



Chairman Kashmir Committee and State Minister for SAFRON and Narcotics, Mr. Shehryar Khan Afridi, at International Youth Day Seminar observed by COMSATS (details on page 7)

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From the Executive Director's Desk

The critical significance of the interwoven 17 Sustainable Development Goals has become more pronounced in the environment created by the COVID-19 pandemic. The implementation of these goals has assumed added pertinence as the world is engaged in exploring ways to develop a comprehensive response to tackle the multiple challenges. Adding to the criticality of SDG 3 (Ensure Healthy Lives and Promote Wellbeing for All) the threatening fall-out of the COVID-19 continues to have debilitating consequences for the overall sustainable development agenda. According to the projections, the pandemic is not going away at least for the next two to three years. Even if the vaccine is produced its marketing is going to be a huge challenge since the demand would be colossal. Hence there is a need for continued dedicated initiatives and efforts to find hybrid solutions that include increased reliance on digital space.

Taking advantage of the rapid transformations spurred by Science and Technology, the world has had a head-start in the sphere of ICT. The COVID-19 induced conditions that demanded isolation and adoption of contactless processes and procedures, digital technology has provided critical answers to such areas as health, education, commerce and business and social outreach. Pakistan's response and strategy to use digital technology for social safety programme based on efficient data collection and health outreach and monitoring has been acknowledged worldwide. COVID-19 has compelled COMSATS' member countries to adopt policies and strategies encouraging innovation and commercialization of certain technologies. This could potentially serve as basis for joint research and development of future

technologies.

While the world is focused on the COVID-19 pandemic, the vital importance of climate change cannot be overlooked. This is an area that deserves continuous and holistic engagement. Though it is recognized that the air pollution levels had gone down and environmental degradation had been arrested due to lockdowns, no meaningful impact and long term slowdown in climate change can be predicted. The quick adaptation to alternate technologies (digital as well), may disturb other ecological balances. Climate change and sustainability is an area of considerable interest to COMSATS allowing it to share information and data as well research among its Network members. COMSATS' International Thematic Research Group on climate change and environment together with COMSATS Centre for Climate and Sustainability are endlessly dedicating their energies in this direction.

SDG 17 provides an overarching mechanism for meaningful response to the new challenges. It can provide answers to the institutional, financial and technical conundrums accentuated by threats confronted globally. The framework of Triangular Cooperation has acquired higher imperative. On its part, COMSATS Secretariat has invigorated efforts to leverage opportunities under this rubric. Adjusting to the 'new normal', COMSATS Coordinating Council met (an annual feature) virtually on 14th July 2020. I am happy to report that two new Network members from The Gambia and Indonesia attended the meeting. I extend a hearty welcome to them and remain confident that their participation will further enhance the level of activities of the Network.

HIGHLIGHTS FROM COMSATS SECRETARIAT

Partnerships and Collaborations

United Nations Office for South-South Cooperation (UNOSSC)

Participation in UNOSSC Webinar on COVID-19 Response

Dr. Azeema Fareed, Principal Medical Officer at COMSATS Secretariat, participated as a panelist in the United Nations Office for South-South Cooperation (UNOSSC) and UNDP Seoul Policy Centre (USPC) joint webinar on "Regional, Sub-regional and Interregional Organizations in the Global South as Actors in Responding to COVID-19", held on 15th July 2020. Other panelists included officials from Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC), Turkey; g7+ Secretariat and g7+ Foundation, USA; African Peer Review Mechanism, African Union; Human Rights and International Humanitarian Law Officer from Ministry of Foreign Affairs of Paraguay.

In her talk, Dr. Fareed highlighted COMSATS' response to COVID-19 which is primarily centered upon enhancing collaborations among scientific communities within COMSATS

Member States to promote sharing of experiences and good practices for joint action towards the global pandemic. She informed that during the pandemic, COMSATS has continued its capacity building activities and noted recent webinars and trainings organized in the areas of telehealth, food security, climate change and sustainable development, and youth's role in COVID-19 response.

COMSATS' recent undertakings presented in the field of telemedicine, included extension of support to its partners in the South and Network members for institution of telemedicine setup, and capacity building of telehealth professionals. COMSATS, it was informed, is collaborating with the Government of Pakistan for conceiving possible digital health solutions for the country as well as is providing patronage to Yaran-e-Watan initiative for linking Pakistani health diaspora across the globe with healthcare organizations within Pakistan.

COMSATS Featured as UNOSSC Partner of the Month

During July August 2020, COMSATS was featured as 'Partner of the Month' by South-South Galaxy. Supported by

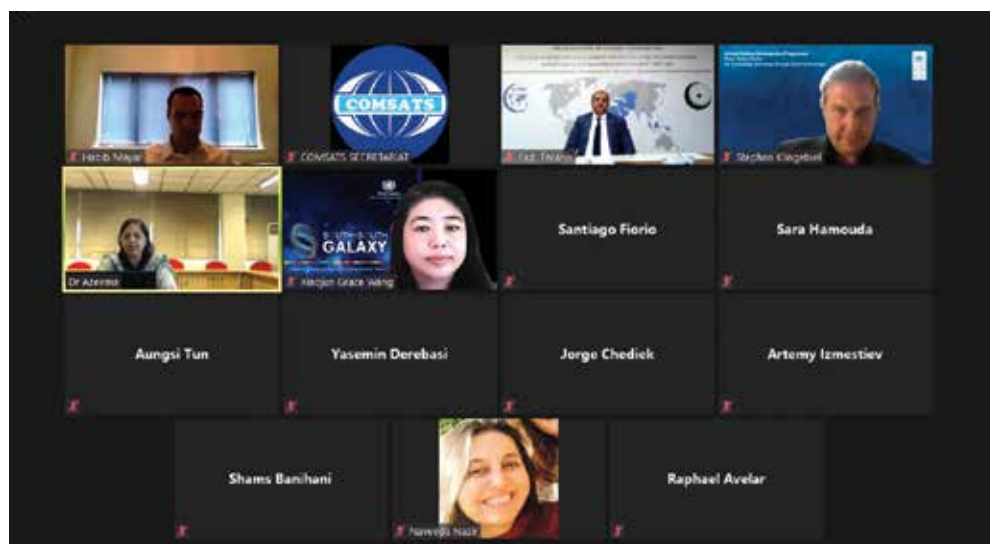
United Nations Office for South-South Cooperation (UNOSSC), UN agencies and other development partners, the Galaxy is a global digital knowledge sharing and partnership-brokering platform. It serves as a consolidated platform providing South-South and triangular solutions, knowledge and information by connecting and linking all of the existing South-South knowledge sharing platforms developed by UN partners and other southern partners in the South.

As partner of the month, COMSATS was promoted throughout the month on South-South Galaxy and UNOSSC social media channels and bi-monthly newsletter promoted to South-South Cooperation organizations. This was done by, inter alia, highlighting the organization's vision, mission and objectives and good practices on South-South and Triangular cooperation, aided by visual material, pictures, information on key partners, and publications. Here is a glimpse: <https://www.southsouth-galaxy.org/comsats-south-south-cooperation-partner-of-the-month/>

Centre for Environmental Economics of University, Chinese Academy of Sciences (CEE-UCAS), China

COMSATS has entered into a partnership with the Centre for Environmental Economics of University, Chinese Academy of Sciences (CEE-UCAS), for the promotion of educational and research activities among CEE-UCAS, COMSATS Member States and its Network of International S&T Centres of Excellence. The partnership has been formalized through a Memorandum of Understanding (MoU) duly signed by Executive Director COMSATS, Dr. S.M. Junaid Zaidi, and Director CEE-UCAS, Prof. Desheng Wu.

The agreement provides a framework of cooperation for the two sides to undertake joint research activities,





exchange publications and information material through mutually agreed channels, conduct capacity building activities, as well as secure funding from potential international donor agencies for the collaborative projects.

Subsequent to the signing of the Agreement, a maiden meeting of the collaborating sides was held virtually on 27th July 2020. During the meeting, further modalities of the partnership were worked out and it was agreed that CEE-UCAS will collaborate with COMSATS Centres of Excellence and relevant organizations in COMSATS Member States for joint research in areas of artificial intelligence, environmental issues, risk management, mathematical sciences, computer-based systems, and green supply chain, among others.

Additionally, two sides acceded to organize webinars jointly in the areas of mutual interest. COMSATS' Network was invited to participate in a training programme on leadership in S&T being organized by CEE-UCAS for Alliance of Network of Scientific Organizations (ANSO) member countries.

University for Sustainability, USA

Based on similar mandates, COMSATS and the University for Sustainability

announced a partnership to collaboratively advance science, technology and innovation for sustainable development and the promotion of peaceful coexistence necessary to accelerate a just and humanitarian transformation to sustainable development.

“Our partnership with COMSATS is an important step to addressing common problems and accelerating science, technology and innovation for sustainable development”, said the Founding President of the University for Sustainability, Dr Kenneth Stokes, about the partnership.

COMSATS Telehealth Partnerships to Aid Corona Response

Special Assistant to the Prime Minister (SAPM) on Digital Pakistan

On 2nd July 2020, Ms. Tanya Aidrus, Special Assistant to the Prime Minister on Digital Pakistan Initiative was received at CIS Technology Park, Islamabad, by Dr. S.M. Junaid Zaidi, Executive Director COMSATS, and Mr. Nasir Jamal Khan, Chief Operating Officer at CIS. On the occasion, she was given briefing on the inception, operations and services of COMSATS' two flagship projects, COMSATS

Internet Services (CIS) and COMATS Telehealth (CTH).

