

COMSATS

PAST ACTIVITIES AND PROPOSED FUTURE STRATEGIES

BY

HASIBULLAH

Advisor (International Affairs)

COMSATS - Islamabad

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FOREWORD

The Commission on Science and Technology for Sustainable Development in the South (COMSATS) is passing through the thirteenth year of its successful journey to promote the cause of sustainable development in its twenty one member states. This journey has been rewarding as well as arduous. Much has been achieved but much more needs to be achieved. Given the fact that implementing the policies and objectives of socio-economic uplift through science and technology in a wide spectrum of the developing nations with diverse cultures, histories, traditions and mindsets, such as those constituting the membership of COMSATS is surely not an easy task, yet I feel proud in saying that this young international organization has made commendable achievements in a short span of thirteen years.

Despite our strong performance, we should not remain complacent. Like every successful and progressive international organization, COMSATS must watch carefully its operational strengths and weaknesses. We have learned many useful lessons from our past endeavours. It is time now to take stock of our previous results and think about ways and means to improve them. We must know why we failed in certain pursuits and how we met success in other fields. This requires a critical analytical review of the entire past activities and based on the findings of this analysis, it is necessary to envisage some prudent future strategies. This is exactly what we have undertaken in the recent past and have come up with the present publication, which may serve useful management purposes both at COMSATS' Secretariat and in the member states.

The structure of this manuscript comprises logical assessment of the past activities that forms the basis of inputs for the future strategies. Extensive analysis of the COMSATS' Foundation Documents has been made to supplement the above mentioned inputs. Proposals have been made on various strategic aspects related to COMSATS' working, which intend to achieving better results in the future and also in helping to close the gaps which exist in the procedures and policies. In my opinion, it is a simple but effective way to transcend ourselves from the present to the future, keeping our capacities and competencies in view and also keeping a good eye on the challenges of the twenty-first century that are unfolding upon the world in a dramatic way. A particular feature of this publication is that it stimulates thinking of all the stakeholders and seeks the need to achieve convergence of the viewpoints of all the member-states, on the issues discussed in the manuscript. I shall earnestly urge all those who are concerned with the functioning of COMSATS to give this publication a deeper thought and come up with comments, views and suggestions to improve the ideas presented therein and to make our future-work more efficient, cost effective and useful for our member-states.

In the end, I would like to express feelings of my deep appreciation for Dr. Hasibullah,

Advisor (International Affairs) at COMSATS Secretariat, who has authored this work. He has tried to put his extended experience as project designer and implementer in our contents of this publication, which I am confident, will be generously considered by the expert readership. I am also thankful to Mr. Tajammul Hussain, Director, International Affairs, COMSATS, who has been attached with the work of COMSATS for all these thirteen years and whose very able stewardship has produced such commendable results that our organization now stands prominently in the comity of international society. His work, data and past publications have greatly helped in the course of analysis and during the process of arriving at the future strategies for COMSATS. Thanks are also due to Mr. Irfan Hayee, Mr. Imran Chaudhry, Mr. M.A. Shahid Zaka, Ms. Narmeen Khalid and Ms. Urooj Deedar and to Mr. Ghadir Haider for typing the manuscript.

(Dr. Hameed Ahmad Khan, H.I.,S.I.)

Executive Director

1. BACKGROUND INTRODUCTION

COMSATS was created in 1994 to meet the challenges of continuously emerging socio-economic problems in the developing countries through effective and judicious application of appropriate science and technology. Two key criteria were selected for focused attention. First, it was realized that the governments and policy-making organs of the developing countries must realize the importance or centrality of science and technology for the economic progress, and second, the attention must be given to the pursuit of sustainability of development. Both these criteria had played a major role in the developmental strategies of the industrially advanced nations during the twentieth century. The benefits thus, accrued by effective and well planned implementation of scientific and technological potential in North America, Europe, Australia, etc., do not need any emphasis. Similar strategies applied by other nations like Japan, South Korea, China and Malaysia have paid appreciable economic dividends to these nations.

The gaps in the S&T competencies between the advanced and developing nations has continuously widened during the last hundred years or so, and it still is widening at an alarming rate. Several multilateral and bilateral efforts have been made under UN umbrella and under other arrangements to narrow these gaps, but regrettably the results have not been promising. Some progress was however, made when Prof. Abdus Salam's idea to create an International Centre for Theoretical Physics (ICTP) at Trieste, Italy, was put to practice, and a systematic interaction commenced among the scientists of developing countries, as well as between the developed and the developing countries. Benefits were also drawn by the developing countries through the efforts of the Third World Academy of Sciences (TWAS) and the Third World Network of Scientific Organizations (TWNSO).

The collaborative working experience of the Third World, spread over many years, revealed that the presence of a strong hub of S&T development in the developing world itself could produce better results. It is simply because the interaction between the S&T organizations, universities and centres of policy-formulations, exchange of experts and facilities and networking of scientific data will be much more easier, effective and economical. This also reduces the entire dependence upon the facilities located in the advanced countries. However, with the passage of time, it was very well understood that no worthwhile progress could be achieved unless strong collaborative interaction was established between the scientific and technological resources of the North and the South.

While keeping the above mentioned arguments and requirements in view, COMSATS started its activities (in 1994) with full thrust on the following objectives:

- a. to sensitize the countries in the South to the centrality of science and technology in the development process, to the adequate resource allocation for research and development and to the integration of science and technology in the

- national and regional development plans;
- b. to support the establishment of a network of International Science and Technology Centres for Sustainable Development in the South;
 - c. 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 donors and from Governments and other institutions in the North and the South to supplement the financing of international scientific projects in the South;
 - d. to provide leadership and support for major North-South and South-South cooperative schemes in education, training and research such as the proposal to set up programmes of scholarships for research at centres of excellence in the South; and
 - e. to support the relevant programmes and initiatives of major scientific organizations working for development and promotion of science and technology in the South

The objectives of COMSATS and the background history of the development of science and technology in the South were such that the idea of establishing an organization in the South attracted favourable attention from the high level policy-makers of many developing countries. This was witnessed by the fact that the first meeting of the Commission held in Islamabad, in October 1994, was inaugurated by the then Prime Minister of Pakistan and was attended by the representatives of Heads of States or Governments from 36 countries, including 22 Ministers of Science and Technology and Higher Education, and by representatives of a number of international organizations like UNIDO, UNESCO, UNU, UNEP, UNCTAD and the World Bank. This meeting was jointly organized by the Third World Academy of Sciences (TWAS), Third World Network of Scientific Organizations (TWNSO) and the Ministry of Science and Technology, Government of Pakistan. The interest in the intended activities of COMSATS, shown at that time, was of particular encouragement to the governments of the developing countries.

2. PAST ACTIVITIES AND RATIONALE

It is obvious that the objectives set out by COMSATS, at the time of its inception in 1994, were numerous and ambitious. The wide spectrum of scope of objectives required vast amounts of financial, human and logistical resources, in addition to serious commitment of its member states. COMSATS decided to carry out its functions through the establishment of a Network of Centres of Excellence (14 at present) in Science and Technology and through focal points (21 at present) belonging to various Ministries of their respective countries. The financial, administrative and policy decisions were the responsibility of the focal points, whereas scientific work and day-to-day technical activities were to be performed by the Centres of Excellence. The COMSATS Secretariat, the main coordinating body, is located in Islamabad, Pakistan, and is funded by Government of Pakistan. The Secretariat has to take into account the often diverse views of the focal points and the Centres of Excellence for policy-

decisions. It is clear that this three-pronged mechanism to implement international collaborative work in the developing countries cannot ensure smooth and efficient functioning of the system.

Another important aspect that has significantly and prominently effected the nature of the past activities of COMSATS, has been the absence of an assured and predictable source of funding. No organization can plan a meaningful and long-term technical programme unless assured funding for the programme is available. The concept of a solid centralized technical programme, formulated with the consensus of the member-states, based on their socio-economic needs and supported by a regular mandatory fund, could not take its roots in the existing system of the organization.

COMSATS has undertaken several activities during the past thirteen years in order to fulfill its objectives. It has made significant thrust in the areas of information technology (services and education), renewable energies and capacity building through seminars, symposia, workshops, and training courses. For international collaboration, it has signed many bilateral and multilateral memoranda of understanding with various scientific and technical organizations of the world and that also in diverse areas of scientific activities.

A detailed description of the activities of the period 1994 - 2003 has been given in COMSATS publications entitled "Activities of COMSATS, 1994 - 2003" (**Annex-I**) and in an further updated version covering a period upto 2007 (COMSATS: Activities and Achievements (1995-2007)). These activities represent commendable work in different countries responding to their specific needs and sometimes transcending into one or two other member-states. However, they do not form the part of an overall programme formulated with systematic planning in collaboration with all member-states. Comparing the nature and outcome of these activities with the five objectives given earlier and set out at the time of COMSATS inception in 1994, would clearly indicate the need of new operational strategies so that the results should have a closer orientation to the objectives of COMSATS. The new scientific thrust areas set by COMSATS comprise Information Technology, Biotechnology, Water Resources and Renewable Energy and the across the board themes are: under the priority areas of Policy Advocacy, Capacity Building and Networking of Institutions (**Annex I**).

It is clear that the priorities mentioned above cannot, per se, meet the objectives of sustainable development with the scope and diversity reflected in the objectives agreed in 1994. It must therefore be realized that there is no doubt about the validity of the objectives mentioned earlier for achieving the results meant for the sustainable development of COMSATS' member-states. However, it is evident that the current modus operandi could only be effective for the attainment of limited results having limited impact on the developing member-state.

3. TRANSITIONAL PHASE

As the ongoing activities are at various stages of implementation and sufficient resources have been expended on them, it may not be appropriate that any new strategic concept is abruptly applied on them for a change. However, it may be necessary that a well defined and well thought out strategy is tried to bring functionality COMSATS closer to result-oriented programme in the near future. The basic philosophy behind the strategy would be that the developing countries, with extremely limited human and financial resources and not having well defined developmental objectives linked to science and technology, should not embark upon a large number of very ambitious technical projects. Capacities and competencies are two major components that play a decisive role in meeting the success of any technical programme. A small number of projects based upon well defined needs of a developing country should be considered to start with and their compatibility with the overall economic plan of the country must be ensured right at the beginning of the programme. The projects must be thoroughly assessed for their design, implementation and evaluation-features so that their efficacy should be compatible with the exact requirements of the projects. The ongoing programme in COMATS should be assessed for its flexibility for appropriate adjustments so that any portion of the projects that can become available for reorientation towards the need-based or result-based approach should be gradually subjected to necessary changes and then brought into the main stream of the new strategy agreed by the member-states. For example, the main areas that could be included in the above stated category and are being undertaken by COMSATS for the past several years are capacity building and human resource development.

