



COMSATS post-23rd Coordinating Council Meeting sessions continued exchanges on best practices and innovative solutions to help COVID-19 response among Network Members (details on page 8).

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From the Executive Director's Desk

The global concern since the beginning of 2020 has been on coronavirus' implacable impact on practically every aspect of human life and activity. Having sailed through the worst period of infection surge in June and July, the global community braced itself for the anticipated second wave which began in October. This, most importantly, meant vigorous focus on potential breakthroughs in drugs and the COVID-19 vaccine. From amongst the member states of COMSATS, the thrust of some countries has been on R&D in these areas. All the members have also made advances in innovations related to medical equipment, use of digital technology and creation of COVID-19 related facilities, such as testing. I want to congratulate them on their achievements, and thank them for sharing information and offering to collaborate with other COMSATS' member states.

It is imperative that while efforts are made for the containment of the disease, attention must not get diluted on the interlinked socio-economic consequences. As pointed out by the United Nations' Secretary General, Antonio Guterres, "By addressing the initial health crisis, we have inadvertently created economic crisis, a humanitarian crisis, and a security crisis." Therefore, the focus must remain on the Sustainable Development Goals (SDGs) which are essential for recovery from the pandemic and for ensuring building of a more secure future. International solidarity and partnerships are vital for accelerating progress on the SDGs and in coming out of the pandemic-induced challenges. The action towards Goal 1 of eradicating poverty has become the most

perilous casualty of the pandemic "eras(ing) almost all the progress made in the last five years". (The World Bank)

During the period under review, the organization's objective was two-fold: sharing knowledge and experiences on addressing the challenges of COVID-19 and on leveraging the expertise within and outside COMSATS to discuss such challenges as environmental sustainability, food security and agriculture, water and sanitation as well as the absolute pertinence of digital technology, especially in the context of digital health. The virtual interaction and sharing of experience by Bangladesh, Pakistan and Sri Lanka on digital health and telemedicine is one such example. The support of the Commonwealth Centre for Digital Health highlighted how important the Triangular cooperation goal (Goal 17) of the SDGs could be.

Moreover, health and Well Being (Goal 3) has gained even more prominence and urgency in the wake of COVID-19. However, the harmful effect of other deadly diseases cannot be neglected. COMSATS' commitment to Goal 3 together with Goal 5 (gender equality and empowering women) is evident from the fact that an event was organized to create awareness about breast cancer during the month of October – the World Breast Cancer Awareness month in dedication to the victims and survivors of breast cancer. I am also happy to mention that the 5th Anniversary of SDGs was celebrated by observing SDG's Anniversary Month and the South-South Cooperation Day as a reminder of the criticality of achieving the Global Agenda.

HIGHLIGHTS FROM COMSATS SECRETARIAT

Webinars

Digital Health in COVID-19: Sharing Experiences of COMSATS' South Asian Member States

COMSATS, in collaboration with the Commonwealth Centre for Digital Health (CWCDH), organized an international webinar on 'Digital Health in COVID-19: Sharing Experiences of COMSATS' South Asian Member States', on 7th September 2020.

In his welcome remarks, Dr. S. M. Junaid Zaidi, Executive Director COMSATS, inter alia, thanked the Commonwealth Centre for Digital Health (CWCDH) for jointly organizing the webinar.

In her keynote address, Dr. Sania Nishtar, SAPM on Poverty Alleviation and Social Protection and Federal Minister, Government of Pakistan, appreciated COMSATS' role as a leader in the use of digital technologies.

Dr. Nishtar noted that COVID-19 has helped established digital technologies as a strong pillar of healthcare system. Dr. Nishtar showed willingness to engage with more international fora on digital health technologies through COMSATS.

Speakers of the inaugural session included: Dr. Vajira Dissanayake,



Chairperson, Commonwealth Centre for Digital Health; Dr. Selim Reza, Deputy Secretary at the Ministry of Science and Technology, Bangladesh; Prof. Dr. Md. Aftab Ali Shaikh, Chairman of Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh; Dr. Anil Jasinghe, Secretary, Ministry of Environment and Former Director General, Health Services, Sri Lanka; H.E. Vice Admiral (Rtd.) Mohan Wijewickrama, High Commissioner of Sri Lanka to Pakistan; and Ambassador (Rtd.) Fauzia Nasreen, Advisor (SDGs) at COMSATS Secretariat.

The technical proceedings of the event were chaired by Dr. Ghazna Khalid, Member of Prime Minister's Task Force on COVID-19, Government of Pakistan. In her remarks, she considered the present event a great opportunity to exchange experiences and technological response. She deemed CDWH a lynchpin, in establishing and

strengthening such collaborations, while also encouraging 27 member states of COMSATS to create a pandemic solidarity drive.

During the session, digital health experts and practitioners from Bangladesh, Sri Lanka, and Pakistan, delineated on measures, policies and best practices that were utilized to cope with the pandemic in their countries.

Dr. Nowshin Jabin from Chattogram Medical College Hospital, Bangladesh, informed that while the potential of digital technologies has been more recognized during the pandemic, it is not a new concept in Bangladesh, and recalled a number of related interventions in the country since 1998.

Dr. Anil Samaranayake, Director (Health Information), Ministry of Health, Sri Lanka, informed that Sri Lanka is the only country other than US with trained health informatics human resource that gives the country a huge advantage in pandemic response through digital technologies. He shared the measures in place in the country in response to the pandemic that included prevention and education, triage and testing facilities, and medicine delivery systems.

Ms. Lubna Yaqoob, Senior Specialist Digital Health and Information System HPSIU, Ministry of National Health Services NHR&C, Pakistan, highlighted COMSATS as a key supporter of digital health initiatives in the country and hoped that COMSATS could



demonstrate its telehealth model to policy makers to help pilot more of such projects.

Subsequent discussions touched upon issues relating to cooperation in policy and strategy sharing at government and institution levels; data collection and analytics; joint publications based on indigenous researches and success stories; training of doctors and young practitioners for better pandemic response; application of digital technologies for pandemic as well as for non-emergency response, building better infrastructure in remote areas that are affected the most in both situations.

Challenges to Agriculture and their Solutions in the Global South

COMSATS Centre for Climate and Sustainability (CCCS) hosted a webinar on "Challenges to Agriculture and their Solutions in the Global South", on 9th September 2020. The event was aimed at discussing climate change triggered challenges to agriculture and food security in the developing world within the framework of Sustainable Development Goal 2 (SDG2).

In his opening remarks, Ambassador Shahid Kamal, Head of CCCS, considered agriculture the backbone of economy especially in the Global South due to region's heavy reliance on farming as the primary source of income.

The technical proceedings of the webinar were moderated by Dr. Ghulam Haider, Assistant Professor at National University of Science and Technology (NUST), Islamabad, and conclusions were presented by Dr. Saeed Asad, Assistant Professor at Centre for Climate Research & Development (CCRD) at COMSATS University Islamabad (CUI). Presentations were made by the following speakers: Dr. Eduardo Posada, Director of Centro Internacional



de Fisica (CIF), Colombia; Dr. Mamma Sawaneh, Professor at School of Agriculture and Environmental Science at the University of The Gambia (UTG), The Gambia; Dr. Edward Yeobah, Deputy Director at Council for Scientific and Industrial Research (CSIR), Soil Research Institute of Ghana; Dr. Masnat Al Hiary, Director of Socio-Economic Research Directorate at National Agricultural Research Council of Jordan; and Dr. Ranjith Premalal De Silva, Professor of Agricultural Engineering and Former Vice Chancellor of Uva Wellassa University, Sri Lanka.

