grafting them onto a line worker from Arkansas who survived a 7,200-volt electric shock in June 2021. (365)

22M CHILDREN SKIP FIRST DOSE OF MEASLES VACCINE IN PAKISTAN, NINE OTHER COUNTRIES: WHO (*The News-Nov. 11, 2023*) Pakistan tends to be among 10 low and middle-income countries where 22 million children missed first measles vaccine dose last year. Following years of declines in vaccination coverage, measles cases increased by 18 percent and deaths 43 percent globally in 2022 as compared to the preceding year. This takes the tally of measles cases to 9 million and deaths to 136,000 -- mostly among children, according to a latest report from the World Health Organization (WHO) and the US Centers for Disease Control and Prevention (CDC). *M. Waqar Bhatti.* (366)

FIFTH POLIO CASE OF 2023 DETECTED AS VIRAL DISEASE CRIPPLES CHILD IN GADAP (*The News-Nov. 12, 2023*) Wild Poliovirus 1 has crippled another child in Pakistan as a 31-month-old male child has been found affected by polio in UC-4 Gujro, Gadap Town, in District East Karachi, health officials said. “A 31-month-old boy has been affected by Wild Poliovirus 1 in the notorious UC-4 Gujro, Gadap Town in District East Karachi. It is the 5th polio case of 2023 in Pakistan and the 2nd case in Karachi,” an official of the Emergency Operation Centre (EOC) Sindh said. *M. Waqar Bhatti. (367)*

DIABETES ROOT CAUSE OF MAJOR DISEASES, SAY EXPERTS (*The News-Nov. 15, 2023*) To keep your life from becoming bitter, the medical experts and nutritionists advised minimizing the consumption of sugar and sweets to avoid obesity and diabetes which is a major cause of high blood pressure, heart disease, renal failure and blindness. Eating less food, avoiding junk food, cold drinks and doing regular exercise play a key role in keeping a person healthy. ‘The burden of diseases in Pakistan is increasing day by day, the main reason for which is the rapid increase in diabetes, which is the root cause of diseases. One can stay healthy despite diabetes by taking necessary precautions, exercising properly and keeping oneself active. (368)

WORLD AIDS DAY 2023: AROUND 9,284 TEST HIV POSITIVE IN PAKISTAN THIS YEAR, SAY OFFICIALS (*The News-Dec. 02, 2023*) Although 9,284 people have so far tested positive for HIV throughout Pakistan in the first 11 months of the current year, it is estimated that around 30,000 people are contracting HIV infections annually, officials said. They said although HIV infections were decreasing all over the world, Pakistan was among the few countries where new HIV infections were constantly on the rise. They declared Punjab as the most-affected province where around 52 percent of people were HIV positive. *M. Waqar Bhatti. (369)*

THREAT OF SEASONAL FLU OUTBREAK LOOMS LARGE (*The News-Dec. 04, 2023*) It is the most appropriate time for the high risk population including elderly, pregnant women, patients with heart and lung disease and diabetics to get vaccinated against seasonal ‘influenza A’ disease that appears in winter every year in the months of December to February, assume the epidemic forms and cause considerable morbidity and mortality. *Muhammad Qasim. (370)*

HYDROLOGY / GEOSCIENCE

EARTHQUAKE IN AFGHANISTAN (*The News-Oct. 09, 2023*) If living under the Afghan Taliban, after having been razed to the ground by decades of a war imposed by the West, wasn’t enough, Afghanistan continues to face trauma almost every few months. On Saturday, thousands were feared dead when a strong earthquake measuring 6.3 on the Richter Scale hit western Afghanistan. (371)

MANAGEMENT / INFORMATION

NOBEL PRIZE GOES TO MRNA COVID VACCINE RESEARCHERS (*The News-Oct. 03, 2023*) Researchers Katalin Kariko and Drew Weissman won the Nobel Medicine

Prize on Monday for work on messenger RNA (mRNA) technology that paved the way for groundbreaking Covid-19 vaccines. The pair, who had been tipped as favourites, “contributed to the unprecedented rate of vaccine development during one of the greatest threats to human health in modern times”, the jury said. (372)