4. FUTURE STRATEGY

The future strategy of COMSATS is proposed on the following considerations:

- a. COMSATS is an international and inter-governmental organization with its Secretariat located in Islamabad and established under the Government of Pakistan's gazetted notification of Dec. 1995. Its purposes, functions and obligations have been formally laid down in the appropriate sections of the "Foundation Documents" released in Dec. 2004 (Annex-II). These document were prepared about thirteen years ago, in order to meet the working requirements of that time. In order to perform the functions of COMSATS in a regular manner, the provision of an "Operational Statute" was envisaged in Article V of the Joint Statement by the participants of the First Meeting of COMSATS held on 4-5 Oct. 1994, in Islamabad. This Statute has not been formulated so far. Creation of the COMSATS' Statute will be a major part of the future strategy.
- b. The member-states should have effective role in the affairs of COMSATS. They should share collective responsibility of the formulation of the programme, its implementation and also in its evaluation. Member-states should have proper

representation in the policy-decisions through statutory channels so that the ownership of the functions of COMSATS should also be shared by the member states.

- c. Centres of Excellence should exercise more autonomy to carry out the functions and responsibilities of the COMSATS programmes. The role of Focal Points should strictly be those of facilitators and their inputs to COMSATS Secretariat should be recommendatory only. Working relationships between Centres of Excellence and Focal Points should be complementary rather than conflictory. Therefore, the COMSATS' future strategy would need to take into account this important fact. Centrality of science and technology should take precedence over centrality of bureaucracy.
- d. A well structured management of national and regional programme-cycles should be introduced for technical, social and economic benefits to the member-states in a cost effective manner. Relevant features of programme-management from other international technical cooperative organizations like IAEA, UNDP, WHO, FAO and UNIDO, could be incorporated into COMSATS' strategy.
- e. Strong emphasis is needed to establish close collaborative ties with advanced countries for the purpose of building capacity, transfer of technology and financial support for projects related to poverty alleviation, disease control, water resource management, information networking and environmental preservation.
- f. Adequate chance should be given to the promotional efforts based on the concept of Technical Cooperation among Developing Countries (TCDC). Emphasis should be made to maximize synergies among the Centres of Excellence for optimum utilization of resources, maintenance of economy and avoidance of duplication of efforts towards the same or identical goals.
- g. The current financial arrangements available for COMSATS are neither adequate nor assured. Strong and systematic programme planning and its execution for the wider and meaningful benefits of the member-states cannot be guaranteed under the existing uncertain financial arrangements. The financial management of COMSATS' programmes and the Secretariat-related expenses require appropriate readjustments in line with the functional arrangements of other operative international organizations.
- h. The implementation features of the future strategy should consist of short-term plan (1-2 years) as well as long-term plan of five-years' duration. In certain ways, short-term activities will run parallel to long-term plans like expansion of membership of COMSATS, strengthening of financial status and capacity enhancement activities. A brief description of short-term and long-term plan for the strategy formulation and implementation is given below:

5. SHORT-TERM PLAN

a. COMSATS Collective Programmes and Priorities

The first important step is to identify the need-based and result-oriented

programme of all the member-states of COMSATS. This programme should be structured as major programmes, subprogrammes and the individual projects. The design of the projects should include the elements of the centrality of science and technology for sustainable development, commitment of the governments and assurance of ownership by the executing agencies. Along with the programme, its priorities must be established at the beginning of the programme-execution with the consultation and agreement of the member-states. During the process of programme formulation, segregation in national and regional projects should also be ascertained. In this exercise a well thought out balance must be agreed between the national and regional projects. The decision on the nature and volume of the programme will enable the process of resource-allocation more practical by the member-states.

The currently agreed future programme of COMSATS, the programme-document indicates flexibility in it, comprises areas such as IT, biotechnology, water resources and renewable energy with priority objectives of human resource development, capacity building and ICT's for development. Considering the economic profiles of COMSATS' developing member-states, their technical competencies and management assets, it would be necessary to re-examine the thrust areas keeping in mind the importance of quick benefits from the collective efforts and the sustainability element of the projects. In this regard IT and water-resource development have considerable promise in the development strategies of several member countries but it is important that other developmental areas, such as health, agriculture, small businesses and industries, environmental preservation, primary education and control on population-growth should also be incorporated in the overall programme of the Commission. Although individual member states do address these aspects in their national economic programmes yet they cannot achieve expected results due to isolated efforts, management-deficiencies and high costs of programme-implementation. Such set-backs can be effectively addressed by collaborative regional and inter-regional projects through TCDC and utilization of economy of scales through comprehensively planned synergies. Short-term planning for the COMSATS' strategy could incorporate the aforesaid elements in the proposed programmes, already agreed by COMSATS. **Annex-III** gives a summary of the priority-areas, priority objectives, list of relevant Centres of Excellence that can provide technical support for these priority-areas and the action-plans for the future activities with international organizations, in relation to their respective Memoranda of Understanding. These activities may be aligned with the short-term strategy planning in order to achieve optimal results.

b. Closing the Competency-Gaps

Once the programme of COMSATS has been defined after the agreement of the member-states and based on their clearly defined national needs, the next strategic consideration will be to identify the exact technical profile of each

Centre of Excellence and their overall competencies, to deliver the results of programme. A cursory look at the published technical competencies, areas of interests and previous experience of the Network, clearly indicates that there is still a need to: (i) improve their technical capacities; (ii) to improve technical backstopping arrangements; (iii) enhance their experience oriented to programmes of sustainable development, and (iv) strengthen their organizational ties with the industry. In view of the aforesaid scenario, it is evident that the gaps in the need technical capacity to be bridged by the Centres of Excellence, based on the requirements of COMSATS' agreed overall programme. The technical capacity can also be enhanced by inter-linking the Centres of Excellence with other national S&T organizations of the country through collaborative projects, benefiting all the participating parties, especially where interdependency among these entities cannot be avoided. It is not possible nor desirable that each and every Centre of Excellence should be totally self-sufficient in every respect for undertaking any national or international programme. However, it is necessary that a minimum level of capacity must exist relative to other sister-organizations in the member states, in order for the international organizations like COMSATS to carry out its routine programmes without unnecessary hurdles.

In addition to the availability of optimal type of equipment, the other most important strategic step is the creation of a critical mass of adequately qualified and experienced manpower. For projects associated with socio-economic development, such manpower should belong to specialized categories. If the objectivity oriented results are to be achieved, a good proportion of scientists in applied disciplines supported by engineers, planners, strategists, sociologists, economists and media campaigners, should be available in the network. Well planned and research-based decisions are needed for COMSATS' member-states in order to produce the teams mentioned above and it should take place within specifically defined time-frames. At this stage, each member-state should earmark the number and categories of the project teams and, if required, training and education-processes must be initiated immediately so that the highly specialized work, to be accomplished by COMSATS, in the next coming years, is undertaken with adequate confidence.

c) Regional Programmes and Clustering of Centres

After national programmes, the member-states would be interested in pooling resources to undertake regional programmes. Such programmes provide better economy and higher technical outputs. Additionally, regional programmes create better awareness of scientific potential of other countries, which in turn, results into bilateral or multilateral arrangements for the common-interests of the contracting parties. The well tried mechanism of Technical Cooperation among Developing Countries (TCDC) can best be tried through regional programmes.

Many member-states of COMSATS have common problems of economic development. In this way, the scope of TCDC is substantially enhanced in COMSATS' member countries. Health, agriculture and environment are the well known areas where TCDC can be effective. Joint programmes built upon thematic projects can provide good results. Coordinated Research Programmes (CRPs), which present ample opportunities for scientific interaction among the developing countries, can also act as reliable channels for the technical interaction between the developed and the developing countries.

Clustering the Centres of Excellence of COMSATS' member-countries into various groups, having common interest in certain areas of programme, is the normal way to approach this strategic objective. Clusters in Latin America, Africa and Asia, comprising three or four countries can operate on intra-centre or TCDC basis. In case, an interaction with the advanced country is needed, the procedure of CRP may be adopted, but here the CRP will have to be developed in consultation with the advanced country. CRPs provide the foundation for joint collaborative work in a more concentrated and focused manner with the better expectations of practicable solutions of the common problems. There is also a better possibility of wider dissemination of the published work, coming out of CRPs.

d. Memoranda of Understanding

Memoranda of Understanding (MOUs) constitute an effective means to enter into international cooperation on a sound footing. COMSATS, being an international organization, has to highlight its all out international character in the world's scientific community. In addition to COMSATS' membership, the direct MOUs between Secretariat and the various scientific and technical organizations in the member states, further enhance the scope of effective cooperation.

Presently there is a network of around 38 MOUs and Action Plans existing between COMSATS Secretariat and many other scientific entities in the member-states and international organizations both inside and outside the UN system. The MOUs are either bilateral or trilateral in nature, and in those cases where international organizations are concerned, they automatically assume the multilateral character. A large number of scientific and technological areas related to socio-economic development are covered in the existing MOUs of COMSATS. A short-term strategy is to be evolved, which will invigorate such MOUs. An assessment meeting or a workshop, specifically meant to address the problems of ongoing MOUs and recommendations to improve them would be the first step. As success of MOU's is in the interest of all the member-states, any measures taken to achieve the success will be received by the member-states in a positive and constructive manner.

In addition to strengthening the existing MOUs, it will be necessary to create new MOUs covering new areas of collaboration, which have direct bearing on the identified socio-economic problems of the member-states. In this regard, it will be useful to enter into MOUs with the advanced countries through the platform of CRPs. Considering the present constraints at COMSATS Secretariat and in the member-states, it might be appropriate to initiate one project only at this stage linked to each MOU. This will be far less burdensome for the member-states than having many projects that become unmanageable due to shortage of resources. As it is the responsibility of every member state to make its MOUs successful, it will be easier for them to undertake one project at a time and work seriously on it to demonstrate their commitment.

The new short-term strategies for the MOUs need to put more emphasis on agreements on specific projects involving only the project-related components such as equipment, training and publications. Other items like seminars, symposia, workshops should be given lower priorities so that main efforts are spent on the technical work and the resultant-outcomes. This mode of operation will ensure more focus on impact of the project on the end-users. For this approach, MOUs with both developed and developing countries should be included in the planning of programmes.

e. Amendments to the Charter

The current Charter of COMSATS was formulated more than twelve years ago. The entire philosophy of the structure and operation was linked with the requirements prevailing at that point of time. Now, after a decade of experience of applying this Charter, it has become evident that there are distinct strengths and weaknesses in it. Whereas the strengths have paid dividends, the weaknesses have prevented the full utilization of the potential that exist in COMSATS' member-countries. Appropriate amendments will remove the setbacks, rendering COMSATS' working approach more coherent, systematic and interactive.

