

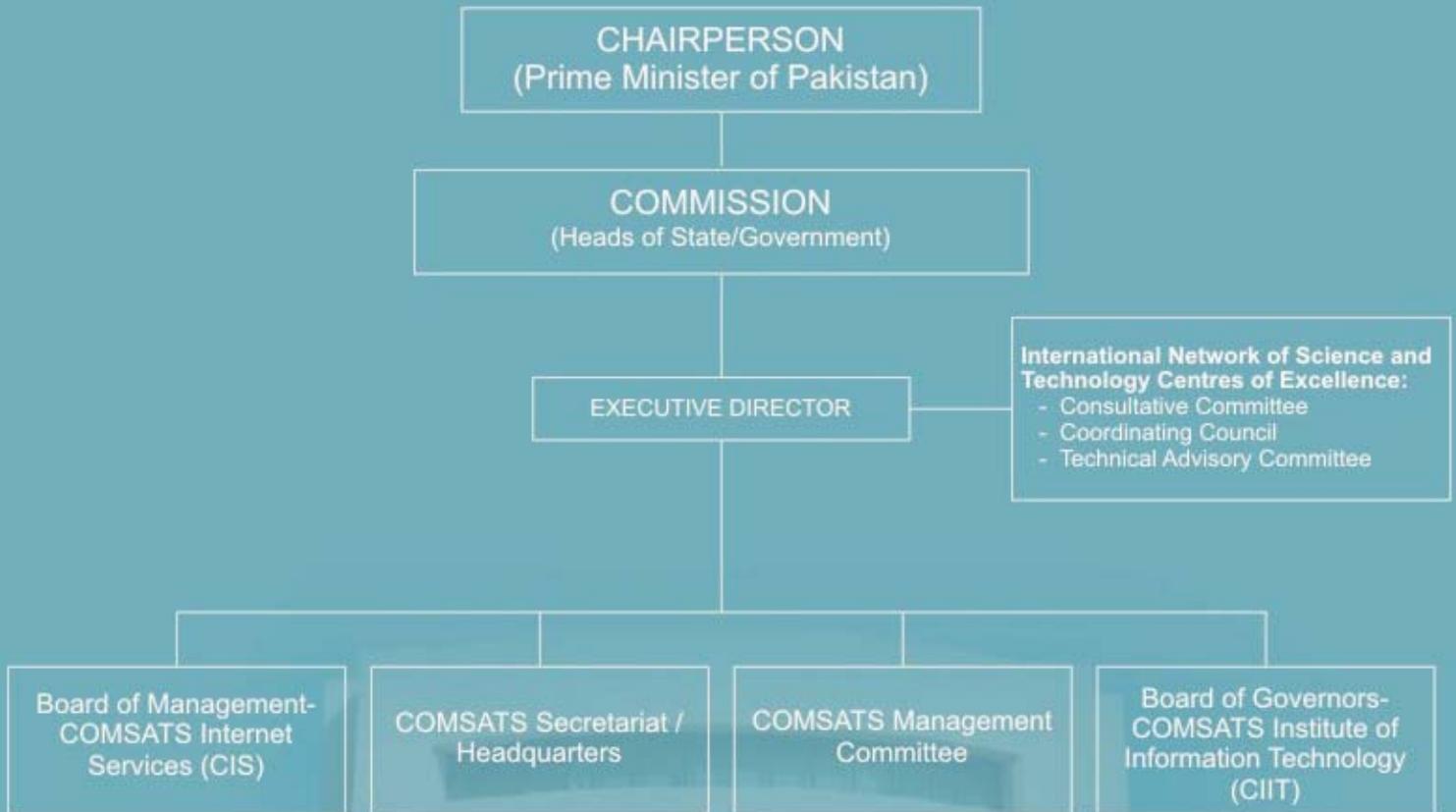
COMSATS

ANNUAL REPORT 2011



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

Organigram



March 2012

ANNUAL REPORT

2011



**Commission on Science and Technology for
Sustainable Development in the South**

PROFILE

The Commission on Science and Technology for Sustainable Development in the South (COMSATS) was created in October 1994 as an international/inter-governmental organization to act as a global forum for sustainable socio-economic uplift of the developing countries through the applications of science and technology. COMSATS' current membership includes 21 countries located in the continents of Africa, Asia and Latin America, representing a population of over one-third of the world's total. These countries have diverse social, cultural, economic, political, educational and religious backgrounds, and also differ greatly in their scientific and technological potentials. The Secretariat of COMSATS is permanently located in Islamabad, which is supported by the generous grants from the Government of Pakistan. The membership of COMSATS is open to all developing countries.

MISSION

The mission of COMSATS is to help create a world where all nations/states are at peace with each other and capable of providing a good quality of life to their populations in a sustainable way, using modern scientific and technological means.

OBJECTIVES AND FUNCTIONS

The major objectives and functions of COMSATS as envisioned in the Foundation Agreement are:

- To sensitize the countries of the South to the centrality of science and technology in the development process, adequate resource allocation for research and development, and integration of science and technology in the national and regional development plans;
- To support the establishment of a Network of International Science and Technology Centres of Excellence for Sustainable Development in the South;
- To support other major initiatives designed to promote indigenous capacity in science and technology for science-led sustainable development and to help mobilize long-term financial support from international donor agencies and from governments/institutions of the North and the South to supplement the financing of international scientific projects in the South;
- To provide leadership and support for major North-South and South-South cooperative schemes in education, training and research; and
- To support the relevant programmes and initiatives of major scientific organizations working for the development and promotion of science and technology in the South.



COMSATS' MEMBER COUNTRIES



People's Republic of Bangladesh



People's Republic of China



Republic of Colombia



Arab Republic of Egypt



Republic of Ghana



Islamic Republic of Iran



Jamaica



Hashemite Kingdom of Jordan



Republic of Kazakhstan



Democratic People's Republic of Korea



Federal Republic of Nigeria



Islamic Republic of Pakistan



Republic of the Philippines



Republic of Senegal



Democratic Socialist Republic of Sri Lanka



Republic of the Sudan



Syrian Arab Republic



The United Republic of Tanzania



Republic of Tunisia



Republic of Uganda



Republic of Zimbabwe

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Annual Report

2011



FOREWORD

COMSATS is proud to be a part of the family of international organizations and networks that are devoting their resources for the uplift of S&T sector in developing countries. Their common objective is based on the time-tested paradigm that modern Science and Technology is a pivotal instrument for socio-economic development. Two indispensable components of achieving this objective are: i) national political will, and ii) international cooperation. COMSATS is committed to undertaking advocacy for the first and facilitation for the second.



The year 2011 has been particularly fruitful with respect to capacity-building programmes of COMSATS. The activities of COMSATS Secretariat covered in this report contain essential details of nine international and two Pakistan-based events. It is very significant that most of these programmes were conducted in partnership with other international organizations, such as ISESCO, UNESCO, NAM S&T Centre, etc. This mechanism offers the dual advantage of cost-effectiveness and resource-sharing. Besides, it fits well with COMSATS' general policy of creating synergies with similar organizations in order to achieve common objectives. By virtue of playing major organizational role and providing resource persons in the international meetings and workshops, COMSATS has been able to demonstrate its own strength in delivering the benefits of S&T cooperation to its Member States. The topics of international programmes were carefully chosen with respect to their socio-economic impact on these countries.

The implications of climate change attributed to human activity were given due attention because of their close relationship with national development plans. Similarly, the importance of an unfolding technology revolution in the form of nanotechnology was discussed in three consecutive events held in Malaysia, UAE and Pakistan, because of its huge expected impact on almost all spheres of life, especially in health, communications and energy sectors. Some of the immediate concerns of the Member States relating to R&D infrastructure were addressed in the workshops on Internet Security and Repair and Maintenance of Scientific Equipment.

Among other significant events of the year are the holding of 14th meeting of COMSATS Coordinating Council at the International Centre of Physics (CIF), Bogotá, Colombia, and preparations for the COMSATS' Commission Meeting (April

2012) to be held in Islamabad. The former has now attained the status of a yearly event, which offers excellent opportunity for South-South cooperation by virtue of its format, whereby the Heads of Centres of Excellence affiliated with COMSATS discuss their institutions' programmes and activities with their peers. Requests for technology-sharing and offers of assistance are exchanged among decision-makers of R&D organizations, creating opportunities of future collaborations. A welcome addition to the Council Membership last year was the Bangladesh Council of Scientific and Industrial Research (BCSIR), by virtue of which the number of Network Members of COMSATS has increased to seventeen.

The Commission Meeting, on the other hand, has been due for a long time. This high-level forum is meant to generate political commitment of the Member States to participate in COMSATS' programmes effectively and provide necessary financial support. Prior to the letters of invitations sent by the incumbent Chairperson, the Prime Minister of Pakistan, in December 2011, strenuous efforts were made to ensure that all necessary administrative and financial arrangements are in place to hold the Commission Meeting successfully in April 2012. Concurrently, the preparations for the 15th meeting of the Coordinating Council, to be held in May 2012 at TÜBITAK Marmara Research Centre, Republic of Turkey, were also undertaken.

As usual, throughout the year, the preparations continued for COMSATS' publications in the form of Newsletters, Science Vision Journal and proceedings of Meetings and Workshops. Unfortunately, we had to mourn the sad demise of our senior colleague, Dr. M. M. Qurashi, who had been associated with COMSATS as Consultant (Publications) since 1996. A special publication of the year was the profile of COMSATS' Centre of Excellence in Pakistan, the International Center for Chemical and Biological Sciences (ICCBS), published in partnership with TWAS as a continuation of TWAS Series on 'Profiles of Research Institutions in Developing Countries'. COMSATS Secretariat also remained routinely involved with its Pakistan-based flagship projects, namely, the COMSATS Institute of Information Technology, COMSATS Internet Services and COMSATS Tele-health Programme.

It is my pleasure to acknowledge the strong support provided to COMSATS by all Centres of Excellence for organizing S&T events and the preparation of COMSATS' publications, including the Annual Report. On my personal behalf, I am grateful for the excellent hospitality offered to me during my visits to a few Member Countries and Centres of Excellence. The continuing administrative and financial support extended to COMSATS Secretariat by the Government of Pakistan is a matter of satisfaction and deserves expression of gratitude by the entire COMSATS community. The hard work and commitment of a small but efficient team at COMSATS Secretariat responsible for organizing international events and bringing out relevant publications is highly commendable and greatly appreciated.

Dr. Imtihan Elahi Qureshi
Executive Director COMSATS

LETTER FROM THE CHAIRPERSON COORDINATING COUNCIL

It was a great honour to have had the opportunity to host the 14th Meeting of COMSATS Coordinating Council in Bogotá, on 26th and 27th May 2011. This was the first meeting to have taken place in Latin America with the participation of a significant number of Centres of Excellence affiliated with COMSATS, having diverse scientific and technological backgrounds. It is also relevant to note the participation of Latin American countries, in particular Brazil and Colombia, in the Council meeting, which signifies the importance South-South cooperation was being given.



Latin America is emerging as a region with a great potential for economic growth. In 2011, the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) estimated that the region's GDP growth had been 4.3%, and for 2012 it was 3.7%. The latter of these figures was achieved despite the prevalent global economic crisis. A similar situation is seen in other regions having COMSATS' member countries, such as Africa, where the Organization for Economic Cooperation and Development (OECD) estimate for a GDP growth is 3.7% for the year 2011, and for 2012 it is expected to be 5.8%. Although COMSATS' member countries belong to different regions that have their own characteristics, these geographically dispersed countries have many similar developmental challenges to address.

Several countries have increased their national spending on science and technology. In Colombia particularly, the Congress approved a constitutional reform, under which 10% of the oil and mining royalties are earmarked annually to promote such activities. In this regard, it is important to promote similar initiatives in countries from Africa, the Middle East and the Far East. In addition to seeking political commitments and promoting cooperation between countries, COMSATS can play a key role in bringing together institutions and research groups to develop joint projects.

The reports presented at the Bogotá Meeting highlighted the strengths of COMSATS' member institutions, which in turn established the importance of promoting links between them.

It is important to encourage the research centres to take leadership role on local levels in collaboration with industry, to promote the creation of technology based spin-offs. It is essential to generate technological developments well-suited to local

conditions, ecosystems and problems of our regions. At the same time, technology development must be promoted in order to increase our competitiveness in scientific areas, such as nanotechnology, microelectronics and satellite technology.

Dr. Eduardo Posada Flórez
Director International Centre
of Physics (CIF), Colombia

LETTER FROM THE CHAIRPERSON CONSULTATIVE COMMITTEE

Socio-economic development is the goal most longed for by the countries of the South and the importance of science and technology to aid all relevant measures is now well-established. Organizations like COMSATS are particularly important in this respect. Since its creation in 1994, COMSATS is taking forward the vision of its founder, late Prof. Dr. Abdus Salam, who believed that the S&T capacity is a defining characteristic that ensures a nation's progress. During the 17 years of its existence, COMSATS has been making dedicated efforts for the promotion of science and technology as a means to achieving sustainable development. The 21 Member States and the 17 Centres of Excellence of COMSATS stand at the core of its activities relating to South-South cooperation.



During the year 2011, COMSATS has endeavoured to achieve its organizational objectives on various fronts. COMSATS' recent activities reflected in the Annual Report 2011 are a clear indication of the year being productive in terms of developmental initiatives. Apart from its on-going projects, COMSATS Institute of Information Technology (CIIT), COMSATS Internet Services (CIS) and Tele-health Services, efforts made by COMSATS for capacity-building, group research activities and other ventures are also praiseworthy. The institutions and countries connected together through the platform of COMSATS have been kept sensitized to the centrality of S&T in their development process and reaped the benefits that the membership of COMSATS entails.

As the Chairperson Consultative Committee of COMSATS, I call for a reinvigorated pledge on the part of all COMSATS' national Focal Points to support the organization and ensure their governments' political commitment for its projects and programmes. They can also facilitate COMSATS' development activities by providing due patronage and financial support to the Centres of Excellence in their respective countries. On behalf of the country that hosts the Secretariat of COMSATS, I would like to reiterate an unwavering support of the Government of Pakistan towards this inter-governmental organization. I would also like to acknowledge the dedicated work and commitment of COMSATS Secretariat for constantly assisting in the execution of scientific programmes of COMSATS and supporting the Government of Pakistan in S&T related matters.

I congratulate COMSATS on a productive 2011 and laud its consistent efforts towards S&T-led development of the South.

Mr. Akhlaq Ahmad Tarar
Federal Secretary
Ministry of Science and Technology
Government of Pakistan

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ACTIVITIES OF COMSATS' ORGANIZATIONAL BODIES

- 14th Meeting of COMSATS Coordinating Council held in Bogotá - Colombia 02
- Preparations to Convene the 2nd Commission Meeting of COMSATS 09
- Administrative and Financial Matters of COMSATS taken up by COMSATS Management Committee in its 30th and 31st Meetings 12

The Coordinating Council of COMSATS comprises the Heads of its International S&T Centres of Excellence. The Council meets once annually to take decisions on matters relating to the membership of the Network in consultation with the Consultative Committee. The Council also approves the programmes and budget of the COMSATS Network, as well as making rules for governing its own procedures.

14TH MEETING OF COMSATS COORDINATING COUNCIL HELD IN 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 Flórez, Director of COMSATS' Centre of Excellence in Colombia, the International Centre for Physics (CIF). The meeting was attended by Heads of eight Centres, EMBRAPA Agrobiologia, Brazil; International Center of Climate and Environment Sciences (ICCES), China; International Centre for Physics (CIF), Colombia; National Research Centre (NRC), Egypt; National Mathematical Centre (NMC), Nigeria; COMSATS Institute of Information Technology (CIIT), Pakistan; Industrial Research and Consultancy Centre (IRCC), Sudan; and TÜBİTAK Marmara Research Center (MRC), Turkey. A total of 14 senior officials participated in the deliberations of the meeting.

The meeting was held in the Latin American region for the first time during which 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 the COMSATS' Network of International Centres of Excellence.

Inauguration

The Council meeting, with its technical sessions spread over two days, 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 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 for 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.

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, Advisor (Programmes) COMSATS, 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.

Participating Members of the Coordinating Council

- Prof. Eduardo Posada Flórez, 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

During the first technical session, COMSATS' Annual Activity Report (May 2010 - April 2011) was presented by the Executive Director COMSATS to highlight the activities of COMSATS during the period between the present and the last Coordinating Council meetings. The presentation was based on a

"...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*

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. They gave an overview of the programmes and activities of their respective Centres, as well as the facilities available and areas of possible collaboration. These presentations were followed by discussions inside and outside the meeting room aimed at learning from each others' experiences and adopting best practices. 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 the 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 presentations by the participating Heads/representatives of Centres of Excellence, exclusive presentations were also made by three Lead Centres of COMSATS' International 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 was informed that the groups have agreed on the respective project titles; namely, 1) e-Solutions for Community Using Low-cost Wi-Fi, 2) Phytochemical and Pharmacological Studies on Medicinal Plants and Standardization of Herbal Plants of Indus and Nile Valley, and 3) Multi-scale Climate Variations and its Relation with Atmospheric Circulations.

The Council appreciated the fact that three International Thematic Research Groups had initiated their research activities and held their foundation meetings. The Network members were advised to promote the activities of COMSATS' International Thematic Research Groups and encourage relevant research institutions in their countries to participate in such programmes.

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 accelerating the





economic progress of the country. Bangladesh is one of the founder members of the Heads-of-States level Commission of COMSATS and has reaffirmed 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 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 issued at the end of the meeting, inter alia, underscored the need for: having more projects launched in the thematic areas that were agreed to 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; 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 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 to the journal as well as for the COMSATS Newsletter.
- The Council approved the time-line for the preparation of the 2nd part of the Strategy Document viz. the 'Implementation Plan' and its presentation at the 15th Meeting of the Council.
- The designated Lead Centres would function as the hub for all interactions with other relevant research institutions in their respective Member States.
- The International Thematic Research Groups, already launched, would commence their active research on highest priority.



- The Lead Centres of the remaining International Thematic Research Groups will organize their foundation meetings soon 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 participants and pledged CIF's strong participation in COMSATS' projects and programmes. He also assured the Council of doing his best to live up to its expectations regarding his responsibilities as the Chairperson of the Council. The Executive Director COMSATS thanked the Chairperson for expressing 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 for rendering intellectual contribution to the proceedings of the two-day event.

Availing on their presence in Colombia, the participants of the coordinating council meeting visited various scientific facilities of CIF. The visit of the group of R&D leaders resulted in a better understanding of the working of the scientific institutions in the host country of the meeting.



The Concluding session culminated 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 would be held in Istanbul, Turkey, and hosted by COMSATS' Centre of Excellence, the TÜBİTAK Marmara Research Center.

COMSATS' Future Strategy Document Part II: Implementation and Monitoring (2012-16) for its Technical Cooperation Programmes

Following the decision of the 13th Meeting of COMSATS Coordinating Council, held in



Trieste, Italy (2010), the Secretariat started working on the second part of the 'Strategy Document', dealing with matters related to strategy implementation and monitoring. Earlier, the Secretariat had prepared the first part of the document as decided in the Trieste meeting. The document's first part described the strategic objectives for COMSATS' future international thematic research programmes and some other related aspects. This document was approved unanimously by the 14th Coordinating Council Meeting, held in Bogotá, Colombia in 2011. Part-II of the document is complimentary to Part-I. As desired by the Bogotá Meeting, the detailed listing of the agreed joint thematic areas, lead countries and the cluster groups, which were earlier placed in Part-I of the strategy document, were moved to Part-II to maintain flexibility for future group adjustments.

The draft of the Strategy Document, Part-II, was completed by the Secretariat and sent to all members of the Coordinating Council and Liaison Officers in September 2011 for comments, views or amendments. This was followed by correspondence seeking confirmation of its receipts while also serving as a reminder to return the feedback proformas, sent earlier, within the stipulated deadline. As a result of this effort, some Centres of Excellence have given valuable suggestions and views, which have been incorporated into the text of the document.

The revised draft of the Strategy Document, Part-II, deals with a wide array of topics related to implementational and monitoring aspects of the joint technical projects, capacity building, international collaboration, project funding, enhancing of COMSATS' membership, administrative adjustments, etc. The document presents the possibility of flexibility in the implementation and monitoring procedures for the convenience of the Centres of Excellence. At the end of the document, a proposed timeline has also been given, which covers nine implementational and monitoring activities along with their suggested distribution over a period of five years (2012-16). In actual practice, the distribution pattern may vary for different activities which could be adjusted in the given timeline as and when necessary. The activities mentioned in the timeline are accompanied by the proposed actions to be taken by the respective participants in the joint thematic group programmes.

The final draft of the Strategy Document Part-II: Implementation and Monitoring will be presented to the 15th Meeting of the Coordinating Council scheduled to be held in Turkey in May 2012, for approval and further necessary action by the Network of International Centres of Excellence of COMSATS.



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.

The Commission is the highest forum of COMSATS, which is represented by the Heads of State/Government of COMSATS' twenty-one member countries. The first meeting of the Commission was held in 1994 that led to the establishment of COMSATS itself.

PREPARATIONS TO CONVENE THE 2ND COMMISSION MEETING OF COMSATS

COMSATS' statutory bodies provide the necessary impetus, guidance and directives for accomplishing the mission and objectives of the organization. The Coordinating Council of COMSATS, comprising the Heads of COMSATS' Centres of Excellence, meets every year to review the activities of COMSATS' Network and approve the future course of action. The Consultative Committee met in Abuja, Nigeria, during 2009 to reinvigorate the support of COMSATS' Focal Points in the Member States for the organization's projects and programmes.

The 2nd Commission Meeting of COMSATS is being held on April 16-17, 2012 in Islamabad, Pakistan, to reaffirm political support of its Member States for the organization. Invitations to attend the Meeting have been extended by the incumbent Chairperson of COMSATS, the Prime Minister of Pakistan, H.E. Syed Yusuf Raza Gilani, to the Member States. The Meeting is being held at the level of Ministers nominated by the Heads of State/Government. The major objective of holding the Commission Meeting is to garner the support of the Member States for:

- Revitalizing the activities of COMSATS in the light of its vision and mission, as stipulated in the 1994 Foundation Agreement; and
- Considering ways and means for achieving scientific collaboration



among Member States, especially in new and emerging technologies that could lead to rapid and sustainable economic progress.

The host of the meeting will be the Ministry of Science and Technology, Government of Pakistan. In order to coordinate the arrangements for holding the Commission Meeting, the Ministry has constituted an Organizing Committee and an Inter-Ministerial Coordination Committee. A brief on the undertakings of these Committees is as follows:

Organizing Committee

The Organizing Committee held its first meeting on October 14, 2011, to deliberate on organizational matters of the Commission Meeting. Chaired by the Federal Secretary, Ministry of Science and Technology (MoST), Government of Pakistan, and Co-

chaired by the Executive Director COMSATS, the Organizing Committee meeting was attended by its members, comprising senior officials from the Ministry of Science and Technology, the Ministry of Foreign Affairs, COMSATS Headquarters, the COMSATS Institute of Information Technology (CIIT), Pakistan Council of Scientific and Industrial Research (PCSIR) and National



Institute of Electronics (NIE). The Federal Secretary MoST, Mr. Akhlaq Ahmad Tarar, welcomed the participants of the meeting and stressed that all members should ensure fool-proof arrangements for the Commission Meeting. In order to streamline the organizational matters, the Chairman constituted sub-committees responsible for different sets of tasks pertaining to: main coordination; agenda and programme; boarding and lodging; media and publicity; logistics; administrative and financial affairs; and venue arrangements.

The Executive Director COMSATS, Dr. I. E. Qureshi, briefed the participants of the meeting about the history of COMSATS and past efforts of its Secretariat to convene the Commission Meeting. Referring to the previous abortive attempts for convening the Meeting, Dr. Qureshi considered it imperative to hold the Meeting in 2012 to achieve the objectives laid down in the Inter-governmental Agreement during the Foundation Meeting of the Commission.

Having decided upon the tentative dates and venue of the meeting, the Committee resolved to undertake all that was necessary for timely and successful convening of the Commission Meeting.

Inter-Ministerial Coordination Committee (IMCC)

The first meeting of the Inter-Ministerial Coordination Committee to review the preparations being made for holding the Commission Meeting of COMSATS, was held at the Ministry of Science and Technology (MoST), Government of Pakistan, Islamabad, on December 14, 2011, under the chairmanship of the Federal Secretary MoST. Other participants of the meeting belonged to: the Ministry of Science and Technology; COMSATS Secretariat; the Ministry of Finance; the Cabinet Division; Press Information Department (PID); Islamabad Capital Territory (ICT) Administration; and Intelligence Bureau of Pakistan, as well as major scientific institutions under the Ministry of Science and Technology, i.e. Pakistan Council of Scientific and Industrial Research (PCSIR); National Institute of Electronics (NIE); and Pakistan Council of Research in Water Resources (PCRWR).

The Chairman reviewed the efforts made by COMSATS Secretariat and the Ministry of Science and Technology, in collaboration with other ministries and government institutions of Pakistan, in preparation of the 2nd Commission Meeting. Evaluating the distribution of tasks under the seven sub-committees constituted by the Organizing Committee for various organizational matters, the Chairman mandated to hold the sub-committee meetings within a fortnight. Highlighting the role of COMSATS as an IGO, working for sustainable development through South-South cooperation, the Executive Director COMSATS deliberated on the significance of holding the Commission Meeting of COMSATS. He informed the participants about the preparedness of COMSATS Secretariat for holding of the Commission Meeting and gratefully acknowledged the patronage and generous support of the Government of Pakistan towards COMSATS. Dr. Qureshi brought to the participants' notice his meeting with the Prime Minister of Pakistan and the directives issued thereafter by the Prime Minister's Secretariat. He highlighted the two key objectives of the meeting: (i) Election of the next Chairperson of the Commission, and (ii) The revision in the Inter-governmental Agreement of COMSATS.

Taking into account the objectives of the Commission Meeting, and the expected number of international delegates and the local invitees, decisions were made viz. the inaugural ceremony; sideline meetings; banquets and dinners by the host Government and its affiliated institutions; boarding and lodging arrangements; medical and security measures; media and publicity; protocol, logistics and recreation; in addition to administrative and financial matters. Senior representatives of various ministries and government bodies took the responsibility for making suitable arrangements with respect to the assigned tasks, by supporting the relevant sub-committees, constituted earlier under the Organizing Committee of the Commission Meeting.



The COMSATS Management Committee assists the Secretariat in the implementation of policy-decisions taken by the Coordinating Council and other organs of COMSATS; recommends programmes and budget of COMSATS; monitors financial activities of COMSATS, considers and examines audited reports of COMSATS Secretariat and other projects; evaluates rules and regulations of COMSATS Secretariat; and deliberates upon any other administrative issue proposed by the Executive Director.

ADMINISTRATIVE AND FINANCIAL MATTERS OF COMSATS TAKEN UP BY COMSATS MANAGEMENT COMMITTEE IN ITS 30TH AND 31ST MEETING

30th Meeting

The Management Committee of COMSATS met on 30th March 2011, at COMSATS Secretariat, and deliberated over a nine-point agenda. The Committee Meeting was chaired by the Executive Director COMSATS. The CEO CIS, Mr. Asim S. Husain, and the Science Attaché at the Chinese Embassy in Islamabad, Mr. Zhang Shilin, attended the Committee meeting for the first time as its members, replacing Mr. Parvez Ahmad Butt and Mr. Zhang Qi, respectively.

During the meeting, important activities of COMSATS Secretariat that had taken place since the Committee's last meeting were reviewed. These activities included Executive Directors' international visits for expansion and assessment of the potential of COMSATS' Network of Centres of Excellence; campaign for COMSATS' Membership; participation in the 5th Islamic Conference of Ministers of Higher Education and Scientific Research (ICMHESR) and 14th General Assembly Meeting of COMSTECH; as well as preparations in connection with the 14th Coordinating Council meeting held in Bogotá, Colombia, and the upcoming 2nd Commission Meeting. The then Director General (International Affairs) COMSATS, Mr. Tajammul Hussain, presented COMSATS' Annual Activity Report 2010-11, while Dr. S. M. Junaid Zaidi and Mr. Asim S. Husain made presentations on the progress and



activities of CIIT and CIS, respectively.

Besides deciding upon matters relating to organization of the 2nd Commission Meeting, the membership of CIIT's Board of Governors and the publication of bi-annual journal, Science Vision, the Committee expressed satisfaction over the administrative and financial affairs of COMSATS Secretariat.

