COMSATS: ACTIVITIES AND ACHIEVEMENTS

(1995 - 2007)

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COMSATS: ACTIVITES AND ACHIEVEMENTS OVER 12 YEARS
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The Commission on Science and Technology for Sustainable Development in the South (COMSATS) was established as the highest forum for the promotion of science and technology as a tool for sustainable development in the developing countries. COMSATS Secretariat has been making earnest efforts for over last 12 years in promoting the cause of sustainable development. Headquartered in Islamabad, COMSATS as an Intergovernmental Organization (IGO), currently represents 21 developing countries as members, across three continents (Africa, Asia and Latin America). COMSATS remains devoted to sensitize the countries of the South to the centrality of science and technology in the national and regional development for improving the socio-economic conditions of its member-states in particular and developing countries in general. Network of 14 International S&T Centres of Excellence are also leading member-countries to promote knowledge sharing, capacity building and joint research through South-South and North-South cooperation. The Network nodes are playing a leading role for the promotion of science and sustainable development and institutional networking.

Today COMSATS portrays an image of a dynamic and fastly growing organization that has accomplished much in little time, be it in the field of Information and Communication-Technologies, Renewable Energy, Tele-Health, Water Resources or Bio-Technology. COMSATS has remained in the vanguard, leading by example for others to follow. Since October 4, 1994, the date of establishment of COMSATS the most important aspect of the COMSATS' mission has been to disseminate and share with all its member-countries and Centres of Excellence whatever can be learnt from its experiences. Advocating for positive changes in policy and sectoral frameworks has been a priority for COMSATS. Due to its active liaison with the Governments of its member-countries in all the three continents, COMSATS was accorded recognition by the United Nations when it was accredited as an Inter-Governmental Organization (IGO). Introduction and promotion of the latest Internet technologies in the member countries for exchange of information and development is one of the important programmes of COMSATS. The first project in this area was COMSATS Internet Services (CIS) launched in Pakistan. COMSATS IT Institutes / Centres aim at helping the third-world countries to develop the critical human resource that could make information technology work for the betterment of the region, and could achieve excellence in this highly rewarding field through research and development. COMSATS Institute of Information Technology (CIIT) in Pakistan is one such institute, the success of which has inspired the establishment of a similar IT Centre at Damascus, Syria. COMSATS prepared a feasibility of IT University in Khartoum and showed its consent to help the Government of Sudan in its establishment.

COMSATS has been working in the field of Tele-health for more than five years now and has been successful in providing healthcare facilities to thousands in the Northern Areas of Pakistan. Banking on its superior Internet services expertise, COMSATS is doing a pilot-scale distance-learning project with Alliance Francaise (French online), French Linguistic Centre in Islamabad, which is being further extended to its member country, Sudan, in the near future. COMSATS has started scholarship programme for the personal and intellectual growth of the scientists. So far six scientists from COMSATS member countries have completed Ph.D, 10 undergraduates (IT) and one Post Graduate Diploma.

Since its establishment, COMSATS has organized and helped to organize over 60 international conferences, seminars and workshops on various subjects that have ranged from capacity building, renewable energy, water resource management, mathematical modelling, South-South and North-South collaboration in research and development, weather prediction, physics, biotechnology, telecommunication, and nanotechnology. Such events have provided a useful platform to the members of the scientific community, development experts, donor organizations and the decision makers to share their views and experiences on issues of vital concern. This has also helped the developing countries in finding a voice at the international level through COMSATS platform. Generation and dissemination of Information for knowledge-sharing is an important pillar of COMSATS developmental programmes. COMSATS has been publishing technical journal and books on various topics related to science and technology for sustainable socio-economic development in the South.

With each passing year, the breadth of Commision's experience has increased and the volume of its accomplishments has become greater than before. COMSATS resolves to strive continuously towards the tradition of contribution, learning and sharing of benefits of science and technology for socio-economic development. This document entails the accomplishments, outcomes and their overall impact towards sustainable development that COMSATS has made in the last 12 years. There is always a room for improvement, therefore we welcome your views and suggestions for future programmes and action plan.

I would particularly like to acknowledge the contributions of Dr. Hasibullah, Mr. Tajammul Hussain, Mr. Irfan Hayee, Ms. Urooj Deedar, Ms. Narmeen Khalid, and Mr. M. A. S. Zaka for their valuable efforts in conceptualizing, formulating and publishing the documents relevant to the past activities, achievements and future strategies of COMSATS.

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COMSATS ACTIVITIES and ACHIEVEMENTS OVER LAST 12 YEARS

	Year	Projects	Activities	Outcomes/Impact/Remarks
1.	**1995/6**	**COMSATS Internet Services (CIS)**	Launched in 1996, CIS is providing services in sixteen cities which include Islamabad/ Rawalpindi, Lahore, Karachi, Peshawar, Faisalabad, Sialkot, Gilgit and Skardu. CIS is also providing internet services through its franchises in Attock and Swat. Major activities of CIS are: • CIS Vendor Pilot Programme (February, 2002) • Commerce Service Provider (CSP) Project (February, 2002) • Implementation of Major Upgrades and Commissioning of New International Circuits (February, 2002) • Launch of CIS Internet Scratch Cards (April 2002) • Signing of MoUs for the Franchise of CIS nodes in Multan and Gujar Khan (July, 2002) • COMSATS Internet Services Signed Contract with E-Government Directorate for Hosting of Pakistan's First E-Government Portal (August, 2002) • CIS Internet Billing System Project (January, 2002 – June, 2002) • Establishment of the Web-Based Solutions (WBS) Department (March, 2003) • Placement of Web Servers in the United States of America (April 2003)	- Played a key role in Introduction of Internet and organizing ISPs in the country - Provided access to knowledge data bases for academic, research and business opportunities to industries with subsidized rates (50% discount) - Helped Government of Pakistan to initiate IT activities and capacity-building - Helped to set-up technology-park in the country - Played a key role in mobilizing Government to reduce data tariffs in the country. - Helped various Governmental departments to use ICTs as a modern tool for office management and information dissemination. - More than 500 persons from diplomatic community and organisations are subscribers of COMSATS Internet Services.