The amendments to the Charter should involve a strategy of engagement, i.e., COMSATS Secretariat should be able to engage the Centres of Excellence and the Focal Points more effectively and be able to draw all the stakeholders into the programme activities for better achievement of the objectives. Organizational structure at the Secretariat and in the Centres of Excellence are to be reviewed to accommodate the strategy of engagement. Appointment of liaison officers and project counterparts in the member-states and increasing the role of the Executive Director at the Secretariat will be required for the above-mentioned purpose. **Annex-IV** gives an analytical review of the Charter of COMSATS' Network. A working committee may be constituted to review the Charter and prepare its recommendations for further necessary actions.

f) Expansion of the Member of COMSATS

Presently the COMSATS' membership consists of twenty-one developing countries from Latin America, Asia and Africa. The technical and managerial strengths of these countries alone are not enough to provide the requisite "critical mass" to achieve the objectives of socio-economic development as envisaged in the Charter of COMSATS. There is a strong need to include more developing and developed countries in the membership so that a wider technical, management and financial resource-base is available to cover more scientific areas necessary to be utilized for meaningful developmental purposes. A wider and diverse membership base is also necessary for sustainability of the programmes. Therefore, on short-term basis, it would be strategically important to campaign for more membership. Appropriate and effective strategy needs to be chalked out for the campaign.

Reference to the short-term future programmes, achievements of the past ten years and the new areas of activities will constitute some of the components of efforts aimed at increasing the membership. Categories of members and their requirements will be carefully thought out. As it will be a short-term activity to start with, spanning over 1-2 years, it should be given priority in the overall strategic planning. The campaign may continue well beyond 2 years if initial results are seen to be encouraging. A membership-expansion committee at the Secretariat level should be formed to give its recommendations as early as possible, preferably within one month's time period.

g) Funding of COMSATS' Activities

Financial constraints have been a persistent problem for COMSATS for the past many years. The existing funding mechanisms are inadequate to meet the requirements of the organization. Basically the requirement is that funds should be adequate, assured and predictable. Regular budget with contributions from the member-countries commensurate with the programme-activities is essential to overcome the present difficulties. Member-countries must be sensitized to this basic issue and their consent obtained for rational changes in the financial arrangements. A proposal at the Secretariat is to be prepared, keeping the past experiences in view, in order to convince the member-countries for their support. This matter needs urgency as the financial difficulties may become acute during the next 1-2 years and may have adverse effects on the functioning of the organization. Time can be saved by examining the financial arrangements of other international organizations, working on collaborative basis, and by preparing the proposal on the basis of such analysis.

6. LONG-TERM PLAN (2008-2012)

a. Introduction

Strategies based on a combination of short-term and long-term plans have higher chance of success. This is primarily due to the fact that implementation of short-term strategies start showing results in a few years' time, which present good inputs for improvements of the components of long-term strategy. Further, by commencing long-term strategies alongside short-terms ones offer more chances of synergetic analysis that is very valuable for improvements of quality and cost effectiveness.

In the case of COMSATS, both short-term and long-term strategic planning and implementation, in tandem, will be more economical and resources effective. However, it is necessary that both kinds of planning should be based upon clear and unambiguous data and targets. Several international organizations that practice the use of science and technology for technical cooperation meant for socio-economic uplift of the member-states have developed reliable strategic planning tools. A study of these instruments may provide useful inputs for undertaking planning work at COMSATS.

b. Organizational Structure

A well defined organizational structure with specified responsibilities and detailed rules of procedures is the first step towards good organizational efficiency. However, the development of such structures require long-term planning. Several years are required the analytical work, clearances from the authorities and procurement of funds. For COMSATS' function and programmes, the efficient structure will consist of separate departments dealing with technology selection, technical cooperation through national and regional projects, administration oriented to technical requirements, finances, and accounts based on modalities of international relationships and finally networking through IT facilities available to COMSATS. A separate policy-making organ, answerable directly to the Executive Director, and another dealing with international affairs comprising socio-political and socio-economic matters and training arrangements will be required to meet the needs of the organization.

c. Formulation of Rules of Procedures

The main function of policy-making organ will be to formulate detailed rules of procedures for the governing set-up of COMSATS and keeping these rules of procedures up-to-date. The interpretation of the rules of procedures and any legal explanation arising out of doubts or disputes, will also rest with the policy-making organ. Legal opinion of the Ministry of Foreign Affairs while

formulating the rules of procedures, will be helpful. Similarly consultations with the Ministry of Science and Technology will be needed for operational ease. Other rules of business within COMSATS, like administrative rules and financial rules will be formulated by the relevant departments of Secretariat.

d) Long-Term Technical Programmes

The central activity of COMSATS has to be the formulation of long-term technical programme for the entire membership of the organization. The programme will have the following characteristics,

1. It should be a results-based programme.
2. It should include the core overall objectivity of the very creation of COMSATS.
3. Its design should include monitoring and evaluation parameters.
4. It should be based on an appropriate balance between the national and regional projects.
5. The needs and priorities of the individual member-states should be the guiding principles.
6. It should be based upon well defined and quantifiable programme indicators.
7. The impact expected from the results should be clearly and unambiguously defined at the start of the programme.
8. Transparency of implementation should be set in the various steps and stages of the programme right at the design-stages.
9. Financial allocations from budgetary and extra-budgetary resources should be decided in parallel with programme formulation.

The above features and practical considerations to achieve the targets would include the following,

1. Prior detailed consultations with the member-states.
2. Formulation of Country Programme Frameworks (CPFs) as early as possible.
3. Designation of thematic project leaders in the member-states.
4. Creation of well structured programme-implementation teams in the member-states.
5. Creation of project leaders and their networking with each other for project-implementation.
6. Allocation of duties, responsibilities and constituting the accountability mechanism.
7. Adjustments of infrastructure in the member-states to maximize efficiency of programme execution.
8. Internal planning of the member-states for procurement of equipment, chemicals, back up material and designation of technical personnel for

- fellowships, trainings or visits in relation to the projects.
9. Formulation of a synchronized time-frame integrating programme-cycles, budgetary allocations, logistical parameters and recycling of the evaluation outputs.
 10. Designation of project officers at COMSATS Secretariat and the corresponding project leaders (counterparts arrangement) in the member-states for both the national and regional programmes.

In order to proceed with the above stated requirements, it would be necessary to formulate an international technical-cooperation division at COMSATS Secretariat with properly qualified and experienced manpower. The above-mentioned strategy will help consolidating the programme-approach in a coherent and focused manner. It will significantly improve the efficiency of COMSATS' international technical programme and will address the needs and requirements of the member-states in more cost effective manner. The above strategic approach involves such parameters that lead to sustainability of programme benefits.

e. Evaluation and Impact

The most crucial aspect of any international technical programme based on sustainability is the existence of appropriate evaluation and impact-determination mechanisms. Parallel to the importance of such studies, the difficulties in their realization are not to be under-estimated. Both the issues of impact and evaluation are highly sensitive to all the cooperating parties involved. But at the same time the need of such studies to improve the efficiency of the subsequent programme cycles cannot be ignored. Generally speaking the evaluation and impact studies should commence as soon as possible after the project is concluded. However, in many cases the impact does not become visible well after 2 to 3 years of the project termination (long term impact). For many projects the impact start appearing soon after the project ends. This is usually possible, and should be a desirable objective, if appropriate indicators are included in the project-design.

Evaluation should be the regular feature of the technical programme. Self evaluation by the project leader and external evaluation are two major means that provide necessary information about the projects success. Appropriate evaluation techniques are available, which provide substantial help to the evaluators in their assessment procedures. Evaluation components and parameters are decided in consultation with all the concerned parties at the start of the programme. In many cases it is possible to undertake evaluations and impact studies at the same time. However, both impact studies and evaluations should not be delayed for more than 5 years. Special meetings of programme officers at the Secretariat level and the project counterparts are to be arranged on regular basis to examine the evaluation and impact reports and

discuss the future improvements to enhance the efficiency of the technical programmes. A long-term strategy specifically for evaluation and impact is to be formulated for a period of 15 years involving the planned number of programme-cycles, which can appropriately fit into the strategy-period.

f) North-South Collaboration

North-South collaboration is one of the most important aspect of COMSATS' future success. Both technology and other resources from North have to contribute in a major way to achieve the socio-economic objectives of COMSATS in a sustainable manner. Long-term strategy for collaboration with the countries of the North should be formulated with the following main considerations:

1. Canada, USA, UK, France, Germany, Italy, Australia, New Zealand, Netherlands, EU, Japan and Republic of Korea should be associated with COMSATS' programme in a formal manner. Foreign Office and diplomatic missions in Islamabad can help in this regard.
2. Coordinated Research Programme (CRP) should be formulated with relevant Centres of Excellence and the technical organizations of the North and then implemented jointly under a well defined programme-framework.
3. Project related trainings and scientific visits should be agreed with the CRP parties. Small equipment needed for CRPs should also be discussed with donors for procurement assistance.
4. Assistance of the countries of the North for capacity building in COMSATS' member states should be included in the strategy. Capacity building should be on partnership basis and not donation basis.
5. Collaboration with North should be based on the consideration that as a result of collaboration there will be some gains to the North also. This can best be achieved through the mechanism of CRPs.

In order to formulate ideas regarding North-South collaboration, a small strategy group at Secretariat will be needed. This group will establish liaison with appropriate Centres of Excellence in COMSATS' member-states, as well as the countries of the North.

g. Funding Arrangements

Long-term strategy for predictable and assured funding for COMSATS' functioning is crucial for its existence. Present funding mechanisms are not compatible with the objectives, needs and effective programme executions by COMSATS. Weak financial ties between the Secretariat and the member states prevent active participation of member-states in the programmes. Long-term financial commitments of the member-states, which is an indicator of the seriousness of ownership of the programmes and activities must be secured

through consultations with high level authorities in the member-states. The strategy should entail conceptual parameters and also the financial rules and regulations, keeping in view the difficulties prevailing in the member states. COMSATS' financial wing will be the most appropriate body to advise on this matter and prepare a long term strategy.

