



Mr. Nadeem Irshad Kayani, Federal Secretary for S&T, Government of Pakistan, receives a briefing on COMSATS' operations and undertakings as the incumbent Executive Director COMSATS (details on page 2).

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From Editors' Desk

The promise of ST&I is undeniably great, however, with growing populations and emerging challenges, such as climate change and pandemics, the need for its faster and better integration in governance systems and policies is becoming more and more inevitable. In the face of the ongoing pandemic that has taken the world by storm, countries who have invested more in ST&I over the decades are exhibiting better resilience and recovery owing to the safety net that such investments offer.

Relevant research and development of vaccines at a faster pace compared to earlier pandemics, as well as better recovery of systems to resume public affairs owing to ICTs are testimonials of the potential of S&T and R&D as a remedy even at lowest points. Evidently, despite its challenges, the current pandemic is way less daunting than it would have been a century ago. Moreover, the pandemic-pushed digitalization has aided enhanced, diverse and wider cross-border collaboration and initiatives that countries/organizations were earlier hesitant to launch.

One cannot ignore climate change, malnutrition and hunger and many other social indicators that constitute the basis of the SGDs. Disparity of populations in relation to these remains a matter of great concern further exacerbated by the restrictions and threats related to the pandemic. It is feared that the erratic change of weather

patterns could result in emergence of yet other new strains of microbes and hence new diseases.

COMSATS continues to foster collaborations to finding ways to addressing these looming threats that especially affect the resource-challenged South. COMSATS' Member States' governments should come together to strengthen concerted efforts for development during and after the pandemic.

Important interventions in telehealth have become more relevant during the last year or two owing to the pandemic. Mainstreaming telehealth could spare the existing health systems for bigger emergencies and somewhat relieve these to better deal with the pandemic. COMSATS and COMSTECH have started discussions on how to spread related gains to their member states, a report on which is included in this issue.

Through this issue, we aim to apprise the readers about such activities, as well as others including important interventions of COMSATS' Member States that are making important advancements relating to COVID-19 pandemic and other fields.

The readers would find the contents of this newsletter informative and reassuring in COMSATS' role and efforts towards sustainable development.

HIGHLIGHTS FROM COMSATS SECRETARIAT

Interim ED COMSATS Receives Briefing on the Organization's Operations

Mr. Nadeem Irshad Kayani assumed office as the Federal Secretary, Ministry of Science and Technology, Government of Pakistan, with additional charge as the interim Executive Director COMSATS on 17th May 2021.

On 14th June 2021, Mr. Kayani visited COMSATS Secretariat to review the administrative and financial affairs as well as programmes of COMSATS with its senior officials.

Mr. Kayani was accompanied by two of his colleagues from his Ministry – Mr. Shahzad Naim, Chief Financial and Accounts Officer (CFAO), and Mr. Zainul Abedin, Joint Scientific Advisor (JSA - International Liaison). Since the Federal Secretary is the ex-officio Chairperson of COMSATS Consultative Committee, Mr. Kayani's visit carried further significance towards COMSATS' programmes and operations as an intergovernmental organization and other related matters.

Briefing to the senior officials of the Ministry of Science and Technology was given by Mr. Irfan Hayee, Deputy Director (Programmes), in the presence of other senior officials of COMSATS Secretariat, including Mr. Bilal Chohan, Director (Administration); Mr. Amanullah Khattak, Director (Finance); and Mr. Nisar Ahmed, Deputy Director (Systems).

The presentation highlighted COMSATS' international role and on-going programmes and activities. Mr. Hayee remarked that these programmes and activities are well-coordinated among institutions in Member States, COMSATS Network and other stakeholders by COMSATS Secretariat under the patronage of COMSATS' statutory bodies that



include 27 Member States and a Network of 24 Centres in 22 countries. Owing to its special relevance to Mr. Kayani as its Chairperson, Mr. Hayee elaborated the role of COMSATS Consultative Committee having representation of relevant government ministries and departments from Member States. Role of COMSATS Coordinating Council, comprising heads of 24 Centres of Excellence, as well as the Technical Advisory Committee, a panel of renowned subject experts, was also delineated. While briefing about different activities of COMSATS, including the scientific capacity-building, scholarships/fellowships, scientific sponsorships, joint R&D initiatives as well as outreach programmes, it was emphasized that Pakistan has been a major beneficiary of these programmes and activities.

Mr. Kayani expressed satisfaction on the overall programmes of COMSATS. He opined that COMSATS' scientific interventions and programmes should be made more objective and goal oriented in order to achieve organizational mission of socio-economic development of the countries of the South in a meaningful manner.

After the presentation on COMSATS' programmes, Mr. Khattak apprised Mr.

Kayani about financial challenges of the organization in the light of Auditors' Report for fiscal year 2020. Mr. Kayani assured his full support for addressing financial matters of the Secretariat.

Acknowledging the support of the Ministry, COMSATS' Director Finance expressed gratitude to CFAO-MoST and the Federal Secretary whereby COMSATS was provided additional grant of Rs. 47 million during the fiscal year 2020-21.

The legal and financial status of COMSATS Internet Service (CIS) also came under review. Mr. Kayani sought consultation of CFAO MoST on these matters of CIS who proposed some relevant legal measures to bringing better administrative control of CIS.

The meeting concluded with Mr. Kayani's directives to reassess financial needs of COMSATS Secretariat and establishment matters for due support from the Ministry.

COMSATS Explores Collaboration in Telehealth with COMSTECH

COMSATS and COMSTECH have agreed to work together to initiate a regional Telehealth program, especially

in the wake of the ongoing pandemic.