			CIS in Collaboration with Government of Pakistan: • **COMSATS DSL (Broadband) Services** COMSATS Internet Services had started its DSL project in 2005. Currently services are available in following cities with total number of 1350 installed ports in Islamabad, Lahore, Karachi, Faisalabad, Sialkot, Peshawar, Abbottabad, Mansehra, Toba Tek Sing • **COMSATS Wireless (Wi-Fi) Services** Initially the services are being offered at Islamabad to provide hassle free Internet Connectivity to corporate-clients. The organizations/companies being facilitated through this technology include: COMSTECH, National Electric Power Regulatory Authority (NEPRA), Health Services Academy, United Nations Development Programme (UNDP), Pakistan Science Foundation (PSF), PBC, Ministry of Science & Technology, Orient Petroleum, Pakistan Nuclear Regulatory Authority (PNRA), COMSATS Institute of Information Technology (CIIT) (Islamabad, Lahore) and International School Islamabad • **Infrastructural support to conduct Video Conferencing sessions across the Globe** • **CIS Building** Ministry of Science and Technology has approved a project for CIS to construct its own building. For this purpose, Prime Minister of Pakistan accorded approval for allotment of 2,222.22 Sq yds plot, out of PSF land to CIS. – Design of the building by M/S NESPAK is	COMSATS Internet Services (CIS) will become more efficient and cost effective in near future.

			submitted to CDA for final approval.	
2.		**Science Vision (COMSATS Technical Journal)**	Started in 1995, it's circulation covered 27 countries.	Scientific community in Pakistan and member countries are publishing their research work in this journal since 1995
3.	**1998**	**COMSATS Institute of Information Technology (CIIT)**	The project 'COMSATS Institute of Information Technology (CIIT)' became functional in April 1998 as, with an aim to impart high-level education and to produce quality manpower matching the requirements of the international IT industry. CIIT started with conducting short professional courses and one-year post-graduate diploma in IT. Mr. M. Rafiq Tarar, Former President of Islamic Republic of Pakistan, granted degree-awarding status to COMSATS Institute of Information Technology (CIIT), Islamabad on 12th August 2000. The COMSATS IT University was inaugurated by H.E. General Pervez Musharraf, President of Islamic Republic of Pakistan, on October 26, 2000. CIIT has 5 campuses ; (Islamabad (1999), Lahore (2002), Abbotabad (2001), Wah Cantt (2001) and Attock(2004)) with more than 9000 students and 700 faculty members from Pakistan and COMSATS member-countries offering PhD, MPhil, Masters and Bachelors programs in IT, Management Sciences, Physics, Telecommunication, Electronics, Bio-sciences, Meteorology, and Mathematics, etc. All campuses are equipped with Modern classrooms, state-of-the-art computer/research labs, Licensed software, Internet access and well-stocked libraries. More campuses in other cities of Pakistan (Sahiwal, Gujrat, Gwadar, Hydrabad) are expected to be established in the near future.	- More than 3000 students already graduated in various IT and related disciplines. - More than 900 faculty members - More than 9000 students - 200 faculty members were sent for higher training - 96 Ph.Ds in the faculty members - 177 M.Phils/M.S - More than 140 research publications - Offers M.S and Ph.Ds courses - New fields are being introduced such as Nano-Technology, Bio-Sciences, Bio-informatics, Environment and Climate Sciences - COMSATS institute ranks 7th, in terms of research output in the country (By HEC) - Ranks 8th among all Engineering universities.

			Accreditation of Engineering Programs: The Engineering based undergraduate degree programs of the CIIT have been accredited by the Pakistan Engineering Council (PEC), the accrediting body for Engineering education in Pakistan. These programs are in Computer Engineering, Telecommunication Engineering and Electronics Engineering. **CIIT Ranking:** • In terms of research output, CIIT has been ranked at number **7** out of all the institutions of higher education numbering more than 114 in Pakistan during **2006**, as notified by the HEC. • Among all Engineering universities/DAIs, CIIT has been ranked at number **8** during **2006**, as notified by the HEC.	Extension of higher education in engineering for industrial and commercial backing Standard and quality of education in IT and related engineering fields has been elevated.
4.		**Installation of Biogas Plants for Sustainable Rural Development**	COMSATS, under the project support from UNESCO, has installed around 13 Biogas plants in rural areas of Pakistan. Initially, the gas produced was being used for heating and cooking purposes with an advantageous output of fertilizers. The project was implemented with the technical input from Pakistan Council of Appropriate Technology (PCAT). Biogas plants were installed at 4 sites in Dhok Uthal, along Simly Dam Road, Islamabad. The sites completed are in operation and biogas is being produced and supplied to the houses satisfactorily.	• 13 Biogas Plants installed to help poor communities in the villages. It helped the women to have clean source of energy for domestic use. • Organic Fertilizer as the bi-product of this project for the agriculture • Improved the quality of life of women and in the suburbs • Helped in reducing deforestation
5.		**Tissue-Culture Research Project**	One of the Biotech techniques is plant tissue-culture technology for producing high yielding and disease-resistant crops. COMSATS in collaboration with National Agricultural Research Centre(NARC), Pakistan successfully completed a project to test tissue-culture technology applications for producing disease-resistant and high-yielding potato seeds.	• New technology introduced for Potato seed production in the country. • Improved quality of potato seed.

6.		**Training of Scientists at ICCES –China**	During the course of workshop on Numerical Weather Prediction (NWP) held in April 1998, it was impressed upon ICCES China that training in NWP ETA model may be arranged for a period of one month at ICCES for one scientist from each member states of COMSATS. Accordingly, one scientist each from Sri Lanka, Syria and Pakistan was nominated by their respective Governments for the training programme. COMSATS provided travel grants to the nominated scientists.	Capacity building in climate sciences and training of more than 300 scientists from COMSATS member countries.
7.		**Scientific Awards**	COMSATS sponsors following two awards for "Major/Significant Technological Innovations": 1. First Prize: US$1,000/- cash prize alongwith a Certificate 2. Second Prize: US$5,00/- cash prize alongwith a Certificate COMSATS has been supporting 12th to 20th "Khwarizmi Award" IROST since 1998.	Promoting and strengthening science and technology with innovative goals. More than 18 Awards were given to scientists from Developing Countries.
8.	1999	**COMSATS-COMSTECH-MTM-IT Centre, Karachi**	COMSATS-COMSTECH-MTM-IT Centre was established in Karachi on February 27, 1999. The main objective of the institute was to promote Information Technology (IT) by providing studies in this field. It was a joint venture of COMSATS, COMSTECH, Majlis-e-Talem-e-Milli (MTM) and Preston University. This Centre was handed over to Preston University for running its day to day operations in 2004. Initially, it was aimed that degree classes in the field of IT, like B.S & M.S and BBA/MBA would be started in affiliation with COMSATS Institute of Information Technology (CIIT). Now it is providing IT and management sciences education.	IT Centre is offering B.S, M.S and MBA to students in Karachi's remote areas and helping in indigenous capacity building of poor community.

