

ISATS Newsletter

Commission on Science and Technology for Sustainable Development in the South (COMSATS)

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Contributions from readers are welcome on any matter relevant to the mission of COMSATS, namely the promotion of South-South cooperation in science and technology for sustainable progress of the developing countries. The responsibility for the accuracy of any information rests with the original source. Views expressed in this publication do not necessarily reflect those of its editors, publisher or COMSATS.



Participants of the 14th meeting of COMSATS Coordinating Council, Bogotá, Colombia (May 26-27, 2011)

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From the Executive Director's Desk

Editors

Mr. Irfan Hayee Ms. Farhana Saleem

It is well-known that all developing countries are not at the same stage of development. This has always been the case, but recent trends indicate that the disparities are on the rise. Whereas the bridging of North-South divide remains to be a long-term target; it should, in principle, be easy to nudge the trailing countries of the South to catch up with other members of the group. This also calls for increased efforts to promote South-South cooperation. COMSATS' programmes are focused on doing just that - by capitalizing on the strengths of good performers to assist those that are lagging behind. As learnt first hand, during a visit to Brazil (page 2), the enormous leadership role that this huge country can offer is yet to be fully realized. Other COMSATS' countries, especially those in the Latin American region, can benefit from the developmental trajectory of Brazil. With the size of an economy exceeding US\$ 2.2 T in terms of GDP (OER) and spending on R&D well over 1%, the scope of progress is all too evident. Increased international cooperation in S&T should be a natural outcome of this development, particularly in the field of agriculture. The Brazilian Agricultural Research Corporation (EMBRAPA) is at the forefront of an agricultural revolution. The sustainable agricultural research centre, EMBRAPA Agrobiologia, which is associated with COMSATS as its Centre of Excellence, is an excellent resource-base for other developing countries to share the fruits of decades of research in biological nitrogen-fixation, reclamation of degraded lands, and a plethora of organic agriculture techniques. It is expected that Brazil would soon adopt an open-borders policy to allow the scientific

communities around the world to interact with the Brazilian scientific institutions more extensively.

Another Latin American country of significant importance to COMSATS is Colombia – the home-country of the Chairperson of COMSATS Coordinating Council – where the 14th meeting of the Council was held recently (page 4). The Council is responsible for steering the organization's projects and programmes to achieve its core objectives of S&T capacity-building and promotion of S&T cooperation among the developing countries. The annual meetings of this statutory body not only give approval of administrative and financial matters affecting its membership, but also provide a forum for interactive presentations by the Heads of Centres of Excellence that lead to sharing of information on technical projects, learning of best practices and success stories, and exchange of views about future collaborations.

It is worth-mentioning that the 14th meeting of the Council has duly recognized and appreciated the importance of various COMSATS' publications. A lively discussion in this regard was held after the presentation of COMSATS' Annual Report. In the light of the statistics presented by the Executive Director, it was unanimously decided that the Centres of Excellence have to substantially enhance their inputs for these publications. It is earnestly hoped that the next issue of COMSATS Newsletter will reflect this resolve.

NEWS/ACTIVITIES/HIGHLIGHTS FROM COMSATS SECRETARIAT

THE EXECUTIVE DIRECTOR COMSATS VISITS COMSATS'CENTRE OF EXCELLENCE IN BRAZIL

The Executive Director COMSATS, Dr. Imtinan Elahi Qureshi, visited Brazil on May 21-24, 2011. During this fourday sojourn, Dr. Qureshi visited Brazilian Agricultural Research Corporation (EMBRAPA); COMSATS' Centre of Excellence in Brazil, EMBRAPA Agrobiologia; and the Brazilian Ministries of Science & Technology and Foreign Relations. The main purpose of the visit was to hold meetings with the high officials of important Brazilian institutions to discuss collaboration in the field of science & technology and participation in programmes and projects of COMSATS, as well as to extend COMSATS' Membership offer to the Government of Brazil.

On May 21, 2011, Dr. Qureshi met the Director General EMBRAPA Agrobiologia, Dr. Eduardo Campello. The two officials, inter alia, discussed the important role that the Centre is playing in the development of environmentallybenign agriculture techniques and practices in Brazil. Later, during a visit to this Centre, Dr. Qureshi availed the

opportunity to learn about the ongoing R&D activities of the Centre.

Dr. Campello accompanied the Executive Director to the Brazilian capital, Brasilia, where meetings were held with Mr. Ademar Cruz Junior, Head of ST&I Division, Brazilian Ministry of Foreign Relations and Dr. Carlos A. Nobre, National Secretary of Brazilian Ministry of Science and Technology. A letter of invitation for Brazil to join COMSATS was presented by Dr. Qureshi, in his meeting with Dr. Nobre. While stressing that Brazil can play a leadership role in South-South

cooperation in the Latin American region, through the platform of COMSATS, the programmes and activities of COMSATS in creating links among the scientific institutions of the developing countries was highlighted by Dr. Qureshi. He noted that Brazil can also strengthen its scientific cooperation with African countries by using the channels provided by COMSATS as it has nine Member States from Africa. Dr. Qureshi informed that a reputed R&D Centre of Brazil, EMBRAPA Agrobiologia, is already affiliated with COMSATS' Network of International S&T Centres of Excellence and providing excellent support to COMSATS' activities. The full membership of Brazil, he believed, would enable COMSATS to further increase Brazil's scientific cooperation with other developing countries not only in South America but also in Asia and Africa. Dr. Nobre, a reputed environmental scientist, was very appreciative of COMSATS' programmes, especially its multi-national 'Thematic Research Groups', launched recently in areas of highest concern to the developing counties. The Director General of EMBRAPA Agrobiologia, who was present during the meeting, endorsed the effectiveness of COMSATS' platform in S&T capacity-building programmes.

Later during the visit, Dr. Qureshi met Dr. Maurício Antônio Lopes, Executive Director (R&D) of EMBRAPA, and exchanged views on the possibilities of technology-transfer from EMBRAPA in the field of ecological agriculture for the benefit of COMSATS' Member States. The Executive Director of EMBRAPA offered the facilities of its 40 research centres for training and research cooperation under the auspices of COMSATS.