31st Meeting

The 31st regular meeting of COMSATS' Management Committee was held on 22 December 2011 at COMSATS Secretariat, Islamabad. Chaired by the Executive Director COMSATS, the meeting was attended by the committee members, Dr. S. M. Junaid Zaidi, Rector CIIT; Mr. Tajammul Hussain, Advisor (Programmes) COMSATS; Mr. Asim S. Husain, CEO COMSATS Internet Services (CIS); and Dr. Tariq-ur-Rahman, Former Chairman of Pakistan Council for Science and Technology (PCST). Other officials of COMSATS Secretariat present in the meeting included Dr. Hasibullah, Advisor (International Affairs); Mr. M. Bilal Chouhan, Dy. Director (A&E); and Mr. Amanullah Khattak, Dy. Director (F&A).

Major points of discussion of the meeting were: the Executive Director's visits to COMSATS' Member States and Centres of Excellence during November 2011; preparations for the upcoming Commission Meeting; follow-up on the 14th Coordinating Council meeting and preparations for the 15th meeting; in addition to administrative and financial affairs of COMSATS. A detailed presentation was made on the highlights of the activities of COMSATS Secretariat from April to December 2011 by the Advisor (Programmes) COMSATS. In his presentation, Mr. Hussain updated the participants of the meeting regarding COMSATS' secretarial functions performed during the reporting period, campaign for enhancing COMSATS' membership and Network of Centres of Excellence; COMSATS' assistance to the Government of Pakistan in formulating its National Science, Technology and Innovation (ST&I) Policy; capacity-building events organized/sponsored by COMSATS in its member countries; and activities of COMSATS' International Thematic Research Groups (ITRGs).



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On the occasion, the Rector CIIT and the CEO CIS also gave briefings on their respective institutions' progress over the past few months.





Annual Report

2011



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COMSATS organizes and sponsors national and international capacity-building events in the fields of science and technology pertinent to the needs of its member countries. Most of these activities are undertaken in partnership with International Organizations and scientific Institutions of host countries.

SCIENCE AND TECHNOLOGY EVENTS ORGANIZED WITH COMSATS' SUPPORT

COMSATS-ISESCO-NSF-CIIT International Conference on Nanomaterials & Nano Ethics, Lahore, Pakistan (1-3 December 2011)

The international conference on Nanomaterials and Nano Ethics was held at COMSATS Institute of Information Technology (CIIT), Lahore, Pakistan, on 1-3 December 2011. The Conference was jointly organized by COMSATS and CIIT (Lahore Campus) in collaboration with the Islamic Educational, Scientific and Cultural Organization (ISESCO); OIC's Standing Committee on Scientific and Technological Cooperation (COMSTECH); Higher Education Commission (HEC) of Pakistan; and National Science Foundation (NSF); and University of Delaware, USA.

The Conference focused on the following themes: nanomaterials for energy and water applications; nanomaterials for environmental remediation; nanosensors for the environment; fate and transport of nanomaterials in the environment; nanoethics/scientific ethics; environmental ethics; and nano risk framework.

The event was inaugurated by Dr. Mukhtar Ahmed, Deputy Director General ISESCO. Also present at the opening ceremony were: Dr. Imtihan Elahi Qureshi, Executive Director COMSATS; Dr. Haroon Rashid, Director External Campuses CIIT; Dr. Mahmood A. Bodla, Director CIIT Lahore Campus; Dr. Anwar Saadat Siddiqi, Advisor CIIT; and Prof. Ismat Shah, from University of Delaware, as expert sponsored by National Science Foundation (USA). In his opening remarks, the chief guest





highlighted the timeliness of the Conference in the wake of the Islamic Countries' need to: explore the state-of-the-art achievements in nanotechnology; define research priorities; and create opportunities for interdisciplinary collaboration at local, regional and international levels. Dr. Qureshi appreciated the growing cooperation between ISESCO and COMSATS that is resulting in making strong efforts towards the capacity-

building of S&T organizations in common member countries.

This Conference aimed to provide an avenue for researchers to discuss recent discoveries and their industrial applications. About 200 participants belonging to various academic and research institutions; international, non-governmental, and inter-governmental organizations; and representatives of business and industry, attended the meeting.

The technical programme of the three-day event consisted of 11 technical sessions and 45 scholarly contributions. These contributions comprised 30 invited presentations, five contributive presentations, as well as eight oral and two poster presentations by students. The invited speakers came from Bangladesh, China, Egypt, France, Indonesia, Iran, Italy, Malaysia, Saudi Arabia, South Korea, Syria, and the United States of America. Among them, some keynote presentations were made by the world-renowned experts, who focused on cutting-edge and emerging nanomaterial-based technologies and their applications, such as biosensing and bioimaging, photovoltaic devices, semiconductor nanowires, biotherapeutics, fuel cells, nanomaterials for water purification and energy management and other structural applications.

The Conference proved effective in terms of:

- Bringing together subject experts, researchers, academicians, environmentalists, and representatives from several relevant local and regional organizations to deliberate upon the current status, needs, challenges, and opportunities in the field of nanotechnology from ethical and social perspectives;
- Giving exposure to frontiers of nano-research and knowledge sharing amongst scientists from 12 countries;
- Exploring the scientific aspects of nanotechnology that are relevant to the



- environment; and
- Highlighting the concepts of ethics in general and environmental ethics in particular that pertain to nanotechnology.

This activity was a continuation of a conference in UAE on nanotechnology. The two conferences were held back-to-back in order to economize the travel cost and optimize the time spent by expert from Japan, USA and Europe.

COMSATS-ISESCO-NSF-CIIT Third International Conference on Nanotechnology, Al-Ain, UAE (28-30 November 2011)

The 3rd International Conference on Nanotechnology was held on November 28-30, 2011, at United Arab Emirates University (UAEU), Al Ain, UAE. Prof. Dr. Yousef Haik, Faculty of Engineering UAEU, was the principal host of the event that had over 150 attendees from Bangladesh, China, Egypt, India, Iran, Japan, Malaysia, Pakistan, Saudi Arabia, Syria, and the USA.

The Conference was jointly organized by COMSATS, ISESCO, UAEU, the International Association for Sharing Knowledge and Sustainability (IASKS), Arab Academy of Sciences (AAS), and National Science Foundation (NSF), USA. The event was inaugurated by H.E. Sheikh Nahyan bin Mubarak Al Nahyan, Minister of Higher Education and Scientific Research, UAE, and the Chancellor UAEU, H.H. Sheikh Nahyan, acknowledged that social, moral and ethical issues were associated with emerging nanotechnologies.

The deliberations of the Conference revolved around the following themes:

- Emerging research that focuses on the applications of micro and nano technologies;
- Venture investment that enables the laboratory research to be transferred to industry; and
- Development of feasibility studies at universities and research agencies for nanotechnology related projects.



The keynote address on 'The Nano-World as a Manufacturing Playground: The Vision of Nanomanufacturing at NSF' was delivered by Dr. Charalabos C. Domanidis, NSF Nanomanufacturing Program Director. He elaborated on the current designs and nano-manufacturing investigations; targeted drug delivery via magnetic micelle nanocapsules; and net-shaping and metrology.

One of the highlights point of the event was a keynote address titled 'III-V Quantum dot Lasers: Progress and Challenges', given by Dr. Mohamed Henini, Professor of Applied Physics at Nottingham University, UK.

Dr. Saeed Sarkar of the Iran Nanotechnology Initiative Council delivered a concise presentation titled 'A Glance at Iran's Nanotechnology Activities and Achievements'. He gave an insight into Iran's national nanotechnology development plan, referred to as 'Future Strategy', and shared objectives, targets, status, achievements and impact. Dr. H. El Ghandoor of Ain Shams University, Egypt, presented his work on



developing a new technique for detecting the size of polymeric nanoparticles, which would be used for better anticancer drug delivery. Dr. Sharif Hossein of the Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, made a presentation on formulation of siRNA/carbonate apatite nano-composites for efficient silencing of cancer related genes.

Dr. Fawzy Mahmoud of NRC showcased his work on developing an efficient technique, homemade spray pyrolysis for solar cell material preparation. Dr. Tehseen Raza of the University of Iowa, USA, in her presentation, demonstrated how the new devices based on electron spin could revolutionize data storage and potentially serve as 'Universal Memory'. Dr. Mark Greene of the University of Delaware, USA, elaborated on the ethical issues of the Nanotechnology. Dr. Thomas Powers of the University of Delaware, USA, suggested a new framework for making decisions about nanotechnology development in order to address the uncertainty about outcomes, while still allowing scientific and technological progress. Dr. Zafar Iqbal of COMSATS Institute of Information Technology (CIIT), Pakistan, discussed the novel applications of nanotechnology in photovoltaics. His presentation overviewed many new concepts and technologies, with an update on the exciting recent developments in alternative energy resources.

Dr. Dato M. Yahaya of Universiti Kebangsaan Malaysia (UKM), Malaysia, highlighted some scientific challenges related with the use of nanostructures in photovoltaics, such as charge transport phenomena, surface recombination, and intricacies in preparation techniques.

The Conference resulted in:

- Assessing nano and micro technologies for emerging applications and its prospects in the region;
- Sharing research results in nanosciences; and
- Discussing new technologies, and related collaborative research and business developments.

IASKS organized an exhibition that was held in parallel with this International Conference. A total of five companies and organizations, besides IASKS set up stalls during the exhibition to showcase various products.

The International Workshop on 'Nanotechnology in the Edge of Convergence', Puri Pujangga, Malaysia (24-27 November 2011)

The International Workshop on 'Nanotechnology in the Edge of Convergence' was organized by COMSATS, in collaboration with the Institute of Microengineering and Nanoelectronics (IMEN), Malaysia, and the Centre for Science & Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre), India, on November 24-27, 2011, at Puri Pujangga, Universiti Kebangsaan Malaysia (UKM), Malaysia. The event was co-sponsored by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

This workshop was inaugurated at UKM, on November 24, 2011, in the presence of Prof. Dato' Dr. Burhanuddin Yeop Majlis, Director IMEN; Prof. Datuk Dr. Noor Azlan Ghazali, Deputy Vice Chancellor UKM; Prof. Dr. Arun P. Kulshreshtha, Director NAM S&T Centre; and Dr. Arshad Saleem Bhatti, Dean Faculty of Science, CIIT, Pakistan. A highlight of the Inaugural Ceremony was the keynote address by Prof. Dr. Halimaton Hamdan, Undersecretary of National Nanotechnology Directorate, Ministry of Science, Technology and Innovation (MOSTI), Government of Malaysia, titled 'NanoMalaysia Programme and Way Forward'. Moreover, brief remarks on the event were given by Mr. Mohammad Zulkifli Hashim, Executive Secretary, Malaysian National Commission for UNESCO.

Prof. Dr. B.Y. Majlis considered the joint organization of the event as an opportunity to expand UKM's network. Prof. Dr. Kulshreshtha believed that the event would open new avenues for fundamental research and application oriented programmes in the developing countries. In his message, read out at the occasion, the Executive



Director COMSATS appreciated the efforts made by the organizing committees of the event and considered the event an important platform that brought together relevant scientists and researchers to share ideas, expertise and knowledge related to the fields of nanoscience and nanotechnology.

Twelve Malaysian and 25 international experts/scientists made presentations on the theme of the workshop. Apart from local and international speakers, about 50 Malaysian scientists, researchers and students participated in the event. The international speakers at the event belonged to Bangladesh, Bulgaria, Cambodia, Egypt, India, Indonesia, Iraq, Kenya, Malawi, Mauritius, Morocco, Myanmar, Nepal,



Pakistan, Sudan, Tunisia, Uganda, and Vietnam.

The deliberations of the event were spread over four days and comprised six technical sessions and visits to UKM and IMEN. The event also included a Poster Presentation Session, in which nine posters displayed the research work of Malaysian scholars. The experts from various developing countries extensively deliberated upon the status and prospects of nanoscience and nanotechnology in developing countries; issues related to nanotechnology policy development, human resource development and market development; implications of nanotechnology for health and environment; implications of nanotechnology to the ethical, legal and social issues; development of necessary infrastructure to support R&D on nanoscience and nanotechnology; future applications of nanotechnology; development of standards for analysis/quality control of nano-products; and enhancing the regional and global networking in nanoscience and nanotechnology activities. The experts noted that the promotion of nanoscience and nanotechnology and their applications was becoming a major conduit to attaining technological advancement and achieving economic prosperity.



The deliberations and debates of the participating scholars resulted in the formulation of 'Bangi Recommendations on Nanotechnology in the Edge of Convergence for the Developing Countries' that were later adopted during the Workshop's closing session.

International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region', Islamabad, Pakistan (22-24 November 2011)

The three-day International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region' was organized by COMSATS, in collaboration with the COMSATS Institute of Information Technology (CIIT), Islamabad, on November 22-24, 2011, at the National Institute of Banking and Finance (NIBAF), Islamabad, Pakistan. The event also had the patronage of the United Nations Educational, Scientific and Cultural Organization (UNESCO); the Higher Education Commission (HEC) of Pakistan; and the German Academic Exchange Service (DAAD).

Held on November 22, 2011, the Inaugural Ceremony of the event was presided over by Dr. S. M. Junaid Zaidi, Rector CIIT, and chaired by Dr. Shahina Tariq, Chairperson, Department of Meteorology, CIIT, Islamabad. The distinguished guests at the



Inaugural Ceremony included Dr. Qamar-uz-Zaman Chaudhry, Advisor (Meteorological & Climate Affairs), Government of Pakistan; Mr. Tajammul Hussain, Advisor (Programmes) COMSATS; and Dr. Amir H. Malik, HEC Foreign Professor at CIIT. The highlights of the ceremony were an Inaugural Address by the Rector CIIT, a message from the Executive Director COMSATS, a special lecture on the workshop theme by Dr. Chaudhry, introductory remarks by Dr. Malik, and a vote of thanks by Dr. Tariq.

During his Inaugural Address, Dr. Zaidi stressed the significance of information-sharing for capacity-building and reassured of CIIT's efforts to excel in these areas. In his message, read out on the occasion, the Executive Director COMSATS opined that the countries of the South were at a greater risk due to their heavy reliance on climate-sensitive sectors, such as agriculture, livestock and fisheries. He stressed that the developing countries must remain conscious of such risks while formulating relevant policies and undertaking development projects. Dr. Chaudhry, in his special lecture, discussed the formulation of Pakistan's 'National Climate Change Policy' and 'National Climate Change Strategy and Action Plan'. In this regard, Dr. Chaudhry highlighted the key areas and sectors, and relevant policy measures.

The event consisted of four technical sessions and covered a wide range of topics relating to climate change and water resource management, including: the generalized PV-View and their applications in severe weather conditions; latitudinal precipitation characteristics; influence of global climate change on medicinal, aromatic and coastal plants; damage assessment and policy implementation; role of remote sensing and GIS; climate crisis and e-adaptation; C3 plant expansion by increasing CO₂ concentration; impact of land-use change on precipitation-pattern by using Regional Climate Model Version-3 (RegCM3); relationship between climate change and socio-natural activities, etc.

The workshop also comprised five invited lectures and 25 presentations. The event was attended by a total of 93 (15 international and 78 local) subject experts/officials. The international participants/speakers belonged to Bangladesh, China, Germany, Iran, Malaysia, Sri Lanka and Sudan. The local subject experts/officials belonged to various public/private universities, R&D organizations, Government departments and NGOs of Pakistan.

It was noted by the experts during the meeting that the present concentration of CO₂ in the atmosphere was the highest in history and had primarily been caused by the



industrial revolution and due to the uncontrolled use of fossil fuels, land degradation and deforestation, principally, in the tropical rainforest regions. The experts also noted that the dramatic shifts in weather can cause mass destruction and leave vast populations of the Asia-Pacific region amenable to large scale resettlement to higher grounds. As opposed to the usual practice of water resource managers, focusing only on surface-water storage through large dams and barrages, an effective future strategy for water-resource management was proposed that includes utilization of water from all sources, including wet lands, link canals for inter transfer of water, rain harvesting (both rural and urban), village ponding and roof-top storage, etc.

The international workshop strengthened linkages amongst the participating academicians, researchers and policymakers/implementers from the developing countries, and contributed to their capacity-building for effectively adapting and mitigating the deleterious effects of climate change on water resources in their respective countries.

The event provided a forum to the researchers, scientists, government officials and students from various developing and developed countries, especially from the Asia-Pacific region, to:

- Discuss the issues and challenges posed by climate change in planning and management of water resources; and
- Exchange knowledge, expertise and views in the areas of groundwater modeling; snow and glaciers' monitoring and assessment; remote sensing and GIS applications; modeling techniques for poorly gauged river basins in the developing countries; flood and drought forecasting and mitigation; and socio-economic aspects of climate change.

COMSATS-ISESCO Workshop on Repair and Maintenance of Scientific Equipment, Cairo, Egypt (17 November 2011)

The national workshop on 'Repair and Maintenance of Scientific Engineering Equipment in Universities, Research Institutions and Small Scale Industries' concluded on November 17, 2011, after training more than 27 participants including engineers, technicians, researchers and students from various institutions from Egypt. The workshop that started on November 13, 2011, had jointly been organized by COMSATS, ISESCO and the National Research Centre (NRC), Egypt, under the

COMSATS - ISESCO Cooperation Programme- 2011.

The event was a continuation of the joint activity on the same theme that had started in Sudan, in 2004, followed by similar national events in Sudan, Syria and Senegal. The main objective of the workshop was to develop indigenous capacities of Egyptian scientists and institutions to enable them to repair and maintain their scientific equipment and keep them operational, through hands-on training.

The inaugural ceremony of the workshop was held on November 13, 2011, at NRC, and was addressed by Prof. Dr. Ashraf Shaalan, President NRC; Prof. Dr. Ahmed Shaban, Vice President NRC; and Prof. Dr. Kamal Ahmed Abed, Head of the Mechanical Engineering Department of NRC. COMSATS and

ISESCO were represented by Mr. Nisar Ahmad, Senior Assistant Director (Systems) COMSATS, who also read out messages from the Director General ISESCO and Executive Director COMSATS. Other distinguished guests on the occasion included, Prof. Dr. Osama El-Shabrawy, Former President NRC; Dr. Matsushita Yoshihisa of the Japan International Cooperation Agency (JICA); representatives of Egypt-UNESCO World Heritage Centre; Egypt-Japan University of Science and Technology (E-JUST) and government ministries and agencies; as well as representatives from academia and the private industrial sector of Egypt.

In his welcome address, Prof. Abed lauded the efforts made by COMSATS and ISESCO Center for Promotion of Scientific Research (ICPSR) for organizing the workshop while highlighting its importance. Speaking on the occasion, Prof. Shaalan highlighted the ever-increasing significance of repair and maintenance of scientific equipment to achieve operational efficiency viz. R&D work in universities and R&D institutions. Prof. Shaban appreciated COMSATS and ISESCO for organizing the workshop at NRC. The message of the Executive Director COMSATS also highlighted the importance of the repair and maintenance of scientific equipment in smooth operation of the R&D activities in universities, research institutions and small scale industries.





Emphasizing the workshop's theme and related issues that needed to be addressed at the national and regional levels, H.E. Dr. Abdulaziz Othman Altwaijri, Director General ISESCO, deemed it important to strategize for effective management of spare parts to maintain, ensure and strengthen the reliability of scientific equipment in order to achieve continuous production and avoid costly downtime. Acknowledging the contribution of COMSATS and NRC for holding the workshop, Dr. Altwaijri expressed his special gratitude towards COMSATS for its valuable support towards the event. He expressed his satisfaction over ISESCO-COMSATS collaboration that started in 2004 and reaffirmed the participants of ISESCO's readiness to increase the number of such workshops in OIC Member States.

Two subject-experts from the Pakistan Council of Scientific and Industrial Research (PCSIR), Pakistan, Mr. Arif Karim and Mr. Faisal Ghazanfar, imparted training to the Egyptian scientists, engineers and technicians during the 10 technical sessions of the workshops. Various topics of the technical session included: PCR Systems; Gas Chromatographic Systems; HPLC Systems; Mass Spectroscopy; Mass Detectors and Mechanics; Thermal Analyzers; High Temperature Pressure Reactor (HTPR); and Pressure Composition Isotherm Measurement Systems. The sessions comprised hands-on training, complemented by lectures, on the theme of the workshop. To consolidate the trainees' learning, visits were made to various labs of NRC, including the XRF Lab, the Thermal Analyzer Lab and the Pressure Composition Isotherm Lab.

The workshop achieved its objectives by:

- Developing the indigenous capacity of Egyptian scientific institutions to repair their equipment, by training master trainers; and
- Enabling the participants to address the maintenance issues of important and expensive scientific equipment on their own, thus facilitating the local industry and research labs.

Conclusions and Recommendations of the Workshop

The following recommendations were made after the successful conclusion of the workshop:

- i. To establish an annual International Workshop on Repair and Maintenance of Scientific Engineering Equipment at the National Research Centre, Egypt, in collaboration with ISESCO and COMSATS, and any other organization;
- ii. To negotiate the possibility of obtaining Scholarships for training young researchers and assistants in Pakistan for 2 to 3 months (experience transfer);
- iii. To consider NRC as a focal point for experienced specialists in maintenance of scientific equipment. The trained young staff would become resource persons for repair and maintenance of scientific equipment.

Taking advantage of experts' presence, scientists and engineers from different Labs of NRC, reported a number of faulty instruments that had been lying idle for long due to unavailability of technical expertise for repairing them.

The COMSATS' technical team, in addition to its primary task of conducting the workshop, endeavoured to identify/rectify faults in the reported scientific equipments of NRC. This proved to be an opportunity for the trainees to practically use what they had learnt during the workshop.



Consultancy Provided by COMSATS' Technical Team to Repair Scientific Equipment

S#	Instrument	Identification and Rectification of Faults/Problems
1	Pressure Composition Isotherm (PCI), AMC, USA	Problem was in the low temperature measurement system. It was successfully traced after thorough inspection. The problem was due to the faulty/corroded sensor (Diode based temperature sensor). It was removed and handed over to the concerned engineer for replacement.
2	Gas Chromatograph Model: 6890N, Agilent Technology	There was an error of miss-alignment of auto-sampler, due to which the whole instrument was non-functional. The electromechanical alignment and its communication with the software were successfully re-established and the equipment was made operative.
3	HPLC Model: 717, Waters	There was a problem in the computer software. Some efforts were made to fix the software. It was suggested to the concerned staff to arrange for the original software and get it installed for smooth functioning.
4	PCR System; Model: 9600, Perkin Elmer	After thorough inspection it was found that the main controller was missing. The concerned staff was asked to arrange for the missing card to make the system operational. The re-designing of card, if necessary, will be undertaken.
5	Charge Amplifier; Model: EOMD-65	Many charge amplifiers were found faulty. One amplifier attempted to be repaired but due to shortage of time, the repair work could not be completed. On the request of NRC's senior officials, The amplifier was brought to Pakistan for repair. The amplifier has been sent back to NRC after repair alongwith instructions to repair other faulty items.

Through the training imparted during the workshop and faults identified for rectification in a large number of scientific instruments, it is expected that millions of dollars could be saved by universities and research organizations of Egypt.

Second Meeting of the IWSN Coordinators of the Virtual Scientific Thematic Groups for Enhancing Cooperation among Islamic Countries, Rabat, Morocco (17-18 October 2011)

In continuation of their efforts for strengthening the Web-portal, 'Islamic-world Science Net' (IWSN), COMSATS and the Islamic Educational, Scientific and Cultural



Organization (ISESCO) jointly organized the 2nd International Meeting of 'Coordinators of the Virtual Scientific Thematic Groups (VSTGs) for Enhancing Cooperation among Islamic Countries', on 17-18 October 2011, at ISESCO Headquarters, in Rabat, Morocco.

The two-day meeting was attended by eminent scientists and experts from Algeria, Egypt, Morocco, Pakistan and Tunisia, who are the designated Coordinators of the VSTGs in the fields of New and Renewable Energy; Water Management; Mathematics; Science & Technology Park Management; Bio-sciences/Biotechnology and Genetic Engineering; ICTs in Science & Technology, and Universities. The Inaugural Ceremony was chaired by the Deputy Director General ISESCO, Dr. Mukhtar Ahmed, along with the Executive

Director COMSATS, Dr. Imtihan Elahi Qureshi, and the Head of ISESCO Center for Promotion of Scientific Research (ICPSR), Ms. Wafaa El Alami. In his opening remarks, the Executive Director COMSATS appreciated the services of Coordinators, who have been voluntarily spending time and effort for the management of their respective groups, in the best interest of OIC scientists. Dr. Ahmed, in his address, welcomed all the Coordinators of the Groups and expressed satisfaction over the scientific cooperation between ISESCO and COMSATS. He also highlighted the important role of Coordinators in establishing a virtual network and enhancing cooperation among OIC countries.

The workshop comprised five technical sessions, apart from Inaugural and Closing Sessions. During the technical sessions, the Coordinators of VSTGs presented current status of their Groups and their plans to enhance group activities. Mr. Tajammul Hussain, Advisor (Programmes) COMSATS, highlighted the current status of IWSN, while stressing the key role of the Coordinators for the success of the web-portal. The Senior Assistant Director COMSATS, Mr. Nisar Ahmad, who is also the Technical Coordinator of IWSN, made a detailed presentation on the various features of IWSN, and the action plan for the year 2011. The presentation was followed by a training workshop on administrative and managerial aspects of the VSTGs and the participants of the workshop were provided hands-on training to use all the features of

the portal. The meeting concluded on a note of confidence in the efforts made by ISESCO and COMSATS for enhancing cooperation among Islamic countries through this network and with the hope that the VSTGs would help achieve the mission set out for IWSN.

10th CTWF International Training Workshop on 'Regional Climate Change and its Impact Assessment', Beijing, China (26-29 September 2011)

The 10th CAS-TWAS-WMO Forum on Climate Science (CTWF) International Training Workshop on 'Regional Climate Change and its Impact Assessment' was jointly held on September 26-29, 2011, in Beijing, China, by the CTWF and COMSATS. The event was also co-sponsored by the United Nations Educational, Scientific and Cultural Organization (UNESCO); Ministry of Science and Technology (MoST), Government of China; Chinese Meteorological Administration (CMA), China; Institute of Atmospheric Physics (IAP), China; and International Center for Climate and Environment Sciences (ICCES), China.

The main objectives of the event were to enhance the scientific capacity of young researchers working in the field of climate sciences in the developing countries and to establish and strengthen linkages among the developing countries, in general, and participating institutions, in particular, for sharing knowledge and experiences related to the impact assessment of regional climate changes and related management and adaptation methodologies.

The Inaugural Session of the event, which was held on September 26, 2011, was chaired by the Deputy Director IAP, Prof. Jiang Zhu (also a member of COMSATS' Technical Advisory Committee). During his remarks, Prof. Zhu highlighted the importance of the workshop's theme and welcomed the distinguished guests and participants. Moreover, Messages from the President Chinese Academy of Sciences (CAS), Executive Director TWAS, and Executive Director COMSATS



were read out on the occasion by Mr. Jinghua Cao, Deputy Director, Bureau of International Cooperation, MoST, China; Ms. Shuqin Fu, Director, TWAS Regional Office for East & Southeast Asia, CAS, China; and Mr. Tajammul Hussain, Advisor (Programmes) COMSATS, respectively. Also attending the inaugural ceremony, the Executive Directors of CTWF, Prof. Huijun Wang and Prof. Qingcun Zeng, appreciated the efforts made by the collaborating organizations for holding the workshop and hoped that the event would generate a better understanding on climate change and relevant adaptation and mitigation measures.



The proceedings of this four-day workshop comprised 29 invited lectures and presentations on various topics relating to the facts of regional climate changes and the detection techniques; impact of climate change on regional water resources; impact of climate change on agriculture and ecosystem; and regional climate models and their applications for climate change studies. The workshop also included visits to the CMA's National Climate Centre, Beijing Climate Center, Huafeng Audio & Video Center, and China Meteorological S&T Exhibition Hall, as well as ICCES/IAP. The event was attended by a total of 63 local and foreign participants from 14 developing countries, Ghana, Sri Lanka, Thailand, Pakistan, Malaysia, Nepal, Mongolia, Uganda, Iran, Egypt, Bangladesh, Vietnam, Jordan and China. A total of 27 foreign experts/scientists participated in the event.

During the technical sessions of the workshop, experiences regarding climate change specific to various regions and countries were shared, and impact of various weather conditions were evaluated to gauge their long-term effects on various aspects of human life that include, food security and water resource management, geography, and health. Moreover, various regional climate models such as ICTP RegCM4, PRECIS, ECHAM4 GCM, HadAM3P, WRF Model, RegCM3, etc., were discussed and used to measure regional climate changes. The international training workshop successfully achieved its objectives and strengthened linkages among the participating academicians, researchers and scientists working in the field of Climate Sciences.