During the visit, Ms. Aidrus was also shown around various facilities, services and technologies developed by CIS including CIS Data center, software solutions, and telehealth set-up. She appreciated the services and solutions being provided by CIS and CTH across Pakistan. COMSATS aims to aid its host country Pakistan's response against COVID-19 pandemic through provision of digital solutions to meet the recently emerging challenges in education and healthcare sector.

Yaran-e-Watan Team

Later during the month (30th July 2020), a two-member delegation of Yaran-e-Watan initiative of the Ministry of National Health Services, Regulation and Coordination (MoNHSR&C), Government of Pakistan, visited COMSATS Telehealth (CTH) Resource Centre in connection with an ongoing collaboration on digital health and ICTs. The team was visiting on behalf of the former Prime Minister Special Assistant (SAPM) on Health, Dr. Zafar Mirza. It was discussed during the meeting that once the initiative is matured in Pakistan, provisions to link and utilize this platform in other member states of COMSATS can be explored.



Member Pakistan's Task Force on COVID-19

Prof. Dr. Ghazna Khalid, Honourable Member of the Parliament, and Member Task Force on COVID-19 of the Ministry of Science and Technology, Government of Pakistan, visited COMSATS Secretariat, on 6th August 2020, and met COMSATS' officials to discuss possible collaboration with COMSATS Telehealth (CTH) with regard to Pakistan's government response to COVID-19.

COMSATS' officials included Amb. (R) Fauzia Nasreen, Advisor (SDGs); Dr. Azeema Fareed, Principal Medical Officer; and Mr. Qaiser Nawab, Assistant Director (Programmes). A briefing was given to Dr. Ghazna on COMSATS' organizational structure and operations. Potential avenues of cooperation were also explored in areas of mutual interest for launching joint programmes in Pakistan as well as other Member States of COMSATS.

Dr. Ghazna showed keen interest in linking COMSATS with various S&T organizations to help develop synergies for reaching the shared goals. Having visited the telehealth facilities at CIS Technology Park earlier, Dr. Ghazna expressed interest in initiating

collaboration with CTH through setting-up telehealth service at a hospital that is being established through public private partnership in Dara Zinda, FATA region of KPK province. She also suggested conducting virtual trainings especially in the maternal and child healthcare domain through specialized simulation gadgets and softwares.

Meeting with Ambassador of Egypt

On invitation from the Executive Director of COMSATS, Dr. S. M. Junaid Zaidi, the Ambassador of Egypt to Pakistan, H.E. Dr. Tarek Dahroug, visited COMSATS Secretariat, on July 21, 2020.



The Ambassador, who has recently assumed charge of the Embassy, was accompanied by Mr. Ibrahim Said Ibrahim, Deputy Head of Mission (DHM) at the Embassy.

During the meeting, the Honourable Ambassador was given a briefing on COMSATS' operations aimed at socio-economic development in the Global South through scientific tools and mechanisms. Towards this end, it was informed, COMSATS has established international linkages and launched programmes and projects in areas of health, education, internet services, climate change and sustainability which are in line with the United Nations 2030 Global Agenda.

It was also informed that Egypt, one of the founding member states of COMSATS, has participated and benefitted from various scientific programmes of COMSATS, including capacity-building events, scholarships, and scholarly exchanges.

During the discussions, Dr. Zaidi proposed the establishment of COMSATS University in the New Administrative Capital (NAC) of Egypt as well as extended offer of assistance for formulation of Egypt's technology policy. Ambassador (R) Fauzia

Nasreen, Advisor (SDGs) at COMSATS, suggested that a virtual cell to discuss and brainstorm ideas for the formulation of STI policies post-COVID19 may be formed jointly by the Ministries of S&T of Pakistan (COMSATS Focal Point) and Egypt.

The Ambassador was receptive of various proposals discussed during the meeting and expressed interest in enhancing cooperation between Pakistan and Egypt in cyber security, STI, and education through COMSATS.

The meeting was successful in reinvigorating partnership between COMSATS and Egypt in areas of mutual interest to help promote innovative approaches and technology-based solutions for overcoming global challenges and achieving sustainable socio-economic development in the region at large.

Webinars and Trainings

Virtual Training on Sexual and Reproductive Health for Skilled Birth Attendants

COMSATS in collaboration with the World Health Organization (WHO) Pakistan, and the Ministry of National Health Services, Regulations and Coordination (MoNHSR&C), Government of Pakistan, conducted the second round of virtual training on Sexual, Reproductive and Maternal Health (SRMH) for telemedicine providers from 13th – 24th July 2020.

This phase of the training was especially designed for skilled birth attendants (SBAs) who are the frontline workers in a telehealth system catering to maternal health and childcare needs. Dealing patients on one-to-one basis to provide the medical care of a very sensitive nature, these attendants are the backbone of sexual and reproductive



healthcare system. The training was held in two batches of 5-days each, benefitting twenty-six SBAs, including the Lady Health Visitors (LHVs) and Community Midwives (CMWs) from telehealth clinics of Punjab, Sindh, and Khyber Pakhtunkhwa provinces.

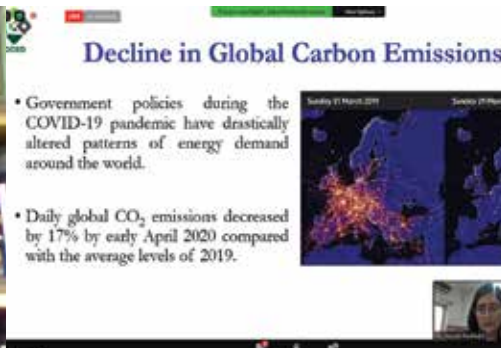
The participants learned new concepts and techniques in SRH along with a recap refresher of the older ones still in use from professionals from WHO Islamabad, MoNHSR&C, Health Services Academy Islamabad, Dow Medical College and Civil Hospital in Karachi, and COMSATS Telehealth, Islamabad. Interactive lectures supported by visual aids and video demonstrations were given to the participants on topics which, inter alia, included: effective ways for visual data collection and video interaction; pre-natal care with special considerations for COVID-19 in pregnancy and when to refer; routine care in labour, delivery and post-partum care as per guidelines provided by WHO; significance of good mental health; effective postpartum stress management; family planning methods and techniques; adolescent health; and SRH self-care interventions.

Dr. Nirmini Hemachandra from WHO Regional Office for the Eastern Mediterranean, Egypt, joined the closing ceremony held on 24th July 2020. Mentioning these trainings first of its kind initiative in the EMRO region, she appreciated the efforts of the organizers and congratulated participants on successful completion of the training.

Activities of COMSATS Centre for Climate & Sustainability (CCCS)

Webinar with NRC, Egypt - Climate Change Risks and Impacts on Vulnerable Communities Post COVID-19

COMSATS Centre for Climate & Sustainability (CCCS) and Centre of Excellence for Research & Applied Sciences on Climate Change & Sustainable Development of National Research Centre (C3SD – NRC), Egypt, jointly organized a webinar on Climate Change Risks and Impacts on Vulnerable Communities Post COVID-19, on 8th July 2020. The webinar was aimed at bringing stakeholders from Global South to share information, experience and knowledge



on addressing challenges of COVID-19, environmental sustainability and food security.

Speakers from six scientific and research institutions, including four CCCS Network members in Jamaica, Palestine, Pakistan and Sri Lanka, respectively, participated in the webinar that was moderated by Prof. Dr. Ashraf Shaalan, Chairperson COMSATS Coordinating Council and Director of C3SD – NRC, and Ambassador (R) Shahid A. Kamal, Founder and Head of CCCS.

The speakers at the webinar included: Dr. (Ms.) Ilmi G. N. Hewajulige, Additional Director General (R&D) at Industrial Technology Institute, Sri Lanka; Prof. Hesham A. El Enshasy, Director of Institute of Bio-products Development, University Technology Malaysia (UTM), Malaysia; Prof. Rania Abu Seir, Professor of Medical Sciences at Al-Quds University (AQU), Palestine; Dr. Anjum Rasheed, Assistant Professor at Centre for Climate Research & Development (CCRD), COMSATS University Islamabad (CUI), Pakistan; Eng. Sherif Abdel Reheem, Head of Climate Change Central Department, Egypt; and Ms. Leslie Hoo Fang, Research Scientist at International Centre for Environment & Nuclear Sciences (ICENS), Jamaica.

Webinar was opened by Prof. Shaalan who remarked that COVID-19 pandemic is having devastating effects on socio-economic and health situation of the

world. He also emphasized that climate change is a long term pandemic that, if left unchecked, could have worst implications than the ongoing pandemic.

Co-chairing the webinar, Ambassador Kamal informed that COMSATS has set up CCCS network to work on the linkages of climate change and sustainable development and welcomed the initiative of C3SD-NRC to hold the webinar. He said CCCS had mobilized experts from different regions since COVID-19 pandemic has enhanced importance of environmental sustainability sharing in tackling global challenges like the pandemic, food security and environmental protection. He said realization of the need to integrate economic recovery from COVID-19 with climate action and sustainable development is growing.