COMSATS' JOINT WORKSHOP IN BANGLADESH

A two-day International Training Workshop on "Science Education for Sustainable Development" was organized by COMSATS, in collaboration with the Ministry of Education, Government of the People's Republic of Bangladesh, and

> the United Nations Educational, Scientific and Cultural Organization (UNESCO), on June 27-28, 2011, in Dhaka, Bangladesh. This collaborative event was inaugurated by H.E. Mr. Nurul Islam Nahid, Minister for Education, Government of Bangladesh, on June 27, 2011, at the Bangladesh Institute of Administration and Management (BIAM), Dhaka, Bangladesh.

The main objectives of holding the event, inter alia, were to: discuss the role of Science Education in attaining sustainable development; identify means of enhancing the quality of scientific

education, research and training; and jointly develop policies and strategies for employing innovative techniques for the delivery of Science Education, raising awareness on climate and environmental challenges, meeting healthcare needs, and building regional and global partnerships for Science Education.

Speaking at the inauguration, the Minister for Education declared the economic development as the basic precursor to all aspects of development, and that science and technology have the power to bring about this change. "Technological solutions to challenges faced by the common masses in our countries are not impossible, and are not beyond the intellects of our own manpower", the Minister further stated, "What is needed is a clear understanding of the targets, and proper planning".



Dr. Qureshi with Secretary, Ministry of S&T, Brazil, Dr. Nobre, Director Office for International Affairs, Dr. Carmen R. Moura and D.G. EMBRAPA Agrobiologia, Dr. Campello

The proceedings of the two-day event comprised 5 Workshop Sessions, presentations of local/foreign participants, as well as discussion sessions for identifying key issues and challenges facing Science Education in the developing countries in order to formulate specific recommendations. Besides the participation of relevant personnel from China, Nigeria, Pakistan, Sri Lanka and USA, various public/private universities, S&T/R&D organizations, Government Departments and NGOs of Bangladesh were represented in the event.

The Workshop served to develop and strengthen necessary linkages among the relevant entities, individuals and/or institutions of the developing countries to exchange expertise/knowledge for strengthening Science Education as a way of attaining sustainable development. During the final session of the Workshop, the participants jointly formulated a set of specific recommendations that would help the relevant decision-making bodies of the developing countries in strengthening the prevalent education systems that, per se, fall short of meeting the requirements for sustainable development.

ACTIVITIES OF COMSATS TELE-HEALTH PROGRAMME

In continuation of its efforts to expand its Telemedicine services, COMSATS signed an MoU with Human Development Foundation (HDF) to establish a Telehealth setup in Zhob (Balochistan Province of Pakistan) and initiate consultative healthcare delivery to the people of the area through this setup. A two-member team comprising Senior Assistant Director (Systems) COMSATS, Mr. Nisar Ahmed, and the I.T. Manager HDF, Mr. Muhammad Kashif, analyzed the ground situation and made assessment of the available resources at the proposed site for the joint tele-health initiative. In the light of their visit-report, implementation plan and financial requirements for the project have been finalized and it is planned that the Tele-health Services would be launched later in July 2011.

To explore possibilities of joint Telehealth ventures, a representative of Aga Khan University visited COMSATS Secretariat and held meeting with the Executive Director COMSATS. During the meeting various options of

COMSATS' DELEGATION VISITS THE BANGLADESHI FOCAL POINT AND CENTRE OF EXCELLENCE

On June 29, 2011, a two-member delegation of COMSATS, comprising Mr. Tajammul Hussain, Advisor (Programmes), and Engr. Farhan Ansari, Assistant Director (Programmes), visited the Bangladesh Council of Scientific & Industrial Research (BCSIR), Bangladesh, and held a meeting with its Chairman, Prof. Dr. S. M. Imamul Haq. While making a brief presentation on

COMSATS' on-going projects and programmes, Mr. Hussain noted with pleasure that COMSATS' Network of International S&T Centres of Excellence has been further strengthened with the inclusion of BCSIR. During the meeting, opportunities of scientific collaboration available through COMSATS were discussed. COMSATS' delegation also visited different sections of BCSIR and held brief meetings with their respective Heads. Subsequently, the delegation held a meeting with Bangladeshi State Minister and the Additional Secretary of the Ministry of Science and Information & Communication Technology (MOSICT), H.E. Arch. Yeafesh Osman, and Mr. Dilip Kumar Basak, respectively, at their offices in Dhaka. The State Minister admired COMSATS' initiatives for the scientific capacity building of Bangladesh and assured the visiting delegation of his full support for COMSATS' activities aiming at South-South cooperation, in S&T sector.



The inauguration of the workshop in Bangladesh, chaired by the Minister for Education, Bangladesh

collaboration were discussed that included: technical support to AKU for Telehealth at Gilgit-Baltistan; Islamabad-Karachi telemedicine services; and collaboration in eHealth courses through distance learning.

FIRST MEETING OF PAK-IIASA COLLABORATION GROUP HELD AT COMSATS SECRETARIAT

Pakistan Academy of Sciences, the National Member Organization of the International Institute of Applied Systems Analysis (IIASA), Austria, has recently established a Pak-IIASA

Collaboration Group having Dr. Hasibullah (Advisor International Affairs) COMSATS, as its Coordinator. The Group held its first meeting at COMSATS Headquarters on 19th May 2011. Ten experts from different fields relevant to socio-economic development in Pakistan and in other COMSATS' member countries participated in the meeting. Dr. Ishfaq Ahmad, who is the Senior Advisor to the Planning Commission of Pakistan and IIASA Council Member, chaired the meeting. The main objectives of the meeting were to discuss effective collaborative activities to be pursued with the assistance of IIASA. In this regard, the identified priority areas were capacity-building, exchange of scholars, and collaborative projects. Three concept papers for joint projects have already been received from the concerned participants of the meeting, whereas more proposals are expected soon.