On June 17, 2021, COMSATS' team held discussions in this regard with the Coordinator General COMSTECH, Dr. M. Iqbal Choudhary, in his office. COMSATS was represented by Dr. Azeema Fareed, Principal Medical Officer and Coordinator of COMSATS Telehealth Programme; Mr. Nisar Ahmed, Deputy Director Systems; and Mr. Irfan Hayee, Deputy Director Programmes. Senior officials of COMSTECH attending the meeting were Mr. Abdul Haseeb, Director (Coordination); Mr. Haris Akram, Program Manager; and Ms. Khazima Muazim, Programme Manager.

During the meeting, Dr. Choudhary expressed the willingness to collaborate with COMSATS in order to pass on the benefits of telehealth to common member states of the two organizations, with a special focus on African countries.

COMSATS' delegation briefed Dr. Choudhary and his team about COMSATS Telehealth (CTH) programme, which highlighted programmatic and technical aspects of telehealth. The ensuing discussion revolved around scale and scope of programme activities under telehealth; infrastructure and technical gadgetry required; as well as operational and service delivery mechanism models. As a result of these discussions, COMSTECH officials expressed interest in physically visiting COMSATS Telehealth Centre to learn and understand the operational aspects of CTH.

It was agreed by officials of the two organizations that the potential collaboration in the field of telehealth will focus on: creating more awareness on telehealth and its benefits, central trainings and regional workshops, exchange of experts, in addition to establishing telehealth nodes with



suitable technical facilities.

In view of the discussions and potential avenues of collaboration, the Coordinator General COMSTECH invited a concept note on telehealth from COMSATS to seek patronage of OIC.

Later on June 23, 2021, the understanding developed in the previous meeting was strengthened when a four-member delegation of COMSTECH visited COMSATS Telehealth Resource Centre housed at COMSATS Internet Services, Islamabad. COMSTECH delegation comprised of Mr. Aftab Zaidi, Senior Director (Admin & HR); Mr. Abdul Haseeb, Director Coordination; and Ms. Khazima Muazim and Mr. Haseeb Ahmed, Program Officers. At COMSATS Telehealth Resource Centre, the visiting delegation was given an orientation on functions and operations of COMSATS Telehealth (CTH) Programme. Dr. Azeema Fareed introduced the visitors to the management and medical team providing telehealth consultations. She apprised the delegation about the requirements for setting-up a telehealth facility at a basic health unit and scaling-up of a telehealth project. During the orientation, Mr. Irfan Hayee recalled the best practices learnt and adopted by

COMSATS in early years of the project to customize its telehealth program keeping in view cultural and societal norms and practices.

Dr. Nadia Rasheed, Project Manager CTH at CIS and a family physician by profession, demonstrated how COMSATS Telehealth Resource Centre is linked-up with various basic health units in remote and far-flung areas of the country. At the time, seven health facilities from Balochistan were connected with doctors at COMSATS Telehealth Resource Centre.

COMSATS Observes World Environment Day 2021

COMSATS Centre for Climate and Sustainability (CCCS) in collaboration with the United Nations Environment Programme-International Ecosystem Management Partnership (UNEP-IEMP) organized a virtual conference to observe the World Environment Day. The conference bearing the theme of the Day – Ecosystem Restoration – was held on 7th June 2021, with speakers from China, Colombia, Ghana, Jamaica, Jordan, Kazakhstan, Pakistan, and Sri Lanka.

Opening the conference, Ms. Kerstin Stendahl, Head of Ecosystems

Integration Branch, UNEP, shared UNEP's schema for UN Decade of Ecosystem Restoration while also highlighting the significance of the day. In his keynote address, Mr. Malik Amin Aslam Khan, Special Advisor to Prime Minister (SAPM) on Climate Change, Government of Pakistan, informed that Pakistan has opened 15 national parks and initiated "Recharge Pakistan" project to help reserve flood water as a nature-based solution.

During the first session, speaker from China, Ms. Guoqin Wang, Program Manager at UNEP-IEMP, informed about the institutions and key approaches that helped China restore its ecosystems.

Dr. Ernest Foli, Principal Research Scientist, Council for Scientific and Industrial Research (CSIR), Ghana, and Dr. Linxiu Zhang, Director, UNEP-IEMP moderated the second session where panelists discussed issues and scientific solutions to tackle ecosystem degradation.

Dr. Yu Liu, Deputy Director, Synthesis Center of Chinese Ecosystem Research Network (CERN), Chinese Academy of Sciences, China, shared a case study of Karst region in China and developments made since 1996 for the conservation of environment. Mr. Mauricio Andrés Valencia Camelo, Environmental Engineer at the International Centre for Physics (CIF), Colombia, shared key issues of environmental degradation in Colombia.

Dr. Lucy Amissah, Senior Research Scientist at CSIR-Forestry Research Institute of Ghana (FORIG), Ghana, shared some forest restoration projects of Ghana. She deemed role of local communities highly significant for the restoration of forest area.

Discussing mangroves degradation in Jamaica, Prof. Terrence Forrester, Director, UWI Solutions for Developing



Countries (UWI SODECO) University of the West Indies, Jamaica, considered charcoal production one of the key factors contributing towards this damage.

In his talk, Dr. Maher J. Tadros, Professor in Vegetation Ecology and Management Department of Natural Resources and Environment, Jordan University of Science and Technology, Jordan, presented a case study of invasive species being replaced by native species to abate ecosystem degradation in Jordan. Dr. Dinara Abiyeva, Managing Director of GIS-Centre, JSC Institute of Geography and Water Security, Kazakhstan, discussed the role of Geographic Information System (GIS) to combat climate change challenges. Dr. Rangika Bandara, Senior Lecturer, Department of Zoology and Environmental Management, University of Kelaniya, Sri Lanka, shared key plans and strategies of Sri Lanka to combat climate change.