Some key points highlighted by the speakers included:

- Need for green transition and recovery from COVID-19 steering future global action against climate change;
- Global carbon emissions and aviation footprint stats (dropped 17 and 60 percent, respectively) compared to 2019 and postponement of UNFCCC COP 26 to 2021 and SDGs review;
- Importance of ensuring food and nutrition security in the face of global warming, higher frequency of

natural disasters;

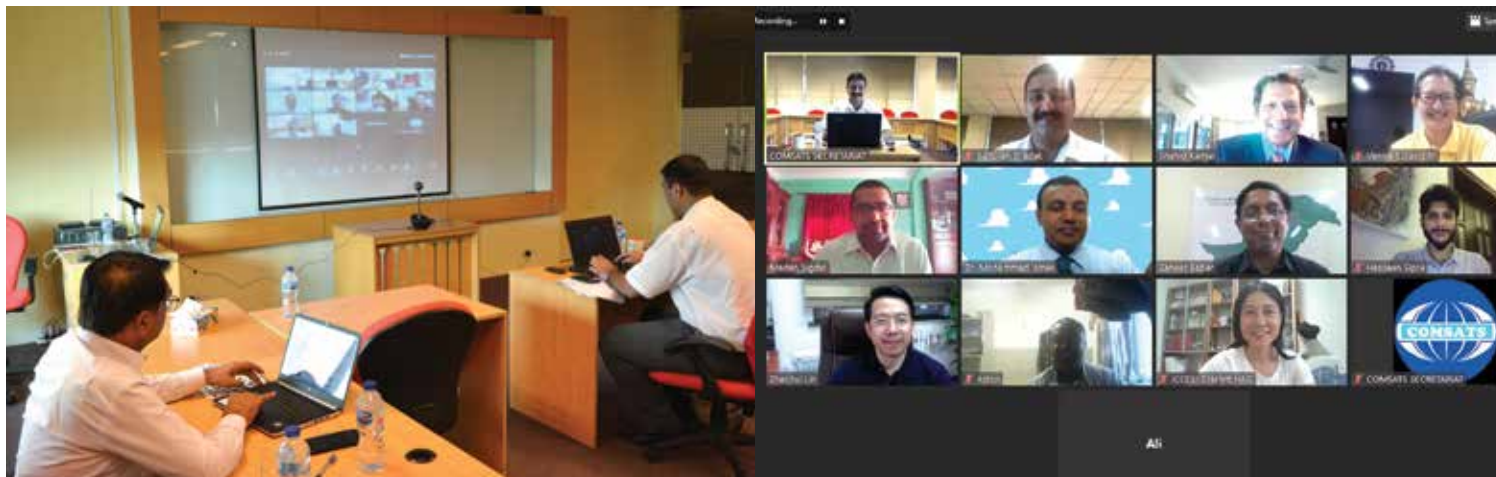
- Clinical and epidemiological issues during the pandemic, challenges in fighting COVID-19 with limited healthcare capacity, and role of telemedicine.

Webinar on Climate Change Impact on South Asian Monsoon

With a view to gather experts, policy-makers, practitioners and other stakeholders to discuss climate mitigation strategies as well as measures adopted by South Asian countries to tackle challenges relating to monsoon, COMSATS Centre for Climate and Sustainability (CCCS) hosted a webinar on "Impacts of Climate Change on South Asian Monsoon", on 28th July 2020.

International experts and scientists from Bangladesh, Nepal, Pakistan, and Sri Lanka joined in the webinar to share their views on the variability of the monsoon and its relationship with the changing global climate system as well as the adverse impacts of climate-mediated changes on South Asian region at large.

The webinar was opened by Ambassador (R) Shahid A. Kamal, Founder and Head of CCCS, who in his remarks considered monsoon as one of the world's most important weather systems. Despite the notable progress made in predicting climate of tropical regions, he mentioned, reliable



forecasting of South Asian monsoon has remained a great challenge. He deemed understanding of changing weather patterns in South Asian region imperative for addressing this issue.

Speakers participating in the webinar included: Dr. Mohammad Ismail, Associate Professor, Dhaka University, Bangladesh; Dr. Madan Sigdel, Associate Professor, Tribhuvan University, Nepal; Dr. Zaheer Ahmad Babar, Director of Meteorological Department, Pakistan; Ms. Anusha Rashanti Warnasooriya, Director of Department of Meteorology, Sri Lanka; and Dr. Vanisa Surapipith, Senior Researcher at National Astronomical Research Institute, Thailand.

The presentations made during the webinar highlighted the gravity of social, economic and environmental implications associated with the abrupt monsoon patterns in South Asia. The speakers discussed the repercussions of increasing monsoon variability for Nepal as well as disasters caused by extreme weather events; current trends and future projections about the shifting patterns of monsoon in various parts of Pakistan; calamitous impact of summer monsoon in Sri Lanka marked by flooding and drought; impact of atmospheric aerosols, and non-renewable energy resources

on precipitation patterns; and the mitigation strategies being taken by the government of Bangladesh to curb the fallout of climate change.

Some key recommendations of the webinar pertained to:

- Research-backed policy formulation is required to help mitigate the negative impacts of suddenly changing patterns of monsoon on environmental and socioeconomic conditions of the South Asian region.
- Enhanced regional cooperation is vital to promote sharing of good practices and sustainable solutions to aid adaptation with variable trends of monsoon.
- Allocation of resources is fundamental for strengthening the scientific and technical capacity.

Observance of UN International Youth Day 2020

COMSATS observed United Nation's International Youth Day (IYD) (August 12, 2020) by co-organizing an International Seminar on "Youth Engagement for Global Action". Hosted by the Islamabad campus of COMSATS University Islamabad (CUI), the event was supported by ICYF-ERC, "THE" Society, ICHI Foundation China, IEEE-

CUI, USIDHR, GSW International Youth Union Azerbaijan, COVID-19 Youth Task Force, and Pakistan-Azerbaijan Alumni Association.

The objective of the seminar was to encourage youth engagement at local, national and global levels through creating provisions that make institutions more inclusive and enabling them to better respond to global challenges, such as the COVID-19 outbreak and climate change. The event had the virtual and physical participation of a good number of audience, including diplomats, parliamentarians, civil society activists and youth leaders from across the globe.

Chairman Kashmir Committee and State Minister for SAFRON and Narcotics, Mr. Shehryar Khan Afridi, graced the event as the Chief Guest. Speaking on the occasion, Mr. Afridi appealed to the international bodies to make serious efforts for implementing equality and justice as basic human rights. He considered these essential to create a world where youth can play its due role for collective good.

Speaking on the occasion, Prof. Dr. Ghazna Khalid, Advisor to NDMA on COVID-19, deemed involvement of youth necessary for socio-economic development and building knowledge



based economy. She considered refugee crisis in various parts of the world a major challenge for youth development.

In his remarks, the Executive Director COMSATS, Dr. S. M. Junaid Zaidi, thanked the worthy guests and speakers for their intellectual contributions and services towards the theme of the event. He highlighted the role of youth throughout the history as major means and tools of change and improvement through peace and turmoil. He considered current corona crisis another such historic time where youth's abilities need to be harnessed for expedited recovery.

In his welcome address, Rector

CUI, Prof. Dr. Muhammad T. Afzal, emphasized the need for tapping the youth's potential to make them responsible members of a harmonious society, for which CUI is playing its due role.

Co-Founder of Illchi Foundation China, Ms. Liu Jian, highlighted challenges and opportunities for youth development and engagement and shared some relevant projects in the fields of science and technology. Mr. Elmaddin Mediyev, Director General of Eurasian Regional Center of ICYF (ICYF-ERC), considered implementing effective policy measures imperative for better engagement of young people in the OIC Member States.

Ms. Isabelle Vladoiu, Founder of US Institute of Diplomacy and Human Rights, shared her experience as an immigrant youth in the United States. In her opinion, youth has a key role in global peace, diplomacy as well as policy development.

The keynote speaker of the seminar was Mr. Ziauddin Yousafzai, father of Peace Noble Laureate from Pakistan, Ms. Malala Yousafzai. Based on his experience of raising a young girl in unprecedented circumstances, he spoke on the importance of right of safe education and equal opportunities of growth for female youth. He emphasized the need for better integration of women in development process.



SPECIAL SECTION: THE 23RD MEETING OF COMSATS COORDINATING COUNCIL

The twenty-third meeting of COMSATS Coordinating Council was held virtually on 14th July 2020. The meeting was scheduled to be hosted by International Center for Chemical and Biological Sciences (ICCBS), Karachi, earlier during the year when the virus had started being identified in Pakistan that resulted in the cancellation of the meeting due to safety concerns of the international participants.

The meeting was attended by the Council members or their representatives from 19 Centres of Excellence of COMSATS, including BCSIR (Bangladesh), ICCES (China), TIB (China), CIF (Colombia), NRC (Egypt), UTG (The Gambia), CSIR (Ghana), ITS (Indonesia), IROST (Iran), ICENS (Jamaica), KazNU (Kazakhstan), NMC (Nigeria), ICCBS (Pakistan), CUI (Pakistan), AQU (Palestine), ITI (Sri Lanka), HIAST (Syria), TIRDO (Tanzania), and TUBITAK (Turkey). In addition to the Council members, the meeting was attended by the officials of COMSATS Secretariat who joined the meeting from Islamabad.

The meeting resulted in continued exchange and networking; the Network was strengthened by two institutions (24 in total); renewed commitment and resolve to working together in regular and unprecedented circumstances; pledges of technical, financial and academic support. Here is a glimpse at the meeting deliberations.

Inaugural Session

The meeting was inaugurated by Prof. Dr. Ashraf Shaalan, Chairperson of COMSATS Coordinating Council, who appreciated the efforts made by COMSATS Secretariat for organizing the online meeting amid COVID-19 crisis. Prof. Shaalan hoped that the world will soon rise above the challenges posed by the ongoing pandemic through combined efforts. He welcomed the two new Centres of Excellence belonging to Indonesia and The Gambia to COMSATS Network. Welcoming the participants, the Executive Director COMSATS, Dr. S. M. Junaid Zaidi, remarked that this crisis has strengthened the resolve of

COMSATS and its Coordinating Council to continue striving for the promotion of South-South and Triangular Cooperation in STI for coming up with solutions to such and other problems of the developing world through all possible means.

In their remarks during the session, the new members of the Council, Prof. Dr. Mochamad Ashari, Rector Sepuluh Nopember Institute of Technology (ITS), and Prof. Faqir Muhammad Anjum Chaudhry, Vice Chancellor of the University of The Gambia (UTG), expressed keen interest in benefitting from the Network membership.