SPECIAL FEATURE: 14[™] MEETING OF COMSATS COORDINATING COUNCIL, BOGOTÁ-COLOMBIA

INTRODUCTION

The 14th meeting of COMSATS Coordinating Council was held on May 26-27, 2011, in Bogotá, Colombia, under the Chairmanship of Dr. Eduardo Posada F., Director of COMSATS' Centre of Excellence in Colombia, the International Centre for Physics (CIF). The Council comprises the Heads/representatives of the scientific institutions affiliated with COMSATS as its Network of International S&T Centres of Excellence and serves as the highest forum to take decisions on scientific and technical activities of the Network. The meeting was attended by Heads of 8 Centres, EMBRAPA Agrobiologia, Brazil; International Centre of Climate and Environmental Sciences (ICCES), China; International Centre for Physics (CIF), Colombia; National Research Centre (NRC), Egypt; National Mathematic Centre (NMC), Nigeria; COMSATS Institute of Information Technology (CIIT), Pakistan; Industrial Research and Consultancy Centre (IRCC), Sudan; and TÜBİTAK Marmara Research Centre (MRC), Turkey. A total of 14 senior officials participated in the deliberations of the meeting.

Meeting in the Latin American region for the first time, the Council members deliberated on an 11-point agenda concerning matters relating to COMSATS' programmes and projects; as well as the Council's membership. The important decisions of the meeting included the approval of the 1st part of the COMSATS' Strategy Document, and the inclusion of Bangladesh Council of Scientific and Industrial Research (BCSIR) in COMSATS' Network of International Centres of Excellence.

INAUGURATION

The two-day international meeting was inaugurated by Dr. Jaime Restrepo Cuartas, Director Colombian Administrative Department of Science, Technology and Innovation (COLCIENCIAS), on May 26, 2011. In his Inaugural Address, Dr. Restrepo stated that Colombia found itself at a crossroads in terms of S&T in the wake of the new Law of Science, Technology and Innovation passed in 2009, which has provided a framework for integrating S&T sector to make it more productive. He stated that the objectives of COMSATS coincide with the Colombian aim of using S&T for the sustainable utilization of its rich biodiversity, energy and natural resources for the benefit of the people of Colombia.

Shedding light on the new approach of Colombia towards S&T, Dr. Posada emphasized the need of developing capable S&T manpower, strengthening scientific institutions and increasing national expenditure on S&T by the developing countries. The Executive Director COMSATS, Dr. Imtinan Elahi Qureshi, who is also the Ex-officio Secretary to the Council, elucidated the role of COMSATS as an effective forum for South-South cooperation.



Prof. Hassan, Dr. Qureshi, Dr. J. Restrepo and Dr. Posada during the inaugural session of the meeting

DISCUSSIONS AND DELIBERATIONS

The Minutes of 13th meeting of the Council and the Provisional Agenda of the 14th meeting were unanimously approved by the Council at the beginning of the meeting. The implementation status of the decisions of the 13th meeting of the Council was reviewed by Mr. Tajammul Hussain, who made a point-wise presentation on the actions taken by the Secretariat to follow up on the decisions. After Mr. Hussain's presentation, the Executive Director COMSATS pointed out that Mr. Hussain retired from the post of Director General (International Affairs) after attaining the age of superannuation on 3rd of April 2011. However, he is continuing to serve the organization as Advisor (Programmes). Dr. Qureshi appreciated the services rendered by Mr. Hussain to COMSATS since its inception in 1994.

"...we have specific needs particular to the South that demand an alternative approach to development. Certainly, this approximation implies constructing our own models, defining our interests, and determining the road to progress. In this process, COMSATS can play an essential role through the three main strategic programmes that we are developing in natural products, climate change and information technologies. It is clear that one of our purposes must be to promote a more active participation of all member institutions in these important initiatives."

> Dr. Eduardo Posada F. Chairperson Coordinating Council

"All fora and all efforts, in whatever form they take place, are necessary and complementary, because the task of making ST&I an engine of growth in low to middle income countries is huge. As many proponents as possible are necessary and welcome to participate in this colossal task. COMSATS is proud to be a part of this historical transition process."

> Dr. Imtinan Elahi Qureshi Executive Director COMSATS



During the first technical session, COMSATS' Annual Activity Report (May 2010 - April 2011) was presented by the Executive Director COMSATS to highlight the recent activities of COMSATS. The presentation was based on a clear delineation of COMSATS' efforts falling under four categories: the Administrative Actions at the Level of COMSATS Secretariat; Technical Programmes; COMSATS' Outreach; and Future Outlook.

Under the regular agenda-item on 'Presentations of Programmes and Activities of Centres of Excellence', presentations were made by the eight participating members. These gave an overview of the programmes and activities of their respective Centres, as well as the facilities available, areas of possible collaboration, etc. Following the presentations by the Heads/representatives of the Centres of Excellence, Prof. Dr. M. H. A. Hassan, former Chairperson and life-time member of COMSATS Coordinating Council. gave his views and advice with respect to the Network's future progress on the request of incumbent Chairperson. He advised COMSATS to expand its Network of Centres of Excellence by identifying good S&T institutions in developing countries and inviting them to become members. He also suggested that the Kigali Institute of Science, Technology and Management (KIST), Rwanda, may be invited to become a member of the COMSATS' Network of Centres of Excellence. Rwanda may also be invited to join COMSATS as a Member State; cooperation in this regard may be sought from the present Executive Director TWAS, Prof. Romain Murenzi.

Besides the presentations by the participating Heads/representatives of Centres of Excellence, exclusive presentations were made by three Lead Centres of COMSATS' Thematic Research Groups: ICCES-China, ICCBS-Pakistan and CIIT-Pakistan, elucidating the collaborative research activities undertaken by the members of their respective Groups. The Council appreciated the fact that three Thematic Research Groups

Participating Members of the Coordinating Council

- Prof. Eduardo Posada F., Director CIF, Colombia and Chairperson of the Council
- Dr. Imtinan Elahi Qureshi, Executive Director COMSATS
 and Secretary to the Council
- Prof. M. H. A. Hassan, Honorary Life-time Member
- Dr. Eduardo Campello, Director General EMBRAPA Agrobiologia, Brazil
- Prof. Zhaohui Lin, Director ICCES, China
- Prof. Ashraf Shaalan, President NRC, Egypt
- Dr. S. M. Junaid Zaidi, Rector CIIT, Pakistan
- Dr. Ahmed Obeid Hassan, Director General IRCC, Sudan
- Dr. Mehmet Demirel, Vice President MRC, Turkey
- Prof. Sam O. Ale, Director General NMC, Nigeria

have initiated their research activities and held their foundation meetings. The Network members were advised to promote the activities of COMSATS' Thematic Research Groups and encourage relevant research institutions in their countries to participate in the programmes of the same.