COMSATS-ISESCO International Workshop on Internet Security, Damascus, Syria (23-27 July 2011)

Realizing the importance of information security in today's networked information systems, a five-day international training workshop titled 'Internet Security: Enhancing Information Exchange Safeguards' was organized by COMSATS in Damascus, Syria, from July 23-27, 2011, in collaboration with ISESCO; the Inter-Islamic Network on Information Technology (INIT); the Syrian-COMSATS-



COMSTECH IT Centre (SCCITC); the Higher Institute for Applied Science and Technology (HIAST), Syria; and the Ministry of Higher Education (MoHE), Government of Syria. The event was organized on the recommendation of the former Syrian Minister for Higher Education, H.E. Dr. Ghias Barakat.

The Workshop comprised 20 technical sessions, and an Inaugural and a Closing Session. Apart from over 50 Syrian nationals, participants from Bangladesh, Indonesia, Jordan, Malaysia, Pakistan and Sudan

benefited from the proceedings of the Workshop. Around 100 relevant personnel participated in the event that included engineers, I.T professionals, researchers and students; as well as officials of government ministries and agencies, and representatives from the private sector, e.g. economists, bankers, media persons, and academia.

Held on July 23, 2011, the Inaugural Ceremony of the Workshop comprised addresses by Dr. Bassel Al-Khatib, Director SCCITC, Ministry of Higher Education, Syria; Dr. Maher AGI, Director of the Scientific Cooperation of HIAST, Syria; as well as messages from the Director General ISESCO and the Executive Director COMSATS. COMSATS and INIT were represented by Dr. Nasro Min-Allah, Head of the Department of Computer Science, COMSATS Institute of Information Technology (CIIT); and Mr. Attiq-ur-Rehman, Senior Programme Officer INIT, respectively.

On behalf of HIAST, Dr. Maher appreciated the efforts made by COMSATS and SCCITC in organizing the workshop. He outlined the achievements of HIAST, which included its contributions towards formulating security-related policies and procedures; undertaking penetration testing and vulnerability assessment; building and operating certification-authority for GRID-computing at the national level, as well as providing security solutions for public sector organizations.

Identifying the issues that needed to be addressed at the national and global levels, Executive Director COMSATS, in his message (read out by Dr. Nasro Min-Allah), urged on taking measures to ensure the confidentiality, integrity, and availability of the large amount of critical information available on the networking infrastructures worldwide.

The workshop spanned five days, each day accommodating one module of the workshop. The five modules of the



workshop were as follows:

- Network Vulnerabilities and Security Threats;
- Organizational Security;
- Cryptographic Techniques for Network Security;
- Web Security; and
- Biometric Security.

Each module comprised three presentation sessions and a hands-on session. The training imparted during the technical sessions was further consolidated through lectures, tutorials and practical exercises.

Five subject-experts from Pakistan, four from the COMSATS Institute of Information Technology (CIIT) and one from the National University of Science and Technology (NUST) of Pakistan, imparted training to the participants.

Outcomes of the Workshop

- The Workshop helped build the capacity of the participants on network protocols, models, topologies and related security threats; modern-day cryptographic algorithms and protocols; working of major web-security applications; working of contemporary biometric systems; different aspects of cyber security; setting up different web-security applications, e.g. Kerberos, IPsec and PGP; various types of anti-virus, anti-spyware and firewall tools; full disk encryption (FDE) tools, including TrueCrypt and Microsoft's BitLocker; as well as the use of packet-sniffing tools including Wireshark and TCPdump.
- Understanding was developed about Network protocols, and topologies, Information Security Management Systems (ISMS); security policies, procedures/systems and their implementation; symmetric and asymmetric cryptographic systems, key based authentication functions; Secure Electronic Transaction (SET), biometric techniques and Biometric Template security.
- The event also provided relevant professionals and technical personnel from the participating countries.
- The working of a few of the network-security tools was demonstrated to acquaint the participants with the latest technologies.



COMSATS-eHAP National Workshop on Digital Library, Islamabad, Pakistan (20-22 July 2011)

A national training workshop on 'Digital Library using Open Source Software' was organized by the eHealth Association of Pakistan (eHAP) at COMSATS Secretariat,



Islamabad. The workshop was supported by COMSATS Secretariat, COMSATS Internet Services (CIS), DlnetSA, and LISolutions. Librarians and IT professionals from various government and private organizations, like Pakistan Institute of Medical Sciences (PIMS), Pakistan Atomic Energy Commission (PAEC), State Bank of Pakistan and Heartfile Pakistan, as well as academic institutions of Pakistan, like the Aga Khan University, International Islamic University, Islamia

University, Riphah University, Bahria University and COMSATS Institute of Information Technology (CIIT) attended the workshop.

The workshop was inaugurated on July 20, 2011 by Dr. Haroon Roedad Khan, President eHAP. The workshop aimed to provide the participants with free and open source software for digital libraries and library management. It comprised nine technical sessions spread over three days. Lead trainers of the workshop were Dr. Mohan Raj Pradhan from DlnetSA, Nepal; and Mr. Shafiq Rana and Mr. Ata ur Rehman from LISolutions who delivered lectures and imparted hands-on training for two important free and open source softwares, 'GSDL' and 'Koha'.

The event concluded on July 22, 2011, with the distribution of certificates among the organizers and participants. Speaking at the Concluding Ceremony, the Executive Director COMSATS felicitated the organizers for successfully holding the workshop. He also appreciated the role of eHAP in supporting quality e-health services across Pakistan and considered it an important area for collaboration between COMSATS and eHAP, as the former is one of the pioneers of this field in Pakistan. Both organizations are using modern telecommunication technology to supplement existing healthcare services in Pakistan.



Also on the occasion, the President eHAP impressed upon the participants the need to practically use at their institutions the knowledge imparted through this workshop. He believed that the libraries in the developing countries like Pakistan needed to come at par with the modern technological age to effectively disseminate the most up-to-date knowledge. The three trainers also shared their training experiences in the light of the three-day proceedings and appreciated the support rendered by COMSATS Secretariat and eHAP for the event.

COMSATS-UNESCO International Training Workshop on 'Science Education for Sustainable Development', Dhaka, Bangladesh (27-28 June 2011)

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 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 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 emphasized that science and technology had the power to bring about this change. In his message, read out on the occasion by Advisor (Programmes) of COMSATS, Mr. Tajammul Hussain, the Executive Director COMSATS stressed that regional and global partnerships for scientific education and training were essential for achieving economic prosperity, environmental quality and social equity that were the three dimensions of sustainable development'.

The Inaugural Session of the event further included addresses by the Secretary of the Bangladesh's Ministry of Education, Dr. Kamal Abdul Naser Chowdhury, Head/Representative of UNESCO's Dhaka Office, Mr. Derek Elias, and the Additional Secretary of Bangladesh's Ministry of Education, Mr. Md. Sirazul Islam, as well as presentation of the workshop's theme paper by the Chairperson of the Department of Biochemical Physics and Technology at Dhaka University, Prof. Dr. K.



Siddique-e-Rabbani (Technical Coordinator of the event).

The proceedings of the two-day event comprised five Workshop Sessions on specific topics related to the overall theme of the workshop and comprising presentations of local/foreign participants, as well as discussion sessions for the identification of key issues and challenges facing science education in the developing countries and formulation of 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 at the event.

The workshop served to develop and strengthen necessary linkages among the relevant entities, individuals and institutions of the developing countries to exchange expertise for strengthening science education as a way to attain 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 amelioration of the education systems that fall short of meeting the needs of sustainable development.



Travel Grants and Sponsorships Provided by COMSATS

COMSATS encourages scientists and scholars to participate in academic and capacity-building events of COMSATS and other organizations with similar mandates. During 2011, COMSATS provided grants and sponsorships to the following individuals/scientific institutions.

S#	Paid to	Activity	Amount (US\$)	Nature of Expenditure
1	Dr. Binish Gull Arshad, Ph.D Scholar, Department of Biotechnology, Quaid-e-Azam University, Islamabad, Pakistan	"24th International Conference on Antiviral Research, May 8-11, 2011, Zografski Sofia, Bulgaria.	\$1,179	Travel Grant
2	Dr. Qamar-uz-Zaman Chaudhry, Advisor Met. & Climate Affairs	16 th World Meteorological Congress, May 16 to June 03, 2011, Geneva, Switzerland	\$1,176	Travel Grant
3	Mr. Muhammad Ismail, Assistant Computer System Supervisor, Climatology Section GCISC, Pakistan	International Conference on Role of e-infrastructures for Climate Change Research, 16-20 May 2011, Trieste, Italy	\$582	Travel Grant
4	Ms. S. Dumindika, Research Assistant, Institute of Fundamental Studies	Workshop on 'Modern Techniques in Combinatorial Chemistry', June 14-16, 2011, Islamabad, Pakistan	\$957	Travel Grant and Boarding & Lodging
5	Ms. Alakolange Gedara Achala Wimukthika, Research Assistant, Institute of Fundamental Studies	Workshop on 'Modern Techniques in Combinatorial Chemistry', June 14-16, 2011, Islamabad, Pakistan	\$957	Travel Grant and Boarding & Lodging
6	Dr. Waleed S. Koko, Head, Dept. of Microbiology and Parasitology, Medicinal and Aromatic Plants Research Institute, National Centre for Research, Egypt	Workshop on 'Modern Techniques in Combinatorial Chemistry', June 14-16, 2011, Islamabad	\$800	Travel Grant
7	Mr. Mohammed Ahmed Abbas, Industrial Research and Consultancy Centre (IRCC), Sudan	Workshop on 'Modern Techniques in Combinatorial Chemistry', June 14-16, 2011, Islamabad	\$925	Travel Grant
8	Mr. Muhammad Atiq ur Rehman, CIIT, Pakistan	International Training Workshop on 'Science Education for Sustainable Development', June 27-28, 2011, BIAM, Dhaka, Bangladesh	\$977	Travel Grant and Boarding & Lodging
9	Mr. Ahmed Mumtaz Mustehsan, CIIT, Pakistan	International Training Workshop on 'Science Education for Sustainable Development' June 27-28, 2011, BIAM, Dhaka, Bangladesh	\$977	Travel Grant and Boarding & Lodging



10	Dr. Kumari Tillekeratne, Institute of Fundamental Studies (IFS), Sri Lanka	International Training Workshop on 'Science Education for Sustainable Development' June 27- 28, 2011, BIAM, Dhaka, Bangladesh	\$964	Travel Grant and Boarding & Lodging
11	Mr. J. Akilavasan, Institute of Fundamental Studies (IFS), Sri Lanka	International Training Workshop on 'Science Education for Sustainable Development', June 27-28, 2011, BIAM, Dhaka, Bangladesh	\$964	Travel Grant and Boarding & Lodging
12	Dr. Abdul Ghaffar, CIIT, Pakistan	International Training Workshop on 'Science Education for Sustainable Development', June 27-28, 2011, BIAM, Dhaka, Bangladesh	\$998	Travel Grant and Boarding & Lodging
13	Mr. Ajie Ikechukwu James, NMC, Nigeria	International Training Workshop on 'Science Education for Sustainable Development", June 27-28, 2011, BIAM, Dhaka, Bangladesh	\$2,214	Travel Grant and Boarding & Lodging
14	Ms. Ting Tong, ICCES, China	International Training Workshop on 'Science Education for Sustainable Development' June 27- 28, 2011, BIAM, Dhaka-Bangladesh	\$1,332	Travel Grant and Boarding & Lodging
15	Mr. D.S. Jayaweera, Technical Officer, Institute of Fundamental Studies, Sri Lanka	3 months Training at ICCBS, June-August 2011, Karachi, Pakistan	\$454	Travel Grant
16	Muhammad Riaz, Chief Meteorologist, FFD, Lahore, Pakistan	Asia G-WADI Regional Training on 'Climate Change Impacts on Water Resources Management in Arid and Semi-Arid Zones', 21-23 June 2011, Tehran, Iran	\$639	Travel Grant
17	Dr. Nasro min-Allah, CIIT, Pakistan	International Workshop on 'Internet Security: Enhancing Information Exchange Safeguards', 23 - 27 July 2011, Damascus, Syria	\$2,000	Travel Grant and Boarding & Lodging

18	Mr. Haider Abbas, NUST, Pakistan	International Workshop on 'Internet Security: Enhancing Information Exchange Safeguards', 23 - 27 July 2011, Damascus, Syria	\$1,187	Travel Grant and Boarding & Lodging
19	Mr. Malik Najmus Saqib, CIIT, Pakistan	International Workshop on 'Internet Security: Enhancing Information Exchange Safeguards', 23 - 27 July 2011, Damascus, Syria	\$1,187	Travel Grant and Boarding & Lodging
20	Mr. Muhammad Mustafa Khattak, CIIT, Pakistan	International Workshop on 'Internet Security: Enhancing Information Exchange Safeguards', 23 - 27 July 2011, Damascus, Syria	\$1,187	Travel Grant and Boarding & Lodging
21	Mr. Sheikh Ziauddin, CIIT, Pakistan	International Workshop on 'Internet Security: Enhancing Information Exchange Safeguards', 23 - 27 July 2011, Damascus, Syria	\$1,187	Daily Allowance
22	Mr. Ali Bahadur, Technical Education, Pakistan	International Workshop on 'Internet Security: Enhancing Information Exchange Safeguards', 23 - 27 July 2011, Damascus, Syria	\$1,643	Travel Grant and Boarding & Lodging
23	Mr. Jarot Sembodo Suroso, State University, Jakarta, Indonesia	International Workshop on 'Internet Security: Enhancing Information Exchange Safeguards', 23 - 27 July 2011, Damascus, Syria	\$1,954	Travel Grant and Boarding & Lodging
24	Mr. Mashudur Rahman, BCSIR, Bangladesh	International Workshop on 'Internet Security: Enhancing Information Exchange Safeguards', 23 - 27 July 2011, Damascus, Syria	\$1,788	Travel Grant and Boarding & Lodging
25	Dr. Chuang Dong Key Lab of Material Modification, Dalian University of Technology, Dalian, China	36th International Nathiagali Summer College on Physics & Contemporary Needs, 27 June - 8 July 2011, Nathiagali, Pakistan	\$1,589	Travel Grant
26	Dr. Md. Sarwar Jahan, Principal Scientific Officer, BCSIR Laboratories, Dhaka, Bangladesh	2nd International Non-Wood Forests Products Symposium, 8-10 September 2011, Isparta, Turkey	\$1,462	Travel Grant
27	Dr. Aamer Wali Rauf, CIIT, Islamabad, Pakistan	ALICE Project, in collaboration with CERN, Geneva, Switzerland (3 months)	\$1,016	Living Expense



28	Mr. Waheed Iqbal, Pakistan Meteorological Department, Pakistan	10 th CTWF: International Training Workshop on 'Regional Climate Change and its Impact Assessment', 26-29 September, 2011, Beijing, China	\$951	Travel Grant
29	Ms. Nadia Rehman, GCISC, Pakistan	10 th CTWF: International Training Workshop on 'Regional Climate Change and its Impact Assessment', 26-29 September, 2011, Beijing, China	\$976	Travel Grant
30	Dr. Shahina Tariq, CIIT, Pakistan	10 th CTWF: International Training Workshop on 'Regional Climate Change and its Impact Assessment', 26-29 September, 2011, Beijing, China	\$976	Travel Grant
31	Dr. Mohamed Zaid, National Research Centre (NRC), Egypt	10 th CTWF: International Training Workshop on 'Regional Climate Change and its Impact Assessment', 26-29 September, 2011, Beijing, China	\$1,325	Travel Grant
32	Dr. Rijan Bhakta Kayastha, Jordanian Meteorological Department, Jordan	10 th CTWF: International Training Workshop on 'Regional Climate Change and its Impact Assessment', 26-29 September, 2011, Beijing, China	\$929	Travel Grant
33	Dr. Chandima Gomes, University Putra Malaysia, Malaysia	10 th CTWF: International Training Workshop on 'Regional Climate Change and its Impact Assessment', 26-29 September, 2011, Beijing, China	\$682	Travel Grant
34	Mr. Kituusa Mohammed, National Meteorological Centre, Uganda	10 th CTWF: International Training Workshop on 'Regional Climate Change and its Impact Assessment', 26-29 September, 2011, Beijing, China	\$1,447	Travel Grant
35	Mr. Saleh Khlaif Ruzaiq Alsaleem, Jordanian Meteorological Department, Jordan	10 th CTWF: International Training Workshop on 'Regional Climate Change and its Impact Assessment', 26-29 September, 2011, Beijing, China	\$1,509	Travel Grant

.36	Eng. Ruba Ajjour, RSS, Jordan	10 th CTWF: International Training Workshop on 'Regional Climate Change and its Impact Assessment', 26-29 September, 2011, Beijing, China	\$1,510	Travel Grant
37	Prof. Dr. BK Bala, Bangladesh Agricultural University, Bangladesh	Meeting of the sub-group on 'Green Technology' Under COMSATS Thematic Research Group on 'Climate Change and Environment Protection' 24-26 July 2011, Abbottabad, Pakistan	\$620	Travel Grant
38	Prof. Dr. M. Saiful Islam, Khulna University	Meeting of the sub-group on 'Green Technology' Under COMSATS Thematic Research Group on 'Climate Change and Environment Protection' 24-26 July 2011, Abbottabad, Pakistan	\$462	Travel Grant
39	Prof. Dr. N. Shanmugalingam, University of Jaffra	Meeting of the sub-group on 'Green Technology' Under COMSATS Thematic Research Group on 'Climate Change and Environment Protection' 24-26 July 2011, Abbottabad, Pakistan	\$544	Travel Grant
40	Mr. Shahid Ali, Quaid-e-Azam University, Pakistan	3rd International Conference on Fuel Cell and Hydrogen Technology (ICFCHT 2011), November 22-23, 2011, in Kuala Lumpur, Malaysia.	\$2,012	Registration fee, Boarding & Lodging, Travel Grant
41	Mr. Riaz Ahmed, Quaid-e-Azam University, Pakistan	3 rd International Conference on Fuel Cell and Hydrogen Technology (ICFCHT 2011), 22-23, 2011 November, Kuala Lumpur, Malaysia.	\$2,012	Registration fee, Boarding & Lodging, Travel Grant
42	Ms. Mehnaz Khan, Bangladesh Meteorological Department, Bangladesh	A three-day International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region', 22-24	\$836	Travel Grant



		November, 2011, Islamabad, Pakistan		
43	Dr. Mahdi Faravani, Agricultural and Natural Resources Research Center, Iran	A three-day International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region', 22-24 November, 2011, Islamabad, Pakistan	\$945	Travel Grant
44	Mrs. Hanan Magzoub Hag Ahmed Rabbah, Sudan Meteorological Authority, Sudan	A three-day International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region', 22-24 November, 2011, Islamabad, Pakistan	\$1,046	Travel Grant
45	Dr. Binod Dawadi, Chinese Academy of Sciences (CAS), China	A three-day International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region', 22-24 November, 2011, Islamabad, Pakistan	\$1,338	Travel Grant
46	Mr. Peng Qinghui, ASEM Water Resources Research and Development Center, China	A three-day International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region', 22-24 November, 2011, Islamabad, Pakistan	\$1,392	Travel Grant
47	Mrs. Hewa Kokawalage Wasana Isuri Jayawardena, University of Colombo, Sri Lanka	A three-day International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region', 22-24 November, 2011, Islamabad, Pakistan	\$951	Travel Grant
48	Ms. Xin Zhang, Chinese Academy of Sciences (CAS), China	A three-day International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region', 22-24 November, 2011, Islamabad, Pakistan	\$1,113	Travel Grant

49	Ms. Difei Deng, Chinese Academy of Sciences (CAS), China	A three-day International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region', 22-24 November, 2011, Islamabad, Pakistan	\$1,113	Travel Grant
50	Prof. Shouting Gao, Chinese Academy of Sciences (CAS), China	A three-day International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region', 22-24 November, 2011, Islamabad, Pakistan	\$1,113	Travel Grant
51	Dr. Gorakanage Arosha Chandima Gomes, University Putra Malaysia, Malaysia	A three-day International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region', 22-24 November, 2011, Islamabad, Pakistan	\$1,044	Travel Grant
52	Mr. Arif Kareem, Senior Scientific Office, PCSIR, Pakistan	National Workshop on 'Repair and Maintenance of Scientific Equipment in Universities, Research Institutes and Small Scale Industries', 13-17 November 2011, Cairo, Egypt	\$2,360	Travel Grant, Boarding & lodging, Consultancy fee
53	Mr. Faisal Ghazanfar, Scientific Officer, PCSIR, Pakistan	National Workshop on 'Repair and Maintenance of Scientific Equipment in Universities, Research Institutes and Small Scale Industries', 13-17 November 2011, Cairo, Egypt	\$2,360	Travel Grant, Boarding & lodging, Consultancy fee
54	Dr. Hany Hussein Abdel Ghafar Hemida, National Research Centre (NRC), Egypt	International Workshop on 'Nanotechnology in the Edge of Convergence', 24-27 November, 2011, Malaysia	\$976	Travel Grant
55	Mr. M. L. Palash, University of Dhaka, Bangladesh	International Workshop on 'Nanotechnology in the Edge of Convergence', 24-27 November, 2011, Malaysia	\$583	Travel Grant



56	Mr. Nazar Shawgi Abdellateef Ahmed, National Center for Research, Sudan	International Workshop on 'Nanotechnology in the Edge of Convergence', 24-27 November, 2011, Malaysia	\$1,033	Travel Grant
57	Dr. Shamsa Kanwal, University of Karachi, Pakistan	International Workshop on 'Nanotechnology in the Edge of Convergence', 24-27 November, 2011, Malaysia	\$788	Travel Grant
58	Mr. Muhammad Fahad Bhopal, CIIT, Pakistan	International Workshop on 'Nanotechnology in the Edge of Convergence', 24-27 November, 2011, Malaysia	\$771	Travel Grant
59	Mr. Jibran Ahmed Abbasi, CIIT, Pakistan	International Workshop on 'Nanotechnology in the Edge of Convergence', 24-27 November, 2011, Malaysia	\$771	Travel Grant
60	Ms. Philippa Ngaju , Uganda Industrial Research Institute, Uganda	International Workshop on 'Nanotechnology in the Edge of Convergence', 24-27 November, 2011, Malaysia	\$1,792	Travel Grant
61	Mr. Muhammad Rizwan Khan, CIIT, Pakistan	International Workshop on 'Nanotechnology in the Edge of Convergence', 24-27 November, 2011, Malaysia	\$979	Travel Grant
62	Dr. Arshad Saleem Bhatti, CIIT, Pakistan	International Workshop on 'Nanotechnology in the Edge of Convergence', 24-27 November, 2011, Malaysia	\$771	Travel Grant
63	Dr. Mohsen Jahanshahi, Babol University of Technology, Iran	3 rd International Conference on 'Nanotechnology', 28-30 November, 2011, United Arab Emirates University (UAEU), UAE	\$1,488	Travel Grant and Boarding & Lodging
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT-Lahore, Pakistan		

64	Prof. Qikun Xue, Tsinghua University, China	3 rd International Conference on 'Nanotechnology', 28-30 November, 2011, United Arab Emirates University (UAEU), UAE	\$940	Travel Grant
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT-Lahore, Pakistan		
65	Prof. Yayu Wang, Tsinghua University, China	3 rd International Conference on 'Nanotechnology', 28-30 November, 2011, United Arab Emirates University (UAEU), UAE	\$940	Travel Grant
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT-Lahore, Pakistan		
66	Muhammad Zafar Iqbal, CIIT, Pakistan	3 rd International Conference on 'Nanotechnology', 28-30 November, 2011, United Arab Emirates University (UAEU), UAE	\$1,029	Travel Grant and Boarding & Lodging
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT-Lahore, Pakistan		
67	Kashif Sabeih, Quaid-e-Azam University, Pakistan	3 rd International Conference on 'Nanotechnology', 28-30 November, 2011, United Arab Emirates University (UAEU), UAE	\$1,029	Travel Grant and Boarding & Lodging
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT-Lahore, Pakistan		
68	Saadat Anwar Siddiqui, CIIT, Pakistan	3 rd International Conference on 'Nanotechnology', 28-30 November, 2011, United Arab Emirates	\$1,142	Travel Grant and Boarding & Lodging

		University (UAEU), UAE		
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT- Lahore, Pakistan		
69	Dr. Umair Manzoor, King Saud University, KSA	3 rd International Conference on 'Nanotechnology', 28- 30 November, 2011, United Arab Emirates University (UAEU), UAE	\$1,970	Travel Grant and Boarding & Lodging
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT- Lahore, Pakistan		
70	Dr. Mohammad L. Hassan, National Research Centre (NRC), Egypt	International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT- Lahore, Pakistan	\$1,450	Travel Grant and Boarding & Lodging
71	Dr. Fawzy Abdel-Hamid Mahmoud, National Research Centre (NRC), Egypt	3 rd International Conference on 'Nanotechnology', 28- 30 November, 2011, United Arab Emirates University (UAEU), UAE	\$1,660	Travel Grant and Boarding & Lodging
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT- Lahore, Pakistan		
72	Dr. Dato Muhammad Yahya, Universiti Kebangsaan Malaysia (UKM), Malaysia	3 rd International Conference on 'Nanotechnology', 28- 30 November, 2011, United Arab Emirates University (UAEU), UAE	\$2,426	Travel Grant and Boarding & Lodging
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT- Lahore, Pakistan		
73	Dr. Muhmmad Hafizuddin Haji Jumali, Universiti Kebangsaan Malaysia (UKM), Malaysia	3 rd International Conference on 'Nanotechnology', 28- 30 November, 2011,	\$2,426	Travel Grant and Boarding & Lodging

		United Arab Emirates University (UAEU), UAE		
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT-Lahore, Pakistan		
74	Dr. Feroz Alam Khan, Bangladesh University of Engineering and Technology (BOET), Bangladesh	3 rd International Conference on 'Nanotechnology', 28-30 November, 2011, United Arab Emirates University (UAEU), UAE	\$2,382	Travel Grant and Boarding & Lodging
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT-Lahore, Pakistan		
75	Dr. Ibrahim Alghoraibi, Damascus University, Syria	3 rd International Conference on 'Nanotechnology', 28-30 November, 2011, United Arab Emirates University (UAEU), UAE	\$506	Travel Grant + Visa Fee
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT-Lahore, Pakistan		
76	Dr. Saeed Sarkar, Tehran University of Medical Sciences, Iran	3 rd International Conference on 'Nanotechnology', 28-30 November, 2011, United Arab Emirates University (UAEU), UAE	\$1,340	Travel Grant and Boarding & Lodging
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT-Lahore, Pakistan		
77	Dr. Ali Beitollah, Iran Nanotechnology Initiative Council (INIC), Iran	3 rd International Conference on 'Nanotechnology', 28-30 November, 2011, United Arab Emirates University (UAEU), UAE	\$1,725	Travel Grant and Boarding & Lodging



		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT-Lahore, Pakistan		
78	Dr. Muhammad Barakat, King Abdul Aziz University, KSA	International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT-Lahore, Pakistan	\$1,242	Travel Grant and Boarding & Lodging
79	Dr. Hamid Oughaddou, , University of Cergy-Pontoise France	3 rd International Conference on 'Nanotechnology', 28-30 November, 2011, United Arab Emirates University (UAU), UAE	\$1,752	Travel Grant and Boarding & Lodging
		International Conference on 'Nanomaterials and Nanoethics', 1-3 December 2011, CIIT-Lahore, Pakistan		
80	Prof. Dr. Saleem Asghar, CIIT, Islamabad	Seventeenth Mathematical Conference, 22-24 December 2011, Dhaka, Bangladesh	\$944	Travel Grant
81	Mr. Saleh AZM, Bangladesh (through SDPI, Pakistan)	Fourteenth Sustainable Development Conference, 13-15 December 2011, Islamabad, Pakistan	\$840	Travel Grant
82	Dr. Niaz Zaman, Bangladesh (through SDPI, Pakistan)	Fourteenth Sustainable Development Conference, 13-15 December 2011, Islamabad, Pakistan	\$715	Travel Grant

Total \$99,100 (approx.)

3

ACTIVITIES OF COMSATS' INTERNATIONAL THEMATIC RESEARCH GROUPS

- COMSATS' International Thematic Research Group on 'Natural Products Sciences' 48
- COMSATS' International Thematic Research Group on 'Climate Change and Environmental Protection' 50
- COMSATS' International Thematic Research Group on 'Information and Communication Technologies (ICTs)' 53

COMSATS' International Thematic Research Groups are clusters of scientific institutions aiming at collaborative research in a particular field of science and technology to address specific developmental issues of the Member States. The designated 'Lead Centres' of these groups are Centres of Excellence of COMSATS selected due to their expertise in the respective fields. The member institutions of a group are expected to complement each other's scientific capacities for a coherent R&D activity, under the guidance of the designated Lead Centre.