Technical Deliberations

The technical deliberations were based on 11-point agenda of the Meeting. The implementation status of the decisions taken by the Council in its last meeting held at the Tianjin Institute of Industrial Biotechnology (TIB), China, and Report of COMSATS' Annual Activity since that meeting were found to the Council's satisfaction. The Council expressed



immense pleasure and satisfaction on the completion of COMSATS' 25 years of existence and appreciated the consistent support of the Government of COMSATS' host country, Pakistan, other Member States and Centres of Excellence.

The COVID-19 pandemic constituted an important point of discussion, under which ideas and experiences, and technical undertakings of the centres were shared. The Council noted the devastating global impacts of COVID-19 and urged all the Council members to collaborate with one another and pool their expertise and resources in order to counter the COVID-19 pandemic through research and development. They also considered focusing their collective efforts on fields that would be relevant in addressing the socio-economic needs and challenges of the COMSATS Member States in post-COVID-19 scenario.

An in-house review showed an array of activities that COMSATS Centres of Excellence have been engaging in, with regard to their governments' responses to COVID-19, including:

- Indigenous solutions to preparing basic protective equipment, such as production and distribution of hand sanitizers and masks;
- Specialized research towards better health safety such as Nanofiber Filters" of high protection N95-N99/ FFP2-FFP3 masks, ventilators for hospital use, and immunity boosting food products, etc
- Studies on genetic variations and their correlation with the disease severity; progression clinical outcomes of the disease and genomes sequencing of the virus
- Developing testing facilities as well as providing mass scale testing, as well as R&D on vaccines against COVID-19
- Awareness building activities for

students and professionals and Community integration in COVID-19 pandemic management

The Council members were pleased to learn about a high-level breakfast meeting convened by the Honourable Chairperson of COMSATS (President of Ghana) on the side-lines of the

African Union (AU) Summit Meeting at Addis Ababa, Ethiopia. The Meeting was found helpful in paving the way for enhancing the membership of COMSATS from the African region.

Under different agenda items, the Council deliberated upon the ongoing projects and programmes, including

Participants of the Meeting

- Prof. Dr. Ashraf Shaalan, Chairperson of COMSATS Coordinating Council, Former President of the National Research Centre (NRC), Egypt
- Dr. Mohammad Nashir Uddin, Principal Scientific Officer, Pulp and Paper Research Division, Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh
- Prof. Lin Zhaohui, Director, International Center for Climate and Environment Sciences (ICCES), China
- Ms. Scarlett Hao, International Center for Climate and Environment Sciences (ICCES), China
- Prof. Jibin Sun, Deputy Director-General, Tianjin Institute of Industrial Biotechnology (TIB), China
- Ms. Qianqian Chai, Officer of Foreign Affairs and Academic Exchange, Tianjin Institute of Industrial Biotechnology (TIB), China
- Dr. Eduardo Posada F., Director, International Centre for Physics, Colombia
- Prof. Dr. Faqir Muhammad Anjum Chaudhry, Vice Chancellor, University of The Gambia (UTG), The Gambia
- Prof. Dr. Victor Agyeman, Director-General, Council for Scientific and Industrial Research (CSIR), Ghana
- Prof. Dr. Mochamad Ashari, Rector, Sepuluh Nopember Institute of Technology (ITS), Indonesia
- Prof. Bambang Pramujati, Vice Rector of Research, Innovation, Partnership and Alumni, Sepuluh Nopember Institute of Technology (ITS), Indonesia
- Dr. Sri Fatmawati, Assistant Professor, Sepuluh Nopember Institute of Technology (ITS), Indonesia
- Dr. Alireza Allahyari, General Director for International Cooperation and Khwarizmi International Awards (KIA), Iranian Research Organization for Science & Technology (IROST), Iran
- Mr. Charles N. Grant, Director General, International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica
- Mr. Kadyrzhan Smagulov, Al-Farabi Kazakh National University (KazNU), Kazakhstan
- Dr. Dana Shokparova, Deputy Dean on Scientific Work and International Links Affairs, Faculty of Geography and Environmental Sciences, Al-Farabi Kazakh National University (KazNU), Kazakhstan
- Ms. Aiganyam Baiguzhina, Specialist, Department of Research and Innovation Activities, Al-Farabi Kazakh National University (KazNU), Kazakhstan
- Prof. Stephen E. Onah, Director/Chief Executive, National Mathematical Centre (NMC), Nigeria
- Prof. Dr. M. Iqbal Choudhary, Director, International Center for Chemical and Biological Sciences (ICCBS), Pakistan & Coordinator-General COMSTECH, Pakistan
- Prof. Dr. Farzana Shaheen, International Center for Chemical and Biological Sciences (ICCBS), Pakistan
- Mr. Ali Tawab, In-charge International Office, COMSATS University Islamabad (CUI), Pakistan
- Dr. Radwan F. H. Qasrawi, Director, Al-Quds University, Palestine
- Dr. J. K. R. R. Samarasekara, Director General, Industrial Technology Institute (ITI), Sri Lanka
- Dr. Maher Suleiman, Director, Higher Institute for Applied Science and Technology (HIAST), Syria
- Dr. Lugano Wilson Mwansule, Senior Researcher, Tanzania Industrial Research and Development Organization (TIRDO), Tanzania
- Prof. Dr. Orkun Hasekioglu, The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey



COMSATS Centre for Climate and Sustainability (CCCS), postgraduate scholarships and post-doctoral fellowships offered by various Centres of Excellence, capacity building activities, Telehealth programme, activities of International Thematic Research Groups, publications, and other programmes for achieving SDGs.

The Council was pleased to learn that COMSATS' membership to the Alliance of International Science Organizations (ANSO) has been endorsed by its Governing Board, enabling COMSATS Member States and Centres of Excellence to participate in ANSO's activities.

Some advices by the Council to effectively achieve the Networking objectives pertained to:

- Member States and Centres of Excellence joining and supporting COMSATS Centre for Climate and Sustainability;
- Urge to Centres of Excellence to benefit from the postgraduate scholarships and post-doctoral fellowships available among the Centres (details on the last page);

University of The Gambia (UTG), The Gambia

The University of The Gambia was established by an Act of the National Assembly of The Gambia in March 1999. The University has four campuses spread strategically across the country to accommodate students within The Gambia. The campuses are well-equipped with modern facilities, and has well-trained and specialized faculty members.



The University serves as a powerhouse for the transformation of The Gambia through the creation, application, and transfer of knowledge. It offers undergraduate and graduate programmes in various fields. This includes among others, Business, Law, Agriculture, Journalism, Computer Science, and Medicine, Engineering, Nursing, Political Science, Development Studies, Humanities, Behavioral Sciences, and Climate Change.

- Continuing efforts for building capacity of the scientific community in its member states, especially through joint SDG-related projects

Institut Teknologi Sepuluh Nopember (ITS), Indonesia

Institut Teknologi Sepuluh Nopember (ITS) is a leading science and technology university in Indonesia. ITS Surabaya houses seven faculties offering 32 undergraduate, 8 vocational, 20 master, and 15 doctoral study programs in Science and Data Analytics; Industrial Technology and Systems Engineering; Civil, Planning, and Geo Engineering; Marine Technology; Intelligent Electrical and Informatics Technology; and Creative Design and Digital Business.



To promote innovation and entrepreneurship for the national development and industrialization, ITS owns a Science Techno Park with innovation centers in automotive, maritime, ICT and robotics, and creative industry. Besides, the University also has multiple well-established research centres in areas of manufacturing, transportation, and logistics; sustainable energy; artificial intelligence and biomedical technology; advanced materials and nanotechnology; internet of things and defence technology; agri-food and biotechnology; climate change and disaster mitigation; maritime science and technology; fundamental sciences and infrastructure; and sustainable environment.

and programmes prepared by the Centres of Excellence;

- Emulating such digital health initiatives, such as COMSATS Telehealth in their member countries and institutions.

During the meeting, the status of constitution of the Technical Advisory Committee (TAC) was also shared which included nominations sought and received from Centres of Excellence and COMSATS Focal Points which after review and necessary consultation will be shared with the Council for approval.



A review of Administrative and Financial Matters of COMSATS made by Dr. Zaidi was endorsed by the Coordinating Council. The Council appreciated the payment of the Annual Membership Contribution by China, Jamaica, Kazakhstan, Pakistan, Sri Lanka and Nigeria since the last Council meeting. Moreover, the Centres pledged to play due role in sensitizing their respective governments to the importance of making sustained financial contribution to COMSATS' programmes.

It was decided that the next meeting of the Coordinating Council will be hosted by the International Centre for Chemical and Biological Sciences (ICCBS), Karachi, Pakistan, tentatively scheduled for March 2021. The Council members also agreed to meet through online meetings at least once a year.

A Communiqué was issued at the end of the meeting (Page 13).

Some Key Exchanges of the Technical Deliberations

- **BCSIR-Bangladesh** pledged to continue its fellowship programme for the next year
- **TIB-China** pledged to expand its existing fellowship programme for COMSATS' member states/Centres of Excellence
- **CIF-Colombia** pledged to offer short-term fellowships for COMSATS Member States
- **CSIR-Ghana** showed interest in availing opportunities of scholarships and fellowships offered by other Centres
- **UTG-The Gambia** expressed interest in joining CTH, and pledged to avail the opportunities of scholarships and fellowships
- **IROST-Iran** offered collaborative research on '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'
- **ITS-Indonesia** showed interest in collaborating with other Network Members in the areas of artificial intelligence, robotics, and electric vehicles, among others
- **KazNU-Kazakhstan** pledged to increase the number of scholarships in future
- **NMC-Nigeria** invited other Centres of Excellence to join the International Thematic Research Group (ITRGs) on Mathematical Modeling
- **ICCBS-Pakistan** reiterated the offer of post-doctoral fellowships to research scientists participating in the activities of ITRG on 'Natural Products Sciences'
- **AQU-Palestine** sought trainings in science, agriculture, and food industry
- **ITI-Sri Lanka** pledged to offer partial scholarships/fellowships in the areas of food sciences and materials chemistry
- **TIRDO-Tanzania, TIB-China, KazNU-Kazakhstan, UTG-The Gambia, NRC-Egypt** pledged to actively participate in the activities of CCCS
- **TUBITAK-Turkey** offered to share its expertise with other members of the Network for combating COVID-19 pandemic and also pledged to accept postdoctoral researchers and students from COMSATS member countries.