The Council welcomed a new addition to the Network as the membership of a Bangladesh-based S&T institution, the Bangladesh Council of Scientific and Industrial Research (BCSIR) was approved. Established in 1973, BCSIR is a leading multi-disciplinary R&D organization, which is conducting research work in accordance with the national demands and is contributing to accelerate the economic progress of the country. Bangladesh is one of the founder members of the Heads-of-States level Commission of COMSATS and has reinvigorated its commitment to the organization by joining the Council.

During the third technical session on the 2nd day of the meeting, Dr. Jorge Alonso Cano Restrepo, Director Technical Development and Innovation (COLCIENCIAS) made a detailed presentation on the country's STI Development Plan (2010-2014) in order to acquaint the members of COMSATS Coordinating Council with Colombia's STI System and its current status. He shed light



A technical session of the meeting in progress

on the past and present initiatives of COLCIENCIAS aimed at producing young researchers and providing scholarships for Ph.D studies. Moreover, he elaborated on the Department's future targets of preparing 10,000 young researchers and providing 1,500 Ph.D scholarships per year by 2014.

A 12-point Communiqué (page 7) issued at the end of the meeting, inter alia, underscored the need for: having more projects launched in the thematic areas that were agreed in the previous Coordinating Council meetings; capacity-building by means of training, technical exchange, workshops, higher education, dissemination of knowledge and linkages with donor agencies; undertaking necessary work in order to achieve the objective of holding the 2nd Commission Meeting of COMSATS (possibly in 2012); and annual allocation of at least 2% of GDP by the Member States for their S&T sectors.

SALIENT DECISIONS AND OUTCOMES

A few decisions and outcomes of the meeting, other than those reflected in the earlier parts of this report, are as under:

- Efforts will be continued to enhance COMSATS' membership as well as the Network's membership.
- Invitations will be extended to the Executive Director COMSATS with offers of local hospitality to visit COMSATS' Centres of Excellence that have not been visited by him so far.
- COMSATS Secretariat will make arrangements to hold the 2nd Commission Meeting in 2012, with the support of all the Member States.
- The publication of COMSATS' bi-annual journal, "Science Vision", will be continued in view of the commitment made by the Network members to make strong contribution for the journal as well as COMSATS' newsletter.

The Council approved the time-line for the preparation

of the 2^{nd} part of the Strategy Document viz. the "Implementation Plan" and its presentation at the 15^{th} meeting of the Council.

- The designated Lead Centres would function as the window for all interactions with other relevant research institutions in their respective Member States.
- The Thematic Research Groups already launched would commence their active research on highest priority.
- The Lead Centres of the remaining Thematic Research Groups will organize their foundation meetings as soon as possible in coordination with COMSATS Secretariat.
- The auditor's report for the fiscal year 2009-10 and the budget estimates for 2011-12 were approved.

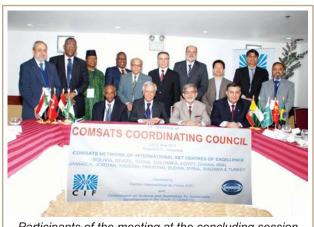
CONCLUSION

At the conclusion of the meeting, the Chairperson thanked all the participants of the meeting and pledged CIF's strong participation in COMSATS' projects and programmes. He also assured the Council that he would do his best to live upto the expectations of the Council regarding his responsibilities as the Chairperson of the Council. The Executive Director COMSATS thanked the Chairperson for showing confidence in COMSATS, his efforts for the promotion of South-South cooperation, and the generous hospitality and excellent arrangements made for the meeting, as well as his intellectual contribution he had rendered to the proceedings of the two-day event.

The Concluding session ended with the distribution of souvenirs by the Chairperson and the Executive Director COMSATS to all participants and members of the Organizing Committee at CIF. The 15th meeting of the Coordinating Council will be held in Istanbul, Turkey, and will be hosted by COMSATS' Centre of Excellence, the TÜBİTAK Marmara Research Centre.



Prof. Dr. Ashraf Shalaan receiving a souvenir



Participants of the meeting at the concluding session

Communiqué 14th Meeting of COMSATS Coordinating Council, Bogotá – Colombia May 26-27, 2011