During the technical presentations:

- Projects and initiatives launched by CIF, Colombia, for mitigating the impact of climate change in the country were shared, including several means that are being used for the crop production and agriculture yield improvement under the changing climate.
- Challenges faced by the agriculture sector in The Gambia especially in the wake of COVID-19 pandemic were presented, as well as the response measures.
- Jordan was introduced as the net importer of agricultural products, making the food supply chains in the country increasingly vulnerable

during COVID-19 pandemic. The need to improve the credit and crop insurance facilities for small farmers in order to ensure sustainable agricultural productivity in the country was emphasized.

- The importance of biochar derived from plants and other agricultural waste to mitigate climate change was discussed. Measures for engaging community to use locally prepared biochar for improving the yield of cereals and root vegetables in Ghana were also highlighted.
- Overview of the agriculture sector in Sri Lanka was made indicating contribution of agriculture towards national GDP showing decline from 27% in 1990 to <10% in 2019, which is alarming for an agro-based economy.
- Limiting the use of chemical pesticides, promoting organic farming and precision agriculture, and import substitution policy, among others, were introduced as measures towards attaining self-sufficiency.

Recommendations made during the webinar pertained to:

- Alternate crops for mitigating the adversaries of climate change;
- Establishment of financial

institutions including microfinance banks for smallholder farmers to access credit;

- Encourage private sector participation in agriculture via public – private partnerships;
- Need for revisiting the agriculture policies aimed at improving agricultural production.

Sustainable Water Governance in the Global South under Changing Climate

COMSATS Centre for Climate and Sustainability (CCCS), in collaboration with COMSATS Centre of Excellence in Jordan, the Royal Scientific Society (RSS), organized a webinar on “Sustainable Water Governance in the Global South under Changing Climate”. Held on 8th October 2020, the webinar had the overarching theme of Sustainable Development Goal 6 (SDG6) – Clean Water and Sanitation.

Following speakers from Asia, Africa and Middle East joined the webinar with their views and expertise: Dr. Emmanuel O. Bekoe, Senior Research Scientist, Council for Scientific and Industrial Research (CSIR), Ghana; Dr. Maha Al-Zu’bi, Researcher – Agriculture Water Solutions, International Water Management Institute (IWMI), Jordan; Dr. Jauad El Kharraz, Head of Research, Middle East Desalination Research Centre (MEDRC), Oman; Dr. Toqeer Ahmed, Assistant Professor, Centre for Climate Research and Development (CCRD), COMSATS University Islamabad (CUI), Pakistan; and Dr. Mehmet Dilaver, Research Officer, TUBITAK Marmara Research Center (MRC), Turkey.

The event was moderated by Dr. Almoayied Assayed, Manager Climate Change Studies at RSS, Jordan. Welcoming the participants, Ambassador Shahid Kamal, Head of CCCS, remarked that water resource management remains a great challenge due to regional disparities in water



supply, growing water demand as well as climate change induced water stress.

During the webinar, the speakers highlighted challenges to sustainable water governance in their respective countries. Some highlights of the event deliberations are as follows:

- Social parameters of water governance were discussed that have an impact on water quality, safety as well as demand and supply.
- The role of research and development for water governance backed by evidence-based policy and legislation was considered important for water-related governance.
- Good governance, a multi-stakeholder/multi-institutional, calls for planning, policy and legislation, and effective engagement at local, national and international levels.
- In view of agriculture’s dependence on water, sustainable measures need to be adopted to achieve both water and food security.
- Some specific recommendations made by the speakers included:
- Need for community-based water governance, water metering and

accountability;

- Strengthening public-private partnerships;
- Prioritizing capacity enhancement of institutions and stakeholders;
- Promoting development and integration of new technologies; and
- Integrating research and innovation for finding innovation solutions.

Observances

UN’s First Ever International Day of Clean Air for Blue Skies

COMSATS Centre for Climate and Sustainability (CCCS) hosted a webinar to mark the first ever International Day of Clean Air for Blue Skies, on 7th September 2020.

The webinar attracted environmental experts from China, Japan, Kazakhstan, Pakistan, Tanzania, and Thailand. These included: Ms. Maria Katherina Patdu, Coordinator, Asia Pacific Clean Air Partnership, United Nations Environment Programme (UNEP); Dr. Eric Zusman, Senior Policy Researcher/ Area Leader, Institute for Global Environmental Strategies (IGES), Japan; Prof. WU Chenglai, Associate Professor,



International Centre for Climate and Environment Sciences (ICCES), Institute of Atmospheric Physics (IAP), China; Ms. Madina Tursumbayeva, Senior Lecturer, Department of Meteorology and Hydrology, Al-Farabi Kazakh National University (KazNU), Kazakhstan; Mr. Zia Islam, National Program Manager, National Ozone Unit, Ministry of Climate Change (MoCC), Government of Pakistan; and Ms. Jacqueline Godfrey Mwendwa, Research Officer, Tanzania Industrial Research and Development Organization (TIRDO), Tanzania.

The event was moderated by Dr. Anjum Rasheed, Assistant Professor, Centre for Climate Research and Development (CCRD), COMSATS University Islamabad, Pakistan. Welcoming the participants, Ambassador Shahid Kamal, Head of CCCS, remarked that air pollution is an increasing threat to human health, environment and the economy. He emphasized the importance of reinforced environmental policies and international cooperation to promote clean technologies.

Recommendations of the webinar included:

- Need for science and research-

- backed solutions for combating air pollution;
- Robust coordination and integration mechanisms in reducing air pollution;
- Promoting effective air monitoring and forecasting systems;
- Integration of climate change policies to achieve SDGs and co-benefits on human health, environment and economy; and
- Strengthening partnerships at the regional and international levels.

United Nations International Day for South-South Cooperation

COMSATS organized an international webinar on “Current Challenges: Imperative of South-South Cooperation”, on 16th September 2020, to mark United Nations International Day for South-South Cooperation.

Speaking on behalf of the Executive Director COMSATS, Ambassador Shahid Kamal, Advisor on Climate Change and Environment at COMSATS, introduced COMSATS as an active proponent of South-South Cooperation for over a quarter of a century that has acquired special significance in recent years owing to the increased global recognition of significance of South-South Cooperation.

H.E. Mr. Chad Blackman, Barbados Ambassador and Permanent Representative to the United Nations and other international organizations based in Geneva, Switzerland, in his remarks underscored the importance of South-South cooperation that has acquired further significance during the COVID-19 pandemic. He believed that expertise in the South should be cross pollinated maximizing the benefits of the potential available within the region. To fully benefit from the potential of South-South cooperation and improve existing systems in this regard he proposed developing/strengthening:

South-South cooperation index; South-South finance mechanism, and mapping of expertise available in the South.