COMSATS-ANSO Collaborative Training

Under an MoU signed with the Centre of Environmental Economics of the University of Chinese Academy of Sciences (CEE-UCAS) in July 2020, COMSATS conducted the second phase of training on "Sustainable Development and Leadership Enhancement". Held virtually, the training was conducted in collaboration with the Alliance of International Science Organizations (ANSO) and CEE-UCAS. The first phase of the training



successfully concluded in February 2021.

The opening ceremony of the second phase was held virtually on 12th May 2021, attended by over 150 participants from various countries. Among others, the ceremony was attended by 80 trainees from COMSATS Centres of Excellence in 13 member states of COMSATS, including Egypt, The Gambia, Ghana, Indonesia, Iran, Jordan, Kazakhstan, Nigeria, Palestine, Pakistan, Syria, Sri Lanka, Sudan, and Tanzania. Officials of COMSATS Secretariat, also attended the opening.

The event was opened by Prof. Desheng Wu, Dean of the Belt and Road College of UCAS, Director of the Research Centre for Environmental Economics of UCAS, China.

The opening ceremony of the event was followed by first module of the course entitled "Sustainability and Leadership: The technology perspective". Conducted by Prof. Luis Seco, Professor, Director, RiskLab; President and CEO Sigma Analysis and Management, the module focused on: Technology Revolution (fundamentals of artificial intelligence, and machine learning); Sustainability (environment, social, and governance); and Leadership (communications and leadership).

The remaining nine modules of the course will be held in the next three months covering the topics of management, technological innovation, innovation and sustainable development, etc.

SOME ACTIVITIES OF COMSATS' CENTRES OF EXCELLENCE

ITS-Indonesia Develops App to Curb COVID-19 Spread

Students from the Department of Electrical Engineering, and Computer Engineering of the Institut Teknologi Sepuluh Nopember (ITS), Indonesia, have developed a mask detection system dubbed "I-Mask: Mask Detection System using Machine Learning and Integrated with IoT for Monitoring the Use of Masks in a Place" to monitor the use of masks and hence help curb the spread of coronavirus. The innovation has also been awarded the first prize in the 2021 International IoT Challenge.

I-Mask detects whether a person is wearing mask or not and the detection video is later sent to a cloud server that is integrated with an application. The people not wearing masks are detected and not allowed to enter the space designed to be combined with an automatic door which opens only for those wearing masks and ringing an alarm for those detected without masks.

Additionally, the I-Mask application has several features that provide information about the conditions of a place: from the number of visitors, weekly reports of

the number of visitors to the area, the location of the I-Mask system installed, live updates from camera, to statistical data showing the conditions of the place. These features could also help identify if a certain place has met the health safety protocols or not.

R&D at ITS-Indonesia

Some research and developments related activities at Sepuluh Nopember Institute of Technology (ITS), Indonesia, included:

- To help curb vehicular pollution, students of the Chemistry Department of ITS, Indonesia, have created synthetic chemicals capable of reducing motor vehicle exhaust gas by utilizing Nimo/Zeolite-Y catalysts that can optimally reduce vehicle emissions. They have also presented their idea in a paper titled "Nimo/Zelolit-Y Catalyst Motor Exhaust Reduction of Synthetic Hierarchy and Fabrication";
- A team from ITS has developed innovative bio briquettes from bagasse and sugarcane waste in a period of just two weeks and

won bronze medal in "Smart Innovation and Ideas for Indonesia Transformation in Pandemic Era";

- ITS team has developed a biomass-based power plant named "Antasena Bioelectricity" that can generate electrical energy through fuel cells and microbial fuel cell by utilizing rice husks and tempeh liquid waste.

NRC-Egypt's Laboratories Internationally Accredited for ISO/IEC 17025:2017

Five laboratories of National Research Centre (NRC), Egypt, have been accredited by the Egyptian Accreditation Councils (EGAC) in compliance with the requirements of ISO/IEC 17025:2017.

These include: Fats and oils testing laboratory & immunology and parasitology laboratory; food analysis, therapeutic diets and dietary regimen testing laboratory; and environmental microbiology laboratory.

TÜBİTAK MAM-Turkey Research Vessel Completes Its First Earthquake Expedition

TÜBİTAK MARMARA Research Vessel that departed for an expedition on 31st May 2021 under the project "Determination of Seismicity and Active Tectonic Characteristics of Faults in Kuşadası Bay with High Resolution Seafloor Measurements" completed its first expedition on 13th June 2021. The project was conducted by the Turkish Earthquake Platform with the patronage of The Scientific and Technological Research Council of Turkey (TÜBİTAK) in the region between Samos Island and Kuşadası Bay with a view to examine the earthquake risk of the region and to investigate the fault lines.





The vessel conducted studies for two weeks scanning an area of 1300 km in order to reveal the seismicity and active tectonic characteristics of the region. Additionally, bathymetric analyses were conducted during the expedition, the measurements were made with acoustic data, all preliminary information for making a map of the region was also collected.

Based on the data gathered, cartographic studies will be done after which a second expedition will be made in which the deformations of the past earthquakes on the previously mentioned layers will be determined by getting geological core samples from the vicinity of active faults. Specific precipitations will be detected in the core samples and they will be aged by radiometric methods. Therefore, important epistemic findings about the earthquakes created by these faults and the seismic cycles will be made. This will create a new data set for the determination of the seismicity of İzmir and its vicinity.

CSIR-Ghana Supports Green Ghana project

Forestry Research Institute of Ghana of the Council for Scientific and Industrial Research (FORIG-CSIR), Ghana, provided over 2,500 seedlings to support the Green Ghana initiative. The project, rolled out by Ghanaian government, aims at planting five million trees across the country.