9.		**COMSATS' Investment and Technology Transfer Programme: Chinese Technology Exhibition (Oct 1999)**	As part of the technology transfer programme for Small and Medium Enterprise (SMEs) development, a technology showcase was organized at Lahore, Pakistan, October 12-14, 1999, displaying Chinese Technologies. The event acted as a platform for Pakistani and Chinese entrepreneurs, facilitating their direct contact and providing them an opportunity to explore potential areas for joint business ventures. COMSATS received around 500-700 inquiries/registrations for the event that attracted about 3000 people from all over Pakistan representing the local industry. Approximately 120 one-to-one business meetings were arranged between the entrepreneurs. In addition seven technology seminars were conducted during the event, to provide technology details and organizational background of the Chinese exhibitors.	Chinese Technology Exhibition of 36 companies offered technology to Pakistani industries. About 120 one-to-one meetings were arranged to promote joint collaboration and joint ventures in various fields. This helped creating efficient but cost effective technologies in the country.
10.		**Establishment of TWAS and TWNSO Regional office at COMSATS' Headquarters, Islamabad, for Pakistan and other COMSATS Member Countries**	A Regional Coordinating Office of Academy of Sciences for the Developing World (TWAS) and Third-World Network of Scientific Organizations (TWNSO) was established at COMSATS Headquarters, Islamabad, on July 24, 2000. The Coordinating Office ensures quick disposal of the cases pertaining to the region and coordinates speedy exchange of information on research and other scientific projects designed by TWAS / TWNSO. A part of the Coordinating Office has been dedicated to Prof. Dr. Abdus Salam (Nobel Laureate), the founder of both TWAS and COMSATS, in recognition of his valuable services for development of science and technology.	COMSATS is working very closely with TWAS/TWNSO and this collaboration is a success for joint efforts for sustainable development in Third World countries. It will enable more scientific interaction of Pakistani Personnel with European based scientific organizations.

11.	2001	**Syrian-COMSATS-COMSTECH IT Centre (SCCITC)**	COMSATS established an IT Centre at Damascus, Syria, in collaboration with COMSTECH and the Ministry of Higher Education, Arab Republic of Syria. The Presidents of the Syrian Arab Republic and Islamic Republic of Pakistan jointly inaugurated the Centre on 8th January, 2001, and has been operational since then.	SCCITC is playing a key role in IT development in Syria.
12.		**Industrial Information Network (IIN)**	The Industrial Information Network (IIN), a project for the development of small and medium level enterprises in Pakistan, had been initiated jointly by the United Nations Industrial Development Organization (UNIDO), COMSATS, and some other partner organizations in the year 2001. The basic objective of IIN was to provide a one-window operation to the small and medium level enterprises for business management and commercial transactions. IIN in technical terms is a business-to-business (B2B) portal.	IIN is playing a key role in SME development in the country.
13.		**IT Projects for the Government of Pakistan**	COMSATS undertook a number of projects in the field of information technology (IT), to build capacity of human resources working in different projects of the Government of Pakistan, besides others these included: • CISCO Network Training • Training of Data Entry Operators • Medical Transcription - Training for Young Doctors and Graduates • Training of Federal Govt. Employees (10,000 employees trained) • Pilot Project for Producing 1000 Developers in Java • Programming Training in Legal Transcription • IT Training for Graduates having M.S./B.E. Degrees from Balochistan • IT Faculty Hiring Program: Phase-I	IT development has been greatly strengthened in Pakistan due to the launching of more than 30 projects with Government of Pakistan. These projects have helped the government for indigenous capacity building (HRD) in the country.

			• Mobilization of Technology Resources: Working Groups for Research and Resource Mobilization in IT and Telecommunications • IT Training of Teachers of Government Schools / Colleges, etc. COMSATS has been entrusted with several projects under the IT development & promotion programme of Ministry of Science and Technology, Government of Pakistan. These include: • Government Online • General computer-skill training to government employees • Nation-wide Training for 10,000 data-entry operators • Medical transcription training programme for 2,500 individuals & JAVA training programme for 1000 individuals Nation-wide Cisco Network Training at subsidized rates	Networking has been greatly promoted
14.		**Setting up of Computer Labs in Public Schools**	COMSATS donated computers to public schools. These computers along with some other machines, funded by COMSATS, were utilized to propagate the use of and facilitate the access to information technology. COMSATS organized to deliver and install the computers in 10 public sector schools, each getting a share of 6 machines, interlinked through Local Area Networking (LAN). The server machines and networking accessories, wherever required, were also provided by COMSATS from its own resources.	IT awareness has been established among younger generation at school level.

15.		**Tele-Health / Distance Learning Project (Gujar Khan)**	The Tele-health Project (Gujar Khan) of COMSATS was formally inaugurated on January 28, 2002 in a plaque-unveiling ceremony, held at COMSATS Headquarters, Islamabad. • Telehealth services between Gujar Khan and Islamabad were launched in the year 2001 as a pilot project to test and exhibit Telehealth operations. It was inaugurated by the then Federal Minister for Science and Technology Prof. Dr. Atta ur Rahman • About 1000 patients were provided medical consultancy through this service. • More than 100 students also received training on information technology through distance learning under this project. • Pilot Phase of COMSATS Tele-health Project at Gujar Khan was successfully completed in 2003	- Tele-health Centre to help poor communities in rural areas. - Around 1000 patients were provided medical consultancy - Distance learning courses were also introduced through this project. More than 100 students have received training.
16.		**Establishment of AS - ICTP-Pakistan Chapter at COMSATS Headquarters, Islamabad**	• Pakistan Chapter of AS-ICTP was setup at COMSATS Headquarter on 31st May 2001 • A website for AS-ICTP was developed and data of Alumni was updated • A series of Lectures were held from the academic work of Nobel laureates. • The ICTP-PC maintains and disseminates latest news and programs of AS-ICTP	COMSATS offered office space and helped to establish ICTP Chapter at its Headquarters and organised various lectures.
17.		**COMSATS Biotechnology Cell (October 2001)**	The objectives of this Cell are to establish and maintain a data bank of Biotechnology institutes and experts in developing countries, interaction with Biotechnology research organizations in the south, and the development of a web portal for providing quick access to information about institutions involved in the subject and on-going research projects, as well as, the available	- A book on Biotechnology was published by COMSATS for students at college level - Web Portal is functional for Biotechnology Commission. - All Bio-sciences related institutes of Pakistan's data is