Communiqué of the 23rd Meeting of COMSATS Coordinating Council (On-line Meeting) 14th July 2020

The participants of the 23rd meeting of COMSATS Coordinating Council (On-line Meeting) deliberated upon the eleven-point agenda of the meeting on July 14, 2020, and are pleased to adopt the following:

- The Council has noted with great concern the devastating global impacts of COVID-19 pandemic in over 188 countries and territories, affecting millions of people. Almost all of the COMSATS Member States have been affected by COVID-19, however, some of the most affected countries are Bangladesh, China, Colombia, Egypt, Iran, Pakistan, Philippines, Sri Lanka and Turkey. The Council extends sympathies, wishes and prayers to all those who have been affected by the pandemic. At the same time, the Council commends the astute, determined and united efforts of the governments and people of the affected countries for overcoming the crisis. In this regard, the contributions of the healthcare workers, medical doctors and paramedical staff who have risked their own lives to save others are duly acknowledged and would always be remembered.
- The COVID-19 crisis has further highlighted the need of paying attention towards science, technology and innovation (STI), in general, and health sciences, in particular, at the level of individual governments as well as the regional and global organisations. The crisis has solidified the resolve of COMSATS Coordinating Council to continue striving for the promotion of South-South and Triangular Cooperation in STI, through all possible means. The Council urges all of the esteemed Centres of Excellence to collaborate with one another and pool their expertise and resources in order to counter the COVID-19 pandemic through research and development. The Centres of Excellence are also urged to focus their collective efforts and resources in those fields that would be relevant in addressing the socio-economic needs and challenges of the Member States in post-COVID19 scenario and their preparedness for future.
- The Coordinating Council expresses immense pleasure and satisfaction on the completion of COMSATS' 25 years of existence and productive activities. The graceful ceremony marking COMSATS' Silver Jubilee arranged by the Chairperson of COMSATS Consultative Committee (Minister for Science and Technology of Pakistan), which was presided over by the Hon. President of Pakistan, was highly encouraging. The consistent support of the Government of Pakistan, over the years, towards the functioning of the organization is highly appreciated.
- The Council is pleased to learn about a high-level breakfast meeting convened by the Hon. Chairperson of COMSATS (President of Ghana) on 9th February 2020 at Addis Ababa, on the side-lines of the African Union (AU) Summit Meeting, which was attended by Hon. President of Nigeria and Hon. Vice President of Gambia, among other distinguished participants. The event was helpful in highlighting the mission and objectives of COMSATS, and is expected to pave way for enhancing the membership of COMSATS from the African region as well as ensuring adequate level of participation of the Member States in the planned 4th General Meeting of the Commission and Accra Forum on Science and Technology for Sustainable Development, which were planned to be held during April 2020 in Ghana but were postponed due to COVID-19 outbreak. It is hoped that the events would be held soon after the COVID-19 is controlled globally.
- The Council is also pleased to learn that a delegation comprising the Chairperson Coordinating Council, Executive Director COMSATS and officials of TUBITAK and COMSATS Headquarters, had a productive meeting with the Hon. Chairperson of COMSATS during September 2019. The Council is grateful to the Hon. Chairperson for his regular interaction with COMSATS Secretariat and other organs, and his guidance for achieving the objectives of the organization.
- The Coordinating Council is pleased to have met 23 times during the past 25 years. The regularity in the meetings of the Council has greatly facilitated the Organization in progressing towards its objectives. The arrangements made by COMSATS Headquarters to hold the present 23rd Council meeting through online means and preparation of necessary documentation are highly appreciated. The Council also pays gratitude to the International Center for Chemical and Biological Sciences (ICCBS), Pakistan, for making all the necessary preparations for holding the 23rd Council meeting physically in Karachi before the same was postponed and later held virtually due to COVID-19.
- The Coordinating Council is pleased to welcome the Sepuluh Nopember Institute of Technology (ITS), Indonesia, and the University of The Gambia (UTG), The Gambia, as members of COMSATS' Network of International S&T Centres of Excellence. COMSATS looks forward to active participation of ITS and UTG in the activities of the Network. The Council commends the efforts being made by COMSATS Headquarters for the expansion and strengthening of the Network.

- The activities undertaken by the Centres of Excellence during the period since the last Council meeting, especially their contribution towards the capacity building of scientific human resource of the Member States, are highly appreciated. It is heartening to note the increased interaction and collaboration among the Centres of Excellence for the exchange of human and technological resources.
- The Council is pleased to learn that COMSATS' membership to the Alliance of International Science Organizations (ANSO) has been endorsed by its Governing Board, enabling the Member States and Centres of Excellence to participate in ANSO's activities. It is encouraging to note that the Centres of Excellence have submitted 28 proposals for collaborative research and development projects to COMSATS Headquarters, which were submitted to ANSO Secretariat.
- The Council recognizes the strong linkages between climate change and sustainable development and is pleased to note the progress made by COMSATS Centre for Climate and Sustainability (CCCS). The Council is pleased to note that CCCS nodes have been setup in member countries to promote connectivity and collaboration. The Council noted with satisfaction that CCCS has been further strengthened with the addition of new members, increasing the number of affiliated centres/countries to twenty. Other Member States and Centres of Excellence are urged to join CCCS and extend support for the success of this important initiative.
- The Council appreciates the postgraduate scholarships/postdoctoral fellowships offered by CUI-Pakistan; KazNU-Kazakhstan; TIB-China; ICCES-China; NRC-Egypt, ICCBS-Pakistan and BCSIR-Bangladesh to other Member States and Centres of Excellence. While other Centres of Excellence are encouraged to benefit from the afore-mentioned offers, they may also consider offering such scholarships/fellowships to COMSATS Member States.
- The Lead Centres and collaborating institutions of COMSATS' International Thematic Research Groups (ITRGs) are encouraged to continue their research activities aimed at achieving the Sustainable Development Goals and facilitating socio-economic development of the Member States.
- The payment of the Annual Membership Contribution by China, Jamaica, Kazakhstan, Pakistan, Sri Lanka and Nigeria since the last Council meeting is noted with appreciation. The Council also acknowledges with gratitude the financial and in-kind contributions made by other Member States and Centres of Excellence in executing various programmes and activities of the Organization.
- The Council encourages the Network members to sensitize their respective governments regarding the importance of regularly making AMC for ensuring the financial sustainability of COMSATS.
- The Council appreciates the efforts made by the Executive Director COMSATS and his team in fulfilling the objectives of the organization, and acknowledges the following achievements:
 - i. Continuous strengthening of COMSATS Network of International S&T Centres of Excellence with the addition of new members;
 - ii. Increased interaction, collaboration, and exchange of human and technological resources among the Centres of Excellence;
 - iii. Increased opportunities of postgraduate scholarships and postdoctoral fellowships offered by the Centres of Excellence for the Member States;
 - iv. Enhanced efforts for strengthening R&D collaborations among the Centres of Excellence;
 - v. New initiatives taken for fostering regional and international cooperation, including the establishment of CCCS Network;
 - vi. Frequent interaction with the Hon. Chairperson of COMSATS (President of Ghana) in order to receive guidance for achieving the objectives of the organization;
 - vii. Enhanced interaction with the Chairperson and Members of COMSATS Consultative Committee for seeking support of the governments of Member States towards the projects, programmes and collaborative undertakings initiated at the level of COMSATS Network/Coordinating Council;
 - viii. Organization and/or sponsorship of eleven (11) international and fourteen (14) local capacity building events during the period since the last Council meeting, which benefited the scientific workforce of the Member States and Centres of Excellence;
 - ix. Steady growth of COMSATS flagship projects, i.e. COMSATS University Islamabad (CUI), COMSATS Internet Services (CIS) and COMSATS Telehealth Programme;
 - x. Strengthening of South-South and Triangular Cooperation through increased interactions with international organizations, including OIC, ISESCO, UNDP, UNESCO, UNOSSC, ANSO, Commonwealth Secretariat, EU, OWSD, AAAS, PIDF, TWAS, etc., and conclusion of various MoUs/Agreements;
 - xi. Enhanced interaction with the diplomatic communities of existing and potential Member States;
 - xii. Regular publication of COMSATS' Annual Report, Newsletter, and other information material about the organization.
- The Council accepts and highly appreciates the offer made by ICCBS, Pakistan, to host the next (24th) Meeting of COMSATS Coordinating Council in Karachi, on 2-4 March 2021.

SOME ACTIVITIES OF COMSATS' CENTRES OF EXCELLENCE

National Energy Research Centre of RSS-Jordan Wins the Energy Globe Award

The National Energy Research Centre at Royal Scientific Society (RSS), Jordan, has won the Energy Globe Award - world's most prestigious award for sustainability – for its work on “Solar Water Pumping Project in Jordan Valley and the Highlands”.

The project involved the replacement of inefficient electrical and diesel irrigation pumps, and operating the 214 water pumps in the Jordan Valley and the southern valleys and 106 pumps in the highlands (Azraq, Mafraq and Madaba) with solar energy (PV systems).