ACTIVITIES OF COMSATS' INTERNATIONAL THEMATIC RESEARCH GROUPS

COMSATS' International Thematic Research Group on 'Natural Products Sciences'

The COMSATS' International Thematic Research Group (ITRG) on 'Natural Products Sciences' was formally launched by COMSATS and the Group's Lead Centre, the International Center for Chemical and Biological Sciences (ICCBS), Pakistan,



through jointly organizing its foundation meeting on November 26, 2010, in Karachi-Pakistan. The meeting was attended by a total of 18 scientists/experts representing nine scientific organizations belonging to eight developing countries. During the meeting, common areas of interest of the participating organizations were identified and, through meaningful deliberations, a scientific area in which the joint research project would be initiated was selected, i.e. 'Phytochemical and Pharmacological Studies on Medicinal Plants and Standardization of Herbal Plants of

Indus and Nile valley'. During the meeting, representatives of eight scientific/research organizations belonging to eight developing countries formally joined the ITRG by signing a Memorandum of Understanding (MoU). Moreover, it was agreed that the second meeting of COMSATS' ITRG on 'Natural Products Sciences' would be hosted by Ege University (Denizli-Turkey), in September 2012. Major activities of the Group during the reporting period are listed as follows:

a) Preparation of Proposal for the joint research project to be executed under the Group and its budget estimation:

The proposal for joint research project, entitled: 'Drug Discovery from Nature for Neglected Diseases', which is in-line with the theme selected during the ITRG's foundation meeting, is under preparation at ICCBS (Lead Centre of the Group). Following activities shall be performed under the joint research project:

- Those diseases would be selected as targets that are most prevalent in developing countries. Each member institution of the Group will participate in the process of selecting the targeted diseases;
- Each member institution of the Group will prepare crude plant extracts that have reported applications in the treatment of selected diseases (100 plants extract from each member institution);
- Crude extracts of plants will be sent to ICCBS (Karachi-Pakistan) for preliminary analysis and bioassay;
- Results would be shared with the collaborating member institutions of the Group, and further investigation of active extract will be carried out subsequent to signing a memorandum of understanding among the collaborating member institutions of the Group; and
- Joint publications would be brought out and patents would be filed on important discoveries made during the execution of the joint research project.



The annual estimated budget for executing the above research project is US\$ 100,000/-.

b) Provision of Short-term Training to a Technician belonging to a member institution of ITRG on 'Natural Products Sciences'

One of the objectives of COMSATS' ITRG on 'Natural Products Sciences' is to provide short-term trainings to researchers from member institutions of the Group in order to build their capacities and enable them to fulfill their research assignments efficiently. In this regard, Prof. Lalith Jayasinghe, Institute of Fundamental Studies (IFS), Sri Lanka, who is a member of ITRG on 'Natural Products Sciences', requested to provide short-term training at ICCBS (Karachi-Pakistan) to Mr. D. S. Jayaweera, Technical Officer, IFS, Sri Lanka.

As a consequence, Mr. Jayaweera received a technician level training in the field of microbial transformations of natural products and laboratory management, from June 01, 2011, to August 31, 2011, under the supervision of Prof. Dr. M. Iqbal Choudhary,

Director ICCBS (Karachi, Pakistan). COMSATS provided travel grant to Mr. Jayaweera for receiving the training, whereas local hospitality (boarding, lodging and local transportation) was extended to him by ICCBS.

c) Organization of International Workshop on ‘Modern Techniques in Combinatorial Chemistry’, June 13-16, 2011, Islamabad, Pakistan

The International Center for Chemical and Biological Sciences (ICCBS), Karachi-Pakistan; the OIC’s Standing Committee on Scientific and Technological Cooperation (COMSTECH), Islamabad-Pakistan; and COMSATS’ ITRG on ‘Natural Products Sciences’; jointly organized the International Workshop on ‘Modern Techniques in Combinatorial Chemistry’, on June 13-16, 2011, in Islamabad, Pakistan. The primary objective of the event was to build capacity of relevant institutions from OIC Member States as well as member institutions of COMSATS’ ITRG on ‘Natural Products Sciences’ in the field of combinatorial chemistry. The H.E.J. Research Institute of Chemistry of ICCBS served as the focal point at the event for bringing together the relevant institutions from OIC Member States and the COMSATS’ ITRG on ‘Natural Products Sciences’. The international workshop introduced young researchers to 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.

A total of 28 local and foreign researchers/scientists participated in the international workshop. Two foreign and five local resource persons were sponsored by COMSTECH, whereas COMSATS provided sponsorship to four scientists/researchers from its member countries for attending the international workshop. Out of the four COMSATS sponsored scientists, three belonged to the member institutions of ITRG on ‘Natural Products Sciences’ (two from the Institute of Fundamental Studies-Sri Lanka and one from Industrial Research and Consultancy Centre-Sudan).

d) Capacity-building of member institutions of the Group

COMSATS regularly invites the relevant member institutions of its International Thematic Research Groups to nominate scientists/researchers to participate in its capacity building events in its Member Countries. In this context, two researchers from the Institute of Fundamental Studies (IFS), Sri Lanka (member institution of ITRG on ‘Natural Products Sciences’) were provided travel grants for participating in the International Training Workshop on ‘Science Education for Sustainable Development’, jointly organized by COMSATS, UNESCO and the Ministry of Education, Government of the People’s Republic of Bangladesh, on June 27-28, 2011, in Dhaka, Bangladesh.

COMSATS’ International Thematic Research Group on ‘Climate Change and Environmental Protection’

COMSATS’ International Thematic Research Group (ITRG) on ‘Climate Change and Environmental Protection’ was formally launched by COMSATS and the Group’s Lead Centre, the International Center for Climate and Environment Sciences (ICCES), China, by holding its foundation meeting on November 20, 2010, in Beijing, China. The foundation meeting of the Group, which was attended by the

representatives of 13 scientific institutions from nine developing countries, resulted in the selection of a suitable scientific area in which the joint a research project would be initiated, i.e. 'Multi-scale Climate Variations and its relation with Atmospheric Circulations'. Till date, representatives of nine scientific/research institutions from six developing countries have joined the ITRG by signing a Memorandum of Understanding (MoU). Major activities of the Group during the reporting period are listed below:



a) Preparation of Proposal for the joint research project to be executed under the Group and identification of possible funding sources

Based on the discussions held and decisions made during the foundation meeting of ITRG on 'Climate Change and Environmental Protection', ICCES (Lead Centre of the Group) prepared a detailed proposal for the joint research project, entitled: 'Characteristics and Mechanism of the Extreme Climate Events under the Climate Change Background' to be executed under the Group. The joint research project, which is in line with its theme selected during the Group's foundation meeting, will be of three-year duration, i.e. from 2012 to 2014, and requires a total budget of about one Million RMBs (US\$ 158,854/-).

The major objectives of the project are to investigate the characteristics and regional differences of the extreme climate events occurred in the collaborating member countries of COMSATS, including China, in order to understand the mechanisms responsible for the occurrence of such extreme climate events as well as to improve their prediction capabilities. The joint research project will aim to: 1) analyze the basic facts of climate change during the past 40 years in COMSATS' member countries based on the available observed data; 2) investigate the characteristics of extreme weather and climate events (including spatial distribution, amplitude, frequency, etc.) and its related atmospheric general circulations by using the long-term meteorological observation datasets; 3) explore the possible linkages among extreme climate events in different regions and related atmospheric circulation anomalies; 4) reveal the relationship between South and East Asia monsoon, and investigate the possible effects of South Asian monsoon on extreme weather and climate events over East Asia; and 5) identify the mechanisms possibly responsible for the occurrence of extreme climate events through numerical simulation by using different climate system models, and explore the predictability of such extreme events.

The afore-mentioned project proposal has been submitted to the Ministry of Science and Technology (MoST), Government of China, by ICCES for acquiring requisite funds for the project's execution. ICCES' application is receiving due consideration by MoST, China.

b) Creation of Sub-group on 'Green Technology' and organization of its First Meeting at CIIT (Abbottabad, Pakistan)

One of the decisions of the foundation meeting of COMSATS' ITRG on 'Climate Change and Environmental Protection', held on November 20, 2010, in Beijing, China, was the initiation of a separate joint research project in the area of Green Technology under the leadership of COMSATS Institute of Information Technology (CIIT), Abbottabad, Pakistan. In the follow-up of the afore-mentioned decision, the Sub-group on 'Green Technology' (led by CIIT-Abbottabad Campus) was established under COMSATS' ITRG on 'Climate Change and Environmental Protection'.

The First Meeting of the Sub-group on 'Green Technology' was jointly organized by COMSATS and CIIT (Abbottabad Campus), on July 26, 2011, in Abbottabad, Pakistan. The meeting was held on the sidelines of 4th International Conference, ESDev-2011: 'Environmentally Sustainable Development' (July 24-25, 2011). The primary objective of the meeting was to form a group of active research scientists from various institutions of the developing/developed countries that are working in the area of 'Green Technology', for the initiation of joint research activities with the patronage of COMSATS. The meeting was attended by a total of 32 officials/scientists belonging to various scientific/research institutions of Bangladesh, Ireland, Norway, Pakistan, Sri Lanka and Saudi Arabia.

The meeting was inaugurated by Dr. I. E. Qureshi, Executive Director COMSATS, and chaired by the Sub-group's designated leader, Prof. Dr. Iftikhar Ahmed Raja, Head of Department of Environmental Sciences, CIIT (Abbottabad Campus). The

inauguration ceremony of the event was preceded by the opening remarks of Dr. Khan Gul Jadoon, Director CIIT (Abbottabad Campus). Dr. Jadoon stated that the Sub-group would strive to bring substantial changes in the standard of living of the masses by performing joint research in this area of utmost significance. Subsequently, the Executive Director COMSATS delivered his welcome remarks and made a detailed presentation on COMSATS and its International Thematic Research Groups. In his welcome remarks, Dr. Qureshi stated that the research efforts of the scientists working in the field of climate

and environmental sciences would have a major influence on the lives of human beings in the years to come. Dr. Qureshi also shared with the participants of the meeting the rationale of the Sub-group's creation and its major objectives.

During the meeting, brief presentations were made by the participating scientists/researchers on the research interests, as well as activities and programmes of their organizations, in order to identify their common areas of interest. The focused deliberations of the participating scientists/researchers resulted in the selection of a joint research project, entitled 'Bioenergy for Green Community' to be



executed under the Sub-group. The participants of the meeting also deliberated upon broad parameters of the selected joint research project as well as defined time-line and procedure for the preparation of project proposal to be submitted to the international donor/development agencies for acquiring requisite funds for the project's execution. The participants of the meeting also agreed to further strengthen the Sub-group by identifying relevant institutions in the developing countries, capable of joining the Sub-group.

c) Capacity-building of member institutions of the Group

During the reporting period, COMSATS organized two international workshops in the field of climate and environmental sciences in collaboration with two of its Centres of Excellence. These events allowed the researchers/scientists from member institutions of the ITRG to interact and exchange knowledge with their peers belonging to institutions from various developing/developed countries. First of the two afore-mentioned events was CTWF-COMSATS Joint International Training Workshop on 'Regional Climate Change and its Impact Assessment' (26-29 September 2011, Beijing, China), which was jointly organized by COMSATS and ICCES, China. A total of seven scientists/researchers from five member institutions of the ITRG were provided travel grants by COMSATS and ICCES for participating in the international workshop.

Secondly, the International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region' (November 22-24, 2011, Islamabad, Pakistan) was jointly organized by COMSATS and CIIT (Islamabad Campus). Apart from different campuses of CIIT, scientists/researchers from three member institutions of the ITRG participated in the international workshop with the sponsorship of COMSATS and CIIT.

COMSATS' International Thematic Research Group on 'Information and Communication Technologies (ICTs)'

First Meeting of COMSATS' International Thematic Research Group on 'ICTs'

The first meeting of COMSATS' Thematic Research Group on 'Information and Communication Technologies (ICTs)' was held in Islamabad on 19th and 20th April 2011. The meeting was hosted by the COMSATS Institute of Information Technology (CIIT), which is also the Lead Centre of the Group. During the two day event, the Group deliberated on initiating collaborative projects in the field of ICTs and its technical and administrative aspects. The institutions represented in the meeting were: CIIT-Pakistan; National Mathematical Centre (NMC)-Nigeria; Royal Scientific Society (RSS)-Jordan; and Universiti Teknologi Malaysia (UTM)-Malaysia.

The meeting was inaugurated on April 19, 2011 at the Islamabad Campus of CIIT by the Executive Director COMSATS, Dr. I.E.



Qureshi. Twenty-one participants from Jordan, Malaysia, Nigeria, and Pakistan attended the inaugural session of the meeting.

In his Inaugural Address, Dr. Qureshi recapitulated the recent activities of COMSATS aimed at capacity-building for the development of S&T sectors in Member States. In particular, he highlighted the activities undertaken in collaboration with ISESCO in 2010 and those planned for 2011 under COMSATS-UNESCO Cooperation Programme. Dr. Qureshi pointed out that COMSATS has a versatile and vibrant Network of 17 R&D organizations in different developing countries, which provides a strong technical base for the organization to promote South-South cooperation in science and technology. Explaining the rationale of Thematic Research Groups, he observed that, currently, most of the scientific research around the world is being conducted as a group-activity. He further stated that COMSATS is trying to bring together research-scientists from different countries to join hands and work collectively on common problems.

“The present Thematic Group meeting” Dr. Qureshi said, “is aimed at development an ICT based research theme that would be beneficial for all participating countries. The concept of such a group-activity will serve the purpose of South-South cooperation, create opportunities of technology-sharing and enable successful completion of projects through cooperative efforts”.

Earlier a message from the Rector CIIT, Dr. S.M. Junaid Zaidi, was read by Mr. Tahir Naeem, Director of Planning, Development and Human Resource Development at CIIT. In his message, Dr. Zaidi underscored the importance of ICTs in the present developmental scenario. Highlighting the objectives of the Thematic Research Group on ICTs, Dr. Zaidi hoped for focused deliberations by the participants for the commencement of a fruitful joint research activity.



The Technical Session of the meeting was started with the Keynote Speech by the Group Leader, Dr. Sajjad Mohsin, Dean Faculty of Information Science and Technology (FIST) of CIIT, who shed light on topics relating to the theme of the Group proposed for collaboration. Presentations on the same were made by the senior officials of the Institute; ‘Wi-Fi Networks’; ‘Precision Agriculture’; and ‘e-Learning’. These presentations were followed by short presentations by the representatives of other member/participating institutions, who highlighted the objectives and strengths of their organizations. These representatives were: Dr. Abdul Hanan Bin Abdullah, Dean Faculty of Computer Science & Information Systems, UTM-Malaysia; Mr. Oladejo Olutunji, Principal Programmer (MIS), NMC-Nigeria (and COMSATS-NMC Liaison Officer);

and Mr. Shadi Tawafiq El-Asafeh, Computer Systems Analyst, RSS-Jordan. These presentations helped in identifying areas of mutual interests in the field of ICTs and highlighted the relevant potential of the participating institutions.

Based on the understanding developed during the Technical Session, the deliberations on the second day of the meeting remained focused on finalizing the title of the joint research project, most effective mechanism for its implementation and related matters of cooperation. Another highlight of the second day was a short visit of the Federal Minister for Science and Technology, Government of Pakistan, H.E. Mir Changez Khan Jamali. The Minister was appreciative of the efforts of COMSATS, CIIT and other members of the Group to embark upon a joint research-activity and wished them success in this venture.



A consensus was built as to the title of the joint research project: 'e-Solutions for community using low-cost Wi-Fi'. In order to ratify the Group-members' compliance to their obligations towards the joint project and membership of the Group, a Memorandum of Understanding (MoU) was distributed among the representatives, to be signed by the Heads of the participating institutions/organizations.

The Thematic Research Group meeting concluded with a commitment, on part of the participating institutions, to make sincere efforts to achieve the common R&D aims identified during the meeting.

Major activities of the Group during the reporting period are listed as follows:

e) Preparation of Proposal for the joint research project to be executed under the Group

The detailed proposal for the joint research project to be executed under the Group, entitled: 'Enabling ICT Applications using Long Distance Wi-Fi Networks' is under preparation by the Lead Centre of the ITRG, CIIT (Islamabad, Pakistan). The project aims at alleviating illiteracy, health problems and poverty in the rural areas and underserved communities of the collaborating countries by delivering sustainable e-solutions through building an affordable, robust and reliable wireless communication infrastructure. In this connection, the benefits offered by long distance Wi-Fi such as easy reach to far-flung rural areas (through online video-conferencing as well as telephony using VoIP), reduced maintenance overheads especially in rural areas where technical manpower is scarce will be utilized for providing low-cost connectivity between developed and remote areas in the collaborating countries.



f) Identification of possible partners and funding sources

A meeting was held between the senior officials of CIIT (Islamabad Campus) and the Pakistan Telecommunication Company Limited (PTCL) on September 23, 2011. During the meeting, Dr. Majid Iqbal Khan, Assistant Professor, Computer Science Department, CIIT (Islamabad Campus), made a presentation on the selected joint research project to be executed under the Group. Subsequently, discussions were held with regard to PTCL's facilitation in the execution of the joint research project by providing telecommunication infrastructure and technical support in the process of procuring equipment. In this regard, PTCL's Executive Vice President (Technical), in principle, agreed to provide a WiMAX based communication link to CIIT for a period of 6-12 months for the project's startup phase.

Moreover, the research project includes using the frequency bands of 2.4 GHz or 5.8 GHz for Wi-Fi long distance communication. Although these frequency bands are free in most parts of the world, a special permission from the Pakistan Telecommunication Authority (PTA) is required to use these frequency bands for long distance communication. In this connection, one meeting has already been held between Prof. Dr. Sajjad Mohsin, Dean, Faculty of Information Sciences and Technology, CIIT (Group Leader of the ITRG) and the PTA Chairman and other high ranking officials. More such meetings are scheduled to be held in the near future.

Furthermore, Prof. Dr. Mohsin and Dr. Majid Iqbal Khan have submitted a research proposal under CIIT Research Grant Programme (CRGP) to procure basic equipment needed to establish a point-to-point Wi-Fi link and testing various e-applications, such as e-health, e-learning, etc. that will later be deployed in the collaborating countries.

CIIT is also in close contact with the Universiti Teknologi Malaysia, Malaysia (one of the participating institutions of the ITRG's foundation meeting), with regard to acquiring requisite funds for execution of the project.

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COLLABORATION WITH NATIONAL AND INTERNATIONAL ORGANIZATIONS

- ISESCO-COMSATS Joint Cooperation Programme (2011) 58
- COMSATS-UNESCO Technical Cooperation Programme (2010-11) 59
- COMSATS' Participation in 14th General Assembly Meeting of COMSTECH 60
- Induction of BCSIR-Bangladesh as the 17th Centre of Excellence of COMSATS 63
- Collaboration with Ministry of Science and Technology, Government of Pakistan, for Formulation of National Science, Technology and Innovation Policy-2010 64
- 1st and 2nd Pak-IIASA Collaboration Group Meetings held at COMSATS Secretariat 66
- MoU between COMSATS and HDF for Cooperation in Tele-health 67

COMSATS has been endeavouring to expand the network of the national and international working partners in order to have collaboration in science and technology for sustainable socio-economic development of the Members States and to enter into new programmes with its own Centres of Excellence.

COLLABORATION WITH NATIONAL AND INTERNATIONAL ORGANIZATIONS

ISESCO-COMSATS Joint Cooperation Programme (2011)

COMSATS and the Islamic Educational, Scientific and Cultural Organization (ISESCO) continued their joint cooperation in 2011. Cooperation between COMSATS and ISESCO dates back to 2004, whereby joint activities were started in various fields of science and technology.

In 2011, COMSATS successfully implemented 'ISESCO-COMSATS Partnership Programme-2011' under the framework of 'ISESCO's Cooperation and Partnership for the year 2010-2012' that included five international conferences/workshops in Dubai, Egypt, Morocco, Pakistan and Syria. These activities were successfully implemented by COMSATS in collaboration with:

- i. COMSATS Institute of Information Technology (CIIT), Pakistan, and National Science Foundation (NSF) USA, for International Conference on Nanomaterials and Nano Ethics, Pakistan;
- ii. COMSATS Institute of Information Technology (CIIT), Pakistan, National Science Foundation (NSF) USA and United Arab Emirates University (UAEU) for 3rd International Conference on Nanotechnology, Dubai; UAE
- iii. INIT, Pakistan & Syrian-COMSATS-COMSTECH Information Technology Centre, Syria, for Workshop on Internet Security: Enhancing Information Exchange Safeguards, Syria;
- iv. National Research Centre – NRC, Egypt for the National Workshop on Repair and Maintenance of Scientific Engineering Equipment in Universities, Research Institutions and Small Scale Industries, Egypt; and

- v. ISESCO Centre for Promotion of Scientific Research (ICSPSR) for Second Meeting of the IWSN Coordinators of the Scientific Thematic Groups for Enhancing Cooperation among Islamic Countries, Morocco.

Moreover, as part of joint activities, COMSATS-ISESCO cooperation for the maintenance of the web-portal, Islamic World Science Net (IWSN), also continued in 2011.

COMSATS-UNESCO Technical Cooperation Programme (2010-11)

COMSATS successfully executed the COMSATS-UNESCO South-South Regional (Asia-Pacific) Technical Cooperation Programme (Biennium 2010-11) under the framework of UNESCO Participation Programme. The major objectives of the Programme were to develop closer relationships among the scientific institutions of common member countries of COMSATS and UNESCO; contribute towards socio-economic development in member countries through capacity building in human resources; enhance the scientific workforce's level of technical expertise in the emerging fields of science and technology; encourage South-South collaboration and exchange; provide a platform for a better industry-academia partnership; and promote cost effective R&D in the developing world.

Under the afore-mentioned Programme, COMSATS organized the following four international workshops, in collaboration with UNESCO and other partner organizations/Centres of Excellence:

- International Training Workshop on 'Science Education for Sustainable Development' (June 27-28, 2011, Dhaka, Bangladesh)
- 10th CTWF International Training Workshop on 'Regional Climate Change and its Impact Assessment' (September 26-29, 2011, Beijing, China)
- International Workshop on 'Climate Change and Sustainable Management of Water Resources in the Asia-Pacific Region' (November, 22-24, 2011, Islamabad, Pakistan)
- International Workshop on 'Nanotechnology in the Edge of Convergence' (November 24-27, 2011, Selangor, Malaysia)

The four international workshops that had been held in the member countries of COMSATS and UNESCO, one each in Bangladesh, China, Malaysia and Pakistan, were attended by a total of 294 scientists, researchers, academicians, government officials, policy makers and implementers, and students, belonging to Bangladesh, Bulgaria, Cambodia, China, Egypt, Germany, Ghana, India, Indonesia, Iran, Iraq, Jordan, Kenya, Malawi, Malaysia, Mauritius, Mongolia, Morocco, Myanmar, Nepal, Nigeria, Pakistan, Sri Lanka, Sudan, Thailand, Tunisia, Uganda, USA, and Vietnam.

The international workshops held under the Programme encouraged South-South and North-South collaborations in S&T by allowing the participating experts, from various developing and developed countries, to exchange expertise and knowledge, share recent developments, discuss related issues and challenges, and establish research collaborations in the fields of climate change, sustainable management of water resources, nano-technology and science education. Moreover, the Programme enhanced technical expertise and skill sets of the scientific manpower in common member countries of COMSATS and UNESCO in the afore-mentioned fields of



science and technology. The participating scientists/experts also formulated sets of recommendations (in two of the four workshops) to improve the existing state of these fields of S&T in their respective countries.

COMSATS' Participation in 14th General Assembly Meeting of COMSTECH

A four-member delegation of COMSATS participated in the 14th General Assembly Meeting of the Organization of Islamic Conference (OIC) Standing Committee on Scientific and Technological Cooperation (COMSTECH), held in Islamabad from 11th to 13th January 2011. As a Ministerial Standing Committee, all the 57 member states of the OIC are members of COMSTECH, out of which 12 are also the members of COMSATS.

The COMSATS' delegation headed by the Executive Director COMSATS comprised: the Director General (International Affairs), Mr. Tajammul Hussain; Advisor (International Affairs), Dr. Hasibullah; and Senior Assistant Director (Programmes), Mr. Irfan Hayee. COMSATS was invited to the ministerial-level meeting in the capacity of an International Inter-governmental Organization.



Availing the presence of a large number of dignitaries in Islamabad, the COMSATS' delegation also held sideline meetings with the officials from the OIC member states. During the course of this event, the Executive Director COMSATS met 10 Ministers and two Deputy Ministers. Matters pursued during the discussions related to: COMSATS' Membership; the designation of more scientific institutions as a part of the COMSATS' Network of S&T Centres of Excellence; participation in the International Thematic Research Groups; COMSATS' country-specific programmes and activities; and other issues of mutual interest. Five developing countries previously approached with the offer of COMSATS' Membership, were consulted during these meetings to ascertain the progress made in this direction, while three other developing countries were handed over invitation letters to join COMSATS as Member States, along with pertinent documents for joining COMSATS.

Sideline Meetings with Officials from COMSATS' Member States

The Iranian Deputy Minister for Science, Research and Technology, H.E. Dr. Abbas Taeb, who is also the Head of the Iranian Research Organization for Science and

Technology (IROST) paid a visit to COMSATS Headquarters, along with his delegation members on the first day of the meeting. The discussions on this occasion had a special focus on the International Thematic Research Group activities of COMSATS, wherein a more vigorous participation on part of IROST was requested.



COMSATS' delegation held a meeting with the Syrian delegation comprising the former Syrian Minister for Higher Education, H.E. Prof. Dr. Ghias Barakat, and the Director of Syrian-COMSATS-COMSTECH Information Technology Centre (SCCITC), Dr. Bassel Al-Khatib. The Rector COMSATS Institute of Information Technology (CIIT), Dr. S. M. Junaid Zaidi, who had contributed to the establishment of the Centre, also participated in the meeting. In a thorough discussion among these officials, matters relating to holding of a training workshop on 'Internet Security' in Syria during 2011 and up-gradation of the level of excellence of SCCITC, as an institute of higher learning were deliberated upon. The Minister invited Dr. Zaidi to Syria for consultation in order to enhance the Centre's stature.

Also on the sidelines of the General Assembly Meeting, matters of mutual interest were discussed with the visiting former Egyptian Minister for Higher Education, H.E. Dr. Hany Mahfouz Helal, and Prof. Dr. Ashraf Shalaan, President of the National Research Centre (NRC), Egypt. The Executive Director was assured by the Egyptian Minister of the availability of funding for COMSATS' activities in Egypt. Prof. Shalaan was requested to initiate the activity of COMSATS' International Thematic Research Group on 'Agriculture Biotechnology', of which NRC is the Lead Centre.

Request letters to the relevant Ministries for designation of appropriate scientific institutions to join the COMSATS' Network of Centres of Excellence were handed over to: Kazakhstan's Minister for Education and Science, H.E. Mr. Bakhytzhon Zhumagulov; Senegalese Minister for Higher Education and Scientific Research, H.E. Prof. Amadou Tidiane BA; and the Secretary to the Ministry of Science and ICT of Bangladesh, Mr. Abdur Rob Howlader. These officials were also informed about the benefits of joining the COMSATS' Network of Centres of Excellence and its programmes.



Campaign for Membership

Earlier, offers to join COMSATS' membership were followed up in the meetings with delegations of Algeria, Azerbaijan, Malaysia, Morocco and the U.A.E., while new membership offer-letters were handed over to the delegates of Afghanistan, Indonesia and Oman. The officials contacted in this regard included: H.E. Prof. M. Rachid Haraoubia, Minister for Higher Education and Scientific Research



(Algeria); H.E. Prof. Dr. Ali Abbasov, Minister for Communications and Information Technology (Azerbaijan); H.E. Mr. Ahmed Akhchichene, Minister of National Education, Higher Education, Training and Scientific Research (Morocco); H.E. Mr. Suharna Surapranata, Minister for Research & Technology (Indonesia); H.E. Prof. Dr. Rawya Al Busaidi, Minister for Higher Education (Oman); H.E. Datuk Haji Fadillah bin Yusof, Deputy Minister of Science, Technology and Innovation (Malaysia); Dr. Sayed Sher Shah Sadaat, Head of Foreign Relations & International Affairs, Ministry of Higher Education (Afghanistan); and Mr. Saif Rashed Al Mazroui, Assistant Under Secretary for Institutional and Support Services (U.A.E.).

Visit of the Participating Delegates to CIIT

On the last day of the General Assembly Meeting, a visit to CIIT was arranged by the COMSATS Secretariat for the visiting delegates of OIC Member countries and representatives of international organizations to highlight the progress of this flagship project of COMSATS and the benefits associated with having cooperative ties with CIIT. These included country-delegates and diplomats of Bangladesh, Iran, Sudan, Senegal and Syria and the representatives from the Islamic University in Uganda (IUIU) and the Academy of Sciences for the Developing World (TWAS).