FORIG has also joined in planting trees in some schools to create climate change awareness. Around 10 schools have benefited from the FORIG-CSIR tree planting exercise.

ICCBS-Pakistan Inks MoU with BTCMH-China

The International Center for Chemical and Biological Sciences (ICCBS), Pakistan, has entered into an agreement with the Beijing Traditional Chinese Medicine Hospital (BTCMH), Capital Medical University, China, to promote cooperation in the field of traditional medicine.

Signed on 9th June 2021, the Accord entails cooperation, inter alia, for conducting clinical trials of selected traditional Chinese medicine (TCM) products, TCM doctors' training,

organization of conferences, symposia, seminars, and other scientific meetings, and co-supervision of post-graduate students.

BTCMH is Tertiary Level III Grade-A TCM hospital that conducts treatment, teaching, and scientific research in TCM.

ICENS-Jamaica Joins UNFCCC for Climate Change Mitigation

Dr. Adrian Spence along with his team at the International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica, have joined the Forestry Department of the Jamaican Ministry of Economic Growth and Job Creation to spearhead the Government of Jamaica's national programme to become REDD+ (Reducing Emissions from Deforestation and forest Degradation) ready.

This nascent initiative by the parties to the United Nations Framework Convention on Climate Change (UNFCCC) is geared towards developing countries as a method of incentivized climate change mitigation. It does this by awarding carbon credits to those countries that have reduced or removed forest carbon emissions. Successful execution of



REDD+ program will help Jamaica accurately report on local forest carbon emissions and profit from the successful implementation of emission reduction efforts.

Neuroscience Specialty to be Opened at KazNU-Kazakhstan

Opening of a new specialty of neuroscience is in the offing at Al-Farabi Kazakh National University (KazNU), Kazakhstan. Discussions in this connection were held during a meeting held between Prof. Dr. Zhanseit Tuimebayev, Rector of KazNU, Kazakhstan, and Prof. Dr. Bazbek Davletov, Professor at Sheffield University, and honorary neuroscientist of Great Britain. Once instituted, the faculty will be one of its kind in the country and throughout the Central Asian region.

Explored prospects of cooperation between the two sides also include: training specialists in neuroscience; joint training of PhD doctors in relevant areas; assistance in student exchange, internships for undergraduates and doctoral students at the universities of Sheffield, Cambridge; preparation of joint educational projects with a possibility to initiate a two-degree program.

KazNU-Kazakhstan Expands Cooperation with Egypt and Turkey

Prof. Dr. Zhanseit Tuimebayev, Rector of KazNU, Kazakhstan, held meetings with Mr. Ali Riza Akinci (Consul General of Turkey in Kazakhstan), and H.E. Manal Yehia El Shinnawi (Ambassador of Egypt to Kazakhstan) to discuss prospects of cooperation in science and education.

During the meeting with the former, discussions pertained to:

- Launching of program of double-degree academic mobility;
- Development of education and science in accordance with modern requirements in the areas of advanced training for mentors;
- Initiation of joint research projects;
- Training of specialists in the field of tourism; and
- Exchange of experiences.

The Egyptian Ambassador proposed updating the signed Memorandum of Understanding between KazNU and the Egyptian Embassy in Kazakhstan and expressed willingness to support joint projects in the field of science, education and culture.

Prof. Tuimebayev proposed expanding cooperation with Egypt in many spheres, including joint training of specialists, implementation of academic exchange programs, professional development of teachers, development of scientific and educational programs, holding of international conferences and symposia as well as implementation of a double-degree education programme.

KazNU-Kazakhstan Explores Cooperation with EU and World Bank

With a view to discuss possibilities of cooperation in academia, research and

science, the Rector of Al-Farabi KazNU, Prof. Dr. Zhanseit Tuimebayev, held separate meetings with Ambassador Peter Burian, European Union Special Representative for Central Asia, and Mr. Jean-Francois Marteau, World Bank Resident Representative in Kazakhstan.

The focus of the meeting with Ambassador Peter Burian was cooperation between the EU and Central Asia in areas, such as water resources, ecology and climate change, the development of civil society, gender, and youth policy. The EU Special Representative expressed readiness to cooperate with KazNU for joint scientific events and research projects as well as proposed jointly organizing an international forum "EU – Central Asia" at KazNU.

In the meeting with Mr. Jean-Francois Marteau, the parties discussed the possibility of increasing the number of applications for grant financing of scientific and innovative projects, internships for students and undergraduates, the prospects of joint research in topical areas of science and technology, as well as social sciences and humanities.

Ranking of CUI-Pakistan

COMSATS University Islamabad (CUI), Pakistan, has secured 171 place among



551 institutions in 2021 Asian University Rankings by Times Higher Education (THE), the United Kingdom.

Asia University Rankings 2021 use the same 13 performance indicators as THE World University Rankings, but they are recalibrated to reflect the attributes of Asian institutions. Performance of universities is gauged keeping in view their missions, teaching, research, knowledge-transfer and international outlook.

BCSIR-Bangladesh Holds Workshop on Safe Water

The Institute of National Analytical Research and Services (INARS) of the Bangladesh Council of Scientific and Industry Research (BCSIR), Bangladesh, organized a workshop on 'the promise of INARS, calibration service accredited according to ISO 17025 and the use of safe water', on 27th June 2021.

The workshop was presided over by Md. Shamim Ahmed, Director (In-charge) of INARS, and attended by officials from the Dhaka Water Supply and Sewerage Authority (DWASA), the Department of Public Health and Engineering (DPHE), Sanofi Bangladesh, Akij Food & Beverage Ltd., directors of various laboratories as well as senior scientists.