RSS-Jordan Joins IIASA to Help Expand its International Outreach

RSS, Jordan, has joined the International Institute for Applied Systems Analysis (IIASA) as a prospective member. The new partnership will allow Jordanian scientists and researchers to participate in IIASA's programs and initiatives focused on science to policy-oriented research requiring multi-disciplinary and multilateral collaboration.

With a specific focus on data and systems analysis, RSS and IIASA aim to jointly identify and design specific research projects in areas of mutual interest, including Fourth Industrial Revolution technologies, Artificial Intelligence (AI) applied to water scarcity challenges, quantum computing for natural resource management, and Bio and Nanotechnology for water capture systems and renewable energy solutions. Under the aegis of this collaboration, the two sides will identify and explore areas of research for the benefit of Jordan, the Middle East, and the IIASA's 22 member countries.



I renew my sincerest congratulations on the Silver Jubilee of the Commission on Science and Technology for Sustainable Development in the South (COMSATS), and thank you for the Commemorative Stamp.... I would like to take this opportunity to assure you of my commitment to empower and honor our shared story of promoting collaboration and cooperation for the sustainable socioeconomic development of the countries of the South.



**Princess Sumaya bint El Hassan,
President, Royal Scientific Society
(RSS), Jordan**

The partnership will also enhance work of the RSS's Knowledge for Development (K4D) Pillar to conduct meaningful data research and historic analysis for predictive analytics. It will also create opportunities for young Jordanian scientists through specialized systems analysis training programmes and access to IIASA's Young Scientists Summer Programme.

Vaccines Developed by NRC-Egypt to Enter Clinical Trials

The National Research Center (NRC) of Egypt is in the pre-clinical development phase of four vaccines against the

novel coronavirus (COVID-19) that are among the 132 vaccines currently under development against the virus.

The four vaccines include an inhibitor vaccine consisting of the H1N1 influenza virus and induced pieces of the emerging coronavirus. The second vaccine is an inhibited vaccine for the coronavirus which has been grown on tissue culture. The third vaccine contains DNA loaded with parts from the DNA of coronavirus representing surface proteins from the virus. The fourth vaccine contains surface proteins from the virus which stimulate an immune system response to produce antibodies in four forms.

ICCBS-Pakistan to help OIC institutes develop diagnostic kits for COVID-19

The International Center for Chemical and Biological Sciences (ICCBS), Pakistan, in collaboration with COMSTECH has planned to support network institutions of Organisation of Islamic Cooperation (OIC) in developing diagnostic kits for COVID-19. These institutions belong to Azerbaijan, Bangladesh, Egypt, Gambia, Indonesia, Nigeria, Pakistan, Saudi Arabia, and Senegal.

Earlier, ICCBS, COMSTECH and National University of Science and

In order to leapfrog and achieve ST&I based development, we need to collaborate on knowledge transfer and on equipment acquisition.



We have to encourage collaboration between the Centers of Excellence to propose training courses and student fellowships in order to exchange expertise and to address their countries' socio-economic needs. Besides, collaboration may include joint projects, workshops and conferences.

[At] HIAST, many projects and activities are ongoing; in the field of Renewable Energy, we continue to support our projects on solar and fuel cells, hybrid PV systems and biofuel. While in the field of Nanotechnology, we signed an MoU with the General Commission for Scientific Agricultural Research (GCSAR) to use the hydrogel and the superabsorbent polymers to improve agriculture. We are still supporting the project of e-government by developing software applications for public institutions such as Ministry of Justice, Ministry of Finance and Ministry of Agriculture and also for local mobile network providers.

Dr. Maher Suleiman,
Director, Higher Institute for Applied Science and Technology (HIAST), Syria

Technology (NUST), Islamabad, have also collaboratively conducted online training courses for building capacities of scientists in testing and developing diagnostic kits for COVID-19.

Al Farabi KazNU-Kazakhstan Partners with ICESCO for COVID-19 Response

Al-Farabi Kazakh National University (KazNU), Kazakhstan, has won a grant from the Islamic World Educational, Scientific and Cultural Organization (ICESCO) for implementing a project

to combat coronavirus. ICESCO had opened this international call for scientific and technological projects in order to find innovative solutions for combating corona pandemic.

KazNU's project was recognized as one of the best. The project is aimed at the production of universal new generation antiseptics and disinfectants. The grant amount will be used for equipment purchase as well as production of cost-effective disinfecting products. The process will use raw materials indigenously developed by KazNU scientists.

1150th Anniversary of Al-Farabi celebrated at KazNU-Kazakhstan

Al-Farabi KazNU, Kazakhstan, in collaboration with the Embassy of the Republic of Kazakhstan in Great Britain and the University of Oxford, UK, held an international scientific symposium on "Al-Farabi: Life and Heritage" in order to mark the 1150th anniversary of the great scientist, Abu Nasr Al-Farabi. The event was attended by scientists and researchers from USA, Germany, Great Britain, Kazakhstan and other countries.

In his keynote speech on the occasion, Prof. Dr. G. M. Mutanov, Rector of KazNU, stated that KazNU being the Global Hub of UN Academic Impact Program on Sustainable Development has developed and implemented a model of a new generation HEI – University 4.0. The model, he added, is being implemented at the international level jointly with the UN Alliance of Civilizations and Al-Farabi Centers established at twelve leading HEIs of the world.

BCSIR-Bangladesh Sequences Genome of SARS-CoV-2

The Bangladesh Council of Scientific

and Industrial Research (BCSIR), Bangladesh, has become one of the Bangladeshi research institutions to completely sequence the genome of SARS-CoV-2. The Council is expected to submit the sequences to the University of Oxford, United Kingdom, and two biotechnology companies in the United States to help develop a vaccine against the virus.

TÜBİTAK MAM Institute of Chemical Technology to Aid COVID-19 Drug Development

As part of the project titled "Synthesis of Hydroxychloroquine Sulphate and Production in Tablet Dosage Form with National Capabilities" conducted by the COVID-19 Platform of Turkey under the umbrella of TÜBİTAK, feasibility studies have started for the synthesis of an active ingredient, Hydroxychloroquine Sulphate, and its production at large scale.

Under the project conducted jointly with the Pharmaceutical Factory of the Ministry of National Defence, the studies aim to produce the tablet dosage form of 200mg Hydroxychloroquine Sulphate with indigenous resources.



Currently, in China, with the strong leadership of President Xi Jinping, we've made great success in containing the epidemic, there have been virtually



no new local cases since March 18. We're lucky that nobody in TIB was infected. By this chance, please allow me to express, on behalf of TIB and myself, great grief and sympathy for the people of Pakistan infected by the virus.

I think the most important socio-economic need of the developing countries including China is the green and sustainable development. We are facing grand challenges in resources, food, health, energy, environment. Learning from the lessons and experiences of the developed countries, we need to find sustainable development solutions especially for the industry sector to promote a green mode of economic growth for the developing countries.

Currently, we're building the National Innovation Center for Synthetic Biotechnology, developing the key technologies for the socio-economic development and the SDGs. We've launched the Belt & Road Fellowship Initiative of Synthetic Biology this February, which is open preferentially to COMSATS member countries. Meanwhile, we're setting up a joint center for industrial biotechnology for COMSATS' members to reinforce bilateral or multilateral collaborations using the resources provided here in China.

Prof. Dr. Yanhe Ma, Director General, Tianjin Institute of Industrial Biotechnology (TIB), China

CSIR-Ghana Partners with HATOF Foundation for Waste Management Project

The Council for Scientific and Industrial Research's Institute of Industrial

Research (CSIR-IRR), Ghana, has entered into a partnership with HATOF Foundation – environmental non-governmental organization – for an 18-month long project for effective waste management which has become a major challenge for Ghana. The project is being led by Lancaster University, United Kingdom (UK), and has the patronage of the Global Challenges Research Fund through the UK Research and Innovation.

Under this project, students from a local school would be trained to establish an integrated bio-digester, which would harness solar energy as well as use fecal waste to generate gas for cooking and other purposes. The waste from the digester would be used for agricultural purposes. Apart from waste reduction, the project is expected to improve the sanitation levels, provide sustainable energy resources as well as reduce poverty.

CUI-Pakistan Discusses Cooperation with US Embassy

The International Office of COMSATS University Islamabad (CUI), Pakistan, held a virtual meeting with the Cultural Affairs Office of the US Embassy in Islamabad, on 21st July 2020. Prof. Dr. Muhammad Tabassum Afzal, Rector CUI; Dr. Fahim Qureshi, Registrar; and Mr. Ali Tawab Baloch, Head of International Office of CUI attended the meeting. Ms. Lisa Swenarski, Country Cultural Attaché, and Mr. Sharif Sabir, Cultural Affairs Specialist participated from the other side.

During the meeting, Dr. Qureshi highlighted CUI's existing academic collaborations with various US universities, including various programs jointly organized by CUI and US Embassy. Appreciating the cooperation that exists between CUI and US universities, Ms. Swenarski informed the

Profile of Prof. Dr. Muhammad Tabassum Afzal, Rector of COMSATS University Islamabad (CUI)

Prof. Dr. Muhammad Tabassum Afzal, the newly appointed Rector of COMSATS University Islamabad (CUI), Islamabad, is



a reputed scientist, internationally recognized for insightful leadership and applied research. He has played a key role in developing a state-of-the-art bioenergy and bio-products research lab in Canada, as well as in designing several innovative microwave heated reactors in collaboration with his research team.

During a long illustrious career, Prof. Afzal has held several academic and administrative positions and contributed substantially towards the advancement of University research as well as elevating the standards of quality education. In Canada, Prof. Afzal won highly prestigious peer-reviewed natural sciences research grants both individually and as part of research groups. He has executed several contracts in collaboration with the industry. His research has been translated with consistent publications in highly reputable peer-reviewed international journals.