Speaking on the occasion, Dr. Denis Nkala, Regional Coordinator and Representative, United Nations Office for South-South Cooperation (UNOSSC), Asia and the Pacific Office, shared key findings of a survey assessing the level of cooperation amid COVID-19 pandemic. He remarked that institutions in the South should work in cooperation with IGOs, like COMSATS, to fight global issues such as climate change.

Senator Hazel Thompson-Ahye of Trinidad and Tobago welcomed COMSATS’ assistance in the field of education to help address increased discrepancies in the education system that has surfaced during coronavirus pandemic.

Speaking on behalf of His Excellency Dr. Palitha G. Mahipala, Head of Mission, WHO in Pakistan, Ms. Ellen Thom, Technical Officer Reproductive Health at WHO Pakistan, remarked that there is a need for strong collaboration in health sector in order to harmonize approaches among countries as well as to share experiences in the areas of service delivery, governance, emergency response.

World Cities Day

COMSATS Centre for Climate and Sustainability (CCCS) organized a webinar on “Challenges of Rapid Urbanization in the Global South” to mark United Nations World Cities Day 2020. Held on 29th October 2020, the webinar was co-organized by COMSATS Centre for Climate & Sustainability (CCCS) and COMSATS’ Centre of Excellence, Tanzania Industrial Research and Development Organization (TIRDO).

The webinar was moderated by Dr. Lugano Wilson, Director of Engineering Development, Tanzania Industrial Research and Development Organization (TIRDO), Tanzania, and included following speakers: Prof. Demao Li, BioSystem Engineer at Tianjin Institute of Industrial Biotechnology (TIB), Chinese Academy of Sciences (CAS), China; Prof. Ebrahim Moghimi, Professor, Geomorphology, Physical Geography Department, Geography College, University of Tehran, Iran; Dr. Bauyrzhan Yedilbayev, Associate Professor, Al-Farabi Kazakh National University (KazNU), Kazakhstan; Dr. Omer Kamal Alebeid, Cleaner Production Institute, Industrial Research and Consultancy Center (IRCC), Sudan; and Ms. Kunda Sikazwe, Environmental Expert, TIRDO, Tanzania.

In his opening remarks, Ambassador Shahid Kamal, Head of CCCS, considered rapid urbanization a major challenge in achieving Sustainable Development Goals, with serious consequences for food, water and energy security.

The talks and discussions of the event touched upon a number of important issues related to urbanization that included: land-use planning, controlling emissions caused by transport and industrial sector, reduction in arable land, over-population, and waste management. Adopting waste-to-energy approach was deemed crucial as a sustainable option to address waste and energy related problems.

The event, inter alia, emphasized on having strong legislation and taking policy measures for development of new cities safeguarding nations' interests regarding natural resources and environment. Sustainable urbanization was deemed the best mitigative approach to climate change as urban air pollution is severe threat to human health, along with poor



transportation and industries.

Breast Cancer Awareness Month

With October celebrated as the Breast Cancer Awareness Month worldwide to help generate necessary support and awareness about the disease, COMSATS Secretariat highlighted the impact of this issue of great concern to a big population of the world by holding a webinar entitled "Breast Cancer Awareness: Give Hope, Save Lives".

Held on 29th October 2020, the event was opened by Ambassador (Retd.) Fauzia Nasreen, Advisor (SDGs) at COMSATS, who highlighted the need for early diagnosis, access to proper medical facilities, affordable and timely care as the cornerstones of breast cancer control.

In her keynote address, Dr. Farheen Raza, Chief Registrar Radiology Department at Pakistan Institute of Medical Sciences (PIMS) Islamabad, emphasized the importance of regular screening and the need to have community-based health education component, including focused and small group discussions to overcome the social taboos and stigmas attached to female illnesses.

Dr. Samina Naeem, ex-Associate Professor of Health Services Academy, and Consultant at WHO Pakistan, gave a comprehensive overview of the disease and stressed upon the importance of breaking the stereotypes and taboos related to it.

Dr. Azeema Fareed, Principal Medical Officer, COMSATS Secretariat and Coordinator of the session opined that breast cancer awareness is not only needed among women but everyone from family and society who are a part of the recovery journey. As a member of the pioneer team of telehealth in Pakistan, she also hoped to initiate tele-medicine training for medical practitioners in remote areas for helping to address the issue nationwide.

While sharing her story during the webinar, a breast cancer survivor, Dr. Fauzia Cheema, drew attention to the lack of psychological, emotional and social support for cancer patients as a major gap in the treatment.

Meeting with Deputy Head of Mission, Embassy of Islamic Republic of Afghanistan in Islamabad

On October 8, 2020, the Deputy Head of Mission, Embassy of Islamic Republic



of Afghanistan in Islamabad, H.E. Mr. Ahmad Shakir Qarar, called on the Executive Director COMSATS, Dr. S.M. Junaid Zaidi, at COMSATS Secretariat. The meeting also had participation of senior officials of COMSATS.

Briefing Mr. Qarar, Dr. Zaidi highlighted the role that COMSATS can play to build linkages amongst academic and scientific institutions of Afghanistan and other developing countries through its various platforms and networks.

Dr. Zaidi also elucidated aspects such as COMSATS' present leadership, membership and outreach, areas of focus, modus operandi as intergovernmental organization, various operational organs, as well ongoing and future programs having support of national and international organizations and UN agencies. He viewed the people-to-people and academic linkages between the two countries critical for increasing representation of Afghan diaspora to Pakistani institutions and universities.

Mr. Qarar welcomed the offer of Dr. Zaidi and expressed his strong resolve to create scientific and academic linkages between Afghanistan and Pakistan. He informed that higher education institutions such as the

University of Nangarhar, Kabul University and University of Herat, to name a few, have good faculty of science and well-suited for international linkages.

Exploring other areas of collaboration, Mr. Qarar noted that large number of Afghan people travel to Pakistan and other neighboring countries in order to seek medical and health care. In response, Dr. Zaidi offered support to the Afghan people through COMSATS Telehealth (CTH) program (ehealthcomsats.com), which is a success due to its reliance on information and communication technologies as well as time-tested standard operating procedures supporting basic and specialist medical consultation in distant locations. Mr. Qarar appreciated the idea and pledged to consult the Afghan health department back home in order to build synergies and to establish a viable health solution for Afghan people.

COMSATS and NDMA Ink MoU for Cooperation in Tele-Health Services

A Memorandum of Understanding (MoU) has been signed between COMSATS' flagship project, COMSATS Internet Services (CIS), and the National Disaster Management Authority (NDMA) of Government of Pakistan with

an aim to support tele-health services and trainings in natural and human-induced disasters.

The MoU was signed by Dr. S.M. Junaid Zaidi, Executive Director COMSATS, and Mr. Muhammad Idrees Mehsud, Member DRR, NDMA, in a ceremony held at NDMA, Prime Minister's Office, Government of Pakistan, on 16th October 2020. Chairman NDMA, Lieutenant General Muhammad Afzal; Prof. Dr. Ghazna Khalid, Member of the Parliament and Member Task Force on COVID-19, Ministry of Science and Technology, Government of Pakistan; along with representatives from both sides witnessed the signing of the agreement.