PAKISTAN CAN EARN MILLIONS OF DOLLARS BY EXPORTING HEALTH PROFESSIONALS (*The News-Oct. 04, 2023*) Pakistan can not only earn millions of dollars by exporting trained and qualified allied health professionals including paramedics and medical technicians but quality of healthcare can also be improved at local health facilities, which are facing a severe shortage of skilled healthcare professionals, health officials said. *M. Waqar Bhatti.* (373)

TRIO WINS PHYSICS NOBEL FOR ILLUMINATING ELECTRONS (*The News-Oct. 04, 2023*) France’s Pierre Agostini, Hungarian-Austrian Ferenc Krausz and Franco-Swede Anne L’Huillier won the Nobel prize in physics for research using ultra quick light flashes that enable the study of electrons inside atoms and molecules. Their technique employs pulses measured in attoseconds, a unit so short that there are as many in one second as there have been seconds since the universe’s birth over 13 billion years ago, the jury said. (374)

TRIO WIN CHEMISTRY NOBEL FOR ‘QUANTUM DOTS’ AFTER LEAK (*The News-Oct. 05, 2023*) A trio of US-based researchers on Wednesday won the Nobel Chemistry Prize for developing tiny “quantum dots” used to illuminate TVs and lamps, hours after a prematurely released statement revealed their names. French-born Mounir M Bawendi, Louis Brus of the United States and Russian-born Alexei Ekimov were named as the three winners. They brought advances on tiny particles that “now spread their light from televisions and LED lamps, and can also guide surgeons when they remove tumour tissue”, the jury said. (375)

NORWEGIAN PLAYWRIGHT JON FOSSE WINS NOBEL LITERATURE PRIZE (*The News-Oct. 06, 2023*) The Swedish Academy on Thursday awarded the Nobel literature prize to Norwegian playwright Jon Fosse, whose plays are among the most widely staged of any contemporary playwright in Europe. (376)

CLAUDIA GOLDIN OF THE US WINS NOBEL ECONOMICS PRIZE (*The News-Oct. 10, 2023*) The Nobel prize in economics was on Monday awarded to American economist Claudia Goldin for her research helping understand the role of women in the labour market. (377)

TURKIYE’S JAILED OSMAN KAVALA WINS EUROPE RIGHTS PRIZE (*The News-Oct. 10, 2023*) The Council of Europe on Monday awarded its top rights prize to jailed Turkish philanthropist Osman Kavala, who has come under repeated attack from President Recep Tayyip Erdogan. (378)

AKU DEAN ADIL HAIDER RECEIVES PRESTIGIOUS JOHNS HOPKINS ALUMNUS AWARD (*The News-Oct. 26, 2023*) Aga Khan University (AKU) Medical College Dean Dr. Adil Haider received the prestigious Johns Hopkins University Award for Distinguished Alumnus, recognising his exceptional work as a surgeon, trauma disparities

researcher, and his extraordinary leadership in the wake of the devastating floods in Pakistan last year. (379)

SCIENCE

HIGH-TECH EXPORT STRATEGY (*The News-Dec. 20, 2023*) A 20-member delegation representing various sectors of Pakistan's industry left for China, with the objective of enhancing Pakistan's exports from the present shamefully low figure of \$30 billion to \$100 billion. To succeed, however, the mission needs to have the correct vision and strategy. Pakistan's myopic export vision in the past is reflected from the fact that 60 per cent of our exports are low value textiles. Our high-tech, high value-added exports are virtually non-existent. *Atta-ur-Rahman*. (380)

TECHNOLOGY / NANOTECHNOLOGY / ELECTRONICS

TESLA IN DIALOGUE WITH INDIAN GOVERNMENT FOR CAR MANUFACTURE (*The News-Nov. 11, 2023*) The government is making concerted efforts to attract Tesla to the country, with various departments prioritizing the fast-tracking of approvals. Talks have been ongoing between Tesla executives and the Indian government regarding the establishment of car and battery manufacturing facilities in India. (381)

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Glimpses from Recent Arrivals

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