RSS-Jordan Collaborates with GIZ-Germany on Food Processing MSEs

Royal Scientific Society (RSS) of Jordan in collaboration with the GIZ MSME project organized a meeting on 14th June 2021, to launch their initiative for promoting Resource Efficient and Cleaner Production (RECP) practices in food processing micro and small sized enterprises (MSEs).

The meeting was aimed at introducing the initiative and its activities to relevant stakeholders as well as seek consultation for the design of the new services and tools. This event also helped establish communication channel with the stakeholders for continuous support, guidance, and outreach to targeted enterprises.

The primary objective of the initiative is to design, market and deliver financially viable services and tools around RECP practices for Micro and Small Enterprises (MSEs) to help increase their resources' savings and competitiveness, and promote growth in the sector while building the capacity of the business service providers, such as RSS, to increase outreach and awareness on RECP.

The collaborating parties will develop new RECP service packages specific for food processing MSEs. These service packages will be designed based on existing RECP and Transfer of Environmentally Sound Technology (TEST) practices and methodologies and other relevant practices that could enhance the service packages (such as value chain mapping). Additionally, economically sustainable and effective delivery mechanisms will be developed to mainstream the provision of RECP services to food processing MSEs in a cost and time efficient manner.

UTG-The Gambia Launches Lecture Series on SDGs

The University of The Gambia (UTG), The Gambia, in collaboration with the United Nations Development Programme (UNDP), The Gambia, has launched a Lecture Series on Sustainable Development Goals (SDGs). The maiden lecture of the Series was held on 30th May 2021. Delivered virtually by Prof. Oh Joon, a Professor of United Nations Studies at Kyung Hee University in Seoul, Korea, the lecture was focused on the theme "SDGs and National Development".



Jordan National Metrology Institute of Royal Scientific Society (RSS) Celebrates 15 years of Excellence on World Metrology Day



The Jordan National Metrology Institute (JNMI) celebrates its 15th anniversary today, appropriately coinciding with World Metrology Day 2021. JNMI was established in 2006 in cooperation with the Government of Japan as a Centre of Excellence at the Royal Scientific Society (RSS), under an agreement between the Jordan Standards and Metrology Organization (JSMO), which oversees Jordan's national measurement systems, and the RSS. National reference measurement standards were provided through collaboration with the Government of Japan.

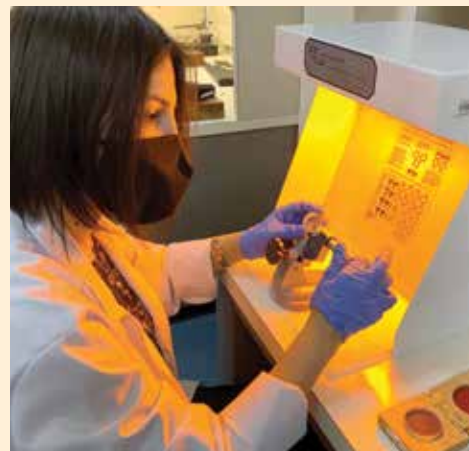
The RSS's unmatched expertise and capacity for testing, calibration, and conformity, including the work of JNMI, ensured that vital consultations and services were provided to the government and private sector throughout the pandemic. From manufacturing specifications to product testing, RSS ensured accurate conformity of technical standards to uphold the nation's effort to combat the health, economic and social effects of COVID-19.

JNMI had provided vital calibration services to the medical, pharmaceutical, food and sanitation sectors and laboratories to ensure the maintenance of Jordan's supply chains throughout the pandemic. JNMI also

issued crucial calibration certifications for sanitization gates to help reduce the spread of COVID-19.

JNMI is a largely unknown national hero that works to uphold national standards of measurement, ensure traceability to international standards, and provide highly accurate nationally and internationally recognized metrology and calibration services to the scientific, economic, industrial, health and legal sectors, contributing to the national economy and preserving the rights, health, safety, and environment of citizens.

To achieve its goals, JNMI builds and implements modern systems consistent with international practices in the field of metrology by providing, developing and stimulating human resources and using highly specialized expertise and know-how



JNMI is a main pillar of quality infrastructure in Jordan by maintaining national measurement standards and their sustainability and traceability to international standards and providing Jordan with the primary source of the reference traceability for accreditation and measurement in the Kingdom to ensure unified measurement accuracy that is internationally recognised for all measuring devices in Jordan.

Besides maintaining national measurement standards and securing their traceability to international standards, JNMI is also up to date with scientific developments related to the International System of Units, their applications and dissemination, as well as providing technical advice to the government, public and private institutions in the metrology field.

JNMI is nationally and internationally accredited to ISO 17025:2017, has successfully participated in Key Comparisons through Regional Metrology Organizations

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الجمعية العلمية الملكية
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RSS's National and Institutional Contributions to the COVID-19 Pandemic Response

The Royal Scientific Society is in constant engagement with the Prime Minister's office, relevant government ministries and other institutions to provide advice, support and capacity to deal with the Covid- 19 crisis. The nature of our work is crucial to the health and safety of the people of Jordan, and thus, RSS has received relevant permits to continue its key operations in the midst of the government-sanctioned lockdown and to provide timely and efficient support for the national contingency plan. Below are some of the key contributions from RSS to Jordan's COVID-19 crisis response plans:

1. The RSS's National Software Quality Assurance Center engaged with the Jordanian Ministry of Education to stress test its online educational platforms in order to assure its readiness before regular schooling had been suspended. Accordingly, the platforms were improved based on RSS's recommendations and were successfully launched on March 22nd. During the short period given to perform the required tests in support of the Ministry's emergency plans, RSS deployed 6 of its software testing experts to work closely with the Ministry's team round the clock. RSS continues to provide any services that the government may need during these difficult times.
2. The RSS designed and launched an emergency management plan for its campus which hosts several sister organisations, including the Princess Sumaya University for Technology. The plan includes decisive measures to combat the spread of the disease including detailed provisions to protect workers, stakeholders and facilities. RSS was among the first institutions in Jordan to issue its own emergency response measures as it puts human safety at the heart of its mission and operations. Due to its well established ICT infrastructure and well-trained staff, RSS continues to operate virtually.