Under the aegis of this agreement, NDMA will facilitate the provision of tele-health services through the Resource Center at Isolation Hospital and Infectious Diseases Treatment Centre (IHITC) recently inaugurated in the wake of COVID-19 with the support of China. On the other hand, CIS shall mobilize resources and help build the technical capacity of IHITC. Furthermore, through this MoU, training activities shall also be carried to help build the capacity of the personnel in various aspects pertaining to natural and human-induced disasters.

SPECIAL SECTION: POST 23RD COORDINATING COUNCIL MEETING VIRTUAL PRESENTATION SESSIONS

In continuation of the deliberations of the 23rd Meeting of COMSATS Coordinating Council virtually held in July 2020, COMSATS Secretariat is holding weekly virtual sessions wherein Centres of Excellence share their programmes and activities held since the last Coordinating Council Meeting. These sessions are also helping to facilitate interaction among Centres in order to initiate joint programmes for the benefit of the Member States, despite limitations with respect to physical interaction due to COVID-19.

During the months of September and October, seven such virtual sessions were held where 13 Centres made their presentations. These highlighted the mandates, current activities, major programmes and stats, and future plans. Work on COVID-19 pandemic remained a prominent theme in these exchanges. The summary of these is as follows.

Al-Farabi Kazakh National University (KazNU), Kazakhstan

The activity report of Al-Farabi Kazakh National University (KazNU), Kazakhstan was presented by Prof. Tlekkabul Ramazanov, Vice-Rector for Science & Innovations at KazNU. He highlighted in his presentation the academic, research and entrepreneurial programmes of KazNU while also sharing information about the University's scientific facilities and infrastructure.

Sharing KazNU's response to COVID-19 crisis, Prof. Ramazanov mentioned that KazNU has set-up a Digital University Electronic Campus which is the first ever smart university in Central Asian region. He also mentioned that KazNU aspires creating 25 "Start-up companies" and 8 small innovative enterprises by the year 2022.



Further, it was apprised that KazNU being the United Nations Academic Impact (UNAI) hub on Sustainability has instituted several S&T centres in collaboration with various international organizations in order to encourage efforts towards the realization of Sustainable Development Goals (SDGs). These centres include: Pilot Production Center for High Tech Products; Kazakh-French Institute for Science, Technology and Energy; Biomedical Research Center; Research Center for Medicinal Plants; and Health Research Institute.

Noting the international outreach of the University, Prof. Ramazanov informed that KazNU holds the membership of various international organizations, including COMSATS, World University Consortium (WUC), Clinton Global Initiative University (CGIU), Silk-Road Universities Network (SUN), and the World Academy of Art and Science (WAAS).

Prof. Ramazanov also shared some landmark achievements of KazNU during the preceding year, which included:

- Implementation of 492 projects;
- 126 research projects in collaboration with business enterprises; and

- 142 projects with grant funding from Ministry of Education and Science of Kazakhstan.

Al-Quds University, Palestine

In his presentation, Dr. Radwan F.H. Qasrawi, Assistant Professor of Information & Communication Technology at Al-Quds University (AQU), Palestine, apprised the Network Members of University's activities, structure and achievements since the last Coordinating Council Meeting. It was notified that AQU has 13 specialized labs and 5 multi-disciplinary research centers, including Al-Quds Cognitive Neuroscience Lab; Center for Chemical & Biological Analysis; and Soil & Hydrology Laboratory.

Dr. Qasrawi indicated that AQU is interested in several areas of research, including innovative solutions for mitigation and adaptation to country development, which comprises six main units, including:

- i. The Sustainable Natural Resources Management;
- ii. Environmental and Sustainability Innovation Technology;
- iii. Biomedical Technology;
- iv. Sustainable Energy Solutions;
- v. Agro-technology; and



vi. Educational Technology.

Dr. Qasrawi also briefed about the Environmental and Sustainability Innovation Technology (ESIT) which is a research facility that helps develop a comprehensive, multidisciplinary and interdisciplinary approach to research, education, policy, and development to overcome Palestine's energy obstacles. The facility has following three hubs: Clean Technology Innovation Hub; Waste Water Treatment Innovation Support Hub; and Science and Technology Innovation Support Hub.

Furthermore, AQU has established Al-Quds Business Center for Innovation, Technology, and Entrepreneurship (B-CITE) that currently has 182 entrepreneurial projects, conducted 8 training programmes, has 517 partnerships, and 6,878 beneficiaries.

Centro Internacional de Física (CIF), Colombia

Prof. Eduardo Posada, Director of Centro Internacional de Física (CIF), Colombia, in his presentation acquainted the participants with his Centre's key areas of work that include both basic and applied research.

He informed that CIF is providing

sustainable solutions to Colombia's industrial sector through development of various technologies. He noted installation of "intelligent photo controllers" in Cundinamarca Department of Colombia as CIF's landmark achievement that has benefitted many towns of the Department through rational use of energy.

Dr. Posada also informed the participants about measures adopted for mitigating the impact of climate change in the Department, including greenhouse institution, tree plantation, optimization of energy consumption, as well as awareness campaigns for local communities.

It was informed that the Centre is working on the scaling-up of CIF's research projects on sugar cane production. A pilot project has been developed and relevant consultations are being made with the Government of Colombia and other stakeholders in the country.

Few future initiatives of CIF as shared by Prof. Posada include: construction of an eco-park in Casanare Department of Colombia; development of technologies for tropical fruit processing and preservation; and digitization of power consumption of National University of Bogotá.

COMSATS University Islamabad (CUI), Pakistan

Sharing the activity report of COMSATS





University Islamabad (CUI), Pakistan, Prof. Dr. Muhammad Tabassum Afzal, Rector of CUI, informed that the institute has seen phenomenal growth over the years with exponential increase in numbers and quality of R&D infrastructure, academic facilities, human and technical resources. He also noted with satisfaction the SDGs ranking of CUI for the year 2020 as the University has made fair progress contributing towards Goal 1 (No Poverty), Goal 6 (Clean Water and Sanitation), and Goal 8 (Decent Work and Economic Growth).

With regard to scholarship programmes available at CUI, Prof. Tabassum informed that 33 students from China, Gambia, Jordan, Nigeria, Palestine, and Sudan have recently benefitted from CUI's standing offer of 100 scholarships for COMSATS Member States made from the platform of the Coordinating Council.

Prof. Tabassum also noted various joint initiatives of CUI with other members of the Network, including collaborative research projects, capacity-building activities, teaching and services, student and faculty exchange programmes as well as joint publications. It was also informed that CUI has established collaborative R&D infrastructure to foster research and innovation, and

the establishment of CUI – TIB Joint Institute of Biotechnology is at planning stage.

Council for Scientific and Industrial Research (CSIR), Ghana

The activity report of Council for Scientific and Industrial Research (CSIR), Ghana, was presented by Dr. Daniel Asenso-gyambibi, Director CSIR-Building and Road Research Institute. He introduced CSIR as the foremost scientific and technological institution in Ghana, with 13 research institutes located throughout the country in all the agro-ecological zones.

It was mentioned that CSIR is using biotechnology for crop production with a focus on cereals, roots and tubers, as well as horticultural crops, tree crops and food processing.

Other advances by the Institute that were highlighted included improved "Akosombo Strain" of Nile Tilapia fish which grows 25-30% faster than the wild and other local stocks; collaborative work with Unilever and World Agroforestry Centre, Nairobi; and work on technologies for production of Allanblackia Oil

Dr. Daniel informed that the Centre is working on enhancement of public health status through sound disease control, environmental and pollution control strategies that also pertinent with regard to COVID-19 response.