7. CONCLUSIONS

With the passage of about thirteen years of time after the commencement of COMSATS activities at its Secretariat and in the member-states, it has become necessary that fresh strategies be adopted to strengthen the effectiveness of the endeavours and pursuits of this international organizations. More than a decade of practical experience has provided enough information on areas of strengths and weaknesses in conceptual approach, methodologies applied and results obtained. An analytical review of these results presents the desirability of new strategy for COMSATS' future work.

The basic elements of the new strategy should be linked to the strengthening of technical work through collective approach, thematic programmes in accordance with the needs of the member-states and their priorities, regional approach for synergies, concrete projects and their systematic management, strengthening technical and funding-ties with advanced countries, promotion of TCDC concept and revamping of financial mechanisms to effectively implement the work of COMSATS.

The aims and objectives of COMSATS are clear and well defined in its Charter. However, the results of previous experience indicate that certain changes or amendments in the Charter will benefit the overall performance of COMSATS in the coming years. Of course these changes or amendments will be based upon the lessons learnt in the past and a clear understanding of the new challenges that COMSATS is facing in the present century.

In view of the considerations mentioned above, it seems pertinent to give a fresh look on the future strategy to be considered by COMSATS' members. Owing to the ongoing work-pattern of COMSATS, it would be appropriate to split the strategic approach into two phases, i.e., the Short-Term Strategy and the Long-Term Strategy. Some of the components of Long-Term Strategy can be implemented alongwith the initial phases of Short-Term Strategy due to the nature of their objectives and existence of linkages between the two.

The details of both types of strategic phases will need further work by involving all the stakeholders. The implementation of this proposal necessitates the formulation of specific expert-committees at Secretariat and at the member-states' level. Each committee may finalize its deliberations and recommendations in a specified time frame and present the report to COMSATS Secretariat for further necessary action. The deliberations on the strategies will take into account the technical, administrative,

legal, logistical and financial considerations. It is anticipated that the process can commence, if agreed in principle, by the end of 2007. COMSATS' Secretariat would seek to benefit from the valuable comments and inputs of the member-states in order to achieve success on this important matter.

Annexure - I

BRIEF SUMMARY OF COMSATS' ACTIVITIES & ACHIEVEMENTS 1994 to 2003

BRIEF SUMMARY OF COMSATS' ACTIVITIES & ACHIEVEMENTS – 1994 to 2003

	1994-1999	2000
PROGRAMMES AND PROJECTS	<ul style="list-style-type: none"> ▪ At the time of inception, 17 countries signed the International Agreement to become members of the Commission, whereas 4 more members joined COMSATS in later years, bringing the total membership to 21 ▪ With project support from UNESCO and technical input from PCRET, 10 biogas plants were installed in the rural areas surrounding Islamabad ▪ COMSATS in collaboration with National Agricultural Research Centre, Pakistan (NARC) successfully completed a project to test tissue culture technology for producing disease-resistant and high-yielding potato seeds ▪ COMSATS Investment and Technology Transfer Programme: Chinese Technology Exhibition was held in October 1999. The event acted as a platform for Pakistani and Chinese entrepreneurs, facilitating 	<ul style="list-style-type: none"> <li style="text-align: center;">----- <li style="text-align: center;">----- ▪ Continuous efforts to have more participation of institutions and member countries in the programmes to allow for maximum benefit and sharing of experience and expertise

	<p>their direct contact and providing them an opportunity to explore potential areas for joint business ventures</p> <ul style="list-style-type: none"> ▪ Through the COMSATS Postgraduate Scholarship Programme scholarships are being provided and will continue to be extended to students of member countries for postgraduate study in different training disciplines at COMSATS Centres of Excellence and other institutions linked with COMSATS. Scholarships have been offered in the fields of chemistry, meteorology sciences and information technology amongst others <p>Participation and Organization of Workshops and Conferences for this time period</p> <ul style="list-style-type: none"> ▪ Workshop on Laser Technology – Islamabad, 1997 	<ul style="list-style-type: none"> ▪ Foundation Stone laid for COMSATS Headquarters Building, April 2000 ▪ Establishment of the Regional Office of TWAS & TWNSO at COMSATS Headquarters (July 2000) <p>Participation and Organization of Workshops and Conferences for this time period</p> <ul style="list-style-type: none"> ▪ COMSATS Representation at the Forum on South-South Cooperation
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	<ul style="list-style-type: none"> ▪ Pre-Donor Conference – Islamabad, July 1997 ▪ Workshop on Mathematical Modelling: Application and Uses - Islamabad, 1998 ▪ Numerical Weather Prediction Model Workshop – Islamabad, 1997 ▪ Numerical Weather Prediction Model Workshop – Islamabad, 1998 	<ul style="list-style-type: none"> in Science and Technology, Seoul – Korea, February 2000 ▪ Round-table Meeting on South-South Cooperation on Convergence - Information Technology, Telecommunication and Media, Islamabad, Pakistan, February 2000 ▪ COMSATS Workshop On Implementation of ISO 14000 In Industry, Islamabad, Pakistan, March 2000 ▪ COMSATS-HEJ Workshop on Sustainable Use of Medicinal and Food Plants, Karachi, Pakistan, September, 2000 ▪ The 5th Meeting of the Coordinating Council Of COMSATS, September 2000 ▪ NUST Workshop on “Fuel Cell and Hydrogen Fuel Technologies” Islamabad, May 2000 ▪ 25th International Nathiagali Summer College on Physics and Contemporary Needs – Islamabad, June 2000 ▪ International Conference on Nuclear Tracks in Solids, Portoroz Slovenia, August 2000 ▪ Third South Asia Geological Congress – Lahore September 2000 ▪ Institute of Environmental Science and Engineering (IESE) - NUST
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	<p>Memoranda of Association/ Agreements during this time period</p> <ul style="list-style-type: none"> ▪ Through discussions in 1998 with 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, one scientist each from Sri Lanka, Syria and Pakistan was nominated by the respective Governments for the training programme. COMSATS provided travel grants to the nominated scientists <p>Publications</p> <ul style="list-style-type: none"> ▪ Started in 1995, COMSATS Science Vision is being circulated to about 27 countries and has gained recognition among the eminent scientists and 	<p>Workshop on “Environment Problems of the Petroleum Industry” – Islamabad, October 2000</p> <ul style="list-style-type: none"> ▪ 8th National Symposium on Frontiers of Physics, Organized by the Pakistan Physical Society (PPS) - Lahore, November 2000 <p>Memoranda of Association/ Agreements during this time period</p> <ul style="list-style-type: none"> ▪ Agreement between Government of Syrian Arab Republic, COMSATS and COMSTECH, to Establish an Information-Technology Centre at Damascus, Syria, September 2000 <p>Publications</p> <ul style="list-style-type: none"> ▪ Radon Concentration in coal mines of Baluchistan, Pakistan, Journal of Environmental Radioactivity 48, (2000) 203 – 209.
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	scientific and technological institutions of international repute	<ul style="list-style-type: none">▪ Thermal Annealing of Fission Fragment Radiation Damage in CR-39, Nuclear Instruments and Methods B170 (2000) 149 – 155.▪ Charge Identification in CR-39 Nuclear Track Detector using Relativistic Lead Ion Fragmentation, Nuclear Instruments and Methods A 453 (2000) 517 – 521.▪ Application of a ‘Closed Can’ Technique for Measuring Radon Exhalation from Mine samples of Punjab, Pakistan, Journal of Environmental Radioactivity 50 (2000) 267-275.▪ Determination of Boron in Metal with Solid- State Nuclear Track Detection Technique, Proc. 6th International Symposium on Advanced Materials (2000), 567-569.
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	2001	2002	2003
PROGRAMMES AND PROJECTS	<ul style="list-style-type: none"> ▪ Inauguration of the Information Technology Centre at Damascus, Syria (January 2001) ▪ Establishment of COMSATS Biotechnology Cell at Headquarters, October 2001 ▪ The Industrial Information Network (IIN), which took as partner, the United Nations Industrial Development Organization (UNIDO) was initiated in 2001 and aimed at the development of the Small and Medium Enterprise Sector in Pakistan. IIN was a web-based portal that allowed SMEs to access international markets for their products, obtain relevant information and carry out online trade and commerce activities ▪ Donations were made to the needy, non-profit educational institutions of Pakistan, under the Information Technology 	<p style="text-align: center;">-----</p> <ul style="list-style-type: none"> ▪ Collection of information for the Biotechnology Database reaches mature stage ▪ Technical support is continued to be provided, design for the portal is formulated and implemented <p style="text-align: center;">-----</p>	<ul style="list-style-type: none"> ▪ Preliminary interest shown by Government of Sudan for setting up of IT Center at Khartoum ▪ Biotechnology Web portal is approved in principle ▪ Project is handed over for full scale implementation reaching maximum number of SMEs