COMSATS' Contribution towards the Administrative Arrangements for the General Assembly Meeting

Services of two officials of COMSATS Headquarters were requested by the Ministry of Science and Technology, Government of Pakistan, in order to provide efficient

protocol to the visiting country-delegates. Mr. Nisar Ahmad, Senior Assistant Director (Systems) and Ms. Huma Balouch, Assistant Director (Programmes) of COMSATS Headquarters were appointed as the protocol officers for H.E. Prof. Dr. Ali Abbasov, Minister for Communications and Information Technology (Azerbaijan); and H.E. Dr. Rawya Al Busaidi, Minister for Higher Education (Oman), respectively.

Outcomes of COMSATS' Participation in the General Assembly Meeting

From COMSATS' perspective, the following were the major outcomes of the meeting:

- COMSATS' Membership offers were extended to Afghanistan, Indonesia and Oman. Official letters in this connection were presented to the Heads of country-delegations.
- Membership offers were followed up in meetings with heads/representatives of delegations from Algeria, Azerbaijan, Malaysia, Morocco and the UAE.
- Matter of designation of appropriate institutions to become a part of COMSATS' Network was pursued with Kazakhstan, Senegal and Bangladesh.
- The workshop on 'Internet Security' to be held in Syria was scheduled for July 2011.
- The visiting Heads of the Lead Centres of COMSATS' Thematic Research Groups were requested to initiate the activity of their respective groups.
- The success of CIIT as COMSATS' flagship project was duly highlighted to some of the country-delegates and representatives of international organizations.

Induction of BCSIR-Bangladesh as the 17th Centre of Excellence of COMSATS

During 2011, the Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh, became a member of COMSATS' Network of International S&T Centres of Excellence. A 'Certificate of Membership' was issued to BCSIR on June 6, 2011. By virtue of BCSIR's membership to COMSATS' Network, its Chairman has become a member of the COMSATS Coordinating Council. The number of S&T and R&D organizations affiliated with COMSATS as members of its Network has thus reached 17.



Established in 1973, BCSIR is a leading multi-disciplinary R&D organization of Bangladesh, which is conducting research work in accordance with the national demands and is contributing towards accelerating economic progress of the country. The aims of BCSIR include initiation and promotion of scientific, industrial and technological research having a bearing on issues of establishment and development of industries and other matters referred by the government. BCSIR has three full-fledged multi-disciplinary regional laboratories, five mono-disciplinary institutes and one centre for pilot-plant studies.

The Ministry of Science and Information & Communication Technology (MoSICT), Government of Bangladesh, had nominated BCSIR to become a member of the COMSATS' Network prior to the 14th Meeting of COMSATS Coordinating Council, held in Bogotá, Colombia. The nomination came as a result of detailed meetings held between the Executive Director COMSATS and the Minister of Education, Government of Bangladesh, H.E. Mr. Nurul Islam Nahid, during the 5th Islamic

Conference of Ministers of Higher Education and Scientific Research (ICMHESR) – Kuala Lumpur, Malaysia (October 2010); and Secretary MoSICT, Mr. Abdur Rob Howlader, during the 14th General Assembly Meeting of COMSTECH – Islamabad (January 2011).

The case of BCSIR, Bangladesh, to become a COMSATS' Centre of Excellence was later submitted to the Coordinating Council for consideration, during its 14th Meeting and was granted unanimous approval.

Collaboration with the Ministry of Science and Technology, Government of Pakistan, for Formulation of National Science, Technology and Innovation Policy-2010

On February 23, 2009, the Prime Minister of Pakistan constituted a Committee to review the draft National Science and Technology Policy of Pakistan (2009). The Review Committee is chaired by the Minister for Science and Technology, Government of Pakistan, and comprises, among others, the Executive Director COMSATS, Dr. Imtihan Elahi Qureshi, as a member. During a meeting of the Review Committee held on February 16, 2010, under the Chairmanship of the Minister for Science and Technology, a Sub-committee for reviewing and improving the draft National Science and Technology Policy (2009) was constituted. The Executive Director COMSATS was appointed as the Convener of this Sub-committee.



In order to ensure the participation of all three concerned sectors, i.e. public, private and academia, in the process of reviewing the National S&T Policy, scientists/experts from nine governmental and non-governmental scientific organizations of Pakistan

were co-opted in the Sub-committee as members. The Sub-committee thereafter held three meetings at COMSATS Secretariat under the Chairmanship of the Executive Director COMSATS to discuss and suggest improvements in the draft Policy document. A concerted effort with regard to reviewing and improving the National S&T Policy was made by COMSATS Secretariat.



Subsequently, a revised draft of the Policy was prepared by COMSATS Headquarters and submitted to the Ministry of Science and Technology (MoST), Government of Pakistan, in August 2010, for perusal.

During a meeting with the Executive Director COMSATS on February 15, 2011, the Secretary MoST, Government of Pakistan, announced the presentation of the revised Policy document prepared by the Sub-committee to the National Review Committee. The meeting of the National Review Committee, chaired by the Minister for Science & Technology, heard the arguments from Executive Director COMSATS with respect to various proposals contained in the Policy document and announced its acceptance on 17th March 2011. Subsequently, the draft Policy document was circulated among all the stakeholders for their consideration by MoST, Government of Pakistan.

In order to receive feedback from the stakeholders of the Policy, the Stakeholders Conference on Science, Technology and Innovation (ST&I) Policy was held by MoST, Government of Pakistan, on April 28, 2011, in Islamabad, Pakistan. The Conference was presided over by the Minister for Science and Technology, H.E. Mr. Changez Khan Jamali. Apart from the Federal Secretary and other senior officials of MoST, the Conference was attended by various stakeholders of the draft Policy, including representatives of various Federal and Provincial Ministries, Government Departments, and public R&D organizations of Pakistan. The Executive Director COMSATS gave a detailed presentation on various technical aspects of the draft Policy and answered the queries and comments of the participating stakeholders. During the Conference, inputs from all the stakeholders were collected for incorporation in the draft Policy by the Review Committee.



On August 03, 2011, Mr. Akhlaq Ahmad Tarar, who had earlier joined the Ministry of Science and Technology, Government of Pakistan, as a Federal Secretary, visited COMSATS Secretariat, Islamabad, to receive a briefing on the draft national ST&I Policy of Pakistan from the Executive Director COMSATS. The meeting was also attended by some other senior officials of COMSATS Secretariat and MoST. During the meeting, Dr. Qureshi made a detailed presentation on the draft Policy, highlighting the new proposals and important policy elements. Each section of the draft was discussed by the participants in detail in comparison with the previous S&T Policies of Pakistan. Mr. Tarar appreciated COMSATS' role in formulating the draft ST&I Policy, as well as the inclusive procedure adopted for its formulation.

On September 20, 2011, the Prime Minister of Pakistan, H.E. Syed Yusuf Raza Gilani,

received presentations by the Executive Director COMSATS and the Federal Secretary MoST, Mr. Akhlaq Ahmed Tarar, on the draft National ST&I Policy, at the Prime Minister's Secretariat in Islamabad. Also present on the occasion were the Minister for Science and Technology, H.E. Mr. Changez Khan Jamali; Member National Assembly of Pakistan, Ms. Farzana Raja; Additional Secretary PM Secretariat, Mrs. Fauzia Sana; Director External Campuses of COMSATS Institute of Information Technology (CIIT), Dr. Haroon Rashid, and other senior officers of MoST. Subsequent to discussing all its key components, the honourable Prime Minister of Pakistan announced the acceptance of the draft National Science, Technology and Innovation (ST&I) Policy of Pakistan, and allowed its presentation before the Federal Cabinet for formal approval.

1st and 2nd Pak-IIASA Collaboration Group Meetings held at COMSATS Secretariat

Pakistan's National Member Organization of the International Institute of Applied Systems Analysis (IIASA), Austria, established a Pak-IIASA Collaboration Group with Dr. Hasibullah, Advisor International Affairs COMSATS, as its Coordinator. The Group held its first meeting at COMSATS Secretariat on 19th May 2011.

The IIASA is an international research organization that conducts policy-oriented research into problems that are too large or too complex to be solved by a single country or academic institution.

Located, near Vienna (Austria), IIASA is sponsored by its National Member Organizations (NMOs) in Africa, Asia, Europe, and the Americas. The Pakistan Academy of Sciences is IIASA's NMO in Pakistan, and Dr. Ishfaq Ahmad, Advisor to the Planning Commission of Pakistan, is a member of IIASA's Council. COMSATS Secretariat has been hosting IIASA's NMO office in Pakistan at its premises since 2010.



Ten experts from different fields relevant to socio-economic development in Pakistan and in other COMSATS' member countries participated in the meeting, under the chairmanship of Dr. Ishfaq Ahmad.

The main objectives of the meeting were to discuss effective collaborative activities to be pursued with the assistance of IIASA. The priority areas agreed upon were capacity-building, exchange of scholars and joint projects. Projects in the areas of poverty and equity, agriculture, climate change, water resource-management, energy and disaster risk-assessment were agreed to be prepared for IIASA's collaboration. In this connection, three concept papers for joint projects have already been received from the concerned participants of the meeting, whereas more proposals are expected soon.

On this occasion, Dr. Imtihan Elahi Qureshi, Executive Director COMSATS, appreciated the initiative of Pak-IIASA Collaboration Group's activities. He assured the meeting that COMSATS would continue to encourage the Group's future work and would readily provide all possible facilities for this purpose at the COMSATS Headquarters.

The Pak-IIASA Collaboration Group held its second meeting at the COMSATS Secretariat on July 26, 2011. During this meeting, the Group took note of Dr. Ahmad's recent meeting at IIASA, Austria (June 27, 2011), which was held with the aim to boost IIASA's ties with scientific and technical organizations in Pakistan and for the promotion of IIASA's programmes for socio-economic development of the country. In addition, new trends and changes at IIASA, expected in the coming years, were also brought to the notice of the Group. Detailed discussions were held on the possibility of Pak-IIASA collaborative projects in the areas of water-management, climate-change, forestry, applications of applied systems analysis, capacity-building, poverty and population, flood control in Pakistan, etc. Deliberations were also made on the concept project-proposals prepared by the members of the Collaboration Group as agreed in the previous meeting. It was decided that concrete projects should be developed on the basis of these concept papers for discussion and possible collaboration with IIASA.

The meeting concluded with a pledge by the participants of the meeting to continue strengthening their efforts to enhance Pak-IIASA collaboration.



MoU between COMSATS and HDF for Cooperation in Tele-health

Capitalizing on the expertise in provision of healthcare through its tele-health services over the years, COMSATS has been endeavouring to widen the scope of these services to extend the benefits to a large segment of the population of Pakistan. Human Development Foundation (HDF), Pakistan, is an organization that aims at bringing about a positive social change and community empowerment through mass literacy, enhanced quality of education, universal primary health care and grass-roots economic development.

Based on the commonality of bringing about socio-economic improvement by means of improved health-care accessibility for the under-developed and under-privileged, COMSATS and HDF reached an agreement for 'Collaboration in Tele-Health Initiatives', in the form of a Memorandum of Understanding. The agreement was signed on March 24, 2011 by the Executive Director COMSATS and Mr. Azhar Saleem, Chief Executive, HDF.

Based on the memorandum, both the organizations agreed to:

- Explore opportunities to institute tele-health activities in areas of Pakistan, where HDF has already established its health centers, i.e. in Azad Jammu and Kashmir, Karachi, Tando Mohammad Khan and Zhob;
- Initiate and establish remote tele-health clinics in rural areas of Pakistan where HDF has its presence at the community level;
- Utilize the above mentioned tele-health clinics for provision of sustainable healthcare and capacity building of the local population;
- Make efforts to sustain tele-health services;
- Prepare and submit joint projects to seek assistance from various resources to establish and strengthen tele-health services.

The delegation of tasks for achieving the objectives of this cooperation was also laid down in the agreement. As per the agreement, COMSATS is responsible for arranging specialist doctors for the resource centre, extend technical support, train the medical professionals, and bear the Internet connectivity costs. HDF had to provide space for setting up of tele-health clinics at the sites; manage the local human resource, facilitate COMSATS' technical inputs on site; meet recurring costs of consumables and carry out maintenance of the tele-health equipment.

Based on the above understanding, the two organizations collaborated for establishment of tele-health clinic in Zhob, Balochistan, which was launched in September 2011 (page 104).

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INTERNATIONAL VISITS

- Visit to BCSIR (Bangladesh) by COMSATS' Delegation 70
- Executive Director's Visit to Brazil 72
- Executive Director's Visit to Ghana, Morocco, Senegal 73

The Executive Director COMSATS and other officials of COMSATS Secretariat undertake international visits with an objective to strengthen and expand the membership of COMSATS and its Network of S&T Centres of Excellence, as well as to participate in international meetings/workshops for developing partnerships and cooperation mechanisms.

INTERNATIONAL VISITS

Visit to BCSIR (Bangladesh) by COMSATS' Delegation

On June 29, 2011, COMSATS' two-member delegation, comprising Mr. Tajammul Hussain, Advisor (Programmes) COMSATS, and Mr. Farhan Ansari, Assistant Director (Programmes) COMSATS, visited the Bangladesh Council of Scientific & Industrial Research (BCSIR), Bangladesh, and held a meeting with its then Chairman, Prof. Dr. S. M. Imamul Haq. Mr. Hussain made a brief presentation on COMSATS, highlighting its history, organizational structure, Membership on-going projects and programmes, recently held capacity-building activities, and future strategy. He stated that COMSATS' Network of International S&T Centres of Excellence has been further strengthened by virtue of BCSIR's membership of



COMSATS' Network. During the meeting, opportunities of scientific collaboration available with COMSATS were discussed as well as strong participation of BCSIR in COMSATS' projects and programmes, especially International Thematic Research Groups, was stressed.

COMSATS' delegation also visited different sections of BCSIR that included: Food and Safety Lab, Food Toxicology Analytical Lab, Bio-gas Plants, and Bangladesh Institute of Chemical Metrology. Brief meetings were held with the respective heads of different laboratories/sections of BCSIR in order to identify the Council's training needs and for jointly organizing capacity-building events.

Subsequently, COMSATS' delegation held a meeting with the State Minister for Science and Information & Communication Technology (MOSICT), Government of Bangladesh, Arch. Yeafesh Osman, at MOSICT, Dhaka, Bangladesh. Also present at the meeting was Mr. Dilip Kumar Basak, Additional Secretary, MOSICT, Bangladesh. Mr. Hussain briefly shed light on COMSATS' support for Bangladesh's scientific capacity-building through the sponsorship of its scientists/researchers for participating in COMSATS' international capacity-building events, and acquainted the State Minister with COMSATS' recently held International Training Workshop on 'Science Education for Sustainable Development', on June 27-28, 2011, in Dhaka, Bangladesh.

The State Minister admired COMSATS' initiatives for Bangladesh's scientific capacity building and assured of his full support for facilitating Bangladesh's scientific collaboration with other developing/developed countries from COMSATS' platform. He underscored the need of employing science and technology, especially ICTs, for improving the standard of education in the developing countries and regarded international collaboration as key for achieving this objective. He also shared with the participants of the meeting his Government's initiatives for strengthening the mechanisms of education in Bangladesh.



Executive Director's Visit to Brazil

During May 2011, Dr. Qureshi visited Rio de Janeiro (Brazil), where COMSATS' Brazilian Centre of Excellence, Embrapa Agrobiologia, is situated. He also went to the Brazilian capital, Brasilia, for meeting with government officials. During his four-day sojourn (May 21-24, 2011), Dr. Qureshi visited the Brazilian Agricultural Research Corporation (Embrapa), Embrapa Agrobiologia; and the Brazilian Ministries of Science & Technology and Foreign Relations. The main purpose of this visit was to hold meetings with the officials of important Brazilian institutions to discuss cooperation in the field of science and technology; participation in programmes and projects of COMSATS, and to extend COMSATS' Membership offer to the Government of Brazil.



On May 21, 2011, Dr. Qureshi had a meeting with Director General Embrapa Agrobiologia, Dr. Eduardo Campello. The two officials, inter alia, discussed the role that the Centre was playing in the development of environmental friendly agricultural techniques and practices in Brazil. Later, during a visit to the various laboratories of the Centre, Dr. Qureshi availed the opportunity to make a first-hand assessment of its scientific capacity.

Dr. Campello accompanied the Executive Director to 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 the Brazilian Ministry of Science and Technology. A letter of invitation for Brazil to join COMSATS was also presented by Dr. I.E. Qureshi, in his meeting with Dr. Carlos Nobre. The role and activities of COMSATS in creating linkages among the scientific institutions of the developing countries was highlighted by Dr. Qureshi, while stressing that Brazil could play a leadership role in South-South cooperation in the Latin American region, through the platform of COMSATS. Brazil could also strengthen its scientific cooperation with African countries by using the channels provided by COMSATS as nine African countries were already COMSATS' Member States.

Dr. Nobre, who is himself a reputed environmental scientist, was very appreciative of COMSATS' programmes, especially its 'International Thematic Research Groups' launched recently in areas of highest concern to the developing counties. Dr. Nobre



was 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 Director General of Embrapa Agrobiologia, who was present during the meeting, endorsed the effectiveness of COMSATS in S&T capacity-building programmes. 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.



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.

Executive Director's Visit to Ghana, Morocco, Senegal

Conscious of its dual role of advocacy and facilitation, COMSATS Secretariat is actively engaged in sensitizing its Member States and affiliated partner institutions to play their due role for achieving the organization's mission of science-led sustainable development.

Following the advice of Coordinating Council, the Executive Director COMSATS, Dr. Imtinan Elahi Qureshi, visited three African developing countries, Morocco, Ghana and Senegal, the latter two of which are also Member States of COMSATS. With preparations of the Commission Meeting on 16-17 April 2012 in full swing, another purpose of the visit to these member countries was also to sensitize them about this upcoming high-profile event.

Visit to Morocco (16-21 October 2011)

The Executive Director was accompanied by two a member delegation (Mr. Tajammul Hussain, Advisor Programmes, and Mr. Nisar Ahmad, Assistant Director Systems) during his visit to Morocco to attend the 2nd meeting of the Coordinators of Virtual Scientific Thematic Groups of IWSN (page 109). On this occasion, the Executive Director COMSATS held a meeting with the Director-General ISESCO, H.E. Dr. Abdulaziz Othman Altwajiri, at ISESCO



Headquarters, Rabat, on 17th October 2011. Dr. Altwajiri expressed satisfaction over the on-going cooperation between ISESCO and COMSATS to organize joint scientific activities for the benefit of common Member Countries. He reaffirmed the commitment of his organization to continue such collaboration and desired to enhance the scope of joint capacity building programmes. Dr. Qureshi assured the Director General that COMSATS considered this partnership very important and would like to join hands with ISESCO to launch scientific R&D initiatives aimed at solving pressing problems of developing countries. In particular, he mentioned the scheme of multi-national research groups that had been initiated by COMSATS to address challenges of clean water availability, food security, environmental changes and gaps in the development of biotechnology and ICTs in the South.

Also attending the meeting, Dr. Faiq Billal, Director (Science) ISESCO, and Mrs. Wafaa El Alami, Head ICPSR, noted that COMSATS' strong technical support had resulted in successful organization of a number of training programmes, workshops and symposia since 2004. The launching of web-portal 'Islamic-world Science Net (IWSN)' in 2006 was a significant step towards sharing the expertise between COMSATS and ISESCO.

Dr. Altwajiri encouraged his senior officials to utilize the occasion of Dr. Qureshi's visit

to work out the details of joint ISESCO-COMSATS activities for 2012 and beyond. Other members of the delegation undertook consultations in this respect with Dr. Mukhtar Ahmed, the Deputy Director General, ISESCO, along with Dr. Faiq Billal and other Directors and Heads of Divisions of Science Directorate of ISESCO. It was agreed that: a workshop on repair and maintenance of scientific equipment would be jointly organized in a common Member State of COMSATS and ISESCO during 2012; cooperation to update the web-portal IWSN would continue; and the third meeting of the Coordinators of the Virtual Scientific

Thematic Groups of IWSN would be held after two years, i.e. in 2013. Arrangements were worked out for holding three workshops on Internet Security, Nanotechnology and Renewable Energy in OIC member countries during 2011-12 (page 29).

During a meeting with the Secretary General, Ministry of National Higher Education, Professional Training and Scientific Research, Mr. Abdelhafid Debbah (19th October 2011), the Executive Director COMSATS took up the matter of Morocco's accession to COMSATS. Acknowledging the usefulness of COMSATS' membership for Morocco, the Secretary General informed the Executive Director about the contacts being made by the Embassy of Pakistan in Rabat with the Moroccan Ministry of Foreign Affairs, in this connection. He expressed hope that a decision to join COMSATS as a Member State will soon be taken.



Visit to Senegal (23-25 October 2011)

Senegal's Minister for Higher Education and Scientific Research, H. E. Prof. Amadou Tidiane BA, received the Executive Director COMSATS at his office in Dakar, Senegal, on October 25, 2011, and discussed possibilities of enhancing cooperation between his Ministry and COMSATS. The Executive Director informed the Minister that he had visited various research centres of the University Cheikh Anta Diop (UCAD) during his visit to Senegal, and on the basis of his discussions with relevant faculty members and the Rector of the University, it was understood that the UCAD would be recommended as a Centre of



Excellence of COMSATS for approval in the next meeting of its Coordinating Council. With the induction of the University in the COMSATS' Network, it would be possible to involve the Senegalese scientific community in the capacity-building programmes of COMSATS. The Minister, who himself is an accomplished scientist, welcomed the proposal and assured full support of his Ministry during the process of affiliation of UCAD in the COMSATS' Network. The Minister further expressed willingness to personally attend the forthcoming Commission Meeting of COMSATS, as a representative of the President the Republic of Senegal. The First Advisor to the Minister, Prof. Tahir Diop, appreciated that a National Workshop on 'Repair and Maintenance of Scientific Equipments in Teaching, Research Institutions, and Small Scale Industries' was jointly organized by COMSATS and ISESCO in Dakar in 2011.

A member of COMSATS' International Technical Advisory Committee, Prof. Moctar Touré, who was also present during the meeting, supported the proposal of affiliating



the University with COMSATS, as its Centre of Excellence. He stressed that the three major research institutes of the University could become nodes for participation in international activities of COMSATS and for faculty-exchange visits between UCAD and COMSATS Institute of Information Technology (CIIT). The institutes identified for this purpose pertain to Renewable Energy, Biotechnology and Bacteriology/Virology. Also, Prof. Touré had earlier accompanied the Executive Director during visits to various laboratories of UCAD.

Visit to Ghana (27-28 October 2011)

Visit to Ghana constituted the final leg of the Executive Director's visit to three African countries. A meeting was held between the Minister for Environment, Science and Technology (MEST), Republic of Ghana, H. E. Ms. Sherry Ayittey, and the Executive



Director COMSATS, at the former's office in Accra (Ghana) on 27th October 2011. Ms. Ayittey reaffirmed the support of her Ministry towards COMSATS' programmes and desired to expand cooperation with COMSATS in areas of environment, agriculture and biotechnology. She also expressed keen interest in educational opportunities available for Ghanaian students at COMSATS Institute of Information Technology (CIIT). Other senior officials of Ghanaian scientific institutions present at the meeting included: Mr. George K. Scott, Chief Director, MEST; Dr. A. B. Salifu, Director General Council for Scientific and Industrial Research

(CSIR); and Dr. Eugene Atiemo, Director Building and Road Research Institute (BRRI).

Dr. Qureshi gave a brief presentation on COMSATS' recent initiatives, especially the launching of ITRGs. He informed the Minister that Ghanaian scientists were welcome to join three operational groups in the areas of Climate, Medicinal Plants and ICTs. Dr. Salifu, who had held an exclusive meeting with the Executive Director earlier, welcomed the invitation and assured that relevant Ghanaian scientists would be identified for participation in ITRGs. The Minister was informed that COMSATS had sponsored a Ghanaian scientist to participate in the recently held CTWF-COMSATS joint International Training Workshop on 'Regional Climate Change and its Impact Assessment' (China).

Later, Dr. Qureshi visited Building and Road Research Institute (BRRI) in Kumasi, which is affiliated with COMSATS as its Centre of Excellence and made a presentation highlighting COMSATS' regional programmes. This presentation was subsequently sent to the Directors of other departments of CSIR for possible future cooperation. As agreed earlier by the Director General CSIR, COMSATS would

designate CSIR as its Centre of Excellence to enable other departments of CSIR, apart from BIRRI, to participate in COMSATS' programmes.

Touching upon the issues of financial support for Science and Technology, Dr. Qureshi stressed that all developing countries were in dire need of greater funding for R&D. Organizations like COMSATS, which depended on voluntary contributions of Member States, also needed to be financially supported in order to enhance their ability to execute projects, directly contributing to the socio-economic uplift of the developing countries. Dr. Qureshi invited the honourable Minister to personally represent Ghana in the forthcoming Commission Meeting of COMSATS. The Minister assured Dr. Qureshi that his suggestions would be discussed at the appropriate level.

The relevant Ministers, both in Senegal and Ghana, were also delivered personal letters from the Minister for Science and Technology, Government of Pakistan, H. E. Mr. Changez Khan Jamali, in which it was desired that these countries may consider enhancement of scientific cooperation with Pakistan on bilateral basis, as well as through the platform of COMSATS.





Annual Report

2011



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ACTIVITIES OF COMSATS' CENTRES OF EXCELLENCE

A. REPORTS RECEIVED

- COMSATS Institute of Information Technology (CIIT), Pakistan 80
- International Center for Chemical and Biological Sciences (ICCBS), Pakistan 84
- International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica 87
- National Research Centre (NRC), Egypt 90
- TÜBİTAK Marmara Research Centre (MRC), Turkey 92

B. REPORTS EXTRACTED

- Royal Scientific Society (RSS), Jordan 97
- International Centre of Physics (CIF), Colombia 98
- Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh 99
- Industrial Research and Consultancy Centre (IRCC), Sudan 99
- Embrapa Agrobiologia, Brazil 100
- Higher Institute for Applied Science and Technology (HIAST), Syria 101

A group of seventeen R&D institutions from various developing countries, predominantly COMSATS' Member States, is affiliated with COMSATS as its Network of International S&T Centres of Excellence. The Network Members serve as COMSATS' technical resource for South-South cooperation, while following their own agendas of scientific research and development.

ACTIVITIES OF COMSATS' CENTRES OF EXCELLENCE

COMSATS' Centres of Excellence are vibrant R&D organizations engaged in a wide spectrum of scientific activities, according to their national and international priorities. While it would be difficult to encompass all programmes of these Centres in a short report, the following sections give glimpses of some major on-going activities. Section 'A' is based on the activity-reports received on request, from five Centres of Excellence, CIIT-Pakistan, ICCBS-Pakistan, ICENS-Jamaica, NRC-Egypt and TÜBİTAK MRC-Turkey. Section 'B', on the other hand, is a compilation of news-entries either received for COMSATS Newsletter or extracted from the respective websites of these Centres over the year 2011. These Centres are RSS-Jordan, CIF-Colombia, BCSIR-Bangladesh, IRCC-Sudan, Embrapa Agrobiologia-Brazil and HIAST-Syria.

A. REPORTS RECEIVED

COMSATS Institute of Information Technology (CIIT), Pakistan

CIIT underwent tremendous growth, be it in terms of its student population, faculty members, academic ranking or other activities. The student strength escalated to 19,636, while the faculty, almost a fifth of whom hold doctorate degrees, reached an impressive figure of 1,925 imparting high quality education at all seven campuses of the Institute. A total of 3,647 students have graduated in various disciplines during 2011.



During 2011, two more patents have been registered. These are 'Decentralized and Cooperative Reception of Data by Base Stations' by Dr. Shahid Khattak, and 'Recovery of Nickel from Industrial Pickling Acid Solutions' by Dr. Robina Farooq.



Campus-wise Laboratories: TOTAL 164

- Islamabad Campus (44)
- Abbottabad Campus (43)
- Lahore Campus (48)
- Attock Campus (6)
- Wah Campus (14)
- Sahiwal Campus (7)
- Vehari Campus (2)



Departments of CIIT

1	Dept. of Computer Science	9	Dept. of Chemical Engineering
2	Dept. of Management Sciences	10	Dept. of Mechanical Engineering
3	Dept. of Humanities	11	Dept. of Pharmacy
4	Dept. of Electrical Engineering	12	Dept. of Architecture & Design
5	Dept. of Mathematics	13	Dept. of Development Studies
6	Dept. of Biosciences	14	Dept. of Earth Sciences
7	Dept. of Meteorology	15	Dept. of Chemistry
8	Dept. of Physics	16	Dept. of Environmental Sciences

Approved Projects of CIIT

The year 2011 witnessed the establishment of the Office of Research Innovation and Commercialization (ORIC) under the Dean Research, Innovation & Commercialization. ORIC has recently appointed two managers, one each in Research & Development, and in University-Industry Linkage. In 2011, a total of 64 projects of CIIT were approved by various organizations, out of which 43 were approved by Higher Education Commission (HEC) of Pakistan under its various programmes, worth Rs. 99.81 million. Moreover, HEC funded 75 Travel Grants cases for Rs. 11.650 million.