- COMSATS Coordinating Council expresses its profound sense of gratitude to the International Centre for Physics (CIF), Bogotá, Colombia, and the Government of the Republic of Colombia for hosting the 14th Meeting of the Council and for providing excellent facilities to make the meeting a real success.
- The members of the Council appreciate that the venue of this year's meeting was chosen to be in the Latin American region, which has enabled COMSATS' Centres of Excellence to create a deeper understanding of the technical strengths, operational framework of the scientific institutions and, above all, the rich cultural background of this great region.
- The successful outcome of the meeting reaffirms the conviction of COMSATS' founding members that the role of science and technology is crucial in building socio-economic strengths of the countries of the South and cooperation among the developing countries to attain self-reliance for peace and prosperity has become essential in the 21st Century.
- The meeting greatly appreciates the scientific and technological progress made by COMSATS' Centres of Excellence, which has contributed to the mission and objectives of the Commission. The strengthened capabilities of the Centres of Excellence have a great role to play not only in providing a robust support to their national economies, but also in sharing their technical strengths with those Centres of Excellence, whose collaborative efforts in COMSATS' programmes need to be augmented.
- The Council welcomes the induction of Bangladesh Council of Scientific and Industrial Research (BCSIR) as a new member of COMSATS' Network of International Science and Technology Centres of Excellence for Sustainable Development in the South. It is hoped that this prestigious R&D organization will play an important role in enhancing the scientific strength of the Network.
- The Council attaches great importance to the thematic programme of COMSATS' technical cooperation projects. In this
 respect, the launching of thematic activities in the areas of Natural Products Sciences by ICCBS, Karachi, Pakistan; Climate
 Change and Environmental Protection by ICCES, Beijing, China; and Information and Communication Technologies by
 CIIT, Islamabad, Pakistan, are greatly appreciated. The Council expresses its keen desire that more projects are launched in
 the thematic areas that have been agreed in the previous Coordinating Council meetings and more areas are added to the
 programme.
- The Council reiterates its belief that COMSATS' thematic technical cooperation programme should proceed with the assistance of an agreed strategy. The efforts made by the Secretariat to evolve such a strategy enjoy the appreciation and support of the Council members. The approval given by the 14th Coordinating Council to the 1st part of the Strategy Document containing strategic objectives will provide useful inputs for successful completion of the thematic projects. The Council recognizes, with appreciation, the assistance provided to COMSATS' Secretariat by The Academy of Sciences for the Developing World (TWAS), Italy, in producing the revised Strategy Document and asks the Secretariat to commence work on the second part of the Document, which will contain the implementational aspects of the thematic research projects.
- It is evident that capacity-building is an essential and continuous process for any scientific organization. The Council
 expresses its resolve to enhance cooperation among its Centres of Excellence and to make special efforts to further build
 capacities by means of training, technical exchange, workshops, higher education, equipment maintenance, dissemination
 of knowledge and linkages with donor agencies.
- Owing to the importance of holding the 2nd Commission Meeting, the Council desires that efforts may be enhanced by the Secretariat and the Member States to meet this mandatory requirement, as early as possible. The meeting appreciates the efforts made by the Secretariat during the last two years in this regard and urges it to continue necessary work in order to achieve this objective, possibly in 2012. The Centres of Excellence have shown their resolve to invigorate their efforts to ensure maximum participation of the members of the Commission at the highest possible level.
- In order to achieve the goals of the Charter of Network of Centres of Excellence and to accelerate the pace of progress, the Council gives high importance to the ensured, efficient and timely communication among the Network members and the Secretariat. The Centres of Excellence will augment their efforts to significantly improve the efficiency of the communication.
- The Council reaffirms its commitment to continue upholding the spirit and principles of South-South cooperation for the sustainable socio-economic development of COMSATS' Member States for the collective benefit of the developing world.
- The Council reiterates its call to all Member States to allocate annually at least 2% of their GDP for their S&T sectors.



ACTIVITIES/NEWS OF COMSATS' CENTRES OF EXCELLENCE

PCMD OF ICCBS-PAKISTAN AND BGI-CHINA SEQUENCE THE GENOME OF A PAKISTANI INDIVIDUAL

On June 30, 2011, an historical announcement was made by Prof. Dr. M. Iqbal Choudhary, Director International Center for Chemical and Biological Sciences (ICCBS). Ten years after the first human genome was sequenced, the first Pakistani genome has been mapped using a newly developed massively parallel DNA sequencing technology. Prof. Dr. Atta-ur-Rahman (Fellow of Royal Society), a renowned scientist of Pakistan, was requested to volunteer for the complete genome study. With this, Prof. Atta-ur-Rahman became the first Muslim, first Pakistani and the third individual in the world to have his genome mapped with revealed identity. This project has been jointly accomplished by Dr. Panjwani Center for Molecular Medicine and Drug Research (PCMD) of ICCBS - Pakistan, and Beijing Genomics Institute (BGI), China. The entire genome of Dr. Atta-ur-Rahman was sequenced in just 10 months. With this achievement. Pakistan has becomed the 6th country to have successfully sequenced the human genome. According to the researchers, the newly-sequenced Pakistani genome has uncovered a multitude of 'Pakistan-specific' sites that can now be used in designing of large-scale studies that are better suited for the Pakistani population.

The research team that undertook the sequencing comprised Dr. Kamran Azim, Assistant Professor at PCMD-ICCBS and Prof. Dr. Yong Zhang, Head of the Genomics Department at the Beijing Genomics Institute, China. Dr. Azim informed that the new aspect in the study was that the technique can trace back a mutation to the specific parent. "We are still studying the actual genome data itself and how the genetic differences we identified may predispose this particular individual to certain diseases", said Dr. Azim.

ICCBS AND MURDOCH UNIVERSITY-AUSTRALIA TO COOPERATE IN THE FIELD OF ORGANIC CHEMISTRY

ICCBS-Pakistan, and the Murdoch University, Australia, have signed a contract to conduct collaborative research and training in the field of Organic Chemistry. While paying a visit recently to ICCBS, Prof. John Edwards signed the contract on behalf of the School of Veterinary and Biomedical Sciences, University of Murdoch. On behalf of ICCBS, its Director, Prof. Dr. M. Iqbal Choudhary, inked the agreement. Both the institutions have agreed to cooperate for academic exchange in the field of Organic Chemistry.

As agreed, professionals would be identified to work as a team on joint research projects. Speaking at the signing ceremony, Prof. Choudhary said that ICCBS is one of the finest academic establishments in the developing world. He noted that ICCBS has a large network of collaborating centres around the world and a large number of scientists regularly visit its institutes for joint research and academic training. He also welcomed to Pakistan, Mr. Ahmed Magdy Mustafa, Egyptian by nationality and a student of the School of Veterinary and Biomedical Sciences, University of Murdoch. Mr. Mustafa had been invited to conduct collaborative research and training as a research scientist in the field of Organic Chemistry, for the period of eleven months with effect from June 2011, under the joint project of ICCBS and University of Murdoch.

Prof. Edwards lauded the efforts of Prof. Dr. Atta-ur-Rahman and his whole team for making ICCBS one of the finest institutions in the world.