	<p>literacy and capacity- building drive of COMSATS. COMSATS provided Local Area Networking to the receiving public schools, equipping them with server machines and networking accessories</p> <ul style="list-style-type: none"> ▪ COMSATS-CERN-NCP Project for Data-Grid Applications and Physics Data- Analysis, was initiated in November 2001. 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 ▪ COMSATS was entrusted with several projects under the IT development & promotion programme of Ministry of Science and Technology, Government of Pakistan. These included: <ul style="list-style-type: none"> ○ Government Online ○ General computer-skill training to government employees ○ Nation-wide Training for 10,000 data-entry operators ○ Medical transcription training programme for 	<ul style="list-style-type: none"> ▪ First video conference meeting was held on 4th November 2002, with the DG-CERN joining the meeting from Geneva. Other senior CERN officials traveled to COMSATS Headquarters to mark the occasion <p style="text-align: center;">-----</p>	<ul style="list-style-type: none"> ▪ Two Egyptian scientists trained in data-grid applications and Physics data analysis through the project
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	<p>2,500 individuals</p> <ul style="list-style-type: none"> o JAVA training programme for 1000 individuals o Nation-wide Cisco Network Training at subsidized rates 	<ul style="list-style-type: none"> ▪ COMSATS Accredited with the United Nations Protocol and Liaison Service, September, 2002 ▪ The COMSATS Telehealth Pilot Project was launched in January 2002 and introduced telehealth services in Pakistan for the first time. The project that was successfully completed its one year life aimed at demonstrating that it was possible to connect remote clinics in rural areas of Pakistan with urban hospitals and advanced medical units in big cities, using the most modern tools of information technology, to provide high quality and high value health care. ▪ The AS ICTP-Pak Chapter was established at COMSATS Headquarters, Islamabad in May 2002 Inaugurated by Prof. Dr. Atta-ur-Rahman, N.I.,H.I.,S.I.,T.I. (the then 	<ul style="list-style-type: none"> ▪ Project successfully completed. Proposal drafted and submitted for an action research project in collaboration with IDRC-Canada entitled “ICTs for Rural Development in the Mountainous and Remote Areas of Northern Pakistan”. Learning from the Telehealth Pilot Project, this proposal was a larger scale application of telehealth and distance learning services.
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	<p>Participation and Organization of Workshops and Conferences for this time period</p> <ul style="list-style-type: none"> ▪ International Workshop & Round-Table Discussions on “Promoting Science and Technology Capacity for 	<p>Minister for Science and Technology), the objective of having a resource centre at COMSATS was to extend access to latest knowledge on theoretical physics to the scholastic circles in Pakistan</p> <p>Participation and Organization of Workshops and Conferences in this time period</p> <ul style="list-style-type: none"> ▪ 3rd Alexander von Humboldt Seminar of German Alumni Forum, Pakistan, February, 2002 	<ul style="list-style-type: none"> ▪ The French Online Distance Learning Programme was launched for students through the Allama Iqbal Open University. The project has been successful in its aim of highlighting the innovative solutions that science and technology can provide to boost education. Due to this, COMSATS has received expressed interest from the French Government to replicate this programme in French speaking member-countries of COMSATS. While these discussions are in process, proposals are in preparation for several member-states. ▪ Meeting on Science and Technology Capacity Building for Sustainable Development, Islamabad, Feb 2003 ▪ 2nd Meeting on non-Destructive <p>Participation and Organization of Workshops and Conferences in this time period</p>
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	<p>Development: Assessing the Past, Preparing for the Future” in Paris, France, June 2001</p> <ul style="list-style-type: none"> ▪ Frontiers of Urban Water-Management: Deadlock or Hope? in Marseille, France, June 2001 ▪ COMSATS 1st Meeting On Science & Technology for Sustainable Development-October 8-9, 2001, Islamabad, Pakistan ▪ First National Conference on Non-Destructive Testing (NDT) - October 2001, Islamabad – Pakistan ▪ COMSATS 1st Meeting On Water- Resources in the South: Present Scenario and Future Prospects - November 2001, Islamabad - Pakistan ▪ Workshop on Economic Growth: the Involvement of Biotechnology and the Modern Bio industries - November 2001, Beirut - Lebanon 	<ul style="list-style-type: none"> ▪ 6th Coordinating Council Meeting of COMSATS May 2002 ▪ 27th International Nathiagali Summer College on Physics and Contemporary Needs, June-July 2002 ▪ First Workshop on Plasma Physics & Laser-Induced Plasma-Spectroscopy, January 2002, Tunis – Tunisia ▪ COMSATS Participation in the IAEA General Conference, September, 2002 ▪ Workshop on Mathematical Modelling and its Application to Development Issues, Islamabad, Oct - Nov 2002 ▪ Meeting on CERN Data-GRID and Its Application, Islamabad, Nov 2002 ▪ Symposium on Mountains of Pakistan – Protection, Potential and Prospects, Islamabad, Dec 2002 ▪ International Workshop on Networking Essentials and Interconnecting Cisco Networking Devices, Islamabad-Pakistan, 2002 ▪ 3rd Executive Management Seminar on Environment and Health 	<p>Testing (NDT), October 2003</p> <ul style="list-style-type: none"> ▪ International Workshop on Climate Variability in Asian Monsoon Region, December 2003, Bangkok ▪ International Conference on Current Trends in Radiopharmaceuticals, October 21-23, 2003, Islamabad ▪ Seminar of Lectures on “Nobel Prizes in Physics”, October 2003, Islamabad ▪ International Training Courses on Climate Modelling and Prediction, October 2003, Beijing ▪ 13th Science Conference of the IAS meeting, September-October, 2003, Malaysia ▪ International Symposium & Exhibition on Renewable Energy, September 2003, Malaysia ▪ International Conference on ‘Role of Science in the Development of Information Society (RSIS), Geneva, December 2003
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Memoranda of Association/ Agreements during this time period	Memoranda of Association/ Agreements during this time period	Memoranda of Association/ Agreements during this time period	Memoranda of Association/ Agreements during this time period
<ul style="list-style-type: none"> ▪ MOU with Pakistan Institute of Engineering and Applied Sciences (PIEAS), January 2001 ▪ MOU between COMSATS and UNIDO, April 2001 ▪ MOU between COMSATS and Iranian Research Organization for Science and Technology (IROST), July 2001 <p>Publications</p> <ul style="list-style-type: none"> ▪ COMSATS initiated a newsletter named 'COMSATS News & Views' in 2001. The newsletter covers COMSATS activities, review-papers and articles related to science and technology management and policy issues. ▪ A special issue of Science Vision to cover the proceedings of the COMSATS meeting "Science & Technology for Sustainable Development" 	<ul style="list-style-type: none"> ▪ MoU between COMSATS and the Government of Sudan, February, 2002 <p>Publications</p> <ul style="list-style-type: none"> ▪ Proceedings of COMSATS First Meeting on Water Resources in the South: Present Scenario and Future Prospects ▪ Proceedings of the Introductory Workshop on Mathematical Modelling and its Application to Developmental Issues ▪ Directory of Donor and Development Agencies 	<ul style="list-style-type: none"> ▪ MOU was signed between COMSATS and Philipps University Marburg (PUM), Germany <p>Publications</p> <ul style="list-style-type: none"> ▪ Proceedings of the COMSATS Meeting on S&T Capacity Building for Sustainable Development ▪ Second of the series of Publications on Science and Technology for Sustainable Development ▪ Book entitled Water Resources in the South: Present Scenario and Future Prospects 	

	2004
PROGRAMMES AND PROJECTS	<ul style="list-style-type: none"> ▪ Opening of COMSATS Liaison Office in Sudan (January 2004) ▪ ICTs for Rural Development in Mountainous and Remote Areas of Northern Pakistan (January 2004) ▪ Strengthening of Cooperation between COMSATS and TWAS: A Visit by COMSATS Delegation [June 2004] ▪ Strengthening of Collaboration between Sudan and COMSATS: A Visit by COMSATS Delegation [October 2004]
MEETINGS/CONFERENCES/WORKSHOPS	<ul style="list-style-type: none"> ▪ Meeting on Renewable Energy Technologies and Sustainable Development (February 2004, Islamabad) ▪ Meeting on South-South and North-South Collaboration in Science and Technology: Present Scenario& Future Prospects (March 2004, Islamabad) ▪ Meeting of the Coordinating Council (March 2004, Islamabad) ▪ Training Workshop on Providing Theoretical and Practical Training for Instrument Repair [November-December 2004, Sudan]
PUBLICATIONS	<ul style="list-style-type: none"> ▪ Scientific and Technological Research for Development [By Dr. Hameed Ahmed khan, Executive Director, COMSATS] ▪ 10 Years of COMSATS [1994-2004]: A Decade of Contributions to Sustainable Development through Science and Technology

FUTURE PROGRAMMES/PLAN OF ACTIVITIES

Given the 10 year performance of the Commission on Science and Technology for Sustainable Development in the South, COMSATS finds itself at a juncture where it has both, the capacity and the opportunity to contribute in the field of sustainable development and work steadily towards its objectives of sensitizing nations of the South about the centrality of science and technology in development and the possible applications of science and technology to devise solutions to the challenges they are facing. In order to better focus its resources, technical expertise and capabilities and utilize them in the most optimal manner, COMSATS periodically reviews its performance, in terms of what has been done and formulates an action plan and strategy for the future in terms of what can be most effectively achieved ahead.

For this purpose, the Secretariat

- revisits the objectives of the Commission and the Network (Foundation Documents)
- takes stock of what has been achieved so far, and (10 year Programmes and Activities)
- in view the global development scenario, assesses how can COMSATS make a difference in the future.

Given the mandate of the Commission and the Network, COMSATS' strategies for the optimal utilization of science and technology are defined for both economic and environmental aspects of sustainable development. The Commission has made it its responsibility to work with policy makers, government institutions, scientific community, other impact players as well as the end beneficiaries. Therefore, special attention has been paid to build local capacity and competency in the emerging sciences and technologies and efforts have been made to bring the benefits of technological revolutions in areas that directly affect all such sectors that lead to socio-economic development at the grassroots level.

The following are the areas of priority:

- Policy Advocacy
- Capacity Building
- Networking of Institutions

In each of the afore-mentioned highlighted priorities, the following thrust areas have been defined, that COMSATS primarily focus on. These Thrust Areas have been defined in close consultation with the member countries and Centers of

Excellence. There is flexibility to revise them in line with the changing national and regional priorities and the need of each member country:

- Information Technology
- Biotechnology
- Water Resources
- Renewable Energy Technologies

The present world scenario is marred by increasingly challenging geographical, political, economic, social and environmental problems. Today, developing and under-developed countries are faced with multifaceted perilous and recurrent challenges, which range from poverty, unemployment and disease to population growth, digital-divide and globalization. Realizing the challenges and trends faced by the world in general and the Third World in particular, COMSATS has taken many steps to play its role effectively in its member countries. COMSATS has successfully helped the host country Pakistan, as well as its other member states, to build awareness about the centrality of science and technology in the development process. As a direct result, many of the member states have built indigenous capacities in human resource training and development, research and networking, expertise sharing and information technology.

Future Plan of Action

COMSATS was founded on the principles of finding new and innovative means to use science and technology for human welfare. Therefore, COMSATS is envisioned to help its member states primarily in the following three ways:

- Bringing the scientific community and decision makers together by networking through modern tools to decrease distances and increase opportunities to allow access to vital facilities and services, such as education, health and better water and energy resources
- Facilitating South-South cooperation by promoting and facilitating indigenous research with support from the International S&T Centers of Excellence
- Facilitating North-South cooperation to learn from state of the art technology, research and expertise

It is a fact that each of the third world countries has expertise in certain fields but may not have the same level of expertise in all sectors. Similarly, it may be possible that the reason for not being able to develop at the desired pace is not the lack of expertise or resources, but the inability and incapacity to properly utilize those expertise or resources. This is why South-South cooperation becomes essential. With cooperation of this nature COMSATS member countries can help each other build capacities where they are lacking and learn from each other's experiences. It is also important to have collaborative activities with the North in order to remain

updated and expand the knowledge-base that currently exists in the developing countries.

Specific Agenda

Keeping in mind the global development agenda, COMSATS' accomplishment and its competencies, the following specific agenda is proposed:

- **Human Resource Development**

COMSATS is not only equipped and experienced in human resource development and training, but also in auxiliary services, such as, analysis and development of relevant systems, automation and improvement of efficiency and standards. Curriculum development and improvement, utilization of information technology in teaching and learning techniques, as well as, state of the art technology for distance learning are amongst COMSATS' competencies and projects, and programs around this framework may be pursued further.