Higher Institute for Applied Science and Technology (HIAST), Syria

Dr. Chadi Albitar, Director of Scientific Collaboration, Media and Publishing at Higher Institute for Applied Science and Technology (HIAST), Syria made a presentation on his Institute's activities. It was informed that HIAST is organizing national workshops in big data system, digital content, metallurgy and quality assurance. HIAST has also developed software projects for Syrian Ministries of Agriculture, and Finance as well as the health sector.



It was mentioned that HIAST is helping Syria in achieving SDGs by providing advance training to public and private customers covering many advanced technologies and specialized industrial tools.

Moreover, HIAST has been cooperating with the Ministry of Agriculture to implement management information system for animal resources in Syria. HIAST has also initiated joint research with the General Commission for Scientific Agriculture Research (GCSAR) to improve pomace oil extraction,



and providing water and air pollution assessments.

With regard to HIAST's collaboration with other Centres of Excellence of COMSATS, Dr. Albitar mentioned that HIAST and the Iranian Research Organization for Science and Technology (IROST) are collaborating in the fields of solar and fuel cell, hybrid PV systems, and nanotechnology. He noted that a student from HIAST has availed a PhD scholarship offered by KazNU, Kazakhstan. He also expressed interest in linking the following Syrian research institutions with COMSATS' Centres of Excellence: Research Institute for Pharmaceutical and Chemical Industries (RIPCI), Atomic Energy Commission of Syria (AECS), and National Commission for biotechnology (NCBT).

He also shared the future plans of HIAST that include: establishment of new nanotechnology laboratory, launching of Master's program in Aeronautics, and upgradation of HIAST's educational system to comply with credit system standards.

International Center for Chemical and Biological Sciences (ICCBS), Pakistan

Prof. Dr. Farzana Shaheen made a

presentation on behalf of Dr. Iqbal Chaudhry, Director of International Center for Chemical and Biological Sciences (ICCBS), Pakistan covering the Centre's activities, programs, achievements and developments. She informed that ICCBS has established 17 research centers over the years that also include the recently established Modern Forensic DNA and Serology Laboratory and National Institute of Virology.

Regarding ICCBS' response to COVID-19, Dr. Shaheen mentioned that the Centre conducted sequencing of SARS-COV-2 genome and has set-up a diagnostic facility to help local government in the testing of COVID-19 patients.

ICCBS has strong international associations and offers various scholarships and research grants. It is the only Centre of Excellence of the

Organization for Islamic Cooperation (OIC) in Chemical Sciences. Dr. Shaheen noted that ICCBS is WHO's designated Center for pesticide analysis and has won the Islamic Development Bank Prize for best science institute twice.

It was also informed that during the year 2019, the Centre established collaborations with COMSATS' Centre in China (Tianjin Institute of Industrial Biotechnology), Indonesia (Sepuluh Nopember Institute of Technology) and Turkey (The Scientific and Technological Research Council of Turkey).

International Centre for Climate and Environment Sciences (ICCES), China

Presenting from International Centre for Climate and Environment Sciences (ICCES), China, the Centre's Director, Prof. Zhaohui Lin, gave an overview of the organization's core functions, technical capacity, research and development activities, technical advisory services, and future plans.

ICCES activities for 2019 that were highlighted included: establishment of International Network on Climate and Environment Sciences (INCES), and holding of two international conferences on climate & environmental sciences.

Prof. Lin apprised that ICCES has been facilitating capacity-building of researchers belonging to various



6. Future Plan

(1) Establish ANSO Technology Center for Earth System Modeling and Prediction (ATC-EaSyMP)

COMSATS' membership to the Alliance of International Science Organizations (ANSO) has been endorsed during its Governing Board meeting held on 6th November 2019 in Beijing, China

ICCES has been actively preparing to establish the ANSO Technology Center for Earth System Modeling and Prediction (ATC-EaSyMP), a multi-disciplinary research and training center focusing on earth system modelling and disasters prediction.

1. Motivation:
Climate change is one of the grand challenges for the sustainable development, lead to adverse effects to natural and social-economic system. For example, the climate related extreme disaster events become more frequent and severe around the globe, and have exerted significant impact on human health and well-being. Coping with climate change has been identified as one of the 17 United Nation SDGs.

19 Climate Action

SUSTAINABLE DEVELOPMENT GOALS

COMSATS Centres of Excellence in Egypt, Ghana, Kazakhstan, Sri Lanka, and Pakistan, through programmes including CAS President's International Fellowship Initiative (PIFI) for PhD candidates, as well as post-doc research and short-term visits.

ICCES has started various projects to achieve Sustainable Development Goals (SDGs) that include enhancing the forecast and preparedness capacity for climate and environmental disasters; development of a weather-to-climate prediction model; and establishment of the Southeast Asia Regional Climate Change Information System (SARCCIS).

It was also informed that establishment of ANSO Technology Center for Earth System Modeling and Prediction (ATC-EaSyMP) by ICCES with involvement of COMSATS' Member States is also in the planning phase. ICCES also plans to work with COMSATS Centre for Climate and Sustainability (CCCS) for capacity-building workshops and research collaborations.

Iranian Research Organization for Science & Technology (IROST), Iran

Dr. Alireza Allahyari, Director General for International Cooperation at Iranian Research Organization for Science & Technology (IROST), Iran, in his presentation covered his organization's activities, structure, achievements, developments, and international collaborations. It was informed that, in addition to being home to 7 technology institutes, the center has 131 knowledge-based units and incubators; 472 commercial technologies; and 412 technologies for commercialization.

Dr. Allahyari also informed about IROST's annual Khwarizmi International Award and Khwarizmi Youth Awards that is given to best researchers,



scientists and innovators at national and international levels. Since 2000, COMSATS is a privileged partner of Khwarizmi International Award of IROST, Iran. Every year, COMSATS sponsors the cash award and certificates of the first and second prize winners of the Award.

Some of the technologies developed by IROST highlighted by Dr. Allahyari included: development of engine prototype for DME and Bio-diesel fuel, Biotechnology Pilot Plant facility, Vertical Wind Tunnel, and Hemodialysis Machine.

Dr. Allahyari proposed conducting joint activities related to innovative technologies for sustainable development and utilization of clean/renewable energy resources. He also expressed willingness to strengthen collaborations with other Centres of Excellence for initiating joint research activities, training programs, and technology-transfer.

National Mathematical Centre (NMC), Nigeria

In his presentation, Prof. Stephen E. Onah, Director of National Mathematical Centre (NMC), Nigeria, informed that during 2019 the Centre organized 6th International

Conference on Mathematical Analysis and Optimization: Theory and Applications (ICAPTA 2019), a workshop for Mathematics Teachers of Federal Unity Colleges, and 2019 National Mathematics Competition for University Students.

Prof. Onah also highlighted NMC's progress on UNESCO Chair – Research Group on Capacity Development for Algebraists; Ethno-Mathematics Research Group; Computational Mathematics Research Group; and Artificial intelligence (AI); and Computer Human Interactions (CHI) Research Group, among others.