ICCBS' COLLABORATIVE EVENT WITH COMSTECH

ICCBS-Pakistan, the OIC's Standing Committee on Scientific and Technological Cooperation (COMSTECH) and COMSATS' Thematic Research Group on 'Natural Products Sciences' jointly organized an international workshop on 'Modern Techniques in Combinatorial Chemistry' (June 13-16, 2011) in Islamabad, Pakistan. The H.E.J. Research Institute of Chemistry of ICCBS served as the focal point of the event in bringing together the relevant institutions from OIC member states and the COMSATS' Thematic Research Group. The primary objective of the event was the scientific capacity-building of relevant institutions. COMSTECH and COMSATS provided support for the travel, and boarding and lodging of the participants.



A working session of COMSTECH-ICCBS Workshop on "Modern Techniques in Combinatorial Chemistry"

This workshop introduced young researchers with the latest developments in the field of combinatorial chemistry, experimental techniques used in combinatorial chemistry, and high throughput screening through interactive lectures from world's leading experts in the field. Dr. Anwar Nasim, Dr. Iqbal Choudhary and Dr. Hasibullah also gave talks representing COMSTECH, ICCBS and COMSATS, respectively.

THE AURIGA CHEMICAL ENTERPRISES HONOURS A CIIT PROFESSOR

On 1st June 2011, Prof. Dr. Fauzia Yusuf Hafeez, Chairperson Department of Biosciences of COMSATS Institute of Information Technology (CIIT), Pakistan, has been conferred upon an award by Auriga Group of Companies, Pakistan. The award was given in recognition of Prof. Dr. Fauzia's efforts for formulation of Humiphos and Biophos – biofertilizers consisting of phosphate solubilizing rhizobacteria, which are isolated from multiple crops of various ecological zones of Pakistan and are formulated in ammonium humate. Auriga Group of Companies has offered its services for establishing Asia's largest and Pakistan's first biofertilizer plant having production-capacity of 50 metric ton per day. The award ceremony was attended by eminent scientists, industrialists and parliamentarians.

Humiphos and Biophos have gained an extraordinary appreciation from the farmers, and during the crop seasons of winter and spring 2010-11, farmers noticed improved germination, seedling vigour, healthy stand and increased yield along with partial phosphatic fertilizer saving.

R&DACTIVITY AT BCSIR-BANGLADESH

From July 2010 to June 2011, BCSIR has approved 92 research and development (R&D) projects in different fields of science and technology. Through these developmental projects, BCSIR is creating the desired enabling environment and scope for researchers to contribute to the development of the country. At present, seven developmental projects, including one Technical Assistance (TA) project, are being implemented. During the fiscal year (up to 20th June 2011), 99.62% financial and 99.83% physical progress has been achieved with respect to the total allocation of funds for these projects in the financial year. Through successful implementation of the on-going projects, a microbial laboratory has also been established.

Recently, BCSIR has developed an arsenic-detecting kit, which will be available for Tk 700 as against the imported one which costs Tk 1.5 lakh. The kit that can detect the presence of arsenic in water has been developed jointly by Dr. Nasim Sultan, Chief Scientific Officer; Aminul Ahsan, Senior Scientific Officer; and eight other officials of BCSIR. The kit has been developed using an integrated circuit, photo transistor, TR LED, comparator, capacitor, resistors, bridge rectifier and a diode. "Even an illiterate person can use the gadget and easily detect the presence of arsenic in water", said the Chairman of BCSIR, Dr. S. M. Imamul Hag. The new device is expected to help people living in arseniccontaminated areas of Bangladesh. BCSIR has applied for patent to the government for this newly developed gadget and the device is soon expected to be made available in the local markets.

RSS-JORDAN REGISTERED TWO NEW PATENTS

Aligned with its mission to promote creativity and utilize science in developing the local community, RSS has provided local and regional communities with two new inventions in the field of construction and materials science. Two patents registered for RSS were invented by Dr. Tariq Al-Hadid, Dr. Adnan Saqer AlKhasawneh and Engr. Intisar Al-Bataineh. The first invention is titled "Cardboard for Concrete Ribbed Slabs", and the second "Development of Timber Framework by using Polystyrene Material". These two patents will improve the performance of materials used in construction, and reduce construction cost and waste in concrete material.

RESEARCH ACTIVITIES AT NRC-EGYPT

Gastroenteritis is a serious disease in the developing countries, particularly in Egypt. Little information about the causative pathogens is available. Few studies have investigated the epidemiology of these entero-pathogens in Egypt. The aim of this study, carried out at the National Research Centre (NRC), Egypt, is to identify the bacterial, viral and parasitic pathogens, using molecular and immunological techniques. The study characterizes the major enteric pathogens; bacterial, such as (Shigella spp); Campylobacter coli/jejuni, Escherichia coli and Salmonella spp; and viral pathogens, such as rotavirus, norovirus, astrovirus and adenovirus; as well as parasitic pathogens such as Entamoeba histolytica, Giardia intestinalis and Strongyloides stercoralis. Environmental samples will be collected and tested, in order to establish any link between gastroenteritis epidemics and their environmental origins. The clinical and environmental surveys in 5 governorates of Eqypt will help to: assess the spread of these pathogens in Eqypt during both cold and warm seasons; and clarify the most common infectious etiologies of diarrhea in Egyptian children less than 5 years of age.

EMBRAPA AGROBIOLOGIA'S COLLABORATIVE PROJECTS UNDER EMBRAPA-BASF AGREEMENT

On June 17, 2011, the Brazilian Agricultural Research Corporation (EMBRAPA) signed a cooperative agreement with BASF, the world's leading chemical company based in Germany. It is a technical cooperation agreement aimed at developing new technologies of common interest to both institutions for the sustainable growth of agri-business. The partnership will focus on research and development in biotechnology, plant breeding, soil fertility and mechanization, plant protection and plant physiology. Both BASF and EMBRAPA would cooperate to identify opportunities for development of new technologies. The first two projects of this new partnership deal with organic products and involve EMBRAPA's subsidiary institutions, EMBRAPA Agrobiologia (COMSATS' Centre of Excellence in Brazil) and EMBRAPA Soja.