			expertise. **Activities undertaken so far by the Cell include:** • Development of a Biotechnology Web Portal in collaboration with National Commission on Biotechnology (NCB) with the following objectives • Networking and Linkages with R&D institutions • Publication of a book on Biotechnology as a resource for young scientists • Portal has been completed and handed over to NCB, Pakistan **<u>Biotechnology Web-portal</u>:** COMSATS in collaboration with National Commission on Biotechnology (NCB) developed and launched the Biotechnology Web Portal. It was formally launched in the month of April 2006. It was inaugurated by Secretary Ministry of Science and Technology in April 2006. The portal is now operational and available at: www.ncb.gov.pk	available on the site since 2006.
18.	2002	**COMSATS Accredited with the United Nations Protocol and Liaison Service (September, 2002)**	Commission on Science and Technology for Sustainable Development in the South (COMSATS) was accredited as an Inter-Governmental Organization (IGO) with the United Nations Protocol and Liaison Service. The subject accreditation comes as an acknowledgement to COMSATS' active participation in and contribution towards fostering sustainable development through regional activities. The status will help COMSATS expand its participation in different activities / programmes of the United Nations.	COMSATS has been accredited as an IGO by U.N. Protocol and Liaison Services. This has formulised and enhanced the international standing of COMSATS.

19.		**DONOR DIRECTORY**	A directory of donor and development agencies working across the globe was also published by COMSATS in the month of April 2002. Same directory was updated in 2005	The directory is being used by various organizations for networking and joint collaboration, especially among the developing countries.
20.	2003	**French Online Distance Learning Program**	Alliance Française and COMSATS together initiated the French-Online Distance Learning Program some four years ago. At a later stage, Allama Iqbal Open University (AIOU) became a partner as well. After intensive efforts by the partner organizations, the program was formally launched at COMSATS Headquarters on the 20th of March, 2003. French Online is a program designed to cover all aspects of learning French language. Comprehension of spoken and written French is developed via the internet. The technology-platform of this project is being provided by COMSATS, which allows the program to be available across 5 cities, serving the objectives of promoting education for sustainable development in Pakistan through strengthening of cultural linkages. **French Online in Sudan** An agreement is being finalized to launch the French online project for Sudan in collaboration with Sudan Academy of Sciences (SAS) in 2007. It is planned that in the next phase of the project the 'French online' platform will be converted in Arabic for teaching French to other Arabic speaking nations.	More than 1500 students have studied French language. COMSATS is going to sign this agreement with SAS to launch the project in Sudan.

21.		**COMSATS-CERN-NCP Project for Data-Grid Applications and Physics Data Analysis**	The Project was initiated in 2003, in collaboration with CERN, NCP. The project with CERN-NCP is focused on establishing a cluster of PCs using Linux Operating System, for enabling Data-Grid applications and analysis of Physics data. Initially, it was planned to connect with 5 PCs and 2 server machines (dual processors). All machines have a complete CERN environment installed on them. This implies that all CERN specific libraries, detector simulation packages, and other CERN software-standards are strictly implemented on these machines. This will help in analysis of physics data to the Pakistani scientists working here in Pakistan. In this connection, a workshop was also organized by COMSATS, on 20th October 2003 in Islamabad, which was inaugurated by Prof. Dr. Luciano Maiani, Director General, European Organization for Nuclear Research (CERN), Geneva – Switzerland. More than 30 scientists were trained during this workshop. Lectures were held from CERN, Geneva, through video conference. Besides this two Egyptian scientists were trained for two months too on data grid computation using this platform.	COMSATS has established collaboration with international institutions like CERN. Data Grid Project was jointly launched with National Centre for Physics (NCP) in Islamabad. Two Egyptian scientists were trained. A Data Grid workshop was also organized where more than 30 scientists were trained.
22.	2004	**"ICTs for Rural Development of the Remote & Mountainous Areas of Northern Pakistan"**	**"ICTs for Rural Development of the Remote & Mountainous Areas of Northern Pakistan"** The project was initiated in January, 2004 under an agreement between COMSATS and the International Development Research Center (IDRC), Canada. It is a collaborative effort of COMSATS, Karakorum Area Development Organization (KADO) and the Baltistan Health and Education Foundation (BHEF). The project has been implemented in the Northern Areas	- More than 2000 patients were received medical help. - Patient Information System (Software) is developed and being used for data transfer. - It will have a web based solution very soon enabling doctors to interact patients from their residence. - Training of paramedics - Training of General Practitioners

			of Pakistan (Gilgit, Skardu and Hunza) primarily aimed to experiment and demonstrate the promotion of sustainable livelihoods and reduction of poverty using modern Information Communication Technologies (ICTs). These included services for healthcare, distance learning, agri-extension, rural planning, capacity building, promotion and conservation of cultural and natural heritage. **Tele-Health Services in Baltistan** • The project after completing its initial phases was inaugurated by the Federal Minister for Health, Mr. M. Nasir Khan, on the 20th of July 2006 • Two ISPs were setup in Hunza and Skardu and connected to Gilgit and Islamabad through satellite medium. • Distance Learning Centre was established in Hunza • Telehealth Centre was established in Skardu • Resource Centre was established in Islamabad **Feasibility for Chilas** A feasibility study has been conducted to examine the prospects of installing an ISP in the area to benefit the Northern Areas Development Project (NADP), its target population, and the poverty stricken people of the project area so as to ameliorate the conditions of poverty. The International Development Research Centre (IDRC-Canada) funded the study at the request of the NADP (Pakistan). The Commission on Science and Technology for Sustainable Development in the South (COMSATS) plans to install an internet service provider (ISP) in Chilas as well as Tele-health	It is expected that Chilas will be the next Tele-health Project to be supported by IDRC.