It was informed that NMC is collaborating with the National Defense College (NDC) and Baze University of Abuja for the following research projects:


- Big Data Analysis and Simulation of





6. Contribution of TIRDO –Support initiatives to eliminate of COVID 19 in Tanzania

TIRDO through her Natural products Laboratory managed to formulate the product named COVIDOL which shows Positive results to





- Terrorism Activities in Nigeria; and
- Development of Big Data Security Architecture for Enhancing National Security.

Prof. Onah considered inadequate funding and poor ICT infrastructure as well as non-availability of reliable data key challenges being faced by NMC. Regarding the Centre's future plans, Prof. Onah stated that NMC is planning to work on a new project 'Mathematical Modeling and Simulation on Climate Change and Environmental Pollution' under the COMSATS' International Thematic Research on Mathematical Modeling.

National Research Centre (NRC), Egypt

In his presentation, Prof. Hosam El-Sayed, Assistant Vice President for Research at National Research Centre (NRC), Egypt, introduced his Centre as a major multi-disciplinary R&D institute, and the largest of all institutions affiliated with the Ministry of Scientific Research of Egypt.

Highlighting the research output of his Centre during 2019, Prof El-Sayed recalled 2,180 publications (SCOPUS), 21 approved patents, 71 NRC awards, 36 convos, and 233 book chapters.

He also shed light on the main axes of 12th NRC Research Plan (2019-2022)

focusing on strategic industries, frontier sciences, water, energy, agriculture and food, health and population, community and sustainable development. Prof. Hosam apprised that NRC supported a number of projects by making funds available. These included projects on technology-transfer and conducted collaborative research projects with Italy and Romania.

While noting NRC's efforts against COVID-19, Prof. Hosam indicated that NRC funded eight research projects relevant to COVID-19 and pre-clinical trials for four COVID-19 vaccines are also underway. It was informed that Centre of Excellence for Research & Applied Sciences on Climate Change & Sustainable Development of NRC was established at the start of 2020.

Other cooperative measures of NRC with COMSATS' Network include: MoU signed with the International Centre for Climate and Environment Sciences (ICCES), China; COMSATS University Islamabad (CUI), Pakistan; and a Letter of Intent with the Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh.

Tanzania Industrial Research and Development Organization (TIRDO), Tanzania

Dr. Lugano Wilson, Director of

Engineering Development at the Tanzania Industrial Research and Development Organization (TIRDO), Tanzania, gave an overview of his organization's core functions, technical capacity, research and development activities, technical advisory services, and future vision.

TIRDO's activities during 2019 highlighted in the presentation covered: research and development of coal briquetting; development and transfer of mushroom substrate blocks; value addition on leather and leather products in pastoral areas in Arusha region; and controlling post-harvest losses through hybrid biomass solar drying technology. Some other developments vis-à-vis consultancies and technical services provided and future programmes of the organization were also shared by Dr. Wilson.

He informed that TIRDO has produced COVIDOL to help fight COVID-19 pandemic, which is a natural blend of plants with zero addition of chemicals.

Dr. Wilson also noted that the activities of TIRDO in line with the Sustainable Development Goals 1, 2, 6, 7, 9 and 13. TIRDO is collaborating with other Network members, including Industrial Research and Consultancy Centre (IRCC), Sudan; and TUBITAK's Marmara Research Center (MAM), Turkey.



The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey

Presentation of the Scientific and Technological Research Council of Turkey (TUBITAK), Turkey made by Prof. Dr. Orkun Hasekioğlu, Advisor to the President of TUBITAK, covered an account of the organization's structure, mission, programmes, research centres & units, and achievements.

Prof. Orkun noted that 27 technological areas have been prioritized in the framework of TUBITAK, which include information security, bioenergy, biomedical equipment, big data and data analytics, energy storage, internet of things, artificial intelligence and machine learning, and agriculture and veterinary biotechnology.

It was informed that TÜBİTAK is supporting academic and industrial R&D studies as well as carries out research in line with national technological needs and priorities. He informed that in 2018, 27,468 projects/experts received funding, and an amount of 1.9 Billion TL was given to departments as funding for academic research, technology innovation, science fellowships grants, and science and society programmes. While highlighting international collaborations of TÜBİTAK, Prof. Orkun stated that the institution has bilateral

cooperation with 65 international organizations in 53 countries which include joint research and innovation projects, scientific activities, exchange of researchers. He also informed that TÜBİTAK has 348 ongoing international cooperation projects.

Prof. Orkun also apprised the members of the Council about TÜBİTAK Informatics and Information Security Research Center (TÜBİTAK BİLGEM) that guides the future of technology in Turkey as well as helps upgrade technologies up to technology level 6 (prototype level) to make technology transfer to the industry. Prof. Orkun informed that BİLGEM works in areas of forensic XP, underwater telephone, glass stress, crypto devices, submarine battery monitoring system with a number of countries including Egypt, Germany, Mexico, Netherlands, Pakistan, and United Kingdom.

Offers Sought and Extended

Sought

- ITS-Indonesia: Agro-Processing and Medicinal Plants, Biomaterials
- AQU-Palestine: Scientific exchange programs and knowledge-transfer
- TUBITAK-Turkey: Robotics, drug discovery, ICTs, molecular dynamics, joint PhD and post-doctoral.
- NRC-Egypt: Medical research
- NMC-Nigeria: Modeling and simulation of climate change and environment
- CUI- Pakistan: Joint faculty exchange and fellowship programmes.

Extended

- CUI-Islamabad: Recommitment of standing offer of 100 postgraduate scholarships for students/researchers of COMSATS' Member States at all campuses of COMSATS University Islamabad (CUI), Pakistan.
- ICCBS-Pakistan: Reiteration of offer of five (05) postdoctoral fellowships per year for students/researchers of COMSATS' Member States in the fields of Natural Product Chemistry, Medicinal Chemistry, Structural Chemistry, Stem Cell Research, Molecular Biology, and Pharmacology.
- ICCES-China: ANSO Scholarship for postgraduate education at the colleges or schools of the University of Science and Technology of China (USTC), the University of Chinese Academy of Sciences (UCAS) or institutes of CAS around China (<http://www.anso.org.cn/programmes/talent/scholarship/>).
- IROST-Iran: Design, production and evaluation of recombinant drugs; purification, characterization and anticancer activities of exopolysaccharide produced by isolated marine microalgae; extraction and characterization of neuroprotective compounds from marine microalgae; and improving technology of encapsulated herbal pesticides production of integrated test management.

SOME ACTIVITIES OF COMSATS' CENTRES OF EXCELLENCE

TUBITAK MAM's Senior Research Specialist Wins L'Oréal-UNESCO "For Women in Science" Program Award

Associate Professor Dr. Dilek Dündar Erbahar, Senior Research Specialist in CBRN Sensor Technologies Project Group at TÜBİTAK Marmara Research Center (MAM), Turkey, has been awarded L'Oréal-UNESCO "For Women in Science Prize". The Award aims



to celebrate the perfection of under 40 years of age women scientists conducting advanced scientific studies and to support the continuation of scientific studies by young talents.

Dr. Erbahar aims to develop compact, high performance, mass-producible, economical and low power consuming chemical sensors with high sensitivity against toxic gases. With the use of twisted bilayer graphene in sensor applications as a first in Turkey and in the world, it is targeted to further develop chemical sensors.