3. The RSS is continuing its testing operations for food, water, air quality and medical gases to ensure safety and continuity. A select team of engineers, technicians and analysts were tasked to continue work - taking all necessary precautions - and provide the urgently required services. This is of significance to avoid the interruption of the supply chain of food, ensure that the air and water quality are within national standards, and that the supplies of medical gases continue as usual.
4. The RSS's biomedical engineering team works closely with the Jordanian Ministry of Health to ensure timely maintenance of equipment. A joint team is working round the clock in all 12 governorates to provide the necessary maintenance for equipment in public hospitals and clinics.
5. The RSS's Biosafety and Biosecurity Centre has been engaged in testing Coronaviruses in bats as part of a Global Research Project. It has equipped its laboratory to be able to test for COVID 19 (if required) as an additional support to the health authorities.
6. The RSS's start-up incubator (iPARK) is supporting Khaleek bil bait - 'Stay at Home' - a mindset incubation and acceleration platform that launched an innovation hackathon on April 2nd 2020 <https://www.khaleekbilbait.com/>. Moreover, 10 of iPARK's incubated start-ups came together to give back to society and to support the government in combatting the unprecedented ramifications of the Covid-19 pandemic through supporting online learning and e-commerce activities, these start-ups are: B12, SUPERIORS, Carers, Mrayti, WARAGAMI, Bilforon, Utrac, Via Vii, Smart Cart, and Connecttofit.
7. The Royal Scientific Society (RSS) and sister organisations (the Princess Sumaya University for Technology, the Amman Baccalaureate School, the Higher Council for Science and Technology, and the Jordan Museum) launched a fundraising campaign to support the national effort during the COVID-19 emergency.
8. The WANA Institute, the think-tank arm of the RSS published a report entitled 'Chronicle the Coronavirus: A Perspective from Jordan' which records and explains Jordan's response to the crisis in its initial weeks. It is hoped that this will stand as a valuable record and form a basis to reflect and plan for future challenges.
<http://wanainstitute.org/en/publication/chronicle-coronavirus-perspective-jordan>

DEVELOPMENT AND S&T NEWS FROM MEMBER STATES AND BEYOND

COVID-19 Related Developments from Member States

Republic of Ghana: Ghana has been selected as one of the most promising manufacturing hubs for COVID-19 vaccines in Africa by the European Commission (Business Insider Africa, 21st May 2021). The decision has been made in the light of the initiatives already taken by the Government of President Nana Akufo-Addo towards the domestic manufacturing of vaccines.

The task force team from the European Union and Ghana will discuss the modalities for the realization of this initiative which would be supported by the European Investment Bank (EIB). Ghana was the first country in the world to receive COVID-19 vaccines through the COVAX Facility and commenced its first phase of mass inoculation in early March.

Republic of Kazakhstan: Kazakhstan has become one of the few countries to design and manufacture their own COVID-19 vaccine – “QazVac” (The Economic Times, 4th May 2021). Developed by Kazakhstan’s Research Institute for Biological Safety Problems, the vaccine exhibited 100% and 96% efficacy in the first and second stages of clinical trials, respectively. The



country plans to scale up its vaccine production from the current 50,000 doses to 500 – 600,000 doses per month.

Kazakhstan has launched a digital app namely “Travelling without COVID” to help people travel to Eurasian Economic Union (EAEU) countries easily (eTurboNews, 3rd June 2021). EAEU is an economic union of states located in Eastern Europe, Western Asia, and Central Asia.

China Builds Ties with Tanzania and Iran under South-South Cooperative Framework

China has been supporting Tanzania in important areas, such as railway infrastructure, education, health, information and communication technology, and agriculture. Recently, the two countries have signed an agreement for economic and technical cooperation (Xinhuanet, 12th May 2021).

According to the agreement, the Chinese government will aid the construction of projects negotiated and approved by the two governments. The government of Tanzania will take all necessary measures to ensure successful implementation of the projects under this grant in order to achieve the intended objectives.

The National Natural Science Foundation of China (NSFC) and Iran’s Natural Science Foundation (INSF) have signed an agreement to jointly fund research projects in the fields of mathematics, life sciences, and materials sciences. The partnership will also help scientists-and knowledge-exchange between the two countries. About 15 joint research projects are planned to be supported by 2021 with maximum funding of 2 million yuan per project.

Colombia Transitioning Towards Clean Energy

Three geothermal power pilot plants have been installed at Campo Maracas in Casanare, Colombia, that will utilize hot water derived from oil drilling to produce geothermal power. Led by Parex Resources in collaboration with the National University of Colombia, Medellín, the project has a maximum power generation capacity of 100 KW. It will help the country replace 5% of the energy generated from fossil fuels by geothermal energy (Think GeoEnergy, 21st June 2021).



The project received the Innovation Award from Asociación Colombiana de Ingenieros de Petróleos (Acipet) in the category “Innovation in socio-environmental management and renewable energies”. Further, the project has been included in the roadmap of the National Government in its commitment to develop a more competitive, efficient and resilient energy system.