			consultation facilities in Chilas. **ENRAP Meeting** In the series of national level experience-sharing meetings, after India and Nepal, the meeting of ENRAP-IFAD projects in Pakistan was jointly organized by COMSATS and IDRC (Regional Office Delhi) in Islamabad, on 10-11 August 2005. Thematic areas of interest to all projects were chosen to share experiences and knowledge. These were selected during agenda formulation by the ENRAP projects in Pakistan before the meeting. The objectives of the workshop were: • Sharing experiences and knowledge on the following selected thematic issues: ▪ Community Mobilization for Gender Empowerment ▪ Project Implementation ▪ Documentation tools and dissemination mechanisms • Identifying the challenges faced by IFAD projects • Generating recommendations regarding ENRAP support to projects • Exposure to a project providing health services to remote communities of Northern Areas using Information and Communication Technology (ICT) tools **Distance Learning Services for Hunza** • More than 300 persons were trained in Information Technology in Hunza through the distance learning program. • The project activity also resulted in realizing the concept of e-village and e-schools in Hunza	Trained about 30 people from various CBOs, NGOs, and COMSATS' role has been highlighted in Tele-health Project.

	Programmes with COMSATS' Member Countries			
23.		**Programmes with Sudan**	• Establishment of a COMSATS Liaison Office in Sudan on 24 January 2004. The programs for Sudan were initiated in consultation with MOST-Sudan • Pakistani Biogas Expert's visit to ERI-Sudan, 15 days training course conducted • **Facilitating initiatives in Scientific Instrument Repair and Maintenance Center for MOST Sudan** – Training Workshop on Maintenance of Electronic, Scientific Laboratory And Medical Instruments, Khartoum, September 2005 (More than 40 Scientists were trained) • **Renewable Energy Initiatives** – Capacity building support: COMSATS sponsored biogas experts sent to Sudan to train local practitioners (35 Scientists were trained) • **Information Technology for Sustainable Development** – Feasibility Report prepared for IT Center and submitted to MOST • **Feasibility Study on paper production Unit for MOST Sudan** • **A number of project proposals were given to MOST, Sudan for training in IT, Internet and Renewable Energy**	Trained approximately 80 scientists in Biogas technology, Maintenance of Electronic and Scientific Lab equipment. COMSATS is playing pro-active role to help scientific community in Sudan

24.		**Programmes with China**	• Establishment of Linkages between Global Change Impact Studies Centre (GCISC) and International Centre for Climate and Environment Sciences (ICCES) for expertise sharing in the field of Climate and Environment – 2005-6 • Joint Workshop/conference in collaboration with GCISC, Pakistan; ICCES and Chinese Academy of Sciences (CAS) in the field of Climate Modelling and Sustainable Development - 2006 • A scientist from PMD completed Ph.D from ICCES – 2005 • Scholarship proposal for Post-Doc, Ph.D and short term training for scientists from COMSATS member countries has been sent to CAS – 2006	ICCES – Beijing is a Centre of Excellence of COMSATS. It playing its role in building Capacity in Climate Science in COMSATS member countries by providing short-term and long term training since 1995. It sponsored one Ph.D for Pakistan Meteorological Department.
25.		**Programmes with Syria**	– Training Workshop for Engineers and Technicians of Scientific Instruments, Damascus Syria, December 19-23, 2005 – COMSATS and Islamic Educational, Scientific and Cultural Organization (ISESCO) collaborated to train nominees in the maintenance of scientific equipment to help bridge the gap in current human resource requirements in the field. – Of the common member countries, Educational Development Center for Medical Sciences, Damascus University, Syria was chosen as the venue for conducting the training workshop due to its urgent need in this regard. **The objectives of the workshop:** – Facilitate up-gradation of skills of the participants, so that, they may be able to independently maintain and repair the scientific instruments for which they are being trained – Encourage the universities and research institutes, to keep at least a pool of trained staff with up-	COMSATS is playing its role in building capacity in various areas in member countries. COMSATS joined hand with ISESCO and organized training workshop in maintenance of scientific instruments where more than 40 scientists received training. Resource persons were provided by COMSATS.

			dated knowledge in maintenance of the scientific equipment – Maximize efficiency through need-based training and documentation in the repair and maintenance of scientific equipment – Demonstrate to participating organizations the benefits of human resource	
26.		**Programmes with Egypt**	– Joint Project with HEJ • Computer-Assisted Design of New Biologically Active Compound (in process – 2005/6) NARC-Pakistan & NRC-Egypt – Human Resource Development Program: (More than 60 scientists trained) • International Training Workshop Plant Biotechnology (Dec. 2005) – Cairo • International Training Workshop on Agro-Food Processing (Dec. 2005) – Cairo • 1st Egyptian-Jordanian Conference on Biotechnology and Sustainable Development: Current Status and Future Scenarios – Egypt, 11-14 December 2006 – Strengthening of Centers: • NRC up-gradation proposal submitted to IDB through COMSTECH with reference to twinning of centers. It includes a weaker member such as Uganda • NRC was declared best Centre by IDB with a prize award U.S $100,000/-	• Joint Research Projects have been initiated among Centres of Excellence (HEJ Research Institute of Chemistry – National Research Centre, Egypt and IRCC, Sudan) COMSATS supports JRP/CRP among COMSATS member countries to achieve objective of South-South Cooperation