Having visited and presented his work in 20 countries across North America and Europe, Prof. Afzal is an active scholar with international exposure. He is also a technical reviewer in several granting agencies and over 20 reputable international research journals.

participants about various programs offered by US embassy for the students as well as faculty. Prof. Tabassum expressed interest in exploring more opportunities of academic and research collaboration with US institutions in a number of areas, including faculty and student exchanges.

COVID-19 CRISIS AND DEVELOPING COUNTRIES: DIGITAL HEALTH PERSPECTIVE

By Ambassador Fauzia Nasreen, Dr. Azeema Fareed, Ms. Huma Balouch

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Introduction

The onset of the digital age has revolutionized the lives of societies and states, interconnecting the world in so many different ways. However, the paramount question of what percentage of the world population has easy access to information technology remains. Without extensive broadband cover at the national level, the gap between different strata of society could widen with consequences for the "Equality" agenda of the Global Development Goals. Technology and Innovation are thus quintessentially relevant especially in dealing with the multiple threats posed by COVID-19. Most developing countries are already under tremendous stress because of financial constraints, enormous development challenges and technology innovation and knowledge deficiencies. COVID-19 which has disrupted every walk of life is having a multiplier effect on many countries, posing difficult governance choices. Reform and reorientation of the health system and structure is fundamentally important in dealing with the public health issues in the post COVID-19 period, and digital health could help in providing solutions.

The Developing World's Dilemmas

The Novel Coronavirus has, without doubt, exposed in varying degrees the vulnerabilities of states and the international system's ability to manage shocks of the scale of the current pandemic. The outbreak of the contagious disease has multiple dimensions at the national, regional and

global levels, catapulting health and digital technological transformations as meaningful aspects of sustainable security. The health challenges have impacted rich and poor, developed and developing countries alike. However, the absorbing cushion and capacities of countries that are already confronting socio-economic fragility are extremely narrow, compounding the systemic and structural issues. In the situation of weak societies where deprivation is endemic and employment and livelihood openings are severely constrained, the protective measures against the spread of the infectious disease become a colossal challenge. The curtailment of mobility and almost a halt in economic activity is a double whammy for the underprivileged and marginalized segments of society. Protection against the virus and making two ends meet acquire a threatening dimension for these communities. The constricted fiscal space available to the governments aggravates the situation further.

The impact of COVID-19 is compelling states and societies to reorient their development plans in an effort to address imbalances in social sector allocations. Attention to the healthcare system and creation of corresponding infrastructure have perforce become a priority for the planners. The inadequacy of digitalization is additionally limiting new approaches to conducting businesses of daily lives. It is hampering online education, online businesses and most importantly telemedicine and telehealth. Adaptation to new approaches is constrained because of lack of broadband facilities and national

telecommunication coverage. In a way the social stratification in terms of access to technology are complicating the already limited opportunities. At the same time there is an increasing recognition that the core aspects of computer science, artificial intelligence (AI), nanotechnology and data computation have been instrumental in managing the COVID-19 health and medicinal problems. The effective use of the combination of the technologies available in the era of the fourth industrial revolution has provided dividends for healthcare system and management. It is expected that these new tools will help in finding drugs and a vaccine that would help in prevention and treatment of the virus.

The developing world's diversity with differentiated levels of growth and prosperity and the capacity to deal with COVID-19 are influenced to a large extent by disparate and multi layered responses. Of course, there are other factors based on scientific speculations that may have played some part in controlling the wild spread of the disease. These include the existing immunity among populations because of certain early childhood vaccinations (for tuberculosis and polio drops) as well as prevalence of such diseases as malaria, dengue, HIV/AIDS that require intake of antiviral drugs on a regular basis.

For countries that have bigger populations and are confronted with multifaceted problems, the situation assumes a dire dimension. The pandemic has taken a heavy toll on the healthcare systems with distinct

imprints on socio-economic milieu, commerce and businesses, education and other day-to-day activities. The staggering health systems, outdated health infrastructure already burdened with issues of less spending on health, inefficient health management and planning, dearth of medical staff and medicinal expertise and scientific research and inquiry are key challenges that have made the COVID-19 situations much more severe and complex. There is a hard learning in appreciating that these areas deserve immediate and priority attention.

The current COVID-19 situation has brought increased recognition that Information Technology-induced transformation is the need of the hour as it provides a crucial line of all activities in the health sector. Driven by the urgency to meaningfully contribute to the key 2030 Agenda of "leaving no one behind", the developing countries had already started tapping into the potential of digital innovations, such as Artificial Intelligence, The Internet of Things, Cloud Data Computing and processing systems, remote sensing, Mobile Edge Computing and crowdsourcing systems applications and research in such areas as climate change, economic development, healthcare, entrepreneurship and job creation and cyber security.

It is abundantly evident that the Healthcare industry in the developing world has been significantly impacted by the recent advances in digital technologies. Some of the developing countries had already experienced such epidemic outbreaks as MERS, SARS, Ebola, Zika etc. South Korea and Singapore's handling of the COVID-19 situation essentially on the basis of extensive testing, tracing and isolating has been quoted as examples of a sound strategy and policy. Digital technology more importantly played a crucial role in their implementation.

Digital Health and Commonwealth

As an organization drawing membership predominantly from the developing world, the Commonwealth, of which the Commission on Science and Technology for Sustainable Development in the South (COMSATS) is an accredited member, took cognizance of the growing importance of digital health as far back as 2010. It launched several initiatives to prioritize the role of digital health by establishing the health hub and Digital Health Network. Since most countries represented in the organization suffer from various socio-economic deprivations and lack in technology, the Commonwealth is acutely aware of the income and development disparities. It emphasizes access to healthcare as a rights-based issue and underscores Universal Health Coverage (UHC) as a fundamental and basic right stressing that "to achieve UHC, it will be necessary for countries to use modern technology in innovative ways to strengthen and re-engineer processes within health systems and health care, as well as adopt innovative ways of using the current health force" (with reference to COVID-19). Among the potential benefits and opportunities of using digital technology it listed are enhancing diagnostics and health monitoring particularly for vulnerable populations, data analysis and forward projections and enhancing access and improving equity in the provision of healthcare. The recommendations included mapping of the use of digital technologies in health service and medicines delivery as well as exploring the opportunities for collaborations in this specific area by establishing a social and business coalition cross-Commonwealth in digital technology.

COVID-19: Case study of Pakistan

Digital health in Pakistan has its roots

in the past few decades with projects like paperless hospital such as Indus hospital, efforts by both the Federal and Provincial health authorities towards digitalizing the health information systems from primary to tertiary care levels and the use of telehealth/telemedicine. COMSATS through integration of its Internet Services has run the Telehealth program since 2001 in selected areas of Pakistan. As a separate initiative, eHealth Association of Pakistan has been established to provide a common knowledge and information sharing and advocacy platform. It is further boosted by a Telehealth Call Centre set up by Aman Foundation. In recent years at the federal and provincial levels more programs and projects have been launched. These include the flagship Prime Minister's National Health Program and issuing of smart health cards. These health cards bear the individual's identification, medical history and data. eVaccs programs have also been unveiled in the provinces of the Punjab, Khyber Pakhtunkhwa and Balochistan. These measures aim to automate the entire process of immunization, from ensuring on-the-field vaccinator attendance to increasing geographical coverage of vaccination.

The enabler in promoting ehealth/medicine has been Pakistan's recent focus on enhancing its digital capacity. In the last couple of decades of the 21st Century, Information and Communications Technology (ICT) infrastructure in Pakistan has improved with growing internet penetration and the introduction of high speed internet services (broadband, 3G and 4G technologies), new and improved Information Technology (IT) tools, introduction of smart mobiles and emerging startup businesses. This has facilitated induction of many individuals and organizations in digital health initiatives mostly through mobile applications. The National Health Vision: 2016-2025 envisages

development of innovative technologies that need to be incorporated for providing reliable information and evidence based decision making at the district level through the District Health Information System (DHIS). Similarly the Digital Health Policy of Pakistan, 2018 “aims to facilitate and assist (concerned authorities) in the use of telemedicine, leverage access to qualified specialists by building an online network of doctors and paramedical staff, promote digitization and automation of existing hospitals, share information for preventive care through application of ICT tools and technologies and set eHealth service providers accreditation and requisite protocols and standards”.

The COVID-19 pandemic has catapulted digital health to a higher plane with the digital technologies emerging as effective tools for the health care system in Pakistan. A number of digital health programs in the country have been approached for assessing the utilization of IT in response to COVID-19 infections. These programs are both in the Government/public and Private sectors including Pakistan’s Ministry of National Health Services Regulations and Coordination (MoNHSRC), software companies like CIT Solutions, telemedicine companies including Sehat Kahani and doctors247online and startups by the National Incubation Center. The Government of Pakistan recently launched a COVID-19 Telehealth portal on twitter and has also created a website. Pakistani doctors and health professionals have been invited to register and volunteer to help COVID-19 patients.