It is aimed to create added value for Turkey by transferring the sensor system to be developed to the industry and national security sector and meeting the needs of security units and various state institutions and organizations in military and industrial sectors.

President RSS-Jordan Inaugurates 5th IEEE Middle East and Africa Conference on Biomedical Engineering

HRH Princess Sumaya bint Hassan, President of Jordan's Royal Scientific Society (RSS), inaugurated the 5th IEEE Middle East and Africa Conference on Biomedical Engineering on 27th October 2020.



In her inaugural remarks, delivered via videoconference, Princess Sumaya expressed appreciation for the efforts of biomedical cadres in RSS, stressing the need for supporting the biomedical engineering field to have a skilled scientific workforce.

The Conference was jointly organised by Hijjawi Faculty of Engineering Technology, Yarmouk University, Jordan; the Institute of Electrical and Electronics Engineers Robotics and Automation Society (IEEE RAS); and engineering branch in medicine in Jordan.

UNESCO Chair to Be Established at ICCBS-Pakistan

The International Center for Chemical and Biological Sciences (ICCBS), Pakistan, and the United Nations



Educational, Scientific, and Cultural Organization (UNESCO) have entered into an Agreement to mutually establish a UNESCO Chair on 'Medicinal and Bio-organic Natural Product Chemistry' at ICCBS.

The UNESCO Chair was approved in UNESCO General Assembly held in September this year. The purpose of the Chair is to promote an integrated system of research, training, information and documentation on natural medicinal/bio-organic product chemistry.

According to the Agreement, ICCBS will arrange for the Chair to participate in UNESCO programs and activities with a view to strengthen international academic cooperation as well as the exchange of professors, researchers, and students with other universities within the framework of the UNESCO's UNITWIN (University Twinning and Networking) Programme.

ICCBS-Pakistan Response Towards COVID-19

The Center for Bioequivalence Studies and Clinical Research (CBSCR) of Dr. Panjwani Center for Molecular Medicine and Drug Research, ICCBS in collaboration with the Indus Hospital, Karachi, has initiated the clinical trials of the Traditional Chinese Medicine (TCM) "Jinhua Qinggan Granules" in Pakistan as a treatment for COVID-19



mild patients.

The study, being carried out with the approval of the National Bioethics Committee and Drug Regulatory Authority of Pakistan, will test the effectiveness and safety of the Jinhua Qinggan Granules on 300 mild-category male and female patients of COVID-19 for 5 to 10 days.

On the other hand, in the wake of COVID-19, ICCBS has built ties with the National Disaster Management Authority (NDMA), Islamabad, by signing a Memorandum of Understanding (MoU) to support research, development, knowledge exchange, and training in natural and human-induced disasters in the country.

Under this MoU, NDMA will also facilitate vaccine trials related to COVID-19 or any other infectious diseases approved by the trials approving authorities.

Ghana Innovation and Research Commercialization Center (GIRC) Established at CSIR-Ghana

In line with the vision of President of Ghana, Hon. Nana Addo Dankwa Akufo-Addo, to increase R&D

funding of Ghana to 2.5% of its GDP, a Ghana Innovation and Research Commercialization Center (GIRC) has been established at the Council for Scientific and Industrial Research (CSIR), Ghana.

Funding for the basic research that led to the setting up of the Center was provided by the Science Granting Councils Initiative (SGCI), a multi-funder initiative aimed at strengthening the research capacities of 15 countries in Sub-Saharan Africa. The GIRC is expected to prioritize eight identified Strategic Technology Areas (STAs) where Ghana has competitive advantage to help advance national development. Strategic Technology Centers linked to GIRC will be established across the country to provide support to actors in the eight STAs.

CSIR-Ghana Extends Scientific Support to Ghana's MAG Programme

Crops Research Institute of CSIR (CRI-CSIR), Ghana is implementing various research, technology and dissemination projects to help realize the objectives of the 'Modernizing Agriculture in Ghana (MAG)' Programme. CSIR-CRI in pursuance of the objectives of MAG, is engaged in a variety of

activities, including: the development of breeder seeds of cereals (maize, rice) and legumes (cowpea, soybean) for production of certified seeds by seed producers. It is also working to enhance production and supply of quality-declared cassava planting materials and sweet potato vines for the development of certified seeds by seed producers.

Sri Lankan Students to Avail Scholarships at CUI-Pakistan

Under the Pak-Sri Lanka Higher Education Cooperation Programme of Higher Education Commission (HEC) of Pakistan, several Sri Lankan students will be offered scholarships for pursuing their undergraduate, postgraduate, and doctoral degree studies in various disciplines at COMSATS University Islamabad (CUI), Pakistan.

The scholarship programme aims to promote an effective exchange of knowledge and better understanding of cultures and tradition between Sri Lankan and Pakistani students.

CUI-Pakistan Linkages with Chinese Universities

CUI, Pakistan is a pioneer in establishing a China Study Center at its campus in Islamabad, which has been instrumental in building linkages with Chinese Universities and enhancing interest of study in China among faculty members and students of the University.

CUI envisages working in close partnership with Chinese universities for joint research opportunities on projects that are pertinent to the global development agenda. CUI currently employs over 170 faculty members who are alumni of Chinese universities. In addition, more than 140 faculty members from CUI are presently pursuing PhDs in various top ranked universities of China.

Palestinian Student Develops Electronic Glove System to Help People with Sensory Disabilities Communicate

A Palestinian student, Mr. Abdullah Abu Aker, from Al-Quds Open University, Palestine, has developed an electronic glove system to convert electric signals used by the deaf and dumb into text and audio that appear on mobile phones and computers (WAFA News Agency; 21st October 2020).

The glove, which is one of the projects adopted by the Palestinian Higher Council for Creativity and Excellence, is a device composed of flex sensors installed at the location of the joints of the fingers, and when the user moves his fingers, the sensors expand and emit an electrical signal that is picked up and changed into a text by a special Android application.



Mr. Abdullah Abu Aker plans to expand this project in the future to include children with autism and to connect to a robot arm to be used by doctors who work with corona patients.

Centre for Women-Led Climate Adaptation Opens in Uganda

A community hub on climate change adaptation for East African women has been established in the eastern Ugandan town of Tororo with the

patronage of Women's Climate Centers International (WCCI) (Climate Home News Ltd.; 2nd September 2020). WCCI is a network of organisations advocating the importance of physical spaces to enable women participate in climate change adaptation and mitigation activities.

The established Center will also serve women organisations and communities beyond East Africa and provide a training ground for other women aiming to build climate centres in their own communities.

Zimbabwe Launches Africa's First Virtual Communications and Collaboration Platform in Response to COVID-19

COVID-19 pandemic has presented several growth opportunities for Zimbabwe's health and Information, Communication Technology (ICT) sectors. One such example is the launching of "Glue Virtual platform" by the Zimbabwean Ministry of Information Communication Technology, Postal and Courier Services (Xinhuanet; 4th September 2020). The Platform, jointly developed by Zimbabweans in South Africa and Zimbabwe, has become Africa's first virtual communications and collaboration platform of Africa.