	Programmes with International Organizations/Agencies			
27.		**Programmes with UNESCO**	**Project submitted by COMSATS and approved by UNESCO in 2007** – South-South Technical Cooperation Programme, COMSATS Member Countries (Pakistan, Egypt and Sudan), 2007 ***Project Proposals submitted:-*** – Introduction and Establishment of Multipurpose Community Tele-Centers in COMSATS member-countries (Pakistan, Egypt and Sudan) – 2006 – Training Programme in Renewable Energy Technologies; Photovoltaic and Micro-Hydel (Pakistan and Sudan) – 2006 – Workshop on "Development of Science and Technology Park in Pakistan" March, 2007. ***Concept Papers Submitted:-*** – TeleHealth in Earthquake Hit areas in Azad Jammu and Kashmir – Model Studies on Multiple Isotope Fingerprinting of the Sources, Transport, and Fate of Organic Pollutants with Special Reference to Carbon Flow in Marine Coastal Ecosystems – Assessment of Trends in Freshwater Quality Using Environmental Isotopes and Chemical Techniques for Improved Resource Management – Workshop on "S&T Park for Development" in collaboration with UNESCO and CIIT	COMSATS and UNESCO agreed to launch South-South Cooperation project in capacity building during 2007 for Pakistan, Egypt and Sudan. This project will be extended to other countries in 2008.
28.		**Programmes with ISESCO**	– International Seminar on Physics in Developing Countries: Past, Present and Future, Islamabad-Pakistan (July 27-28, 2005) – Workshop on Repair and Maintenance of Scientific Instruments for Engineers and	COMSATS and ISESCO jointly completed projects in 2006. More joint projects will be launched in 2007 and 2008. This will broaden the Base of collaboration among

			Technicians; Khartoum, Sudan, 25th Sep. to 5th Oct. 2005 – Training Workshop for Engineers and Technical Scientific Instruments, Damascus, Syria, December 19-21, 2005 – Workshop on the subject of renewable energy in collaboration with PCRET and ERI, Sudan at COMSATS Headquarters Islamabad – Development of national websites on education, science and culture in Islamic countries (A project to be undertaken by COMSATS Headquarters in collaboration with ISESCO) – Online ISESCO Publications for Muslim countries in general and member countries in particular (A project to be undertaken by COMSATS Headquarters in collaboration with ISESCO) – Establishment of Robotics Labs at Primary and Secondary School Level in Islamic countries. (A project to be undertaken by COMSATS Headquarters in collaboration with ISESCO) – International meeting on 'Basic Research and Industrial Applications' was held on 7-8 July 2004 – ISESCO funded for bringing out COMSATS scientific journal Science Vision in the year 2003-4 ***Activities in 2006*** – Completion of the development of Web Portal of National S&T Research Institutes in Islamic countries – Directory of Universities and S&T Research Organizations in Islamic Countries (in progress) – Joint conferences / workshops, etc.	COMSATS member states.

			• Advance Training Workshop for Engineers and Technicians of Scientific Instruments, Damascus, Syria • Establishment of portal of National Ethical bodies • Establishment of Robotics Labs at Primary and Secondary School Level • International School on Surface thin films, Nanostructures and Applications	
29.		**ISESCO Award**	The Islamic Educational, Scientific and Cultural Organization (ISESCO), awards International ISESCO Science Prizes to Muslim scientists from its Member States every three years selected on the basis of their outstanding contributions to their fields of specialization. Dr. Hameed Ahmed Khan, H.I., S.I., received this prize for 2006 from His Highness Sheikh Nasser Mohammad Al Ahmad Al Sabah, the Prime Minister of Kuwait, in Physics.	The objective of these Prizes is to enhance scientific research in the Islamic countries and to strengthen support to the efforts deployed for its development. This prestigious award will produce a positive impact on COMSATS member states.
30.		**Pakistan-US S&T Cooperative Program 2007**	**Proposed Projects under Pakistan-US Science and Technology Cooperative Program 2006-2007** i) Establishment of Pakistan's First Research Park at the ICCS ii) Telehealth Services for the Northern Areas of Pakistan iii) Training Programme In Renewable Energy Technologies	- COMSATS is exploring a collaboration with US-Pakistan joint projects - More projects will be submitted during 2007. This will establish North-South collaboration for COMSATS' member states.
31.		**Collaboration with the Asian Institute of Technology (AIT), Thailand**	• MOU signed between COMSATS and AIT-Thailand on 17 December 2004 • Agreement to conducting a series of seminars to facilitate students from COMSATS member	More opportunities for a meaningful and cost effective training programme for HRD created.

			countries to avail scholarships and other study opportunities at AIT • International Conference on ***"Importance of Human Resource Development in S&T fields for Sustainable Development***" is scheduled to be held in 2007.	
32.		**Collaboration with Malaysia**	The Commission intends to broaden and strengthen its network of Centres of Excellency by developing and fostering strategic alliance with emerging and leading Science and Technology institutions. COMSATS following this plan made a humble start by contacting four such institutes in Malaysia, namely: i) UniKL Malaysia Institute of Information Technology (UniKL MIIT); ii) UniKL Malaysia France Institute iii) UniKL Institute of Product Design and Manufacturing (UniKL Iprom) iv) UniKL Malaysia Institute of Chemical Engineering (UniKL MICEST) Dr. Hameed Ahmed Khan the Executive Director, COMSATS was invited to these institutions and held meetings with Dr. Mohd Azemi Mohd Noor, Deputy President (Academic and Technology, Malaysia, Mr. Mazmi bin Kamal, Dr. Tengku Shahrom bin Tengku Shahdan to join hands for collaboration.	A strong basis has been provided for the mutual understanding between organizations to collaborate, may further be exploited to translate into practicable action plans for regional development to benefit the member countries in general and members of Centres of Excellence in particular. This will also helps fostering research & industry.
33.		**Some Recent Publications**	▪ Road to Knowledge-Based Economy, May 2007 ▪ Education, Science and Technology in Developing Countries: Some Thoughts and Recollections ▪ Telehealth, The Modern Face of Healthcare,	COMSATS has published various books on topics related to science and technology for sustainable socio-economic development in the

			January 2007 ▪ Physics in Developing Countries: Past, Present and Future, April 2006 ▪ Road to Sustainable Development, January 2006 ▪ Basic Research and Industrial Applications, July 2005 ▪ Physics in Our Lives, July 2005 ▪ Book on Biotechnology, May 2005 ▪ South-South and South-North Collaboration in Science and Technology: Present Scenario and Future Prospects, February, 2005 ▪ Renewable Energy Technologies and Sustainable Development, February 2005 ▪ Scientific and Technological Research for Development, February 2005 ▪ Ten Years of COMSATS (1994-2004) – A booklet published at the completion of ten years of COMSATS in October 2004 ▪ Second Edition of COMSATS Directory of International Donor and Development Organization, February 2004 ▪ Proceedings of the Meeting on Science & Technology Capacity Building for Sustainable Development, 2004 ▪ Proceedings of the Introductory Workshop on Mathematical Modeling and its Application to Developmental Issues, 2003 ▪ Book – Water Resources in the South: Present Scenario and Future Prospects, November 2003 ▪ Proceedings of the Meeting on Science and Technology for Sustainable Development, September 2003 ▪ First Edition of COMSATS Directory of International Donor and Development Organizations, April 2002	South. COMSATS' member states can draw information and guidance from these publications.