The Pakistan Science Foundation (PSF) granted funds of Rs. 7.63 million for three projects and the Pakistan Academy of Sciences (PAS) funded a project. Another 16 projects worth Rs. 3.084 million were funded from the CIIT Research Grant Programme, additionally project worth Rs. 11.558 million was funded from the National ICT R&D Fund.

Total Student Enrollment

Campus	Number of Students
Islamabad	5,468
Abbottabad	5,363
Lahore	5,284
Attock	475
Wah	1,714
Sahiwal	1,151
Vehari	181
Total	19, 636

Faculty

Designation	Number
Advisor Faculty	38
Professors	52
Associate Professors	58
Assistant Professors	562
Lecturers	964
Research Associates	251
Total	1,925

CIIT-EMMA Partnership

Since 2010, CIIT has been a partner in the Erasmus Mundus Mobility with Asia (EMMA) Project, under the Erasmus Mundus Programme of the European Union, for promoting cooperation and mobility in the field of higher education. For 2011, 19 scholarships were allocated for partner universities from Pakistan (Target Group 1). In addition, two scholarships for Masters and Ph.D were allocated for applicants from institutions other than the partner universities (Target Group 2), and four scholarships for applicants from vulnerable groups (Target Group 3). Against these, 15 scholarships have been awarded to CIIT students, faculty members and staff members.



Memoranda of Understanding

International MoUs: During the period 2011, six MoUs were signed with the following institutions and organizations: North Dakota State University (NDSU) USA; Consortium of Universities from Afghanistan; Norwegian University of Life Sciences (UMB), Norway; Nanjing University of Information Science and Technology, China; Xu Zhou Normal University, Jiangsu Province, China; and University of Rostock, Institute of Chemistry, Germany. Under the collaboration with UMB, Norway, a Norwegian national is doing research work in partial fulfillment of her Ph.D degree at CIIT Abbottabad Campus. Under the agreement with NDSU, ten faculty members of CIIT have already been sent to NDSU for higher studies.

National MoUs: In addition to the afore-mentioned international MoUs, seven similar agreements have been reached with Pakistani institutions/organizations. In this regard, MoUs were signed with the following: YES Network Pakistan/ British Council; Shifa College of Medicine; SciSoft Inc; Pakistan Telecommunication Authority (PTA); Islamabad Chamber of Commerce & Industry (ICCI); National Center for Physics (NCP); and A. Q. Khan Research Laboratories (KRL).

Visits of Foreign Delegates to CIIT

During 2011, 58 individuals hailing from various countries, such as Afghanistan, China, France, Germany, Malaysia, U.K, USA, visited CIIT. Some of these high-profile visits during that period were by: H.E. Shahid Kamal, Ambassador of Pakistan to Germany; a 15-member Afghan delegation; Prof. Francine and Marc Diener, University of Nice, France; Prof. Bob Mckinlay, Deputy Vice Chancellor, Lancaster University, UK; H.E. Daniel Jouanneau, Ambassador of the



Republic of France to Pakistan; Prof. Peter Langer, University of Rostock, Germany; and Mr. Wille Eerola, MD/CEO of Oy Ridides Ltd., Finland. The visits of these academicians and technocrats were of great significance to CIIT because of their contributions towards enhancing the quality and research on one hand and commercializing the research products on the other. The visits also imparted training in entrepreneurial skills in the young scientists of the Institute.

The visits of the Malaysian delegation from the Universiti of Teknologi PETRONAS and the University of Malaya have been especially rewarding during 2011. Hosting of these visits resulted in getting 50 fully-funded Ph.D scholarships for the young faculty of CIIT in Telecommunications, Computer Science, Earth Sciences and Business Administration. Similarly, the delegation from the University of Malaya provided 14 fully-funded Ph.D scholarships to CIIT faculty in various areas of Computer Science under 'Bright Spark Programme'.

During his one-day visit to Pakistan, on April 5, 2011, the British Prime Minister, Mr. David Cameron, delivered a lecture at CIIT, encompassing key elements of UK policy relevant to UK-Pakistan bilateral relations.

Visits of Important Officials of Government of Pakistan to CIIT

On October 21, 2011, the Prime Minister of Pakistan, Syed Yusuf Raza Gilani, formally inaugurated the Islamabad Campus of CIIT and laid the foundation stone of the Students' Sports Centre. The Prime Minister was accompanied by the Federal Minister for Science and Technology and the Federal Secretary, Ministry of Science and Technology, Government of Pakistan.



On September 7, 2011, Mir Changez Khan Jamali, Federal Minister for Science & Technology, who is also the Chancellor of CIIT, visited the Lahore Campus of CIIT. The Minister visited the library and other departments of the Institute. He appreciated the facilities and standard of services being provided by CIIT to its students. The Minister also chaired a meeting with the senior officials of CIIT and a delegation from the Lancaster University, UK.

International Visits of CIIT Officials

A total of 37 individuals including faculty members and senior officials of CIIT visited various leading universities across the globe, including Bangladesh, China, Germany, Jordan, Malaysia, Saudi Arabia, and U.S.A.

These high level visits include that of the Rector CIIT to the OIC Headquarters and the Islamic Development Bank (IDB), Jeddah; Nanjing University of Information Science and Technology, China; University of Lancaster, UK; and, a visit to Germany. Dean



Faculty of Sciences, Dr. Arshad Saleem Bhatti, visited the European Organization for Nuclear Research (CERN) and Advisor (ILO), Dr. Tariq-ur-Rahman to 14th Coordinating Council Meeting of COMSATS, held in Bogotá, Colombia.

Some Scientific Events

- COMSATS Engineering Project Exhibition – 2011 (13-14 April 2011)
- 6th International Symposium on Quantum Optics (9 April 2011)
- International Conference on Topology and its Applications (4-10 July 2011)
- 9th International Conference on Frontiers of Information Technology (19-21 December 2011)

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

For ICCBS, the year 2011 witnessed a rapid progress and expansion of this premier academic research establishment of the developing world. Following is a summary of some important achievements made during 2011.



Research Productivity

The faculty of ICCBS' institutes has published over 272 scientific papers in leading international journals during the reporting period. The cumulative impact factor of these publications is over 400. A number of international patents have also been successfully registered during this period.

M.Phil/Ph.D Output

During 2011, about 70 scholars completed their Ph.D./M.Phil or submitted their theses for the same qualifications to the University of Karachi for evaluation and processing. The ICCBS faculty is also supervising research of a large number of M.S./M.Phil/Ph.D scholars, registered in other universities of Pakistan. Systematic efforts have been made to further increase the Ph.D level productivity of ICCBS' institutes in the future, while ensuring the highest quality of graduate training.

Support to Industry and Government Agencies

The Industrial Analytical Center (IAC) of the H.E.J. Institute of Chemistry is now serving a very large number of industries, R&D institutions, Government Agencies and Environmental NGOs. During 2011, over 350 industries and other clients were served. The IAC is an ISO 17025 and 9000 certified laboratory, which has acquired international reputation for excellence and credibility.

International Conferences, Seminars and Workshops

ICCBS' institutes have organized several national and international events. Over 100 foreign and 200 Pakistani researchers participated in these events, which not only contributed in developing productive research linkages with foreign institutions, but also brought recognition for the scientific work conducted at the ICCBS and other Pakistani research institutions. The events for the year 2011 include:

- The 3rd International Symposium-cum-Training Course on Molecular Medicine and Drug Research (PCMD);
- Workshop on Techniques in Nanomedicine Research;
- National Conference on Safety and Security of Chemical Laboratories;
- 3rd International Symposium-cum-Training Course on Molecular Medicine and Drug Research (3-6 January 2011);
- International Workshop on Modern Techniques in Combinatorial Chemistry, Islamabad, Pakistan (June 13-16, 2011);
- International Workshop on Structural Biology (1-4 October 2011);
- Lecture on Obesity-Related Diseases and Prevention (5 November 2011);
- Lecture on Cancer: Signs, Symptoms, Diagnosis and Treatment in the Light of Modern Research (November 2011);
- Public Awareness Event on Dengue Fever: Prevention & Treatment, (24 September 2011).



IMPORTANT STATISTICS	
Total Number of Students Enrolled at ICCBS	360
Number of Foreign M.Phil / Ph.D. Students	10
Number of Visiting Students from Other Universities of Pakistan	Over 50
Total Faculty Members	46
Total Number of Research Publications by the ICCBS Faculty Members (2011)	269
Total Impact Factor of the ICCBS Research Publications (2011)	405
Total M.Phil / Ph.D Produced (2011)	69
Total Number of Employees	330
Books and Journals Published	28

Trainings

Fifteen faculty members and students of the ICCBS have completed or are undergoing trainings in Austria, Bangladesh, Finland, Germany, Iran, Italy, Malaysia, USA, and Switzerland. The fields of these trainings include: Organic Chemistry; FTIR



Microscope; Computational Chemistry; Patch Clamp; GC-MS Analysis; Single-Crystal X-Ray Diffraction; Molecular physiology; Computational Chemistry; Structural Biology; Rat Pancreatic Islet Isolation and Insulin Releasing Activity of Natural Products; Electrophysiology and Calcium Imaging; Single-Crystal X-Ray Diffraction; NMR Spectroscopy; Biotechnology; and Molecular Genetics.

On the other hand, thirty foreign scientists and students have completed their trainings or are undergoing

training at the ICCBS' institutes. These belonged to Burkina Faso, Cameroon, Canada, Egypt, Ethiopia, Indonesia, Iran, Jordan, Malaysia, Mauritius, Myanmar, Nepal, Nigeria, Sudan and Sri Lanka. The duration of these trainings varies from 2 months to four years. Apart from these, 214 students from various Pakistani universities were also trained.

Memoranda of Understanding

Memoranda of Understanding were signed with the following during 2011:

1. International Health Clinical Research (IHCR), USA, on February 02, 2011;
2. Universiti Kebangsaan (UKM), Malaysia, on March 12, 2011;
3. Center for Advanced Studies in Engineering (CASE), Pakistan, on March 21, 2011;
4. The Department of Chemistry, University of Malakand, Pakistan, on July 11, 2011;
5. TWAS and UNESCO for TWAS-UNESCO Associateship Scheme at Centers of Excellence in the South, Trieste-Italy for five years on October 26, 2011; and
6. Al-Farabi Kazakh National University, Kazakhstan, November 2011.

International Agreements

ICCBS-Pakistan, and the Murdoch University, Australia, 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 agreed to cooperate for academic exchange in the field of Organic Chemistry.

The H.E.J. Research Institute of Chemistry (H.E.J.R.I.C) of ICCBS reached an agreement on education and science cooperation with Al-Farabi Kazakhstan National University, Republic of Kazakhstan. The Director ICCBS and the Rector of Al-Farabi Kazakhstan National University, Prof. Dr. Mutanov G., signed a Memorandum of Understanding on behalf of their respective institutions during the former's recent visit to Kazakhstan. As per the agreement, both the institutions have agreed to make mutual efforts for improvement of work organization in their

universities, as well as exchange of information on the problems of scientific and organizational aspects of academia.

Achievements and Future Plans

- PCMD of ICCBS and BGI-China Sequenced the Genome of a Pakistani Individual
- H.E.J.R.I.C was selected as the OIC's Center of Excellence
- Center for Bioequivalence Studies and Bioassay Research (CBSBR) of the PCMD received ISO 9000-2011 accreditation from the Pakistan National Accreditation Council (PNAC).
- ICCBS is jointly supervising research of over 25 M.Phil/Ph.D. scholars
- A new centre on Genome Research is being established, under the name 'Jamil-ur-Rahman Center for Genome Research'
- The development of L. E. J. Nanochemistry Center is underway.

International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica

Dr. Richard Annells, who formerly belonged to the British Geological Survey, was appointed Director General of ICENS, in September 2011, on the retirement of Professor Gerald C Lalor. Dr. Adrian Spence, who recently completed his Doctorate from the University of Dublin, was appointed head of Spectrometry Laboratory, where he applies his interests in soil geochemistry. ICENS staff currently number 18 scientific and technical personnel with eight administrative and support personnel.



During 2011, plans to re-commission the Centre's optical emission spectrometer were successfully concluded in December and the equipment is expected to be ready in January 2012. Ongoing analytical programmes maintained progress by using spectrometry equipment, based in the UWI Chemistry Department and the Bureau of Standards of Jamaica. The programmes of neutron activation analysis and computer analysis of environmental data also continued.

Plans were made to exchange the core of the SLOWPOKE reactor, which include the compilation of a new safety manual and determining of the detailed steps for the conversion process.

Current R&D Activities

Food and soils: Data were gathered on the chemical composition of imported and locally grown rice. The locally grown samples, taken from the south-central parishes of St. Elizabeth and St. Catherine, show elevated levels of several essential trace-elements but very low levels of toxic elements. The imported rice samples also showed very low levels of toxic elements.

A study of nematodes as indicators of heavy metal pollution in soils was carried out by TWAS/UNESCO Fellow and the data are being examined.



Health Studies: Trace-element information on soils and foods in Jamaica has led to an interest in elemental transfers to humans and possible links with diseases, such as hypertension, cancer, kidney disease, diabetes and cardiovascular illnesses, which are reported to be of high incidence in Jamaica. Data on trace-element concentrations on the blood of a selection of blood donors are available and these will form the basis for future work. No surprising features have been observed but there are indications of gender differences and perhaps zinc deficiencies in women.

Future Research

Food and Soils: ICENS will focus its research activities on the occurrence of trace-elements and their movement from Soils→Plants and Animals→Humans in order to contribute to both agriculture and health sectors of the country. It is planned to extend chemical analyses and mineralogical analyses into bedrock samples to try to identify the source minerals for trace-elements.

Radio-nuclides and Soil Erosion: A five-year collaborative study by the Rural Physical Planning Division (RPPD), for the Ministry of Agriculture and Fisheries, ICENS and Forestry, titled 'Using Environmental Radionuclides as Indicators of Land Degradation in Latin American, Caribbean and Antarctic Ecosystems', will continue until 2013. ICENS has received equipment and standard reference-materials for soil measurements from IAEA and performed analyses on samples taken from several areas. The results will be used to quantify soil erosion over the past few decades.

Cadmium Isotopes: Cadmium has many natural isotopes and the isotopic ratios may help determine the origin of the remarkable levels of cadmium found in some bauxites in Jamaica. This may well be a means for identifying the bedrock origins of cadmium in Jamaican soils.

New materials: Jamaica currently uses many materials for everyday use that are either imported, ready-made or are made from imported raw materials. ICENS aims to identify opportunities to substitute these imports through new uses of locally obtained industrial and agricultural wastes and other materials in order to save money and create new jobs for Jamaicans.

Training

As part of the drive of the ICENS to attain ISO accreditation, members of staff attended an IAEA training course in Peru to gain an overview of the processes required for research reactor facilities to achieve certification/accreditation for compliance with International Standards such as ISO-9000 series and, ISO/IEC 17025, as well as the latest approaches in the required quality control and quality assurance for work associated with the use of research reactors.

National and International Collaborations

During 2011, ICENS staff members gave presentations on their work at a number of international conferences. These included meetings with International Consultant in Vienna, which covered the areas of 'Neutron Activation Analysis' and 'Safety Aspects for Research Reactor Core Management', as well as 'Conversion from Highly

Enriched Uranium to Low Enriched Uranium'. The Centre also joined a panel of experts to advise IAEA on 'Automation of Neutron Activation Analysis (NAA) Services within the Research Reactors Caribbean Coalition'.

In May 2011, ICENS participated in the 3rd Coordination meeting of the Latin American and Caribbean IAEA Regional Project (RLA0037), titled 'Supporting a Sustainable Increase in the Use of Research Reactors in the Latin American and Caribbean Region through Networking, Exchange of Experiences, Knowledge Preservation and Training of Human Resources' (ARCALCXIX).

In September 2011, ICENS gave a presentation on 'Research Reactors and the Possible Benefits' and, in October, chaired a session on 'Conversion Analysis and Methods', at an International Meeting on 'Reduced Enrichment for Research and Test reactors (RERTR)' that was organized by the Argonne Laboratory of Chile.

During the month of November, the Centre took part in a consultation on setting up the new National Research and Education Network (NREN), which is expected to link Jamaican knowledge networks to worldwide high-speed backbones. In December, ICENS gave a presentation on its E-Share digital information system to a TWAS/Caribbean Academy of Sciences Programme Meeting in Kingston. The presentation had the title 'Digital Knowledge Resources and Dissemination of Scientific Information in Central America and the Caribbean.'

In the last quarter of 2011, ICENS attended three meetings on ISO/TC 93 Starch to develop standards for cassava and trace-element monitoring in starch products.

ICENS continued memberships of or made special contributions to a number of key national and international public bodies, notably:

- The Academy of Sciences for the Developing World (TWAS);
- The Royal Society of Chemistry;
- The American Chemical Society;
- The New York Academy of Sciences;
- The American Association for the Advancement of Science;
- FAO Codex Committee on Methods of Analysis and Sampling;
- The ISO Standard TC 93 Technical Committee on Starch (bi-products and derivatives);
- Editorial Board of the Science of the Total Environment;
- National Environment and Planning Agency (NEPA)/UNDP Committee on Renewable Wave Energy Technologies for the Generation of Electric Power in Small Coastal Communities in Jamaica;
- National Food Standards Committee;
- National Commission for Science and Technology;
- Council of the Institute of Jamaica;
- The Land Information Council of Jamaica.

Publications

- Lalor, G. C. Second National Report on Chemicals in the Jamaican Environment: Cadmium. ICENS Report, 2011, 41p.



National Research Centre (NRC), Egypt

NRC's Research and Development Council deals with proposals, management and follow-up of research projects, as well as modes of benefit from the results. Under this Programme, NRC undertakes research activities at three tiers: in-house projects, national projects, and international projects. Under the Ninth Research Plan (2010-2013) of NRC, projects are being undertaken under 14 research groups on: Renewable Energy; Water; Nanotechnology and Advanced Materials; Biotechnology; Agriculture; Waste management; Stem Cells; HCV; Obesity; Cancer; Diabetes; Human Genetics; Functional Food; and Polymers.



The national-level research projects being undertaken by NRC are: Industrial Modernization R&D Programme; projects with the Academy of Scientific Research; projects funded by the Science, Technology & Development Fund; and collaborative work with the private sector.

Mega Projects

- Engineering and Technological Development of Water Desalination using Hollow Fiber Membranes
- Use of gold nanoparticles for the diagnosis and treatment of cancer
- For the first time in Egypt "Egyptian vaccine for HCV" funded by "Misr Elkheir" Foundation
- Production of Egyptian solar cells from nanoparticles

Center of Excellence for Advanced Sciences (CEAS)

The Center of Excellence for Advanced Sciences (CEAS) of NRC is a group of laboratories that offers basic and applied research facilities for 15 research groups in interdisciplinary sciences, mainly biotechnology, nanotechnology, renewable energy and pharmaceutical research. So far, CEAS has produced Ph.D.s 57 and 77 students are undertaking M.Sc. and Ph.D studies.

Capacity-Building Events

During 2011, NRC organized 71 International and 39 National capacity building events.

International Collaborations

Major international agreements of NRC for scientific and technological cooperation include: an MoU with CSTECH, China; an agreement for establishing a new Programme of Master of Science in Organic Farming in Egypt (NPMSE) with the University of Bonn, Germany; and an agreement with INRA, France; besides other cooperative agreements with Evenor-Tech Company, Spain; Institut National des Sciences et Technologies de la Mer (INSTM), Tunisia; and Westminster University, England.

Number of departments in various divisions of NRC

Environmental Sciences	3
Medical Sciences	16
Human Genetics and Genome Research.	8
Oral and Dental Research	6
Agriculture and Biology	16
Veterinary Research	6
Textile Industries	5
Pharmaceutical Industries	9
Food Industries and Nutrition	6
Engineering Research	5
Organic Chemistry Industries	10
Inorganic Chemistry Industries & Mineral Resources	7
Genetic Engineering and Biotechnology Research	8
Physics	6

Individual and Institutional Awards

- i. Two researchers of NRC, Dr. Wafaa Haggag and Dr. Doaa Abdel Aziz, won prizes at the International Exhibition and Forum for Women Inventors, held in Seoul, Korea on 26 September 2011.
- ii. Dr. Wafaa Haggag won a special prize from the World Intellectual Property Organization.
- iii. Dr. Doaa Abdel Aziz won a special prize from the Netherland Bureau for patents.
- iv. Dr. Wafaa Haggag also won the following prizes: Gold Prize during the '4th International Invention Fair in the Middle East 2011, IIFME', Kuwait, 21-24 November 2011, and a prize from 'Association of Syrian Inventors during the same event.
- v. Dr. Nahla Ismail of the Division of Chemical Industries was amongst the eleven women scientists announced who won the Elsevier Foundation OWSD 2011 Awards for the category 'Outstanding young biologists, chemists, physicists and mathematicians recognized across the developing world'.
- vi. Dr. Venice Kamel Gouda, Professor Emeritus, Physical Chemistry Department, Chemical Industries Division of NRC won Marcel Pourbaix Prize for the year 2011
- vii. NRC was awarded a 'Certificate of Appreciation' from the Egyptian Academy of Scientific Research & Technology (ASRT) for Patents.
- viii. 17 Scientists of NRC won prizes for best 'Scientific Publications'.
- ix. Dr Aziza Kamel of NRC won L'Oréal-UNESCO Award for Life Science.
- x. Life-time Achievement Award was given to Prof. Dr. Said Shalaby of NRC.

Patents Acquired

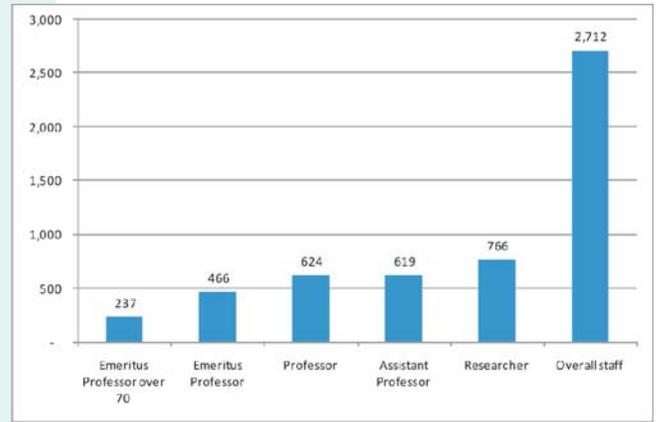
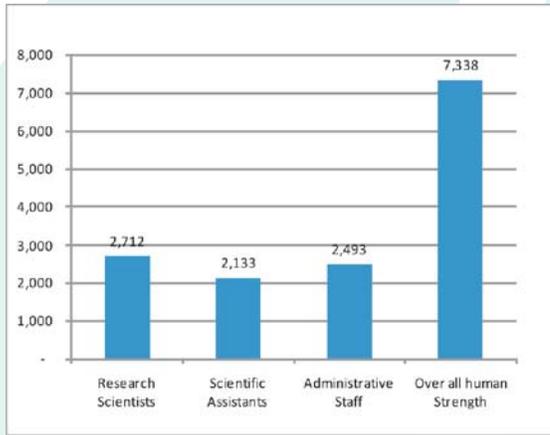
The following 13 patents were acquired by NRC during 2011:

- i. Stimulate the proliferation of hepatitis C virus (HCV) using a laboratory two proteins separated from soluble protein Schistosoma eggs full;
- ii. The production of generational fibres of the necks of mushroom to be used as an alternative to fat;



- iii. Potassium sulphate new preparation;
- iv. New antitumor extract;
- v. Sintralite compounds preparation;
- vi. Isolate the genetic material-bacterial alkaline-using a diagnostic kit;
- vii. Prepare a genetic mutation to increase muscles and buffalo meat;
- viii. Bio-Pesticide to resist disease and deformation in mango;
- ix. Preparation Ba2 Ti9 O20 as ceramic used in electronic devices in the field of microwave of high frequency;
- x. A new method for the preparation of some compounds of Egyptian titanium silicate ores;
- xi. A method for liver cells isolation;
- xii. Production and use of materials of chelating Chitozan;
- xiii. A modern way to clean and dry sterilization of agricultural products against insect and fungal pests during storage.

Human Resources



TÜBİTAK Marmara Research Center (MRC), Turkey

The Scientific and Technological Research Council of Turkey (TÜBİTAK) is the leading agency for management, funding and conduct of research in Turkey. It was established in 1963 with a mission to advance science and technology, conduct research and support Turkish researchers.



Patents Acquired

During 2011, TÜBİTAK MRC won three patents relating to the following:

- i. Method for Manufacturing Material Like Antique Tiles;
- ii. Production of Potassium Sulfate and Aluminum Hydroxide from Alunite Ore without Roasting and Silicate Formation;
- iii. Process for Producing a Grain Refining Master Alloy.



Focus Areas of the seven Institutes of TÜBİTAK MRC during 2011

Energy Institute	<ul style="list-style-type: none"> - Advanced Energy Technologies - Power Electronics and Control Technologies
Environment Institute	<ul style="list-style-type: none"> - Air Quality Management - Water and Wastewater Management - Marine and Inland Water Management - Solid and Hazardous Waste Management
Chemistry Institute	<ul style="list-style-type: none"> - Process and Inorganic Chemistry Technologies - Polymer and Organic Chemistry Technologies
Food Institute	<ul style="list-style-type: none"> - Food Science and Technologies - Nutrition and Functional Foods - Food Microbiology and Biotechnologies
Materials Institute	<ul style="list-style-type: none"> - Ceramic, Coating, Electromagnetic - Electronic Materials, Sensor and Metal Technologies
Genetic Engineering and Biotechnology Institute	<ul style="list-style-type: none"> - Animal Biotechnology - Medical Biotechnology - Enzyme and Microbial Biotechnology - Plant Biotechnology
Earth and Marine Sciences Institute	<ul style="list-style-type: none"> - Earthquake Processes - Geophysical Processes - Geologic and Geochemical Processes - Techniques Applied

Workshops at TÜBİTAK MRC

The Food Institute of TÜBİTAK Marmara Research Centre (MRC), in collaboration with Ministry of Agriculture and Rural Affairs, Turkey, organized a workshop on 'Fluidised Bed Technology', on March 3, 2011. Many international and national companies, food and pharmaceutical industries and related departments of universities participated in the event. The aim of this one-day workshop was to supply theoretical and practical information related to different food industries and create a network within the food sector. During the workshop, the participants were informed about different food processing techniques, such as drying, granulation, agglomeration, coating and encapsulation, and industrial application of these techniques in 'Fluidised Bed System'.

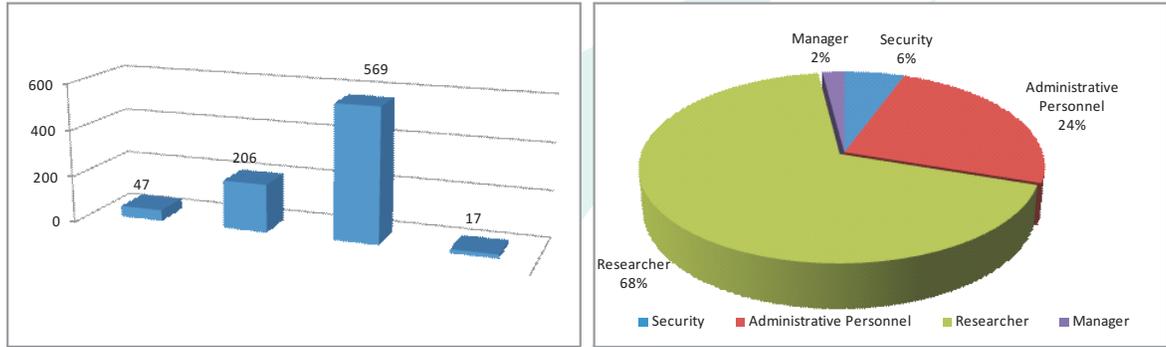
Another workshop on National Waste Mineral-Oil was organized by the Chemistry Institute of TÜBİTAK MRC, on February 24, 2011. Presentations were made on various topics including: 'Creating the Waste Mineral-Oil Control and Monitoring System'; 'Mineral-Oil Database System'; and 'Waste-Oil Management Studies: The Case of Germany'. A panel discussion was also conducted on matters relating to the mineral-oil industry, waste-oil collection, transportation, and recycling and disposal problems.