- A well defined faculty exchange program may be formulated in collaboration with all International Centers of Excellence, universities and research institutions of member countries
- Launch efforts to initiate a scholarship program for talented students and young scientists of the member countries. A program may be formulated after discussions with the thirteen Centers of Excellence to motivate them to provide scholarships to the recommended students from member states. The IT institutes established in member countries with the help of COMSATS would also participate in the program

- **Networking, Knowledge Houses and Capacity Building**

COMSATS is in a unique position to not only facilitate the exchange and dissemination of technical and scientific information, but also to strengthen the network of the scientific knowledge centers with itself and each other. Perhaps the greatest asset that can accelerate development in the *Third World* is building a reliable and extensive knowledge-base.

COMSATS with its expertise in data management and developing information portals can play a most important role in bringing valuable information within the reach of *Third World* countries, specifically its member countries.

- Therefore, COMSATS must consider strengthening its link with the network and building knowledge houses/data banks at the Headquarters to which

links could be provided via COMSATS website through the use of a membership/registration process

- Identify existing databases in member countries and link them up for the exchange of experts in various fields of science and technology amongst member countries and Centers of Excellence
 - Replicate the Transfer of Knowledge Through Expatriate Nationals (TOKTEN) Program of the United Nations Development Program (UNDP) whereby a databank of experts living abroad can be developed. The program would contribute towards reducing the brain drain in the South and allow for better utilization of scientist/engineers living abroad, which is coherent with the COMSATS' Charter. The program would allow such experts to come to their country of origin, on short term attachments, for capacity building in various national institutions/programs/projects. They would only receive a return fare and a bare minimum daily subsistence allowance, which would be enough to cover their daily expenses. The understanding would be that the exercise is partly philanthropic in nature. They would be required to share their experience and recommendations with COMSATS.
 - Prepare a database of member country scientists and resource persons and share the information with Centers of Excellence and member countries. It is suggested that this may be done by using the current website of COMSATS and develop it up as a portal that would house the database. The database may be organized as per the priority areas of COMSATS. It is also recommended that this portal may be made as interactive as possible with the provision to relevant agencies/stakeholders of registering their information on our website.
 - Member countries and Centers of Excellence may be asked to maintain their detailed profiles through the COMSATS website
- **ICTs for Development**

Premium internet services is an asset COMSATS can be extremely proud of. It has formulated proposals to set up similar services in Syria, Iran and Sudan after the governments of these member states were inspired to replicate the COMSATS Internet Services (CIS) – a pioneer venture for the host country – in their own countries. Internet has endless advantages for the development process. COMSATS must consider projects that can demolish the digital divide and allow the most disadvantaged access to this modern tool. These projects may be of the following nature:

- Stimulating industry and trade

- Information Portals for various sectors in accordance with the need of member states e.g. biotechnology, industry & trade, small businesses etc.
- Development of Bi-lingual websites in collaboration with local NGOs of member countries to disseminate information on agriculture, water resources and health, etc.,.
- Facilitate the replication of the Tele-health and Distance Learning project in the private sector

Gender development must especially be given due importance in all of the projects of this nature.

- **Policy Advocacy**

COMSATS must use its good offices in the host country, as well as, in the member countries to advocate appropriate policies that would facilitate the use of science and technology for the fulfillment of developmental goals. It is also recommended that COMSATS may gradually develop on-the-ground presence in each of its member countries, in order to build better association and understanding of the needs, increase commitment and participation in furthering COMSATS objectives in each member country.

Policy advocacy may also be advanced through conducting seminars, workshops and meetings at the national and regional levels, in order to debate, discuss, build awareness and propose solid recommendations for the future of science and technology led development in the developing nations of the world. The conferences and workshops planned for the year 2003-2004 are as follows and a corresponding events calendar is attached at the end of this document:

- Meeting on Renewable Energy Technologies and Sustainable Development
- IAEA/ COMSATS Regional Training Workshop on “Isotope Hydrological Assessment of Groundwater Resources Exploitation”
- Meeting on Sustainable Development through effective collaboration amongst Universities, R&D Organizations and Industry

The following proposals may be found useful:

- An S&T policy study/research center may be established in one of the COMSATS member countries. This center can continuously work on matters related to S&T policy development and its implantation in the *Third World* countries

- Establish liaison offices in member states that would comprise at least one person who would be a highly qualified resource person with an in-depth understanding of development issues and know how of science and technology that can help resolve those issues
 - Organize a conference with participation from the governments of all member countries on Policy Planning and Implementation
 - Organize a special meeting of the Consultative Committee to specifically address the issue of capacity building in order to come up with a comprehensive plan of action to achieve the goals outlined in the meeting. This may include exchange of experts, technicians, financial assistance, knowledge sharing, initiating a series of conferences in all the member countries, etc.
- **Image Building and Strategic Marketing of the Commission and its Concept**

A strategic plan must be devised for the Commission so that the core competencies of COMSATS and the Network can be marketed in an effective manner in all member countries in particular, and the *Third World* in general. This is essential because these countries as well as prospective member countries of the Commission would know what COMSATS can do for them, what it is capable of doing and what it has already done.

- For this purpose, a comprehensive media plan is required which should include a strong promotional campaign.

Annexure - II

FOUNDATION DOCUMENTS

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

Preamble

The parties to the present Agreement representing Head of State or Government of the countries in the South:

1. **Realizing** the importance and necessity of a joint political commitment by the Heads of States or Governments in the South to place science and technology at the top of agenda and to support major initiatives of common concern aimed at building and sustaining indigenous capacities in science and technology and their application to socio-economic development;
2. **Recalling** the 1988 Trieste Declaration, which was adopted by the Founding Members of the Third World Network of Scientific Organization (including 15 Ministers of Science and Technology and 30 Heads of Science Academies and Research Councils from the South) and in which they resolved to work towards giving science and technology a position of highest priority in their own countries and to strengthen their collaboration with other countries of the South as well as of the North;
3. **Appreciating** the efforts of the President of the Third World Network of Scientific Organizations (TWNSO), the Nobel Laureate Professor Abdus Salam, in sensitizing the political leadership in the South to increase funding for research and development and to intensify their cooperation in order to narrow the widening gap between the North and the South in generation of science and new technologies and their utilization in technology production and social services; have agreed as follows:

Article I: Establishment

- a. The parties to this Agreement hereby establish the Commission on Science and Technology for Sustainable Development in the South (COMSATS), hereinafter referred to as "the Commission";
- b. The Commission shall operate in accordance with the provisions of this Agreement.

Article II: Membership

- a. The Membership of the Commission shall be open to all Heads of State or Governments of the South. The Members may, however, appoint nominees to attend meetings of the Commission or represent them in other ways;

- b. Professor Dr. Abdus Salam shall be a Member of the Commission.

Article III: Mission, Objectives and Functions

The Commission shall have the following objectives and functions:

- a. to sensitize the countries in the South to the centrality of science and technology in the development process, to the adequate resource allocation for research and development, and to the integration of science and technology in the national and regional development plans;
- b. to support the establishment of a Network of International Science and Technology Centres for Sustainable Development in the South;
- c. 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 Government/Institutions in the North and the South to supplement the financing of international scientific projects in the South;
- d. to provide leadership and support for major North-South and South-South cooperative schemes in education, training and research, such as the proposal to set up programmes of scholarships for research at centres of excellence in the South; and
- e. to support the relevant programmes and initiatives of major scientific organizations working for the development and promotion of science and technology in the South.

Article IV: The Chairperson

- a. The Prime Minister of Pakistan is the first Chairperson of the Commission. The Commission shall elect on a rotation basis a Chairperson from among its Members every three years;
- b. The Chairperson shall convene and host at least one meeting of the Commission during the period of three years.

Article V: The Secretariat

- a. The Headquarters of the Network of International Centres of Science and Technology for Sustainable Development in the South, located at Islamabad, Pakistan, shall act as the Secretariat for the Commission, and the Executive Director of the Headquarters shall be the Secretary of the Commission;

- b. The Secretariat shall work closely with the office of the Chairperson of the Commission in coordinating the Commission's functions and activities;
- c. The Secretariat shall establish close working relationships with TWNSO, the Group of 77, the South Centre, the Ministry of, or body responsible for, Science and Technology of the country hosting the Secretariat and with international and other relevant organizations.

Article VI: Finance

The Commission may invite Members and donor organizations to make contributions towards the costs of COMSATS Secretariat. It shall also mobilize sources of funding to support the Commission's Programmes.

Article VII: Revisions and Amendments

The Agreements in its present form shall be subject to revisions at the next meeting of the Commission.

Article VIII: Signature and Acceptance

The present Agreement shall be open for signature by all Members as defined in Article II.

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

Held on 4-5 October 1994, Islamabad, Pakistan

JOINT STATEMENT BY THE PARTICIPANTS

We, the representatives of Heads of States or Governments of countries in the South, attending the first meeting of the Commission on Science & Technology for Sustainable Development in the South (COMSATS):

1. **Realizing** the importance and necessity of a joint political commitment by the Heads of State or Government in the South to place science and technology at the top of their development agenda and to support major initiatives of common concern aimed at building and sustaining indigenous capacities in science and technology and their application to socio-economic development;
2. **Recalling** the 1988 Trieste Declaration, which was adopted by the Founding Members of the Third World Network of Scientific Organisations (including 15 Ministers of Science & Technology and 30 Heads of Science Academies and Research Councils from the South), and in which they resolved to work towards giving science and technology a position of highest priority in their own countries and to strengthen their collaboration with other countries of the South as well as of the North;
3. **Appreciating** the efforts of the President of the Third World Network of Scientific Organizations (TWNSO), the Nobel Laureate Professor Abdus Salam, in sensitizing the political leadership in the South to increase funding for research and development and to the South in the generation of science and new technologies and their utilization in technological production and social services;
4. **Convinced** that sustainable economic development in the South cannot be achieved without building and sustaining indigenous capacities in science and technology;
5. **Conscious** that South-South and North-South cooperation is essential in building science and technology capacity in the South; and
6. **Recalling** the resolution of the Heads of Government of Non-Aligned Countries at their 1989 Meeting in Belgrade, which called for joint action by the Governments of the South, the UN System, the World Bank and donor agencies to establish in the South a Network of International Centres for research and training in areas of frontier science and technology and environmental sciences of critical importance to sustainable socio-economic development;

have agreed on the following:

- I. **Endorse** the establishment of the Heads of State or Government Commission on Science and Technology for Sustainable Development in the South (COMSATS), with the following objectives:
 - a. to sensitize the countries of the South to the centrality of science and technology in the development process, to the adequate resource allocation for research and development, and to the integration of science and technology in the national and regional development plans;
 - b. to support major initiatives designed to promote indigenous capacity in science and technology for science-led sustainable development, such as the establishment of a number of international research and training centres of excellence in the South, and to help mobilize long-term financial support from international donor agencies to supplement the financing of international scientific projects in the South;
 - c. to provide leadership and support for major South-South and North-South cooperative schemes in education, training and research, such as the proposal to set up programmes of scholarships for research at centres of excellence in the South; and
 - d. to support the relevant programmes and initiatives of major scientific organizations working for the development of science and technology in the South.