Colombia will publish a roadmap for next 30 years to establish the production, use and export of hydrogen as a clean energy source for use in transport and industry (Reuters, 30th June 2021). Colombian Minister for Mines and Energy, H.E. Mr. Diego Mesa Puyo, is hopeful that the plan will

receive high investment and Colombia would offer incentives to encourage the participation of the private sector.

Colombia's position as the country with the sixth greatest quantity of renewable water resources puts it in an ideal position to produce green hydrogen which is made by splitting water. The Minister stated that investments in the nascent hydrogen sector are expected this year with pilot projects for production and usage of hydrogen expected to begin in 2022.

Egypt Develops Partnership Framework in Collaboration with UN to Advance SDGs

Egypt's Ministry of International Cooperation and the United Nations (UN) office in Egypt have established a four-year (2023 – 2027) roadmap for the Strategic Partnership Framework. The Framework aims to support Egyptian Government's priorities in achieving economic and social development which is in line with the 2030 Sustainable Development Goals (SDGs).

The roadmap established by the Ministry of International Cooperation and the UN aims to organize the stages of preparing the new framework for the strategic partnership in a practical and elaborate manner, and provides a comprehensive vision of the upcoming stages. It ensures that the UN's projects are in line with Egypt's Vision 2030 and focused on the challenges facing Egypt on its path towards sustainable development as well as the impact of the COVID-19 pandemic.

During the annual Steering Committee meeting for the current Partnership Development Framework (UNPDF), Egypt's Minister of International Cooperation, H.E. Rania Al-Mashat, explained that the United Nations in Egypt, its agencies and programs have

always had a strategic role in supporting the government's priorities in different sectors in order to enhance the national efforts of achieving sustainable development. She added that during 2020, partnership between the UN and Egypt was highly developed as a result of reorienting the partnership to support Egypt's indigenous pandemic response plan.

She noted that it is necessary for the new framework to take into account supporting the national efforts to combat climate change and to enhance environmental sustainability as Egypt has taken several steps forward within this framework and was the first country in the MENA region to issue \$750 million in green bonds in addition to the establishment of a Climate Change Center for Africa in Egypt.

Ghana Launches Fund to Help Post COVID-19 MSMEs Recovery

Hon. Nana Addo Dankwa Akufo-Addo, the Ghanaian President and Chairperson of COMSATS, has launched the Ghana Enterprises Agency (formerly NBSSI); the first of its kind National Micro, Small and Medium-Scale Enterprises (MSMEs) and Entrepreneurship Policy; and the GEA Grant Support for SMEs under the Ghana Economic Transformation Project backed by the World Bank (MyjoyOnline, 9th June 2021).

At the Launch, the President stated that "the policy direction is to reduce, if not eliminate, the duplication of efforts currently being witnessed in the MSME sector, ensure the judicious use of resources, implement programmes to formalize and support the informal sector, and design interventions to support MSMEs in the country".

To this end, President Akufo-Addo

indicated that the GEA SME Grant Fund has been established to support SMEs to recover from the effects of COVID-19 and also help them revive their operations under the Ghana Economic Transformation Project.

Disbursement of this grant amounting to one hundred and forty-five million cedis (GH¢145 million) will be made to two hundred and fifty (250) to three hundred and fifty (350) SMEs to help them grow into sustainable businesses, capable of competing on the regional, continental and global stages.

Central Asia's Largest Wind Farm Installed in Kazakhstan

Under the framework of South-South Cooperation for achieving sustainable energy targets, China is significantly contributing towards the development of renewable energy in Kazakhstan. It has helped build two-thirds of the 1,500 megawatt renewable energy capacity in Kazakhstan during the past four years.

Recently, Central Asia's largest wind farm with a generating capacity of 100 megawatts has been made by China in Zhanatas town of Kazakhstan. With a total of 40 wind turbines, the farm has the capacity to generate 350 million kilowatt-hours of electricity per year which can meet the daily electricity demand of 1 million households (Global Times, 21st June 2021).

The wind farm is expected to save roughly 110,000 tons of standard coal every year that can significantly reduce greenhouse gas emissions. At the same time, the project can reduce emissions of 1,031 tons of sulfur dioxide, 934 tons of nitrogen oxides, 289,000 tons of carbon dioxide, 322 tons of smoke and dust, and 32,900 tons of ash and slag every year.

Kazakhstan Boosts Ties with Tajikistan for Sustainable Development

Kazakhstan and Tajikistan have agreed to boost bilateral strategic ties to ensure sustainable development in the region (Anadolu Agency, 20th May 2021).

The Presidents of the two countries – H.E. Mr. Kassym-Jomart Tokayev, and H.E. Mr. Emomali Rahmon – in a meeting expressed readiness to develop cooperation in areas, such as the establishment of joint production facilities in the industrial field, infrastructure and logistics.

Morocco Partners with IRENA to Boost Renewables and Green Hydrogen Development

Morocco is increasingly being recognized as a regional energy transition pioneer. The country has revised its renewable energy ambition with a decision to increase the share of total installed capacity to more than 52% by 2030.

In line with this, the Moroccan Ministry of Energy, Mines and Environment (MEME) has signed an agreement with

the International Renewable Energy Agency (IRENA) to pursue green hydrogen studies and jointly explore policy instruments to engage the private sector in the green hydrogen economy at a national level (IRENA, 10th June 2021).

Under the agreement signed by IRENA Director-General, Francesco La Camera, and Morocco's Minister of Energy, Mines and the Environment, Mr. Aziz Rabbah, the two sides will collaborate to develop technology and market outlook studies; craft public-private models of cooperation in the hydrogen space; explore the development of new hydrogen value chains; and lay the groundwork for the trading of green hydrogen at a national and regional level.