Number of Capacity Building Activities (Conferences/Seminars/Workshops, etc.)	
National training	70
National seminars	26
National workshops	11
International workshops	4
International training	1
International conference	1
International congress	1
International symposium	1





Human Resources at MRC



Medium-Scale Sequencing Center

TÜBİTAK Marmara Research Centre (MRC), Turkey, is establishing a medium-scale Sequencing Center equipped with the next generation sequencing machines. The Center is the first of its kind in Turkey and is expected to provide the next generation sequencing services to the entire scientific community.

Number of Publications	
Technical Reports	368
Papers	205
SCI Articles	92
Other Articles	18
Books/Part of Book	4

The services offered by the Center would include: whole genome de novo and resequencing; transcriptome sequencing; targeted sequencing (exome, chromosome segments, etc.); metagenomics and microbial biodiversity; chip sequencing; custom capture sequencing; methylation sequencing; small RNA-sequencing; development of robust molecular markers and marker-assisted selection; fluorescence-based multiple quantitative gene expression analyses; plant tissue culture technologies; and gene transfer technologies in plants.

The dramatic reduction in sequencing costs with the new development in sequencing technologies will have a significant effect on research carried out in the field of plant biotechnology. COMSATS' Member States are the origin for many important crops, and many regional issues of genetic biodiversity in these crops can be addressed by means of this Sequencing Center.

Biosafety Laboratories of TÜBİTAK MRC

The Genetic Engineering and Biotechnology Institute (GEBI) of TÜBİTAK MRC has a Biosafety Level 2 Laboratory, which has been used for twenty five years. TÜBİTAK MRC now aims to establish a BSL-3 laboratory infrastructure containing Animal BSL-3 facility to study in safe and controlled conditions the pathogenic organisms that cause diseases. The BSL-3 facility will be certified by TÜV SÜD Cleancert GmbH (Germany). Research will be carried out in this facility on the identification of pathogenic bacteria and viruses that pose a threat to human and animal health, as well as on genetic resistance to these diseases and development of protection systems.

The facility will also focus on indigenous development of diagnostic kits and vaccines for zoonotic diseases, such as avian influenza (bird flu), rabies, brucellosis and

tuberculosis. Especially, the development of molecular and serological diagnostic tests for zoonotic diseases will eliminate Turkey's dependence on foreign expertise, and resulting in economic benefits. Furthermore, this project will facilitate new biotechnology related SMEs in Turkey on the development of vaccines and diagnostic kits.

International Collaborations (MoU/Agreements)		
	Name of Collaboration	Partner
1	Knowledge Transfer and Research Needs For Preparing Mitigation/ Adaptation Policy Portfolios (PROMITHEAS-4)	European Union 7 th FP NKUA KEPA National And Kepadistrion University of Athens
2	SeaDataNet II: Pan-European Infrastructure for Ocean and Marine Data Management (SEADATANET2)	European Union 7 th FP IFREMER
3	High Efficiency in Situ Treatment Technology for Contaminated Groundwater (HEISTT)	European Union 7 th FP
4	Prepared Enabling Change	European Union 7 th FP
5	Promoting and Improving Azerbaijan Research Collaboration with European Research Area	European Union 7 th FP
6	Science And Policy Integration For Coastal Systems Assessment (SPICOSA)	European Union 6 th FP From 21 countries 54 partners. Administrative and financial responsibility; Institute of French National Marine Research (IFREMER). Scientific coordination: Western Brittany University (Brest-France). IFREMER, CSIC, IAMC-CNR, UVSQ, CORILA, VITO, EUCC, BUC, CEMAGREF, UALG, UBO, University College Cork (UCC), University of East Anglia – CSERGE, University of Cardiff, University of Plymouth, Napier University, Edinburgh, University of Stockholm, Université Libre de Bruxelles – CESE, Free University of Amsterdam, HCMR, MIG, SAMS, DISY, KMG, SOGREAH, DEEMO – UoG, IMR, IOW, DIFRES, EMI-UT, MU-FHRC, NERI, IOeW, Uni-HB, IO-BAS, Delft Hydraulics, IAE-UL, NCFS, NIMRD, EC-JRC, ENVISION, EREOPE, PES, USE, AUTH, ENVECO, RIKZ, SGM, SIO-RAS
7	Application of Nanotechnologies for Separation and Recovery of Volatile Organic Compounds from Waste Air Streams (ANVOC)	European Union 6 th FP University of Chemical Technology and Metallurgy, Bulgaria, University of Twente-EMI, Netherlands



8	Sustainable Concepts Towards A Zero Outflow Municipality (ZERO-M)	European Union 6 th FP AEE INTEC-Austria (Project Manager), ALT-Italia, NRC-Egypt, CERTE-Tunis, WTRU-Morocco, University of Vienna (IGR)-Austria, TUB-, Universität Hannover-Germany, weiterBILDUNG-Germany, fbr-Germany.
9	Partnership to European Aerosol Research Lidar Network (EARLINET)	European Union
10	Air Quality Assessment and Study of Transport Processes Along the Axes Athens-Aegean Sea (Greece) and Bucharest (Romania) Using Lidar Techniques	EARLINET Greece, Romania, Turkey, Bulgaria.
11	Studies for Raman Lidar	Russian Academy of Sciences
12	Studies for Solid-State Laser Crystal	Russian Academy of Sciences

B. HIGHLIGHTS OF COMSATS' CENTRES OF EXCELLENCE

Royal Scientific Society (RSS), Jordan

R&D Activities

Establishment of New Laboratories: On February 23, 2011, the Water Efficiency Measurement Laboratory was inaugurated at RSS of Jordan. The U.S. Agency for International Development (USAID) provided its support to the Jordanian Ministry of Water and Irrigation and the Jordan Institution for Standards and Metrology (JISM) for the establishment of this unique laboratory in Amman. This new laboratory, which is the first of its kind in the region, complements the vast number of specialized laboratories at RSS, serving regulatory and legislative institutions of Jordan for the protection of Jordanian consumer-base, and supporting the competitiveness of national products and private-sector institutions.



A Pesticides Residue Laboratory was inaugurated at RSS. The then Assistant to the President RSS for External Affairs, Dr. Tareq Al Hadid, and the Minister for Agriculture, Engr. Samir Al Habashneh, were among the distinguished guests attending the inauguration.

Launching of EC-Funded IJERA Programme:

The Environment Monitoring and Research Central Unit (EMARCU) of RSS launched a new programme, funded by the European Commission (EC), titled: 'Integrating Jordan into the European Research Area' (IJERA). IJERA is coordinated by RSS and brings together three partners, namely the Higher Council for Science and Technology from Jordan, Europe for Business (EFB)



from the United Kingdom, and Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA).

Achievement of the Hydrogen Research Group of RSS: the group has been working for over five years on the utilization of the unique property of the Hydrogen molecule to store solar energy, by electrolyzing sea-water obtained from the shores of Aqaba, using a special electrochemical reactor designed and fabricated at RSS. This project is sponsored by the Scientific Research Support Fund at the Jordanian Ministry of Higher Education, the SRTD programme and RSS. During the project, RSS Hydrogen Research Group identified for the first time, three types of Algae in the Gulf of Aqaba, which showed acceptable production levels of hydrogen, using a special bioreactor setup at ambient conditions.

The major outputs of this project are: (i) patent registration of the electrochemical



International Conference (BBIC), Amman, Jordan (13-15 September 2011)

New Patents

Two patents registered during 2011 for RSS were invented by Dr. Tareq Al-Hadid, Dr. Adnan Saqer Al Khasawneh and Engr. Intisar Al-Bataineh. The first patent registered has the title 'Cardboard for Concrete Ribbed Slabs', and other 'Development of Timber Framework by using Polystyrene Material'. These two patents are aimed to improve the performance of materials used in construction, and reduce construction cost and wastage in concrete material.

International Centre of Physics (CIF), Colombia

During January-February 2011, the Biophysics and Biology of Membranes Research Group (headed by Dr. Marcela Camacho) of Centro Internacional de Física (CIF), Colombia, won funding for two of its projects from COLCIENCIAS (Colombian Administrative Department of Science, Technology and Innovation). These projects are related to Leishmania parasitophorous vacuole membrane and chloride ionic channels as potential therapeutic targets in the same parasite model.



The Applied Physics and Technological Development Group of CIF participated in

reactor working on solar energy in Jordan; (ii) extraction of DNA from the green algae (*Chaetomorpha linum*); (iii) production of the first Arab Fuel Cell (AFC1); and, (iv) Development of a proton exchange membrane to be used in AFC1.

Events Organized by RSS

- Expert Group Meeting on Promotion of South-South Cooperation in Technology Transfer, Amman, Jordan (20-21 April 2011)
- Workshop on Research & Development in the fields of Energy, Water, and Environment, Amman, Jordan (27 March 2011)
- 5th Arab Cleaner Production Workshop, Jordan (25-27 September 2011)
- 3rd Biosafety and Biosecurity International Conference (BBIC), Amman, Jordan (13-15 September 2011)





'The 3rd FAJR Regional Innovation and Inventions Exhibition 2011' held in Iran, Tehran. The Director of the Group, Dr. José García, presented the PowerScan version 4 (FPGA: Field-Programmable Gate Array) device developed by CIF.

The Biotechnology Group of CIF, under the patronage of its Director, Dr. Marta Lucia Guardiola, began a native species reforestation project for quarry fields, where excavation at open field system was carried out. The Group hopes to obtain a successful model in order to recover ecosystem.

Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh

From July 2010 to June 2011, BCSIR has won funding for 92 research and development (R&D) projects in different fields of science and technology. Through these projects, BCSIR is creating the desired enabling environment and scope for researchers to contribute to the development of the country. During the fiscal year (up to end of June 2011), BCSIR achieved its target of commissioning and implementing these projects. Through successful implementation of the on-going projects, a microbial laboratory was also been established.



BCSIR has developed an arsenic-detecting kit, which will cost marginally less than the imported one. The kit that can detect the presence of arsenic in water was developed jointly by Dr. Nasim Sultan, Chief Scientific Officer; Aminul Ahsan, Senior Scientific Officer; and eight other officials of BCSIR. The new device is expected to benefit people living in arsenic-contaminated areas of Bangladesh.



Industrial Research and Consultancy Centre (IRCC), Sudan

IRCC, Sudan, being a partner organization of the Sudanese Ministry of Industry, actively participated in the national-level Industrial Exhibition, held at the premises of Khartoum International Exhibition, Burri Suburb, from 15th to 30th August 2011. The event had been organized under the slogan 'Made in Sudan' and had a participation of over 100 local industry members.



IRCC's major research achievements were exhibited on the occasion, which included:



production of sulphonated oils that are used for softening leather after being subjected to leaching processes; production of lime from limestone in lime furnace; production of sodium bicarbonate from carbonate rich natural deposits; designing of mobile distillation units to be used for the extraction of essential oils from aromatic plants; production of pulp paper from sugarcane/bagasse; and utilization of milk whey in food industry. A separate pavilion displayed different leather goods developed by the Leather Technology Centre of IRCC.

EMBRAPA Agrobiologia, Brazil

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. 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.



Participation in Expo 2011



The Division of Technology Transfer of EMBRAPA Agrobiologia, Brazil, presented xaxim agroecological and vermicomposting processes during Expo 2011, held from June 30 to July 5, 2011, in Brazil. The technology of the tree fern was exposed through prototypes and videos. Also, two workshops were conducted by the analyst and researcher, Ernani Garden Cristhiane Amancio, namely: 'Embrapa Technological Innovations for Rural Sanitation (Septic Tank Biodgestora)' and 'Agroecology for People Who Grow'. A number of teachers, trainers, and technicians of the Department of Environment, Agriculture and Fisheries benefited from the workshops.



Visit of Officials from Labex Europe and Rothamsted Research

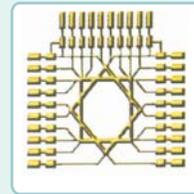


A Brazilian researcher from LabEx Europe UK, Dr.

Alexandre Amaral, and the Head of Department of Plant Pathology and Microbiology, Rothamsted Research, Prof. John Lucas, participated in a technical meeting at Embrapa Agrobiologia, on November 11, 2011. The theme of the meeting was 'Molecular Interaction Microorganisms and Plant Genomics', and the goal was to bring together experts from the two UK based institutions at the Centre and discuss the possibility of research partnerships and collaborations in the focus areas. During the meeting, these researchers presented their work in the segments of molecular biology and microbiology.

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

HIAST established and inaugurated a 'Welding Training Centre' at its premises. This training centre is in the process of seeking approval to become an internationally recognized Certified Training Provider according to the International Institute of Welding (IIW) guidelines. The scope of HIAST Welding Training Centre covers the following programmes: International Welding Engineer (IWE); International Welding Technologist (IWT); International Welding Specialist (IWS); International Welding Practitioner (IWP); International Welding Inspection Personnel (IWIP); and International Welder (IW).



The workshop of the HIAST Welding Training Centre contains 12 training cabinets, equipped with an exhaust system. The workshop's working tables allow the welder to train in different positions and standard length (EN 287) of test pieces, welding power sources (from Air Liquide-SAF, ESAB, MIGATRONIC), virtual welding machine from Fronius, and all other necessary facilities.

This Centre is also assigned the mission of developing welding technology in Syria through: (i) providing technical support and consultancy to welding professionals; (ii) conducting R&D programmes with national and international institutes; (iii) helping to effectively promote and understand the modern welding technologies; (iv) participating in fairs, seminars and specialized workshops; and (v) implementing projects with industries.





Annual Report

2011



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REPORTS OF SPECIAL PROJECTS

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For the benefit of its member countries, COMSATS undertakes special assignments, from time-to-time, such as conducting scientific studies, undertaking pilot projects or implementing educational programmes. Two of the projects of COMSATS have been successfully transformed into full-fledged institutions i.e. COMSATS Institute of Information Technology and COMSATS Internet Services, while a third project on tele-health is being expanded to acquire institutional status.

REPORTS OF SPECIAL PROJECTS

COMSATS Tele-health Programme

Started in 1996, COMSATS Tele-health programme is progressing steadily to benefit people of far-flung areas of Pakistan through new collaborations and establishment of new Tele-health centres.

Establishment of First Tele-health Clinic in Balochistan

Balochistan is the largest yet the least developed province of Pakistan. The health facilities, especially access of the population to medical specialist consultation is almost negligible. This makes Tele-health an ideal mode to support healthcare delivery to people of this vast province. Leveraging on its expertise and experience in tele-health COMSATS is making the benefits of Tele-health available to Balochistan.

In this regard, a Memorandum of Understanding (MoU) was signed between COMSATS and the Human Development Foundation (HDF) in March 2011 (page 67). As a result of the agreement, COMSATS established a Tele-health clinic at HDF's

Community Health Centre in Zhob, Balochistan, and linked it with the COMSATS' Tele-health Resource Centre in Islamabad. The clinic has been established entirely with both the organizations' own resources. COMSATS provided the technical expertise and equipment, including connectivity, while HDF contributed their local human resource and work space.

Capacity-building sessions for the



staff at the Tele-health clinic were arranged immediately, while the tele-health services commenced in September 2011 in a simple ceremony presided over by the Executive Director COMSATS and attended by medical specialists of Pakistan Institute of Medical Sciences, Islamabad, and COMSATS' team at COMSATS Tele-health Resource Centre and the HDF team in Zhob, connected in video-conferencing mode.

Collaboration with e-Health Association of Pakistan (eHAP)

Being an institutional member of eHealth Association of Pakistan and by virtue of COMSATS' Senior Medical Officer's position as Vice-President of the Association, COMSATS continued to play an active role in the activities of the eHAP).

Seminar on 'Use of ICTs in Pakistan Healthcare Setup', Lahore, Pakistan

An awareness raising seminar on 'Use of ICTs in Pakistan Healthcare Setup' was organized by eHAP in Lahore, on 30th July 2011. The seminar was one of the series of seminars that had been arranged in different parts of Pakistan by eHAP. The objectives of this particular seminar were to: promote eHealth awareness among health and IT-related institutions and organizations in the Punjab Province of Pakistan; promote collaboration for e-Health activities; and bring together key e-Health stakeholders in the Punjab. A number of health and IT-related professionals from various institutions and organizations of Lahore attended the seminar.

COMSATS also participated in the seminar by presenting its e-Health initiatives and recent and past activities of Tele-health Programme.

Tele-health Web-based Portal

The web-based portal of COMSATS e-Health Programme (www.ehealthcomsats.com) was successfully launched in 2011. All the consultations being carried out in Zhob are supported by the web-based patient information software for data exchange.

The software includes modules, such as Scheduling, Electronic File Handling, Embedded Security System, Report Generation and Search Engine. A thorough training on the use of web portal was imparted to the staff at Zhob before the initiation of Tele-health services there.



The report on patient statistics generated by the web portal is shown below:

Reports				
Patients Statistics				
Total Patients:	65			
Patients Registered	65			
From	<input type="text" value="15/08/2011"/>	(dd/mm/yyyy)		
To	<input type="text" value="06/02/2012"/>	<input type="button" value="go"/>		
Patients Registered by Location:				
Location	Patients	Location	Gender	Patients
Skardu Center	7	Skardu Center	Female	2
Zhob	58	Skardu Center	Male	5
		Zhob	Female	30
		Zhob	Male	28
Patients Examination Detail:				
Total Patients Examined:	44			
Specialty	Examined	Specialist	Examined	
Dermatologist	36	Dr. Asma Ehsan	2	
Doctor	6	Dr. Azeema Fareed	6	
Gynecologist	2	Dr. Muhammad Imran	32	
		Dr. Syed Afaq Ahmad	4	

Action Plan of Tele-health Programme

The tele-health related activities of COMSATS in the year 2012 will focus on:

- Continuation of COMSATS' Zhob Tele-health services and revival of the Skardu Tele-health Clinic.
- Collaboration with HDF will continue with the goal to establish new Tele-health Clinics in other Community Health Centers of HDF, e.g in Tando Mohammad Khan, Sindh.
- COMSATS will maintain its collaboration and support to eHAP in its various activities and events.
- With the strengthening of its Tele-health clinic in Zhob, COMSATS will explore the possibility of funding from various donor organizations to upgrade the Tele-health Resource Centre at COMSATS Secretariat, Zhob and Skardu Clinics. It will also seek collaboration with other local organizations in this regard.

COMSATS Internet Services (CIS)

In 2011, COMSATS Internet Services (CIS) celebrated its 15 years of Internet operations in Pakistan. Started in 1996, CIS now has Internet operations in eight cities of Pakistan, including Islamabad, Rawalpindi, Peshawar, Lahore, Karachi, Faisalabad, and Sialkot, with Multan. As of December 2011, CIS had a staff of 170 countrywide that include system-administrators, network and communication engineers, software experts, web developers, accountants, marketing, sales and customer support executives in its various nodes. CIS' clients include both public and private organizations, including government departments, private companies, foreign missions and educational institutions.

Technical Services

CIS provides many services including dialup, Wi-Fi, DSL, wireless point-to-point links, on-demand broadband, domain and hosting, video conferencing, web development, and technical training.

Web-Development: CIS launched its seventh brand – Prism™ – for its web development service. The brand was launched in view of CIS expertise and experience in website development as it has developed websites for many government departments and corporate customers.

Bandwidth: CIS bandwidth grew from 190 mbps in 2010 to 310 mbps (2 STM-1s) at the end of 2011 (63% increase). Sold bandwidth was twice the purchased bandwidth, around 600 Mbps. The main bandwidth is on SEA-ME-WE-4 from PTCL with backup bandwidth on TW1 from Wateen.

Activities at CIS' Training and Data Centres

In 2011, the CIS' Training and Data Centres were renovated. Some of its activities are listed below:

- Diversified technical training courses were organized for Pakistan Engineering Council, Ministry of Interior, e-Health Association of Pakistan, and the US Embassy.
- The Data Center was equipped with new servers, racks, air-conditioning, and biometric access. At present, CIS is hosting more than a 100 Windows and Linux servers in its Data Center which are backed up by two generators and multiple UPSs. CIS has also purchased a modular server to offer VPS (virtual private server) service.

Establishment of Multan Node

In fall of 2011, CIS started its seventh node in Multan, offering Internet services to both government and corporate sectors. A wireless link has already been established by CIS for an NGO in Multan and services are being activated for more customers. CIS also plans to set-up a tele-health clinic, using its expertise in ICTs.

Current and Future Projects

CIS is currently working on the following three projects:

1. Wi-Fi point-to-point links: more than 250 wireless links so far, with new links being added every month.
2. Establishment of Tele-health Clinics: The first tele-health clinic of CIS is planned to be established in a rural area near Islamabad in the first half of 2012.
3. Construction of the CIS Building: The new building of CIS, under construction for last few months with funding from the Ministry of Science and Technology, Government of Pakistan, is expected to become operational by the end of 2012.

Events and Trainings

Sales Training for CIS Employees:

In December 2011, CIS conducted training of its sales team, at all nodes, in Islamabad. The training included presentations from its CEO, node heads, and sales team. The goal was to educate the sales team about various product offerings of CIS and effective selling techniques.

Employee Event of CIS:

To celebrate its 15 years of Internet operations in Pakistan and to recognize the services of its employees, CIS organized an employee event in September at a local hotel in Islamabad. Executive Director COMSATS, Dr. Imtinan Elahi Qureshi, was the chief guest at the event. The event included presentations by Executive Director COMSATS, CEO, Ex-DG CIS, Mr. Parvez Ahmad Butt and General Manager Administration of CIS.

Corporate Seminar of CIS:

Another event was held for CIS customers in December 2011 to celebrate the 15th year Anniversary and also update them on various services offered by CIS. Chairman Pakistan Telecommunications Authority (PTA), Dr. Muhammad Yasin, was the chief guest.

Participation in ITCN Karachi:

To create awareness about CIS operations in Karachi, CIS participated in an exhibition at ITCN, the largest IT event of Pakistan, held in Karachi Pakistan, in September 2011. CIS setup a stall to inform and educate visitors about different products offered. The event generated 100 new sales leads for CIS Karachi.



Some quick facts for 2011

Revenue growth	11%
Reduction in loss after depreciation	25%
New customers added	2,000
Increase in Bandwidth capacity	63%
New Nodes	1 (Multan)

Islamic World Science Net (IWSN)

Jointly created by ISESCO and COMSATS in 2007, the web-portal; Islamic World Science Net (IWSN), has been recognized as a useful source of information for the scientific community of the world. It contains S&T profiles of 57 OIC member countries, as well as information of 674 R&D institutes, and profiles of 772 universities and 24 academies of sciences in these countries. The S&T profiles comprise 58 scientific indicators, under nine main categories, i.e. general, scientific, economic, educational, agricultural, industrial, telecommunication. In order to highlight the achievements of the scientific community, the web-portal is also hosting a databank of CVs of scientists, and a number of publications, including research references, science journals and research papers. At present, IWSN has 2,254 members registered in its 13 'Virtual Scientific Thematic Groups', these numbers are more than double the figures of 2010. The break-up of the membership of the thematic groups of IWSN is as follows:



New and Renewable Energy	318
Science and Research Policy	196
Bio-sciences/Biotechnology and Genetic Engineering	278
Bioethics	82
Environment	304
Mathematics	110
Water Management	137
Nanotechnology	137
Science & Technology Park Management	118
ICTs in Science and Technology	129
Universities	189
Science Academies	163
Science Women	93

Each thematic area, facilitates researchers/students by providing all modern web-based communication techniques, including discussion forums, chat with other researchers, documents sharing, news sharing, group emails, etc. to facilitate instant information sharing between scientists and students.

The Second Meeting of the Coordinators of IWSN was held in Morocco on October

17-18, 2011 to review the performance of the web-portal and was attended by the Coordinators from Algeria, Egypt, Tunisia, Morocco and Pakistan.

In 2011, COMSATS' technical team working on the web-portal completed all the tasks in accordance with the cooperative agreement between COMSATS and ISESCO for the year 2011, in addition to the changes/updates forwarded by ISESCO on need basis.

Recommendations of the 2nd Meeting of Coordinators of IWSN

The following recommendations/decisions were made in the meeting:

- The Virtual Scientific Thematic Groups (VSTGs) are the virtual ambassadors of the Islamic World Science Net (IWSN) and should work as the think tank of ISESCO.
- Group e-mails for each VSTG should be created in order to simplify interaction between coordinators and the members of the VSTGs.
- IWSN membership process should be made simpler and stressed for more flexible information flow should be facilitated, for better interaction using the group emails.
- Efforts should be made to enhance the membership of the VSTGs of IWSN.
- Enhanced monitoring and participation on the part of the Coordinators in IWSN activities was stressed for improving the effectiveness of the VSTGs, in particular, and the web-portal, in general.
- The 3rd meeting of the IWSN Coordinators will be held in 2013 to review the progress of the network.



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OTHER IMPORTANT MEETINGS

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COMSATS' officials hold meetings with relevant officials in COMSATS' Member States with a view to ensure a smooth operation of COMSATS' projects and programmes, as well as its collaborative activities. The officials invited or called upon for meetings in this regard include, host-country dignitaries, foreign missions, and representatives from partner organizations.

OTHER IMPORTANT MEETINGS

Meeting with the Incumbent Chairperson of COMSATS, the Prime Minister of Pakistan

The Prime Minister of Pakistan, Syed Yusuf Raza Gilani, received a presentation by the Executive Director COMSATS, Dr. Imtihan Elahi Qureshi, at the Prime Minister's Secretariat in Islamabad on 20th September 2011. Also present on the occasion were the Minister for Science and Technology, H.E. Mr. Changez Khan Jamali, Federal Secretary, Ministry of Science and Technology, Mr. Akhlaq Ahmed Tarar, Member National Assembly of Pakistan, Ms. Farzana Raja, Additional Secretary PM Secretariat, Mrs. Fauzia Sana, Dr. Haroon Rashid, Director External Campuses of COMSATS Institute of Information Technology (CIIT) and senior officers of the Ministry of Science and Technology.



In his presentation, the Executive Director highlighted the important role being played by COMSATS for the promotion of scientific cooperation among the developing countries. Giving an overview of COMSATS' recent initiatives, he elaborated the mechanism of International Thematic Research Groups adopted by COMSATS, whereby researchers belonging to different R&D institutions in COMSATS Member States undertook joint research work on specific topics under the directions of group leaders based in lead countries. Among the capacity building programmes, the Executive Director cited the example of 'Internet Security Workshop' held in July 2011 in Damascus, in which more than 80 relevant participants, mostly from Syria, benefited from state-of-the-art lectures and training modules. It was noted that COMSATS' capacity-building events were especially oriented to meet the needs of its Member States.



The Prime Minister was also informed about the phenomenal success of COMSATS Institute of Information Technology (CIIT). He accepted the invitation to inaugurate the new Campus of CIIT in Islamabad (on 21st October 2011), and assured that efforts will be made to meet the financial needs of the Institute despite severe constraints faced by the Government of Pakistan.

The Prime Minister appreciated COMSATS' international role and gave his consent to hold COMSATS' Commission Meeting in 2012 at the level of Ministers of Science and Technology of Member States. In addition to the usual grant of Rs. 40 M (~ \$ 0.5 M) being disbursed to COMSATS on an annual basis by the Government of Pakistan, he directed the Ministry of Science and Technology to provide an extra US\$ 20,000/- per year for COMSATS' scientific programmes.

The Visit of Federal Minister for Science and Technology to COMSATS Secretariat

The former Federal Minister for Science and Technology, Government of Pakistan, H.E. Pir Aftab Hussain Shah Jilani, paid a visit to the COMSATS Secretariat on 20th January 2011. The Minister was invited to COMSATS Secretariat for a briefing on the organization's mission & objectives, its role in bringing about science-led socio-economic development and its future programmes.

In a multimedia presentation by the Executive Director, the Minister was informed about the organizational structure of COMSATS and the role that each organ plays in the organization's overall operations. The recent and past



projects and programmes of COMSATS, scope of COMSATS' activities and the budgetary matters of COMSATS Secretariat were also reviewed during the meeting. COMSATS' developmental research activities by means of its International Thematic Research Groups were discussed. The Minister was also briefed about Dr. Qureshi's visits to COMSATS' Member States and Centres of Excellence, as well as COMSATS' participation in the 14th General Assembly Meeting of COMSTECH (January 2011, Islamabad-Pakistan) and the 5th Islamic Conference of Ministers of Higher Education and Scientific Research (October 2010, Kuala Lumpur-Malaysia).



Highlighting the steadfast support that COMSATS received from the Pakistani Ministry of Science and Technology in the past, Dr. Qureshi recalled the meetings of COMSATS' Coordinating Council, held in Nigeria and Italy (2009 and 2010); the 1st Consultative Committee Meeting, held in Nigeria (2009), chaired by the then Federal Secretary MoST and the support received for holding of 2nd Commission Meeting in 2010 later postponed and has now been scheduled for April 2012.

The Federal Minister acknowledged the role played by COMSATS as an important player for S&T-led development and assured the Executive Director of his Ministry's continued support in the future, especially in connection with the holding of the 2nd Commission Meeting.