- II. **Endorse** the establishment of a Network of International Science and Technology Centres for Sustainable Development in the South with the following objectives:
 - a. to assist the countries of the South to build and sustain a critical mass of world-class scientists and technologists in areas of frontier science and technology and environmental sciences which are of critical importance to sustainable socio-economic development.
 - b. to attract talent, reduce the brain-drain, and induce competent Third World scientists and technologists working abroad to return to their countries;
 - c. to facilitate the transfer of technology and the supply to industry of highly qualified technical personnel;
 - D. to assist and advise in finding scientific solutions to complex developmental and environmental problems in the South;

- e. to provide avenues for international cooperation in areas of science and technology of global concern to environmentally sustainable development, including the sharing of information;
 - f. to provide a suitable framework for science and technology assessment and management in the South;
 - g. to develop strong links between Members of the Network of Centres and production sectors in the South;
 - h. to promote joint technological ventures amongst the Members of Network of Centres; and
 - i. to assist in carrying out other programmes as assigned by COMSATS.
- III. Agree to establish the first nodes of the Network of International Science and Technology Centres for Sustainable Development in the South at the institutions recommended by the Technical Advisory Committee instituted by the President of TWNSO, and for which detailed feasibility studies have been received and accepted.
- IV. Invite other countries of the South to submit proposals for additional nodes of the Network, to be reviewed by the Technical Advisory Committee.
- V. Set up a Working Committee consisting of Members from Colombia, Egypt, Jordan, Malaysia, Nigeria, Pakistan, Syria and Tanzania. The Convenor of the Committee shall be the Secretary General of TWNSO. The Committee shall review the draft Charter of the Network of International Science and Technology Centres for Sustainable Development in the South, presented at the first meeting of the Commission; and, taking into consideration further suggestions, representations and comments from Members, shall adopt an Operational Statute of the Network upon its approval by at least half of the Members of the Commission. The so-adopted Statute shall be in force until the next meeting of COMSATS.
- VI. Accept the generous invitation of the Government of Pakistan to set up the Headquarters of the Network of International Science and Technology Centres for Sustainable Development in the South in Islamabad and to host the Secretariat of COMSATS at the Headquarters.
- VII. Invite the Prime Minister of Pakistan to continue as Chairperson of COMSATS for the next three years.

Charter of the Network of the International Science & Technology Centres of Excellence for Sustainable Development in the South

PREAMBLE

The Working Committee set up at the First Meeting of the Commission on Science & Technology for Sustainable Development in the South, hereinafter referred to as "COMSATS", held in Islamabad, Pakistan, on 04-05 October, 1994:

1. **Convinced** that sustainable economic development in the South cannot be achieved without building and sustaining indigenous capacities in Science and Technology;
2. **Noting** the widening gap between the North and South in the generation of scientific and technological knowledge and its application to socio-economic development;
3. **Calling** for collective effort amongst the countries of the South to achieve self-reliance in frontier science and new technology;
4. **Conscious** that South-South and North-South cooperation is essential in building science and technology capacity in the South;
5. **Recalling** the resolution of the Heads of Governments of Non-Aligned Countries at their 1989 Meeting in Belgrade, which called for joint action by the Government of the South, the UN System, the World bank and donor agencies to establish in the South a Network of International Centres for research and training in areas of frontier science and technology and environmental sciences of critical importance to sustainable socio-economic development; and
6. **Noting** the Agreement reached at the First Meeting of COMSATS to establish a Network of International Science and Technology Centres of Excellence for Sustainable Development in the South (hereinafter referred to as the "Network");

has agreed on the following:

CHAPTER-1: Membership

Article 1

- a. In addition to the first 10 Nodes already approved by COMSATS, the Membership of the Network of Centres shall initially be open to any one institution proposed by any country in the South that expresses interest to upgrade it to international standards, and which meets the requisite qualifications.

- b. A component institution for which any COMSATS Member has expressed support to upgrade it to international standards shall be an Associate Member.

CHAPTER-II: Objectives

Article 2

The Network shall have the following objectives:

- a. To assist the countries of the South to build and sustain a critical mass of world-class scientists and technologists in areas of frontier science and technology and environmental sciences, which are of critical importance to sustainable socio-economic development;
- b. To attract talent, reduce brain-drain, and induce competent Third World scientists and technologists working abroad to return to their countries;
- c. To facilitate the transfer of technology and the supply to industry of highly qualified technical personnel;
- d. To assist in finding scientific solutions to complex developmental and environmental problems in the South;
- e. To provide avenues for international cooperation in areas of science and technology of global concern, including those for environmentally sustainable development;
- f. To provide a suitable framework for science and technology assessment and management in the South;
- g. To develop strong links between Members of the Network and production sectors in the South;
- h. To promote joint technological ventures amongst the Members of the Network;
- i. To assist in carrying out other programmes as assigned by COMSATS.

CHAPTER-III: Functions

Article 3

In order to fulfil the above-mentioned objectives, the Members of the Network shall carry out the following functions;

- a. To conduct high-level training activities, nationally, regionally and internationally, in the scientific fields of each Node of the Network in order to achieve a critical mass of highly-qualified personnel in these fields in the South;

- b. To conduct basic and applied research in order to develop and test solutions to socio-economic development and environmental challenges facing the South;
- c. To conduct interdisciplinary research and modeling in order to devise scientific solutions to problems that have global implications for environmentally sustainable development; and
- d. To provide scientific and technical services to the Production and Services sectors in the South.

CHAPTER-IV: Organs

Article 4

The Network of Centres shall consist of the following Organs:

- a. A Coordinating Council;
- b. A Technical Advisory Committee;
- c. A Consultative Committee; and
- d. A Secretariat.

CHAPTER-V: The Coordinating Council

Article 5

The Coordinating Council shall be composed of the Heads of the Member Centres or their representatives. Associate Members shall have the right to attend meetings of the Council as Observers. The Third World Network of Scientific Organizations (TWNSO) shall be an ex-officio Member of the Coordinating Council.

Article 6

The Coordinating Council shall elect from amongst its Members a Chairperson who shall hold office for three years and who may be re-elected for one further term of three years.

Article 7

The Coordinating Council shall take decisions on matters affecting the Membership of the Network in consultation with the Consultative Committee.

Article 8

The Coordinating Council shall be the body that approves the programmes and budget of the Network.

Article 9

The Coordinating Council shall make rules and regulations governing its own procedures.

Article 10

The Coordinating Council shall meet at least once a year.

Article 11

The Coordinating Council shall generally take its decisions by consensus. The quorum for a meeting shall be half the number of Members of the Network. In case of difficulty in reaching a consensus, the Coordinating Council shall take decisions by a simple majority vote of its Members. In the event of equally divided votes, the Chairperson of the Coordinating Council shall have the casting vote. The Associate Members shall not have the right to vote.

CHAPTER-VI: The Technical Advisory Committee

Article 12

There shall be a Technical Advisory Committee of internationally renowned experts consisting of not more than 10 Members. The nominations for this Committee shall be made by the Third World Academy of Sciences (TWAS) in consultation with UNIDO and UNESCO, and approved by the Coordinating Council.

The Technical Advisory Committee shall have the following functions:

- a. To review the quality and relevance of the programmes of Member Centres, and to advise on research and training priorities;
- b. To provide independent assessment of the scientific programmes and achievements of each Member Centre; and
- c. To assess the scientific merit of institutions proposed for membership of the Network, and to recommend suitable ones to the Consultative Committee.

In fulfilling these functions the Technical Advisory Committee shall constitute Specialized Committees of scientists and technologists of international repute in the relevant disciplines.

CHAPTER-VII: The Consultative Committee

Article 13

The Members of the Consultative Committee shall be the national scientific "focal

points" of Member countries of the Commission. The Committee shall coordinate matters in respect, inter alia, of the following:

- a. To formulate the general policy of the Network;
- b. To promote the upgrading of Member countries' institutions in order to ultimately achieve full Member status of the Network;
- c. To sensitize the Network towards specific requirements of the Member countries;
- d. To facilitate the provision of services of the Network Centres in order to meet the requirements of the Member countries; and
- e. To promote fund-raising for the Centres at national, regional and international levels.

CHAPTER-VIII: The Secretariat

Article 14

The Secretariat of the Network shall consist of a small team of experienced and committed persons, headed by an Executive Director. The Secretariat shall be located at Islamabad, Pakistan, and shall be common to both COMSATS and the Network.

Article 15

The Secretariat shall assist the Organs of the Network in carrying out their duties.

Article 16

The Secretariat, through its Executive Director, shall work closely with COMSATS, TWNSO, the Government of the host country through its Ministry of Science and Technology, and other relevant organizations in planning and establishing Nodes of the Network, and in the discharge of other functions as determined by the Coordinating Council.

Article 17

The Secretariat shall assist in carrying out the activities of the Member Centres in establishing collaborative programmes between them, and with other similar institutions. It shall also establish and manage a Technical Assistance Fund to support joint ventures.

Article 18

The Executive Director shall be appointed by the Head of Government of the country hosting the Secretariat. The appointment shall be made from a panel of candidates

recommended by a nominating committee. The Executive Director shall hold office for a period of three years, and may be reappointed for one further term of three years. He/she shall be the Secretary of the Coordinating Council and of the Consultative Committee.

CHAPTER-IX: Finance

Article 19

Each Member of the Network shall be free to raise funds to fulfil its own requirements.

Article 20

The Coordinating Council and the Consultative Committee, with the assistance of the Secretariat, shall be empowered to negotiate with donor agencies and international organizations for financial and technical assistance to the Network.

Article 21

The country hosting the Secretariat shall be required to cover the major part of the running costs of the Secretariat. Member countries of the Network and/or COMSATS may be invited to make contributions to finance the activities of the Headquarters.

CHAPTER-X: Official Work Language

Article 22

English shall be the official working language.

CHAPTER-XI: Amendments to the Charter

Article 23

Proposals to amend any part of the Charter may be submitted in writing to the Executive Director by any Member of the Network.