SCIENCE, TECHNOLOGY AND DEVELOPMENT

NANOPARTICLES: HAZARDOUS FOR CROPS

Nano-materials have revolutionized the industry in the recent past. Apart from their positive contribution towards socio-economic development, nano-materials have been found to cause hazards to other areas of human interest. Crop-yields can be seriously jeopardized by nanoparticles – a cause of concern for the poor developing countries where food security is already a big problem.

A recent report (SciDev.Net, May 18, 2011) describes the negative effects of certain nanoparticles on crop-yields. According to this report, nanoparticles that escape from the manufacturing processes or use of consumer products can substantially reduce the growth of wheat if the particles end up in soil. The production, use and disposal of nanomaterials from industries, such as cosmetics and electronics can lead to their release in air, water and soil. Their presence in waste water and direct use in the agricultural technologies can bring them in contact with crops. Once in crops, these nanoparticles can transform them and the soil ecosystem. For example, nanoparticles of titanium dioxide and zinc oxide that are widely used in sunscreens and electronics have adverse effects on wheat growth and soil-enzyme activities. Both these nanoparticles reduce the biomass of wheat and are harboured into the plant, introducing their toxic character to the crops.

The researchers have recommended the extension of such studies to more crops and soil environments. Effective safety and regulatory measures will be necessary to prevent crop hazards due to nano-materials in order to ensure food security at the global level.

A BREAKTHROUGH IN AIDS PREVENTION

The devastating effects of AIDS on poor countries' socioeconomic development are well-known to everyone. However, there is a chance of turning the tide on this epidemic, as indicated by researchers following the early release of results showing that anti-retroviral drugs can prevent transmission of HIV (*SciDev.Net*, May 13, 2011). Scientists have found that treating heterosexual HIV patients with anti-retovirals drastically reduces their chances of passing on the infection, something that has been only anecdotally observed until now.

The interim results of the study of more than 1,700 people showed a protection rate of 96% – an encouraging picture enabling the researchers to release their findings much earlier than expected.

In this study, couples in which one partner was infected with HIV and the other was not, half of the infected partners took anti-retrovirals straight away, while the other half waited until the later stages of the disease. In the non-treated group, 27 people passed HIV on to their partners, while in the treated group, only one did. The results also show that the only treatment of AIDS is prevention from this deadly disease and resources should be employed for AIDS' eradication without any debate. If infected people receive the drug much earlier, there is a real chance to turn the tide on the HIV epidemic.

DANGEROUS BACTERIA ON CELL PHONES OF HOSPITAL PATIENTS

Countless people visit patients in hospitals every day. Most of the patients and their visitors use cell phones that can carry dangerous bacteria and thus cause spreading of infections in the general public. A study published in *Eureka! Science News* (May 31, 2011) reveals that cell phones used by patients and their visitors were twice as likely to contain potentially dangerous bacteria as those of healthcare workers. Researchers have shown that swabs collected from three parts of 200 cell phones, keypad, microphone and earpiece, belonging to patients, their visitors and healthcare workers, indicated the presence of pathogens in 39.6 per cent of patients group's phone and 20.6 per cent of those belonging to healthcare workers. Also, seven patients' phones (out of 153) contained multidrug resistant pathogens and multiple-drug-resistant gram negative organisms.

Hospital-acquired infections affect more than 25 per cent of the hospitalized patients in developing countries. In US hospitals, they cause 1.7 million infections a year and are associated with approximately a hundred thousand deaths. So, one should be very careful about using cell phones while visiting patients in the hospitals.

NOUSE OF BATTERIES

Millions of batteries of various specifications are commonly used by billions of people in their domestic and professional lives. Scientists are now going to relieve mankind from the irksome need of replacing batteries from their everyday-use gadgetry and also from their waste-disposal problems. Imagine charging your iPad by shouting into it or powering a blood glucose monitor with your pulse. Such technologies are not very far off in the future. In the latest rendition of tiny, energy-scavanging devices, scientists have developed a prototype sensor that produces enough electrical charge when flexed mechanically to transmit a wireless signal several meters away (*Science News*, June 24, 2011).

With further improvements, the new device might become a part of an array of sensors that can monitor the strength of a bridge while powering itself with the vibrations of trucks passing overhead. The device is powered by zinc-oxide nanowires that generate charge when bent, a property found in piezoelectric materials, like quartz and even sugar crystals. This property is already being used in several devices like piezoelectric crash sensors in motorcars, pacemakers, charging cell phones, etc.

PROFILE OF COMSATS' INTERNATIONAL S&T CENTRE OF EXCELLENCE

INTERNATIONAL CENTRE FOR MATERIAL SCIENCE AND TECHNOLOGY (ICMST), GHANA

Introduction

The International Centre for Material Science and Technology (ICMST) comprises the Building and Road Research Institute (BRRI) and the Institute of Mining and Mineral Engineering of the University of Science and Technology, Kumasi. Before its parent institution, BRRI was a member of COMSATS' Network of International Centres of Excellence. A profile of BRRI is being covered in this section.

BRRI is one of the 13 research institutes of the Council for Scientific and Industrial Research (CSIR), Ghana. It was established in 1952 as the West African Building Research Institute in Accra. The Institute has scientists and technologists with a wealth of experience and skills to provide advisory and consultancy services to the local industry. The highly qualified human-resource of BRRI includes foundation, civil, structural, geotechnical, ceramic, chemical, transportation and highway engineers, as well as chemists, planners, architects, surveyors and information scientists.

Vision, Mission and Objectives

The Institute has a vision to be a commercial-oriented research and development organization in the construction industry. It has the mission to profitably provide R&D products, processes and services to the building and road sectors for the socio-economic development of Ghana.

BRRI has the objectives to: undertake R&D of local building materials for shelter construction; tailor R&D activities to national needs; improve safety on roads in Ghana; undertake research in all aspects of building and road design and construction with the view to ensuring efficiency, safety and economy; and develop construction materials indigenously.