Executive Director COMSATS' Visit to Sri Lankan High Commission

The Executive Director COMSATS, Dr. Imtihan Elahi Qureshi, along with the Advisor (Programmes), Mr. Tajammul Hussain, called upon the Sri Lankan High Commissioner for Pakistan, Air Chief Marshal (R) Jayalath Weerakkody, on 4th January 2011. The meeting was held in Mr. Weerakkody's office at the Sri Lankan High Commission in Islamabad.

Matters of mutual interest were discussed. Both the officials agreed on more collaborative activities between COMSATS and scientific institutions of Sri Lanka. COMSATS' financial support to Sri Lankan scientists for their participation in the Foundation Meetings of COMSATS' International Thematic Research Groups held in November 2010, were also discussed. The High Commissioner was informed that Sri Lankan scientists had agreed to participate in the following international thematic research groups:

- Climate Change and Environmental Protection', with the International Center for Climate and Environment Sciences (ICCES), Beijing, China, as the Lead Centre; and
- 'Natural Products Sciences', with the International Center for Chemical and Biological Sciences (ICCBS), Karachi, Pakistan, as the Lead Centre.

The ambassador was requested to lend support for the affiliation of an R&D Institution in Sri Lanka with COMSATS as its Centre of Excellence. While recognizing the benefits that have been gained by Sri Lankan scientists through COMSATS, the Ambassador acknowledged that the lack of financial contribution to COMSATS and its absence from COMSATS Coordinating Council is an impediment that needs attention of Sri Lankan authorities. On his part, he assured the Executive Director of his help and support in this regard.

Meetings with the Syrian Minister for Higher Education and Heads of Syrian Scientific Institutions

On July 23, 2011, a two-member delegation of COMSATS, comprising Dr. Nasro Min-Allah and Mr. M. Atiq-ur-Rehman, met the Director of COMSATS' Centre of Excellence in Syria, HIAST, Dr. Wael Khansa, at his office. The delegation of COMSATS was in Syria for the Internet Security workshop. Director of Scientific Cooperation, Dr. Maher AGI; and Dr. Ghassan Saba (I.T Dept.) of HIAST were also present on the occasion. Initiation of CIIT-HIAST Faculty Exchange Programme came under consideration and it was agreed that the matter would be discussed with faculties of the two institutes to work-out the viability of such faculty exchange.

The officials of COMSATS met the Syrian Minister for Higher Education (COMSATS' Focal Point in Syria), H.E. Dr. Abdul Razak Cheikh Issa, on July 25, 2011. Dr. Bassel Al-Khatib Director SCC-ITC and officials from HIAST also attended the meeting. The matters discussed with the Minister included: evaluation of Syrian-COMSATS-COMSTECH Information Technology Centre (SCCITC), Syria; COMSATS' joint activities with Syrian institutions; COMSATS' recent programmes in its member states; and possible joint activities for 2012 to be held in Syria. Both the Syrian officials were appreciative of the efforts made to successfully organize the Workshop on Internet Security in Syria and showed their gratitude towards the collaborating institutions. Other common matters discussed with the Syrian officials related to participation of the Syrian Focal Point and Centre of Excellence in COMSATS' publications and COMSATS' International Thematic Research Groups, as well as the offer of post-graduate scholarships to Syrian students.

The Briefing to the Ambassador of the Republic of Turkey to Pakistan

The Ambassador of the Republic of Turkey to Pakistan, H.E. Mr. M. Babur Hizlan, visited COMSATS Secretariat on January 26, 2011.



After a briefing about COMSATS' activities, the Executive Director apprised the ambassador about his visit to Turkey (December 2010), during which he held meetings with the officials of TÜBİTAK and COMSATS' Centre of Excellence in Turkey, the TÜBİTAK Marmara Research Center (MRC).

The Executive Director informed the Ambassador that his visit to Turkey was extremely useful with regard to strengthening COMSATS' scientific and technological cooperation with TÜBİTAK and MRC. Dr. Qureshi was of the opinion that Turkish S&T institutions were carrying out high-quality research work, which could be beneficial for COMSATS' Member States. In particular, participation of Turkish S&T institutions in COMSATS' International Thematic Research Groups, especially in the field of 'earth sciences', could be of great use to COMSATS' Member States. Matters were also discussed to explore means for collaboration in the field of 'renewable energy technologies'. The Executive Director lauded the active participation of MRC in the meetings of COMSATS Coordinating Council. He noted that it was a matter of great pleasure that MRC would be hosting the 15th Coordinating Council Meeting, to be held in 2012. Dr. Qureshi opined that in order to further boost cooperation between Turkish S&T institutions and COMSATS, Turkey's accession to COMSATS would be of great benefit.

The Ambassador thanked the Executive Director for inviting him for the meeting and sharing useful information on the benefits of enhancing future cooperation between COMSATS and Turkish scientific institutions. He appreciated the idea of Turkey becoming a COMSATS' Member State and pledged his full support in this regard.

The Visit of Afghan Delegation to COMSATS Secretariat

A delegation from Afghanistan comprising Prof. M. Hassan Rashiq (Afghanistan's Ministry of Higher Education), Prof. Zalmai Zaheb (Kabul University), Mr. M. Atiq Mamozai (Kabul Education University), Prof. Dr. Del Aqa Waqar (Nangarhar University), Prof. Dr. Abdul Qayuom (Kabul Polytechnic University), and Prof. Homa Khalid (Kabul Polytechnic University), visited COMSATS Headquarters, on March 23, 2011, to hold a meeting with the Executive Director COMSATS, Dr. I. E. Qureshi and Rector COMSATS Institute of Information Technology (CIIT), Dr. S. M. Junaid Zaidi. Also present at the meeting were other senior officials of COMSATS, CIIT and COMSTECH.



The presence of this delegation of Afghanistan in Pakistan was primarily for their participation in the 'Stakeholder Workshop: Identifying Joint Research and Training

Opportunities between Afghanistan and Pakistan', jointly organized by the Higher Education Commission (HEC) of Pakistan and the Global Knowledge Initiative (GKI) – an America-based non-profit organization, on March 20-21, 2011, at the premises of HEC, Islamabad-Pakistan.

The objective of the meeting with the Afghan delegation was to

introduce COMSATS to the visitors and acquaint them with its major projects and programmes focused at sustainable socio-economic development of its Member Countries; discussing the possibilities of initiating scientific collaboration of COMSATS and CIIT with the Government of Afghanistan and academic/scientific institutions; and highlighting the benefits that Afghanistan may have through joining COMSATS as a Member State.

During the meeting, a presentation was made by the Executive Director COMSATS in order to inform the participants about COMSATS' operational mandate; statutory bodies; thrust areas; international linkages; scientific capacity-building events; and major programmes and projects, including its International Thematic Research Groups.

During the meeting, the Executive Director suggested that Afghanistan may immediately initiate collaboration with COMSATS through nominating some of its relevant scientific institutions for participating in COMSATS' International Thematic Research Groups; nominating its scientists/researchers for participating in COMSATS' scheduled scientific events in its Member Countries; and nominating researchers/scientists for receiving short-term trainings at COMSATS' Centres of Excellence.

The Rector CIIT reiterated CIIT's offer of 100 postgraduate scholarships for students from COMSATS' Member Countries with full fee waiver and facility of accommodation, whereas travel grants extended by COMSATS. Apart from this offer, CIIT also offers 50 postgraduate scholarships for students from OIC Member Countries, of which Afghanistan is also a member. The Afghan delegates were urged to take necessary steps, on individual as well as institutional levels, to benefit from these generous offers made by CIIT.

Regarding the offer of COMSATS' membership to Afghanistan, the Executive Director informed the Afghan delegates about COMSATS' previous correspondence with the Head of Foreign Relations and International Affairs, Afghanistan's Ministry of Higher Education. It was agreed that the matter of Afghanistan's membership to COMSATS would be pursued through Pakistan's Ministry of Foreign Affairs.

The Executive Director also offered COMSATS' assistance to the academic/scientific institutions of Afghanistan with regard to facilitating their collaboration with GKI viz. identification of their counterparts in Pakistan.





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PUBLICATIONS AND INFORMATION DISSEMINATION

- COMSATS Newsletter 120
- COMSATS' Series of Publications on Science and Technology 121
- COMSATS' Website 121
- COMSATS-TWAS Profiles under Series 'Excellence in Science' 122
- COMSATS' Journal 'Science Vision' 123
- Other Informational Material 124

The information dissemination and outreach is done by COMSATS through four tools: bi-monthly Newsletter, bi-annual journal, 'Science Vision', COMSATS' Series of S&T Publications and COMSATS' official website, apart from other promotional material.

PUBLICATIONS AND INFORMATION DISSEMINATION

COMSATS Newsletter

Having completed its third volume at the end of 2011, the COMSATS Newsletter has become an important means of dissemination of information relevant to the organization that is of interest and benefit to its working partners and other stakeholders. The bi-monthly publication not only serves as an effective tool to publicize COMSATS' projects, programmes and other activities, but also sensitizes the concerned authorities about the undertakings and potential of COMSATS' Network of Centres of Excellence, as well as scientific developments in Member States, in a timely manner.

In 2011, COMSATS brought out six issues that included extensive coverage of international capacity-building programmes conducted by COMSATS. Five out of six issues exceeded the standard length of eight pages, in which special coverage was given to various events of COMSATS.

These included: COMSATS' participation in COMSTECH's 14th General Assembly meeting; 14th meeting of COMSATS Coordinating Council; Executive Director COMSATS' visits to three African Countries; and COMSATS' capacity-building events, conducted in partnership with ISESCO and Pakistan National Commission for UNESCO.



As per the prescribed format of COMSATS Newsletter, activities of COMSATS' Network of S&T Centres of Excellence were adequately reported on a bi-monthly basis. Over the year 2011, the level of participation of various Centres of Excellence for COMSATS Newsletter has been encouraging. RSS, ICCBS and CIIT contributed to all the six issues of 2011; NRC to four; TÜBITAK MRC to three; BCSIR and HIAST to two, while CIF, IRCC, Embrapa Agrobiologia, ICENS and NMC to one issue of the Newsletter.

The four Centres of Excellence, whose profiles were covered, under the section 'Profile of COMSATS International S&T Centre of Excellence' during the 2011 were NMC-Nigeria, BCSIR-Bangladesh, ICMST-Ghana and NRC-Egypt. On completion of coverage of all the Centres of Excellence of COMSATS, the section was replaced with a section titled, 'Profile of Head of Centre of Excellence'. Profiles of heads of two centres, RSS-Jordan and ICCBS-Karachi, were covered in the latter two issues of Volume 3.

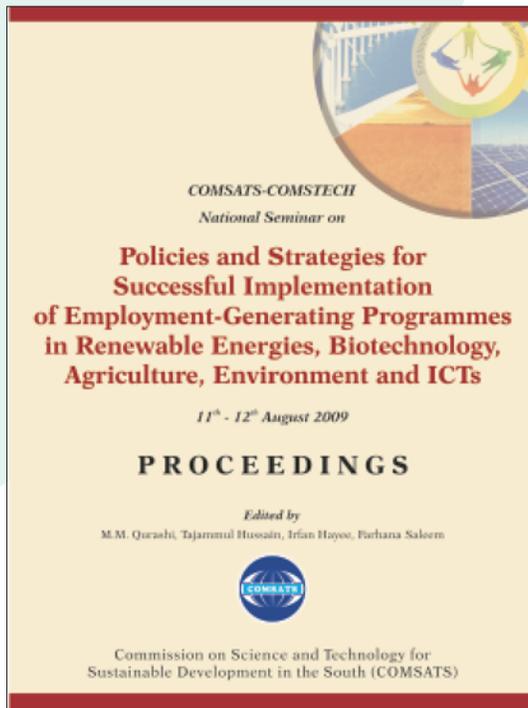
A major highlight of the third volume of COMSATS Newsletter has been the coverage on the forthcoming Commission Meeting of COMSATS. The event was given suitable coverage as the preparatory process of the meeting gained pace in the last quarter of 2011.

COMSATS' Series of Publications on Science and Technology

Under this Series of publications, the proceedings of collaborative event of COMSATS, namely 'National Seminar on Policies and Strategies for Successful Implementation of Employment Generating Programmes in Renewable Energies, Biotechnology, Agriculture, Environment and ICTs' was published as Volume 15 of the Series with a publication date of June 2010. The series is aimed at disseminating intellectual contributions made during COMSATS' national and international capacity-building events, held in its Member States.

COMSATS' Website

A rigorous routine has been adopted by COMSATS Secretariat to continuously update the COMSATS' official website (www.comsats.org), especially at the turn of the



year when the website is revamped or its design and lay-out are changed as well, in order to improve the presentation and efficacy of the contents being projected. At the year-end 2011, the website underwent conspicuous changes in terms of re-distribution of contents. The information given on the website was extensively rearranged to give it a logical flow making it easier to navigate while the slight changes made in colour and graphics give the website a new and aesthetic outlook.

The screenshot shows the COMSATS website homepage. The header features the COMSATS logo and the text "COMSATS Commission on Science and Technology for Sustainable Development in the South". A navigation menu includes links for Home, Site map, Contact us, and Webmail. Below the header, there are several menu items: Introduction, Headquarters/Secretariat, Member Countries, Network of Centres of Excellence, Programmes, and Archives. The main content area is divided into several sections:

- 26th - 27th May 2011**: The International Centre of Physics (CIF), Colombia, hosts the 14th meeting of COMSATS Coordinating Council. This section includes a photograph of the meeting and a list of links for introductory remarks, welcome addresses, and reports.
- Upcoming Events**: A list of events including the Second Commission Meeting of COMSATS in Islamabad, Pakistan, and the 15th Meeting of COMSATS Coordinating Council in Turkey.
- Workshops/Seminars/Conferences**: A list of events for the years 2011, 2010, 2009, and 2008.
- Publications**: A list of publications including COMSATS' Documents, Newsletter, Bi-annual Journal 'Science Vision', Scientific Publications and Proceedings, and Other Publications.
- COMSATS Newsletter**: A list of newsletter issues, including the current issue (Sept-Oct 2011) and previous issues.
- COMSATS Flagship Projects**: A section for flagship projects.

COMSATS-TWAS Profiles under Series 'Excellence in Science'

COMSATS, in collaboration with TWAS, is bringing out a series of publications covering the profiles of its International S&T Centres of Excellence, to appropriately publicize their scientific potential and technical capacity. The objective of this collaboration is to identify the strengths and weaknesses of these institutions through an external review, as well as to put the scientific capacities of these Centres to better use in pursuit of COMSATS' mission of promoting South-South and North-South cooperation for science-led sustainable development.

COMSATS-TWAS collaboration for preparing the profiles of the Centres of Excellence of COMSATS was formalized after the 13th meeting of COMSATS

Coordinating Council held in Trieste, Italy, by means of an MoU. Building on both organizations' mutual interest in publishing important information on S&T organizations, the two organizations consented to cooperate for a thorough profiling of the Network members of COMSATS. It was agreed that TWAS, in cooperation with a specific COMSATS' Network member would compile, compose and vet the contents of the profiles, while COMSATS would take the responsibility of getting these profiles printed as per the agreed printing specifications. TWAS had entrusted Mr. Amin Amjad Khan of SciDev.Net with the job responsibility to prepare the profile of International Center for Chemical and Biological Sciences (ICCBS) -Pakistan.

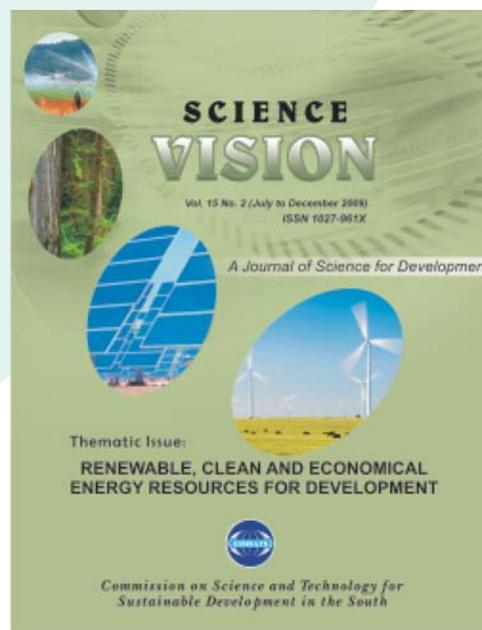
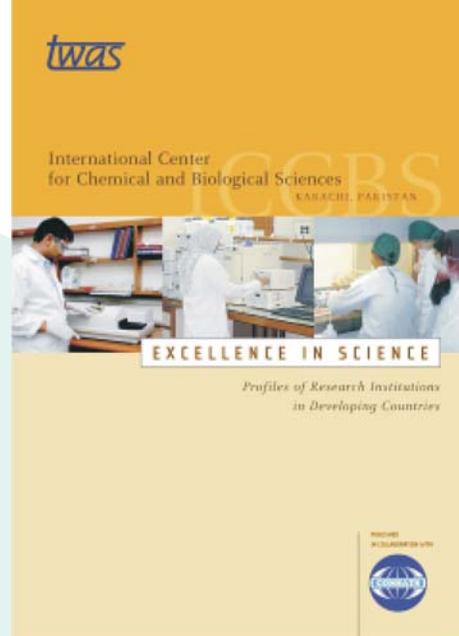
The information was gathered by visiting ICCBS, drafted into a profile and submitted to TWAS by ICCBS, Karachi. The same was later abridged by ICCBS on TWAS' recommendation to bring the length of the document down to the desired length of 8,000 words. The approved draft was thereafter received for printing. COMSATS Secretariat maintained close coordination with TWAS to keep its commitments, as agreed in the MoU. As per the agreement, COMSATS Secretariat got 1,000 copies of a 50-page profile printed, which were sent to TWAS.

COMSATS' Journal 'Science Vision'

A number of letters to invite quality review and research papers were sent during the later part of 2010 and early part of 2011 to relevant scientific circles by the Executive Director COMSATS, the late Chief Editor Science Vision, Dr. M. M. Qurashi and the publications team at COMSATS Secretariat. Heads of COMSATS' Centres of Excellence were also sent special requests by the Executive Director through letters and holding one-to-one meetings, during his visits to some of the Centres of Excellence. The commitment to continue the publication of journal was also reinvigorated during the 14th Coordinating Council meeting in Bogotá, Colombia (26th – 27th May 2011).

In view of the inadequacy of the papers received, in terms of quality and quantity, for the thematic issue Volume 15(2), the thematic character of the journal was removed. Thereafter, more than 100 national and regional science academies were approached with a request to contribute scientific papers in any field of interest. It was also decided to work in parallel on the next issue of the journal, having no specific theme to accommodate papers being received after fresh requests.

By the end of third quarter of 2011, the Volume 15(2) (2nd thematic issue) was near completion, while the Volume 16(1&2) was being worked on. Around the same time, the chairperson of COMSATS issued directives for the convening of 2nd Commission Meeting. Owing to the importance of this high-level Meeting, the priority of the small publication team of COMSATS, who had recently faced a setback due to the demise of Chief Editor Science Vision (see obituary on page



OBITUARY
DR. MAZHAR MAHMOOD QURASHI,
CONSULTANT (PUBLICATIONS), COMSATS SECRETARIAT

COMSATS Secretariat bemoans the sad demise of its Consultant (Publications), Dr. Mazhar Mahmood Qurashi – a devout scholar, physicist and philanthropist.

Dr. Qurashi, 86, passed away on November 21, 2011. Since 1996, he had been associated with COMSATS' Journal, Science Vision, as its Chief Editor, and had also made several contributions in the form of scholarly papers.

Born on October 8, 1925, in Gujranwala, Punjab, British India (now Pakistan), Dr. Qurashi attained his B.A. Hons. (1942) and M.Sc. in Physics (1944) from University of the Punjab (Lahore), and Ph.D. (1949) in Experimental Solid-State Physics from Manchester University (U.K). The Manchester University awarded him a D.Sc. degree in 1962 on the basis of his 50 research papers, published from 1949 to 1962. Dr. Qurashi started his professional career at PCSIR as a research officer in 1950 and served the Council in various capacities till his retirement as Chief Scientist and Member (Science) in 1985. He also served the Ministry of Defense, Government of Pakistan as Chief Scientist & Scientific Adviser (1963-68); Appropriate Technology Development Organization as Director-General and later as Vice Chairman (1976-1980); and Pakistan Council for Science and Technology as Director of Studies (1980-1983). Building up of four of the premier scientific organizations of Pakistan, from 1950 to 1985, including the National Physical and Standards Laboratory (NPSL), and National Institute of Electronics (NIE), is considered one of his key achievements.



As a science scholar, Dr. Qurashi had to his credit over 200 research papers on various topics in Solid-State and Applied Physics; Physical Chemistry (structure of liquids); Scientometrics; and History & Philosophy of Science, of which 21 were published in British, Canadian and other International Journals. He also published 17 monographs on various themes of 'Science & Technology and its Social Interactions, especially in the Islamic World. Dr. Qurashi was an elected Fellow of the Institute of Physics in U.K. (1961); a Fellow of Islamic World Academy of Sciences (elected in 1988); and a Fellow of Pakistan Academy of Sciences (PAS).

In recognition of his scientific excellence and meritorious research work, Dr. Qurashi was honoured with many national and international awards and medallions, including: Open Gold Medal of Pakistan Academy of Sciences (1972); PCSIR Award (2002); and Sitara-i-Imtiaz by the President of Pakistan (1991). His biographies were included in 'Who's Who in the World' (1980-81 & 1990-92), 'Men of Achievement' (1982), 'Who's Who of Intellectuals' (1983), and '5,000 Personalities of the World' (1985).

COMSATS will always remember the commitment and devotion of Dr. M. M. Qurashi. May his soul rest in peace!



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FINANCIAL AFFAIRS OF COMSATS

- Accounts and Audit 128
- Contribution of Member States 128

Since the establishment of COMSATS, the Finance and Accounts Department of the Secretariat has been managing the financial activities related to COMSATS Secretariat, including the grant by the Government of Pakistan for meeting the overhead expenditure of the Secretariat, and the Annual Membership Contributions received from the Governments of member countries of COMSATS.

FINANCIAL AFFAIRS OF COMSATS

Accounts and Audit

The accounts of COMSATS Secretariat are maintained as per the International Accounting & Financial Standards. The fiscal year of COMSATS Secretariat begins from 1st of July and ends on 30th of June.

After closing the accounts on 30th June every year, COMSATS gets its accounts audited by a reputed Chartered Accountancy firm. Later, the audited accounts, along with the Auditors' Report, are presented to Management Committee. Subsequently, these are submitted to the COMSATS Coordinating Council in its annual meeting for approval.

M/s. Ernst & Young Ford Rhodes Sidat Hyder, Chartered Accountants, have been conducting the audit of Accounts of COMSATS Secretariat for the last several years. The Auditors' Report and audited financial statements of COMSATS Secretariat for the financial year ended on June 30, 2010 are given in this report.

Contribution of Member States

The contribution of Member States towards COMSATS is voluntary. The amount contributed by member countries is kept by COMSATS as trust money in a separate bank account and is spent on the technical activities (sponsorships, travel grants to the scientists etc.) related to the respective country.

Since its establishment in 1994, COMSATS' member countries have contributed US\$ 616,208/- up to December 31, 2011, out of which an amount of US\$ 432,290/- has been spent on COMSATS' technical activities for member countries. An amount of US\$ 183,918/- was available in the trust fund as on December 31, 2011.



ERNST & YOUNG

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INDEPENDENT AUDITORS' REPORT TO THE COORDINATING COUNCIL

We have audited the accompanying financial statements of the **Commission on Science and Technology for Sustainable Development in the South (COMSATS) - Secretariat** (the Secretariat), which comprise the balance sheet as at **30 June 2010**, the income and expenditure account, statement of changes in equity and cash flow statement for the year then ended, and a summary of significant accounting policies and other explanatory notes.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with approved accounting standards as applicable in Pakistan and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Secretariat's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Secretariat's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

EYH

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Basis of qualified opinion

The long term loan (referred to in note 6 to the accompanying financial statements) provided by the Secretariat to its related party - COMSATS Internet Services (CIS), amounting to Rs. 32 million, has been outstanding since 1995. Further, the current account receivable balance with CIS, including mark-up on this long term loan (referred to in note 9 to the accompanying financial statements), has aggregated to Rs. 35.491 million as at 30 June 2010. Although the loan and interest thereon (included in the current account with CIS) are outstanding since long and recovery thereof appears to be doubtful, no provision has been made by management in the accompanying financial statements.

Had this provision been made, the surplus for the year and total assets at the end of the year would each have reduced by Rs. 67.491 million.

Qualified opinion

In our opinion, except for the effects of the matter described in the Basis for Qualified Opinion paragraph, the financial statements give a true and fair view of the financial position of the Secretariat as of **30 June 2010**, and of its surplus and its cash flows for the year then ended in accordance with the approved accounting standards as applicable in Pakistan.


Chartered Accountants

Audit Engagement Partner's Name: Sajjad Hussain Gill

Date: 27 May 2011

Place: Islamabad

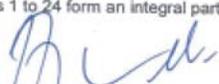
**COMMISSION ON SCIENCE AND TECHNOLOGY FOR SUSTAINABLE
DEVELOPMENT IN THE SOUTH (COMSATS) SECRETARIAT**

BALANCE SHEET AS AT JUNE 30, 2010

	Note	June 30, 2010	June 30, 2009
		----- Rupees -----	
ASSETS			
NON-CURRENT ASSETS			
Property and equipment	3	31,119,459	31,375,546
Investment property	4	1,065,350	1,121,421
Long-term investment	5	869,191	1,132,088
Long-term loan	6	32,000,000	32,000,000
Long-term security deposits		606,460	604,960
CURRENT ASSETS			
Advances and prepayments	7	2,398,864	2,550,773
Short-term investment	8	2,000,000	10,582,000
Other receivables	9	35,524,964	35,900,681
Cash and bank balances	10	33,799,883	8,844,173
		73,723,711	57,877,627
TOTAL ASSETS		139,384,171	124,111,642
FUNDS AND LIABILITIES			
Fund			
Technical Assistance Fund	11	32,000,000	32,000,000
General fund			
Accumulated surplus		65,988,389	52,564,191
		97,988,389	84,564,191
NON-CURRENT LIABILITIES			
Deferred grants	12	31,264,045	28,625,954
Deferred liabilities	13	6,753,464	5,189,149
Advance rent	14	-	594,809
CURRENT LIABILITIES			
Current portion of advance rent		594,809	2,893,668
Creditors, accrued and other liabilities	15	2,783,464	2,243,871
		3,378,273	5,137,539
CONTINGENCIES AND COMMITMENTS			
	16	-	-
TOTAL FUNDS AND LIABILITIES		139,384,171	124,111,642

The annexed notes 1 to 24 form an integral part of these financial statements.

g/ps


Deputy Director
(Finance & Accounts)


Executive Director

**COMMISSION ON SCIENCE AND TECHNOLOGY FOR SUSTAINABLE
DEVELOPMENT IN THE SOUTH (COMSATS) SECRETARIAT**

**INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED JUNE 30, 2010**

	Note	June 30, 2010	June 30, 2009
		----- Rupees -----	
INCOME			
Grant income	17	40,829,276	23,872,922
Other income	18	9,252,490	14,321,235
		<u>50,081,766</u>	<u>38,194,157</u>
EXPENDITURE			
Administrative expenses	19	36,641,245	37,140,353
Finance cost		16,323	10,890
		<u>36,657,568</u>	<u>37,151,043</u>
SURPLUS FOR THE YEAR			
		<u>13,424,198</u>	<u>1,043,114</u>

The annexed notes 1 to 24 form an integral part of these financial statements.

S/P



Deputy Director
(Finance & Accounts)



Executive Director

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Executive Director COMSATS

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DESIGNED BY

Mr. Imran Chaudhry

PRINTED BY

A.R. Printers





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LIST OF MEMBERS OF COMSATS' NETWORK OF INTERNATIONAL S&T CENTRES OF EXCELLENCE

- Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh
- COMSATS Institute of Information Technology (CIIT), Pakistan
- Council for Scientific and Industrial Research (CSIR), Ghana
- Higher Institute for Applied Science 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), Jamaica
- International Centre of Physics (CIF), Colombia
- Iranian Research Organization for Science and Technology (IROST), Iran
- National Mathematical Centre (NMC), Nigeria
- National Research Centre (NRC), Egypt
- Royal Scientific Society (RSS), Jordan
- Tanzania Industrial Research and Development Organization (TIRDO), Tanzania
- Embrapa Agrobiologia, Brazil
- The Biosphere Reserve – Beni Biology Station (BBS), Bolivia
- TÜBİTAK Marmara Research Center (MRC), Turkey

ANNUAL REPORT 2011



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