34.		**MOU, Action Plans & Agreements Signed**	1. MOU between COMSATS and ICGEB, Italy, 16-6-2005 2. MOU between NMC, Nigeria and Applied Mathematics Institute (M.E.I.) University, Turkey 3. MOU between ICMST, Ghana and NRC, Egypt 4. MOU between NMC, Nigeria and NRC, Egypt, 16-03-2005 5. MOU between National Mathematical Centre (NMC), Nigeria and CIIT, 16-03-2005 6. MOU on Scientific & Technological Cooperation between COMSATS & Asian Institute of Technology, Thailand, 17-12-2004 7. MOU between COMSATS & ICS-UNIDO, Trieste, Italy , 29-11-2004 8. MOU between COMSATS & Royal Scientific Society (RSS), Jordan, 10-10-2004 9. MOU between Embassy of France in Pakistan, COMSATS & Alliance Francaise d' Islamabad, 28-04-2004 10. MOU between MoST, Sudan, COMSATS and HEJRIC, Karachi , 19-03-2004 11. MOU between ISESCO, Morocco & COMSATS, 19-03-2004 12. MOU between COMSATS' Centres of Excellence National Mathematical Centre, Nigaria & Marmara Research Centre, Istanbul, Turkey, 15-03-2004 13. MOU between COMSATS' Centres of Excellence Tanzanian Industrial Development Organization (TIRDO), Tanzania & Marmara Research Centre, Istanbul, Turkey, 15-03-2004 14. MOU between Ministry of Science and technology, Sudan and COMSATS' Centre of Excellence Marmara Research Centre, Istanbul, Turkey, 15-03-2004	COMSATS Secretariat and Centres of Excellence have signed various MOU/Agreements with international and national agencies to facilitate and enhance South-South and North-South Cooperation to accelerate technology transfer and capacity building in member countries.

			15. MOU between COMSATS' Centres of Excellence Industrial Chemistry Centre (ICC), Jordan & HEJRIC, Karachi-Pakistan, 15-03-2004 16. MOU between Ministry of Science and technology, Sudan and COMSATS' Centre of Excellence HEJRIC, Karachi – Pakistan, 19-03-2004 17. MOU between COMSATS' Centres of Excellence Industrial Chemistry Centre (ICC), Jordan, Marmara Research Centre, Istanbul, Turkey & HEJRIC, Karachi-Pakistan, 15-03-2004 18. MOU between COMSATS & IDRC, 19-01-2004 19. MOU between COMSATS & Baltistan Health & Education Foundation (BHEF), 19-01-2004 20. MOU between COMSATS & Karakoram Area Development Organization (KADO), 19-01-2004 21. MOU between COMSATS & Iranian Research Organization for S&T (IROST), Tehran, Iran, 27-12-2003 22. MOU between COMSATS & Philipps Universitat Marburg (PUM), Germany, 11-12-2003 23. Action Plans Signed with COMSATS Centres of Excellence:, i) Action Plan for ICCES – China, 21-09-2000 ii) Action Plan for National Research Centre – Egypt, 21-09-2000 iii) Action Plan for Higher Institute of Applied Sciences and Technology (HIAST), Syria, 21-09-2000 iv) Action Plan for International Centre of Industrial Technology and Marine Science (ICITEMS), Tanzania , 21-09-2000 v) Action Plan for ICCES – China , 11-05-2002 vi) Action Plan for National Mathematical Centre, Nigeria, 11-05-2002 24. MOU for Telehealth Project between M/S Byte2000	

			and COMSATS, 15-11-2001 25. MOU between COMSATS & Ministry of Science and Technology, Sudan, 21-02-2002 26. MOU between COMSATS & OICnetworks Sdn Bhd, Malaysia, 17-02-2002 27. MOU between COMSATS & IROST – Iran, 04-07-2001 28. MOU between COMSATS & UNIDO, Vienna, Austria, 25-04-2001 29. MOU between Pakistan Institute of Engineering and Applied Sciences (PIEAS), Pakistan, 25-01-2001 30. MOU with Damascus University, 17-03-2001 31. MOU between COMSATS & ZTE-China, 02-03-2001 32. MOU on Cooperation between COMSATS and TWAS/TWNSO, 26-05-2000 33. Agreement between COMSATS & Ministry of Higher Education, Syrian Arab Republic, 26-09-2000 34. MOU between COMSATS & Tanzania Industrial Research and Development Organization (TIRDO), Tanzania, 10-09-1999 35. MOU between COMSATS & Alliance Francaise, 13-05-1999 36. MOU between COMSATS & National Agriculture Research Centre, Pakistan, 06-07-1998 37. MOU between COMSATS & National University of Science and Technology (NUST), Pakistan, 38. International Agreement / Protocol on scientific and Technological Cooperation between The Government of Syria and COMSATS, 20-11-1996	
35.		**COMSATS Scholarships Program**	COMSATS contributed over amounting to Rs. 1.7 million, in addition to US $, 18000 for the promotion of education of Science and Technology through granting	

			Scholarships to students of higher education to its member countries under COMSATS Scholarship Program. 1. Tuition fee of 5 Ph.D Pakistani students studied at HEJ Research Institute of Chemistry, Karachi 2. Scholarships to the winners of "Khwarizmi International Award" IROST, Iran (13th to 20th International Awards) US $ 1500/- per year 3. Tuition fee of a Ph.D Student from Pakistan, studied at ICCES, China 4. Living Expenses of Mr. Justin Tarimo, student from Tanzania, studied at COMSATS Institute of Information Technology, Islamabad 5. Tuition fee of 8 Syrian Students studying at COMSATS Institute of Information Technology, Islamabad (Bachelor & Master Programs)	
36.		**Workshops/Seminars**	COMSATS has conducted almost 60 independent and joint scientific and technical international events related to socio-economic development. Some of these are: 1. International meeting on "Emerging Technologies and Developing Countries" held at Holiday Inn Hotel, Islamabad on November 28-29, 2006. 2. Inauguration of COMSATS-Tele-Health Services (Between Resource Centrer Islamabad and Telehealth Clinic Skardu) July 20, 2006, Islamabad, Pakistan 3. International Meeting On "Earthquake Forecasting" at COMSATS Headquarters, Islamabad, Pakistan (13-22 March 2006) 4. 9th COMSATS Coordinating Council Meeting at	More than 60 workshops and international conferences were organised. More than 3,000 scientists from COMSATS member countries benefited from this programme.