More broadly, IRENA and Morocco will work together to strengthen the policies and regulatory frameworks for renewable energy deployment and energy efficiency applications in the Kingdom. The two parties will also promote renewable energy investments, including climate finance, through the development of solid project pipelines with enhanced bankability and the facilitation of access to finance, including in the context of Coalition for

Sustainable Energy Access initiative and the Climate Investment Platform (CIP).

Earlier this year, Morocco co-facilitated IRENA's Collaborative Framework on Green Hydrogen together with the European Commission to help address challenges in developing the infrastructure, technology and certification needed to shape a global green economy and lay the ground for green hydrogen trading.

Senegal Builds National Data Centre with China's Support

With the support from Chinese multinational technology company, Huawei, Senegal has inaugurated a national data centre on 22nd June 2021, replicating for the first time Chinese data governance model that requires all servers to be located within a country's borders hence providing the state with full access to the information (The Africa Report, 25th June 2021).

Housed at the Digital Technology Park in the city of Diamniadio, the data centre will be managed by Senegal's state IT firm State Informatics Agency (ADIE). Senegal will move all government data and digital platforms from foreign servers to the new national data centre. The centre will serve both the public and private sectors, and offer a cheaper infrastructure to Senegal's growing community of tech startups.

The 46 billion CFA francs (70 million euro) data center was financed with a Chinese loan and built with Huawei providing equipment and technical support. The first phase of the new facility will open in around six months' time and will offer hosting services to enterprises and other public bodies. The data centre will tap into global networks through an undersea cable as well as the country's own 6,000-km fiber optic network.





China is helping Senegal build an exclusive entire cyber-infrastructure. It is financing Senegal's e-government, establishing a national broadband network, funding the "Smart Senegal" e-infrastructure project, and helping Senegal grow into an information and communication hub in West Africa.

Tanzania Aspires Becoming the Regional Fertilizer Hub

The Government of Tanzania has outlined strategies to turn Tanzania into a fertilizer hub hence increasing importation and re-exportation to the East African Community (EAC)

and Southern African Development Community (SADC) member states (The Citizen, 16th June 2021). The move is also expected to lower fertilizers' prices that has skyrocketed by 50 percent in the global market between June 2020 and June 2021.

Uganda Launches National E-waste Management Center

According to the Global E-waste Monitor report by the United Nations, Uganda generated 17 million kg of e-waste in 2018 and it is projected to grow by approximately 4.5 million kg per annum. To ensure safe and

sustainable management of e-waste and to help address the growing concern over the environment and security risk posed by the improper disposal of electronic devices, Uganda has launched a national electronic waste (e-waste) management center (Xinhuanet, 9th June 2021).

Initially, the facility will collect, sort, dismantle and dispose e-waste and will progress towards a refurbishment and recycling facility. It is expected that regional collection centres shall be established to supplement the National Waste Management Centre.

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JNMI also provides services to thousands of companies, institutions and laboratories in the public and private sector, both in Jordan and regionally. It currently issues more than 7,000 calibration certificates every year.

JNMI currently has 14 specialized laboratories; the most eminent laboratories are classified as national laboratories. These uphold the national measurement standards, the primary

reference and source for all electrical measurements in Jordan, including voltage, current, resistance, amplitude, frequency and time, and physical and mechanical measurements, including measuring temperature, humidity, dimensions, pressure, mass & balance, force and torque.

The centre also includes secondary laboratories, which measure standards in the above-mentioned fields of electrical, physical and mechanical measurements, as well as laboratories

to measure volumes, electric power, speed and different medical test equipment.

Plans for future expansion include a new state-of-the-art laboratory to measure and calibrate water flow for standardized calibration of all water meter-testing devices. JNMI will also provide training courses and consultations in the metrology field for regional institutes through its partnership with the German Metrology Institute.

Scholarships/Fellowships for Member States by COMSATS' Centres of Excellence

Students from COMSATS' Member States are welcome to benefit from the following offers from COMSATS' Centres of Excellence:

- Hundred (100) scholarships for students/researchers for postgraduate studies at all campuses of COMSATS University Islamabad (CUI), Pakistan.
- Five (05) post-graduate scholarships, for Masters of Science in Mathematics at Lahore Campus of COMSATS University Islamabad (CUI), in collaboration with the International Centre for Theoretical Physics (ICTP), Italy.
- Five (05) post-doctoral fellowships at the International Center for Chemical and Biological Science (ICCBS), Pakistan.
- Five (05) post-doctoral fellowships at the National Research Centre (NRC), Egypt.
- Two (02) PhD scholarships at the Al-Farabi Kazakh National University (KazNU), Kazakhstan.
- Long-term (1-2 years) and short-term (less than 6 months) fellowships for foreign scholars for collaborative research at Tianjin Institute of Industrial Biotechnology (TIB), Chinese Academy of Sciences.

For further details on the scholarships, please visit www.comsats.org or write to farhan@comsats.org.

CUI-TWAS Fellowship Programme

COMSATS' Centre of Excellence in Islamabad, COMSATS University Islamabad, and The World Academy of Sciences (TWAS) are offering postgraduate and postdoctoral fellowships to young scientists from developing countries (other than Pakistan) in natural/ social sciences.

Deadline: 31st August 2021

For application and details, follow the links below:

<https://twas.org/opportunity/twas-cui-postgraduate-fellowship-programme>

<https://twas.org/opportunity/twas-cui-postdoctoral-fellowship-programme>

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Science Vision - Call for Papers on SDGs

COMSATS invites scholarly contributions for a special issue of its journal, Science Vision. The journal aims at highlighting the important scientific and technological developments having a bearing on socio-economic conditions of the people. For the special issue, we invite papers on topics related to UN 2030 Global Agenda – Sustainable Development Goals. For more information, please visit the journal's website: www.sciencevision.org.pk.



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