R&D Programmes

The research programmes of the Institute encompass the following: development of alternative building materials from local resources; development of innovative designs to ensure cost-effectiveness in shelter construction; fast-track construction technologies; evaluation of local clay deposits for possible use in construction; studies on termite and fungal attack on timber structures and other building materials and their control; energy in the building industry and the built environment; development of road construction material specifications to suit the local environment; road safety research, comprising traffic surveys, accident black spot analysis, safety auditing of design buildings, and tests of road safety devices; as well as assessment and management of geological hazards.

Facilities

BRRI has divisions on Materials; Geotechnical Engineering; Structures, Planning and Design; Traffic & Transportation; Construction; Commercialization & Information, and Administration. The Institute has a Materials Development Laboratory with test kilns, laboratory ovens and equipment for chemical and physical tests of building materials. Other facilities include pilot-plant facilities for burnt brick and lime production, concrete testing facilities, and a tile press. The Geotechnical Engineering Division has laboratory equipment for soil classification tests, soil compaction, and soil strength tests and rock tests. The Structures Division has miscellaneous equipment, including an Avery Compression Test machine.

Technical Services Offered

Technical services are offered in all areas of building construction and, in particular, architectural works; structural engineering; highway engineering; settlement planning and erosion control; quantity and physical surveying; as well as geotechnical engineering. The technologies that were transferred to the local industry or are ready for transfer include, fast-track, cost-saving building technologies; lime production for paint and as a road stabilizer; construction of laminated timber bridges with lesserused species of local timber, small and medium-scale brick industries, etc.

Some Significant Achievements of BRRI

- Production of pozzolana (a highly active cementitious material) from bauxite waste, which is available in Ghana in great abundance. Pozzolana can replace 40% of Portland cement in sandcrete blocks and mortar for construction purposes;
- Production of lime from limestone and clam shells for building construction and for stabilizing road base. A prototype vertical kiln has been constructed, which has a capacity of 200kg hydrated lime per day;
- Data have been assembled on the resistance of over 80 species of Ghanaian timber against attacks by termites and micro-organisms;
- Construction of prototype laminated timber bridge on River Subin at Kaase, Kumasi, from local timber species that are considered as not being of immediate export value;
- Improved earth-construction technology to enhance service life of earth buildings;
- Development of construction price adjustment formulae for project cost fluctuations;
- Development of cost-saving buildings technologies, e.g, precast lintels, hydrofill substructure; the application of these yielded at least 20% saving in construction cost in comparison with conventional systems.

For further details, please contact:

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SELECTED FORTHCOMING SCIENTIFIC EVENTS IN COMSATS' COUNTRIES

7-11 Aug. 2011	IASL Conference, Kingston, Jamaica (http://www.iasl-online.org/events/conf/2011/)
4-7 Sept. 2011	10 th International Conference on Sustainable Energy Technologies (SET 2011), Istanbul, Turkey (http://www.set2011.org)
26-29 Sept. 2011	10 th CAS-TWAS-WMO FORUM: International Training Workshop on 'Regional Climate Change and Its Impact Assessment', Beijing, China (www.comsats.org)
19-21 Oct. 2011	The Second National Biodiversity Meeting (BIOME 2011), Virac, Philippines (http://pacifictech.multiply.com)
28-30 Oct. 2011	2011 International Conference on Sustainable Development (CSD 2011), Shanghai, China (www.engii.org/cet2011/CSD2011.aspx)
14-18 Nov. 2011	IUFRO Working Group 2.08.03 — Improvement and Culture of Eucalypts, Port Seguro, Bahia State, Brazil (www.euciufro2011.com)

CALL FOR PAPERS FOR COMSATS' JOURNAL - SCIENCE VISION: VOL 16

Science Vision is a biannual scientific journal of COMSATS. It primarily aims at highlighting the important scientific and technological developments that have a bearing on socio-economic conditions of the people. It invites research as well as review articles that have general scientific descriptions, with comprehensive elucidation of the impact of S&T discoveries and innovations for creating understanding of the contemporary issues and challenges. COMSATS invites scholarly contributions for the Vol. 16 of its journal. Scientists, researchers, policymakers and young scholars from S&T organizations and R&D institutions are encouraged to contribute articles on any scientific field of interest relevant to the focus of the journal. As per the policy of the journal, contributors are compensated for their time and efforts with a modest amount of honorarium.

For more details, please visit COMSATS' official website: www.comsats.org or the journal's website: www.sciencevision.org.pk. Contributions may be sent to the Chief Editor at: comsats@comsats.org.pk.



TÜBİTAK Marmara Research Centre and the SAFE Consortium are organizing a joint congress: the 4th International Congress on Food and Nutrition and the 3rd SAFE Consortium International Congress on Food Safety, which will be held on October 12-14, 2011, at the Istanbul Congress Center in Istanbul, Turkey. The joint congress will be held in parallel with two events of 7th Framework Programme of EU: MYCORED (Novel Integrated Strategies for Worldwide Mycotoxin Reduction in Food and Feed Chains) - 2nd Mediterranean Workshop on Mycotoxins and Toxigenic Fungi; and SAFETechnoPACK - International Food Packaging Conference.

A BRIEF ON COMSATS

COMSATS, currently, has 21 countries as COMSATS to contribute to scientific development of its Member States. For COMSATS' website: www.comsats.org.

COMSATS NETWORK OF INTERNATIONAL S&T CENTRES OF EXCELLENCE

- Colombia

- Colombia COMSATS Institute of Information Technology (CIIT), Pakistan Embrapa Agrobiologia, Brazil Higher Institute for Applied Sciences and Technology (HIAST), Syria Industrial Research and Consultancy Centre (IRCC), Sudan International Center for Chemical and Biological Sciences (ICCBS), Pakistan International Center for Climate & Environment Sciences (ICCES), China International Centre for Environmental and Nuclear Sciences (ICENS),

- Science and Technology (ICMST),
- Science and Technology (IROST), Iran National Mathematical Centre (NMC),

- Royal Scientific Society (RSS), Jordan Tanzania Industrial Research and
- Station (BBS), Bolivia TÜBİTAK Marmara Research Centre
- (MRC), Turkey