The exceptional circumstances created by the COVID-19 outbreak have enhanced the role of digital health in reaching out to individuals and communities in a lockdown situation as hospitals are focused on dealing with COVID-19 emergencies. The digital health policies and strategies could take into consideration the following,



keeping in view that digital health response to COVID-19 in Pakistan has already seen exponential growth and mushrooming of small scale projects and ventures in health care based on digital technology:

- Appreciating the strides Pakistan has made in recent years in popularizing the use of IT in health, the digital health tool assumes significance in supporting the Universal Health Coverage (UHC) system. Coordinated efforts are needed to streamline the process with the help of multiple stakeholders and evolve policies and strategies for the standardization of guidelines, through legislation. This will help in building a resilient and robust response system on a long term basis.
- Evidence-based evaluation of digital health interventions during the ongoing pandemic response and the impact analysis are critical to developing a more efficient and sustainable digital health system.
- Utilization of IT in health disciplines in the light of the experience being gained in fighting the COVID-19 menace highlights the importance of permanent integration of IT infrastructure, tools and solutions within the overall health system and management. This would enable the government to even better manage disaster and emergency situations. There can be some learning from the US’s Telemedicine systems which were already in existence and the only action required was to align regulations and laws to the needs and demands of COVID-19.
- For enhanced coordination and synergetic response, creating networking among all stakeholders such as public health authorities, public and private healthcare organizations and IT companies within the country is needed. It would be extremely beneficial if triangular cooperation framework is utilized for connecting with the North for research and development (R&D) and innovations in health related fields.
- Key to success for providing digital health facilities at universal level and without any possible discrimination, public-private partnership has a major role. Already in Pakistan, large scale philanthropy-based health care is being provided. Partnership between public and private sectors would ensure effective utilization of energies and finances and avoid duplication of efforts unnecessarily leading to wasting of resources.
- It is vitally important to devise strategies and build health infrastructure for digital and

communication technology that excludes no one and is available to all on an equitable basis including the marginalized and poorer as well as rural and urban periphery communities, persons with disabilities, senior citizens, women and children. Their inclusion would improve health at the national, regional and global levels.

- Adhering to the privacy requirements would be imperative to avoid fear syndrome making the participation of citizens less voluntary. Weighing between the ethical concerns and combatting the disease is a delicate issue which requires prudent approach and handling.

Conclusion

The World Health Organization

(WHO) has amply articulated views on the use of digital technologies in health care responses especially in the current situation of COVID-19. As it is, digital health has relevance for all the components of the healthcare system: Governance (data use for policy formulation and personnel management); Information (in the form of Electronic Health Records, e-prescriptions, registries, big data analytics and AI); Health service delivery, training and capacity building; and for Medicine and drug development.

Adapting to the “new normal” environment calls for innovative approaches to healthcare problems especially in the developing countries. Business-as-usual cannot continue if the worsening of the crisis and ensuing fragility are to be avoided. Collaboration and sharing of knowledge and research are absolutely essential as

working in silos serves no purpose. It is appreciable that the European Union, WHO, China and other countries have announced huge funding related to research and various other aspects of COVID-19. This is a good demonstration of international solidarity in confronting the large scale of common global threats.

Regional cooperation and utilization of indigenous knowledge and remedies for boosting an individual’s internal response system as well as herbal solutions in the developing world could help in many ways. Cooperation among and integration of organizations that have experience in traditional medicine could also be helpful in developing drugs and medicines. There is an urgent need to have a holistic and comprehensive strategy founded on the principles of better health care through digital technology.

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Egypt-Denmark Agreement to augment Egypt's Green Transformation

To further Egypt's green transformation, Egyptian-Danish Energy Partnership Program (2019-2022) agreement has been signed between Egypt's ministries of international cooperation and electricity, and the Energy Agency of the Danish Ministry of Climate, Energy and Utilities.

The agreement was signed by Minister of International Cooperation Rania Al-Mashat and Minister of Electricity and Renewable Energy Mohamed Shaker. Dating back to 1969, cooperation between Egypt and Denmark in a number of fields (new and renewable energy, water and sanitation, environment, culture and housing) amounts to about \$560 million.

The current agreement would support Egypt's energy strategy until 2035 that is aimed to increase the share of renewable energy to more than 42 per cent.

A joint committee from both sides would be created to discuss cooperation in the energy field, and make decisions on the strategic cooperation program between the two countries.

Sudan's first 'Solar Lab' to provide Quality-assured Solar Technology

Sudanese Standards and Metrology Organization (SSMO) and UNDP have jointly launched a 'Solar Lab' in Khartoum. The Solar Lab is funded by the Global Environment Facility (GEF), UNDP, SSMO and Ministry of Energy and Mining of Sudan.

To ensure quality assurance and longevity of relevant technologies (mostly imported and refurbished), the lab would provide testing and



certification services for solar energy technology. In a large and high sunshine hours country like Sudan, solar energy offers significant opportunities and a way to rebuild better post-COVID-19.

In addition to funding, SSMO and the Ministry have made available a team of technical experts and engineers that are being provided training support by UNDP to run the lab operations.

Engineers from the University of Khartoum would also be trained and aide the lab operations.

Sudan-GCF-UNDP intervention to help build Climate-resilience of 3.7m Sudanese

An innovative climate resilience project in Sudan has been granted a new funding of US\$25.6 million by the Green Climate Fund.

The project has been designed to promote agriculture, health, and food and water security, which is significant as subsistence of 1.2 million Sudanese people comes from farming and nomadic pastoralist communities who are to directly benefit. Another 2.5 million are hoped to benefit indirectly.

The project is being led by Sudan's

Higher Council for Environment and Natural Resources with support from the United Nations Development Programme (UNDP).

"With Green Climate Fund financing, and support from UNDP, the Sudanese Government is working to build resilient economies and livelihoods. This will help us minimise the impact of COVID-19, and put our people and planet first," said Sudan's Prime Minister, Dr. Abdalla Hamdok about the project.

The project is expected to have a great impact on a large section of Sudan's population who are most vulnerable to the adverse effects of variations in rainfall and temperatures, crop failures, the death of livestock, drought and other climate-related impacts coupled with COVID-19 and conflict.

Further, the project would also help improve institutional and community capacity, support to vulnerable groups like women and youth, and protection of Sudan's natural resources.

Turkey Stands 3rd in the World in Developing COVID-19 Vaccines

"According to the World Health Organization data, Turkey has become

the 3rd country to develop vaccines locally," Turkish President Recep Tayyip Erdogan has recently remarked while speaking at the opening of Excellence Centers in the Gebze at TUBITAK (Turkey's Scientific and Technological Research Council).

The president said that Turkey has made great progress in developing vaccines and drugs against COVID-19 in collaboration with state, private sectors and universities. "COVID-19 Turkey Platform, founded by TUBITAK, is currently working on eight different vaccines and 10 different medicine projects [for COVID-19]".

One of the vaccines locally developed has received ethical clearance and started its clinical phase on humans, the president further said.

Iran Develops Air Handler Capable of Killing Coronavirus in Public Spaces

An Iranian knowledge-based company announced developing an air handling unit with a capability of knocking out novel coronavirus.

The design is based on use of nano, HEPA and carbon filters in order to remove particulates. The filters are complemented by two UVC lamps. The air entering the apparatus is circulated around these lamps to take out the coronavirus.

The apparatus is said to be useful for purifying the air constantly in public places like banks, doctor's offices, pharmacies and other locations having large number of people entering and exiting. The performance of the apparatus, said to have been fully developed by local experts, has been approved through laboratory tests by the Iranian Standards Organization as well as the Food and Drug Organization.

Nigeria Launches Online Course on

Coronavirus Infection Prevention
As part of the country's strategy to cope with COVID-19 pandemic in the absence of a vaccine or cure, the Nigeria Centre for Disease Control (NCDC) has launched a course on Infection Prevention and Control (IPC), in the context of coronavirus disease (COVID-19). The course has been developed with technical assistance from eHealth Africa.

Also available to the general public, the online course is targeted at health care workers to help rapidly strengthen their capacity in infection prevention and control. The course features modules on standard and transmission-based precautions, use of personal protective equipment (PPE) and other essential aspects of infection control in healthcare.

The course has been designed to document vital information to monitor IPC compliance across health facilities at the primary, secondary and tertiary levels, both in public and private facilities in Nigeria.

WHO Welcomes Kazakhstan's Openness to COVID-19 Information Exchange (Kazakhstan report)

According to Head of the World Health Organization Country Office in Kazakhstan, Dr. Caroline Clarinval, Kazakhstan's stringent measures to tackle COVID-19 have led to gradual stabilization of the coronavirus situation in the country. Speaking to press recently, she attributed this success to joint efforts of civil society, health workers and the government.

On behalf of WHO, she expressed a strong pledge of working actively with the Kazakh government and Kazakh Health Ministry to further aid COVID-19 response in the country.

"The WHO supports Kazakhstan's

openness to information exchange. The virus is still with us, and it will be with us in the near future. Only by joining efforts we can overcome this and protect people's lives. Everyone's contribution matters! The WHO has agreed to continue to work with the government and Kazakh Health Ministry to protect the health of all Kazakh citizens," Clarinval said.

'Climate-smart' Villages in Colombia Promote Sustainable Farming

Efforts are being made in Cauca, Colombia, to build sustainable farming practices to make the country more resilient to future challenges.

Ana María Loboguerrero, Head of global policy research at the CGIAR Research Program on Climate Change, Agriculture and Food Security is overseeing these efforts made under Cauca Climate-Smart Village project.

According to Ana, the project is co-generating evidence with farmers on "the practices, the technologies, that can help us to increase productivity and food security, that can help us to increase adaptation to climate change and variability and that can help us to reduce greenhouse gas emissions."

The information collected from a low cost weather station is used to make 'agro-climatic forecasts', on precipitation, temperature, humidity, in the next three months.

The resulting projections help farmers in better decision-making on timing and right varieties to plant as well as right use of fertilizers.

The project is also said to have good social implications, such as self-sufficiency in agriculture, women empowerment and better inclusion of youth in general.

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.
- Postgraduate Scholarships and Post-doctoral Fellowships at the International Centre for Climate and Environment Sciences (ICCES), and Tianjin Institute of Industrial Biotechnology (TIB), under PIFI Programme.
- Four (04) PhD scholarships at the Al-Farabi Kazakh National University (KazNU), Kazakhstan.

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

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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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