Additionally, various locally-developed softwares are also at various levels of development and testing in Zimbabwe. Universities and tertiary institutions are also playing their role in COVID-19 response through locally manufacturing Personal Protective Equipment (PPE).

Ghana to Establish Waste Treatment Plant in its Upper East Region

The government of Ghana has launched construction work on a new solid waste



treatment plant in Sharigu, in the Upper East region of the country. The plant will be managed by a private company Zoomlion that provides the public waste management services in several cities in this West African country (AFRIK 21; 12th October 2020).

The plant, expected to be functional in February 2021, will be equipped with facilities for sorting and recycling solid waste and composting organic waste. It will be capable of processing 200 tonnes of waste per day in the Upper East region. The construction of the solid waste treatment plant is expected to create 280 direct and indirect jobs in the Upper East region.

Morocco's Al-Khwarizmi Program to Finance 45 Digital Projects

The Ministry of Education of Morocco along with the Digital Development Agency (ADD), Morocco, have selected 45 innovative digital projects under the Al-Khwarizmi Program for funding (Morocco World News; 9th September 2020). The Program was launched by ADD and the Ministry in March 2019 in collaboration with the National Center for Scientific and Technical Research (CNRST). The program offers financing for practical projects in the fields of artificial intelligence (AI) and big data.

Out of the total of 251 projects, 60 were selected in the first phase and after

second round of evaluation, 45 projects were selected for funding. The selected digital projects include 18 concerning the health sector; five relating to energy, water, and environment; and four concerning the industrial sector in Morocco. Three different projects concerned each of the sectors of agriculture, pedagogy, transport and logistics, and tourism. Two projects relate to the field of justice and two more concern computer vision.

Kazakhstan to Build Engineering and Digital Transformation Centre

Kazakhstan plans to build an engineering and digital transformation centre to arrange data systems of state institutions (Kazinform; 29th October 2020). Kazakhstan has built many information systems during past two decades which has helped the country achieve success in UN rankings. Kazakhstan also joined the E-Government Development Index Top 30 group.

The planned centre is expected to strengthen the role of the Ministry and Zerde National Infocommunication Holding company of Kazakhstan to influence the companies developing information systems. The centre will define all business processes and create integrated modern IT-architecture.

Tanzania Signs Agreement with Dutch Embassy to Support Start-Ups in the Country

Growth of start-ups investments in Tanzania has been challenged by lack of funds availability, business skills, and knowledge of statutory requirements.

Cognizant of this challenge, Tanzania Startup Association (TSA) has signed a Memorandum of Understanding



with the Embassy of the Netherlands in Tanzania to support a conducive business environment for the growth of the Tanzanian startup ecosystem (The Citizen; 14th October 2020). The partnership will help the growth of start-up ecosystem and would involve training, policy advocacy, and coordination of easy access to finance.

Morocco and Tunisia Develop Partnership to Support Bilateral R&D

The Moroccan and Tunisian ministries of education and scientific research have partnered to launch two research and development programs with a budget of US\$2.16 million (Morocco World News; 30th September 2020). The programs include supporting research and development in priority areas for the two countries and creating laboratories for joint study between Moroccan and Tunisian researchers.

The partnership will promote research and innovation as a useful tool to address socio-economic and technological challenges in Morocco and Tunisia. R&D priority areas include: health, renewable energies and electricity, energy efficiency, artificial intelligence, water, environment, and

climate change, as well as human and social sciences.

Japan Supercomputer Shows Humidity Effects on Airborne Spread of COVID-19

The U.S. Centers for Disease Control and Prevention (CDC) have issued guidance that corona virus can linger in the air for hours. To help study the effects of humidity on the dispersion of virus particles, the Japanese research giant, RIKEN, and Kobe University, Japan, conducted a research by using Fugaku supercomputer (Daily Sabah; 14th October 2020).

The supercomputer modelled the emission and flow of virus-like particles from infected people in a variety of indoor environments. The study finding suggests that the use of humidifiers may help limit infections during times when window ventilation is not possible. Among others, the study also indicated that clear face shields are not as effective as masks in preventing the spread of aerosols.

Iran Develops Resistant Anti-Bacterial Nano-Paint

Researchers at an Iranian knowledge-



based company have found the formula to produce a nano-paint that could stop the growth of mold and fungi. The paint could especially be useful in Iran's northern cities where humidity and temperatures are high, which creates an ideal condition for mold and fungi to grow (Iran Front Page; 7th September 2020). The newly developed paint, more resistant than the conventional anti-bacterial nano-paints, is also highly resistant to oxidation.

Egypt to Establish 2000 MW Capacity Wind Power Complex

As part of its National Renewable Energy Strategy, Egypt is constructing a new wind power complex with a capacity of 2,000 megawatts in the Red Sea governorate – of which 500 megawatts will be generated by the German company Siemens. The complex would help raise the available generational capacity of renewable energies to 10,000 megawatts (Egypt Independent; 19th October 2020).

The National Renewable Energy Strategy of Egypt aims to produce 20 percent of total energy from renewable sources by 2022. The private sector of the country is also playing an important role in fulfilling the National Renewable

Energy Strategy. Several other projects on renewable energy are also in various stages of development in Egypt with a total capacity of about 2,200 megawatts of wind energy and 520 megawatts of solar energy.

Iran Builds Homegrown Robot to Unclog Deep Wells

Development and increase in urban and industrial infrastructure has made the drilling of underground wells, even at very great depths, inevitable. Deep and intertwined underground networks, including the sewerage network and deep oil and gas pipelines, have two difficult stages: first, the construction of

these networks and, second and more importantly, their maintenance. To solve this problem, an Iranian company has developed a robot to unclog the deep wells and the underground linkage. The robot can repair walls up to a depth of 500 meters with a diameter of 10 to 16 inches (Iran Front Page; 7th September 2020).

The CEO of the company says this advanced robotic equipment performs operational tasks and includes visual inspection systems. The robot has an internal hydraulic system that can perform high quality walling and repair. The robot also has cameras designed for better positioning and inspection so that the user can easily monitor the process.

China launched a 'reusable test spacecraft'

China has launched an experimental reusable spacecraft following months of preparations at the Jiuquan Satellite Launch Center (MIT Technology Review; 8th September 2020). After a period of in-orbit operation, the spacecraft will return to the scheduled landing site in China. It will test reusable technologies during its flight, providing technological support for the peaceful use of space.



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.

Call for Applications

Commonwealth Secretary-General's Innovation for Sustainable Development Awards

The Awards recognize and celebrate the contributions of innovators in the public, private and not-for-profit sectors in advancing the sustainable development goals in Commonwealth countries. Winners will receive ongoing support for their work and may also be invited to participate in high-level forums such as the Commonwealth Heads of Government Meeting, Commonwealth Business Forum and Commonwealth Games.

Deadline: 31st January 2021

Website: <https://www.thecommonwealth.io/awards/>

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www.bcsir.gov.bd



Embrapa Agrobiologia-Brazil
embrapa.br/grobiologia



ICCES-China
english.icces.ac.cn



TIB-China
english.tib.cas.cn



CIF-Colombia
www.cif.org.co



NRC-Egypt
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UTG-The Gambia
www.utg.edu.gm



CSIR-Ghana
www.csir.org.gh



ITS-Indonesia
www.its.ac.id



IROST-Iran
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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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