			RSS, Amman, Jordan March 1-2, 2006 5. ENRAP II Pakistan National Workshop, 10-11 August 2005, Islamabad, Pakistan 6. Conference on Nano-Science and Technology in Pakistan" 13-14 June 2005, at COMSATS Headquarters, Islamabad, Pakistan 7. National Training Course on Harmful Algal Bloom Concerns in Marine Coastal Environment of Pakistan, June 9-11, 2005, COMSATS Headquarters, Islamabad 8. 8th COMSATS Coordinating Council Meeting, March 14-15, 2005 at National Research Centre, Cairo, Egypt 9. COMSATS Technical Advisory Committee Meeting, March 16, 2005 at National Research Centre , Cairo, Egypt 10. Seminar on "Physics in Our Lives", February 23-24, 2005 at COMSATS Headquarters, Islamabad 11. Training Workshop on Providing Theoretical and Practical Training for Instrument Repair [November-December 2004, Sudan] 12. Meeting on "Basic Research and Industrial Applications', July 6-8, 2004 at COMSATS Headquarters, Islamabad 13. Meeting on South-South and North-South Collaboration in Science and Technology: Present Scenario& Future Prospects (March 2004, Islamabad) 14. International Meeting on Renewable Energy Technologies and Sustainable Development (February 2004, Islamabad) 15. International Conference on 'Role of Science in the Development of Information Society (RSIS), Geneva, December 2003 16. International Workshop on Climate Variability in	

			Asian Monsoon Region, Bangkok, December 2-4, 2003 17. International Symposium & Exhibition on Renewable Energy, September 2003, Malaysia 18. 13th Science Conference of the IAS meeting, September-October, 2003, Malaysia 19. International Training Courses on Climate Modelling and Prediction, October 2003, Beijing 20. Seminar of Lectures on "Nobel Prizes in Physics", October 2003, Islamabad 21. International Conference on Current Trends in Radiopharmaceuticals, October 21-23, 2003, Islamabad 22. International Workshop on Climate Variability in Asian Monsoon Region, December 2003, Bangkok 23. 2nd Meeting on non-Destructive Testing (NDT), October 14-26, 2003 24. Meeting on Science and Technology Capacity Building for Sustainable Development, Islamabad, Feb 2003 25. 3rd Executive Management Seminar on Environment and Health 26. International Workshop on Networking Essentials and Interconnecting Cisco Networking Devices, Islamabad-Pakistan, 2002 27. Symposium on Mountains of Pakistan – Protection, Potential and Prospects, Islamabad, Dec 2002 28. National Symposium on Nano-Technologies – Islamabad, 4-5 November 2002 29. Meeting on CERN Data-GRID and Its Application, Islamabad, Nov 2002 30. Workshop on Mathematical Modelling and its Application to Development Issues, Islamabad, Oct - Nov 2002 31. COMSATS Participation in the IAEA General	

			Conference, September, 2002 32. 27th International Nathiagali Summer College on Physics and Contemporary Needs, June-July 2002 33. 6th Coordinating Council Meeting of COMSATS May 2002 34. 3rd Alexander von Humboldt Seminar of German Alumni Forum, Pakistan, February, 2002 35. First Workshop on Plasma Physics & Laser-Induced Plasma-Spectroscopy, January 2002, Tunis – Tunisia 36. Workshop on Economic Growth: the Involvement of Biotechnology and the Modern Bio industries - November 2001, Beirut - Lebanon 37. COMSATS 1st Meeting On Water- Resources in the South: Present Scenario and Future Prospects - November 2001, Islamabad - Pakistan 38. First National Conference on Non-Destructive Testing (NDT) - October 2001, Islamabad – Pakistan 39. COMSATS 1st Meeting On Science & Technology for Sustainable Development-October 8-9, 2001, Islamabad, Pakistan 40. Frontiers of Urban Water-Management: Deadlock or Hope? in Marseille, France, June 2001 41. International Workshop & Round-Table Discussions on "Promoting Science and Technology Capacity for Development: Assessing the Past, Preparing for the Future" in Paris, France, June 2001 42. 8th National Symposium on Frontiers of Physics, Organized by the Pakistan Physical Society (PPS) - Lahore, November 2000 43. Institute of Environmental Science and Engineering (IESE) - NUST Workshop on "Environment Problems of the Petroleum Industry" – Islamabad, October 2000 44. Third South Asia Geological Congress – Lahore September 2000	

			45. International Conference on Nuclear Tracks in Solids, Portoroz Slovenia, August 2000 46. 25th International Nathiagali Summer College on Physics and Contemporary Needs – Islamabad, June 2000 47. NUST Workshop on "Fuel Cell and Hydrogen Fuel Technologies" Islamabad, May 2000 48. The 5th Meeting of the Coordinating Council Of COMSATS, September 2000 49. COMSATS-HEJ Workshop on Sustainable Use of Medicinal and Food Plants, Karachi, Pakistan, September, 2000 50. COMSATS Workshop On Implementation of ISO 14000 In Industry, Islamabad, Pakistan, March 2000 51. Round-table Meeting on South-South Cooperation on Convergence - Information Technology, Telecommunication and Media, Islamabad, Pakistan, February 2000 52. COMSATS Representation at the Forum on South-South Cooperation in Science and Technology, Seoul – Korea, February 2000 53. Use of Spectroscopic Techniques in Structural Organic Chemistry - Karachi, 2000 54. Numerical Weather-Prediction Model - Beijing, 1999 55. COMSATS Chinatech Expo – October 1999 56. Numerical Weather Prediction Model Workshop – Islamabad, 1998 57. Workshop on Mathematical Modelling: Application and Uses - Islamabad, 1998 58. Numerical Weather Prediction Model Workshop – Islamabad, 1997 59. Pre-Donor Conference – Islamabad, July 1997 60. Workshop on Laser Technology – Islamabad, 1997	

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