Article 24

The proposed amendments shall be considered at a regular or a special meeting of the Coordinating Council, and shall only be approved by a vote of two-thirds majority of Members voting.

CHAPTER-XII: Acceptance & Entry into Force

Article 25

The Charter shall enter into force after approval by half of the members of COMSATS.

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KARACHI, THURSDAY, DECEMBER 14, 1995

PART III

Other Notifications and Orders etc., issued by the Government of
Pakistan

GOVERNMENT OF PAKISTAN

MINISTRY OF FOREIGN AFFAIRS

NOTIFICATION

Islamabad, the 28th November, 1995

No. IEE(I)-12/4/95.—Whereas Pakistan has signed the International Agreement to Establish the Commission on Science and Technology for Sustainable Development in the South (COMSATS) on 5th October, 1994 at Islamabad.

Recalling the Joint Statement issued in the Foundation Conference of COMSATS which was endorsed by the representatives of heads of States or Governments of countries in the South including Pakistan attending the aforesaid conference on 4 - 5th October, 1994, Islamabad, Pakistan.

Noting the decision of the Government of Pakistan to host the Secretariat of COMSATS and approval of the Charter of the Network of International Science and Technology, Centre of Excellence, dated 23rd July, 1995. Now therefore in exercise of powers conferred by Section 3 of Act, No. XX of 1948, it is hereby notified that the following provisions of the Schedule shall apply *mutatis mutandis* to the International Organisation known as Commission Science and Technology for Sustainable Development in the South (COMSATS), its representatives and officers:—

(75)

Price Ps. 30

THE SCHEDULE

(See Section 2 and 3)

ARTICLE I**Juridical Personality**

SECTION 1. Commission on Science and Technology for Sustainable Development in the South (COMSATS) shall possess juridical personality.

It shall have the capacity :—

- (a) to contract ;
- (b) to acquire and dispose of immovable and movable property ;
- (c) to institute legal proceedings.

ARTICLE II**Property, Funds and Assets**

SECTION 2. Not applicable

SECTION 3. Not applicable

SECTION 4. Not applicable

SECTION 5. Without being restricted by financial controls, regulations or moratoria of any kind.

- (a) COMSATS may hold funds in currency of any kind and operate accounts in any currency ;
- (b) COMSATS shall be free to transfer its fund or currency from one country to another, or within any country and to convert any currency held by it into any other currency.

SECTION 6. Not applicable

SECTION 7. COMSATS its assets, income and other property shall be :—

- (a) exempt from all direct taxes ; it is understood, however, that COMSATS will not claim exemption from taxes which are, in fact, no more than charges for public utility services .
- (b) exempt from customs duties and prohibitions and restrictions on imports and exports in respect of articles imported or exported by COMSATS for its official use ; it is understood, however, that articles imported under such exemption will not be sold in the country into which they were imported except under conditions agreed with the Government of that country ;

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- (c) exempt from customs duties and prohibitions and restrictions on imports and exports in respect of its publications.

SECTION 8. While COMSATS will not, as a general rule, claim exemption from excise duties and from taxes on the sale of movable and immovable property which form part of the price to be paid; nevertheless when COMSATS is making important purchases for official use of property on which such duties and taxes have been charged or are chargeable, Government of Pakistan will, whenever possible, make appropriate administrative arrangements for the remission or return of the amount of duty or tax or issue exemption certificates in advance of such purchase by COMSATS.

ARTICLE III

Facilities in Respect of Communications

SECTION 9. Not applicable

SECTION 10. Not applicable

ARTICLE IV

The Representatives of Members

SECTION 11. Not applicable

SECTION 12. Not applicable

SECTION 13. Where the incidence of any form of taxation depends upon residence, periods during which the representatives of Members to the principal and subsidiary organs of the COMSATS and to conferences convened by the COMSATS are present in Pakistan for the discharge of their duties shall not be considered as periods of residence.

SECTION 14. Not applicable

SECTION 15. The provisions of Section 13 are not applicable as between a representative and the authorities of the State of which he is a national or of which he is or has been the representatives.

SECTION 16. In this article the expression 'representatives' shall be deemed to include all delegates, deputy delegates, advisers, technical experts and secretaries of delegations.

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ARTICLE V

Officials

- SECTION 17. Not applicable
- SECTION 18. Officials of COMSATS other than Pakistan nationals shall :—
- (a) Not applicable
 - (b) be exempt from taxation on the salaries and emoluments paid to them by COMSATS.
 - (c) Not applicable
 - (d) Not applicable
 - (e) Not applicable
 - (f) Not applicable
 - (g) have the right to import free of duty their furniture and personal effects at the time of first taking up their post in the Pakistan in question.
- SECTION 19. Not applicable
- SECTION 20. Not applicable
- SECTION 21. COMSATS shall co-operate at all times with the appropriate authorities of Pakistan to facilitate the proper administration of justice, secure the observance of police regulations and prevent the occurrence of any abuse in connection with the privileges, immunities and facilities mentioned in this Article.

ARTICLE VI

- SECTION 22. Not applicable
- SECTION 23. Not applicable

ARTICLE VII

- SECTION 24-28 Not applicable
- SECTION 29 and 30. Not applicable

SAJJAD AHMAD SEEHAR,

Section Officer IEE(I).

Annexure - III

PROGRAMMES WITH INTERNATIONAL ORGANIZATIONS (FUTURE ACTIVITIES)

IDRC – CANADA

Item No: 10

Actions:

1. Research proposal should be prepared for consideration and approval by IDRC for the assessment of impact in the community where ICT's programmes are being implemented. This provision has been envisaged in the programme activity.
2. Based on the above assessment and on the basis of the experience gained from the application of ICT activities in the northern areas of Pakistan, extension plans for other remote areas of Pakistan should be initiated. Funding source can be IDRC Canada.

(MoU between IDRC and COMSATS to be extended in the light of above considerations)

ICS – UNIDO (ITALY)

Item No: 11

Actions:

1. Development of one project each in the areas of IT and water resources management.

Emphasis: *Irrigation and communication efficiency*

Project Duration: *2-3 years*

2. ICS-UNIDO fellowships for COMSATS member countries linked to the needs of above projects. There should be short term fellowships for “on-the-job” trainings and should be preferably utilized in appropriate centres of excellence in the COMSATS countries. One fellowship for each project in IT and water resource management during one project year (total 4).
3. Joint workshops or technical committee meeting of COMSATS countries to study feasibility of renewable energy utilization in the selected member states and launching of a pilot project (to start with, solar, thermal and wind energy could be considered).

(MoU between UNIDO-Italy and COMSATS applicable)

ICGEB-UNIDO, ITALY

Item No. 12

Actions:

1. Identification of needs of member states for training in the areas of biotechnology and genetic engineering (one or two specific training requirements from each country).
2. One Conference in one of the member states on an issue of common interest of the COMSATS countries.
3. Training courses or fellowships for a suitable number of scientists from the COMSATS countries based on the outcomes of (1) and (2) above.

(MoU between COMSATS and ICGEB-UNIDO to be utilized alongwith other sources of fellowships)

AIT –THAILAND

Item No. 13

Actions:

1. Obtaining the training requirements of interested member states, through correspondence, in the areas of studies offered by the Institute.
2. Settlement of terms and conditions of studies/training between member states and AIT and calling applications from the member states.
3. Sending first batch of trainees in 2005 to AIT, monitoring of their progress and soliciting work positions from the sending institutions after the return of trainees.

(MOU between AIT and COMSATS relevant)

**PROGRAMME WITH ROYAL SCIENTIFIC
SOCIETY, JORDAN**

Item No: 14

Actions:

1. Exchange programme between Jordan and Pakistan for experts, one each in the field of IT and environmental research.
2. Exchange programme between Jordan and other COMSATS countries on bilateral, financial and administrative arrangements.
3. Formulation of one specialized technical training programme in Jordan for all COMSATS countries.

(MoU with RSS, Jordan)

FRENCH ONLINE DISTANCE LEARNING PROGRAMME

Item No: 15

Actions:

1. Consultations with the Embassy of France in Pakistan for the extension of the MoU (expiring 28 April 2005)
2. Extension of programme in other appropriate countries. To discuss this with COMSATS member states.

(MoU to be renewed with French Mission in Islamabad)

PROGRAMME WITH ISESCO

Item No. 16:

Actions:

1. Training Workshop on Maintenance of Electronic and Lab. Instrument, Khartoum (Sudan), September 2005

Total Budget: 10,000 \$ ISESCO: 5,000 , COMSATS: 5,000

2. International Seminar on Physics in the Developing Countries, Past, Present and Future, Islamabad, August 2005.

Total Budget: 20,000 \$, ISESCO: 10,000 , COMSATS: 10,000

3. Establishment of Robotics Labs. at Primary and Secondary School Level, Islamabad, November 2005.

Total Budget: 12,000 \$, ISESCO: 8,000, COMSATS: 4,000

(MoU with ISESCO and Agreement of ISESCO to conduct the above events with their financial participation)

PROGRAMME WITH GTZ (GERMANY)

Item No. 17

Actions:

1. HR Development: Training/exchange of scientists and technicians on Health Care and Water Resource Development.

(MoU applicable)

PROGRAMME WITH UNESCO

Item No: 18

Establishment of 1MW Solar Thermal Power Plant in Pakistan

Partners: UNESCO, PCRET and Hangzhou Regional Centre (Asia Pacific) for small Hydropower.

Action:

To determine the current status and make decision to pursue the programme.

(MoU applicable)

PROGRAMME WITH UNIDO

Item No. 19

Action:

To determine current status of the ongoing work in Tanzania and to decide about the future action.

(MoU applicable)

PROGRAMME WITH UNCTAD

Item No. 20

Action:

To decide about a joint COMSATS-UNCTAD Conference on the topic of Implications of ICTS for productivity, business operations and export competitiveness. Recommendations for COMSATS countries in the light of discussions.

Annexure - IV

AN ANALYTICAL REVIEW OF THE CHARTER OF COMSATS' NETWORK

AN ANALYTICAL REVIEW OF THE CHARTER OF COMSATS' NETWORK

The Charter of COMSATS was constituted in 1994 during its formulative stages in order to provide guidelines and to regularize the activities of the organization during its formulative stages. The conceptual framework of the Charter was based on the routine functioning patterns of collaborative scientific organizations adaptable to COMSATS' own specific structural features. At that time it was yet to be seen how the features of the Charter would cater for the requirements presented by the specific operational structure of COMSATS. Now after the passage of more than twelve years of time and having the operational experience of COMSATS based on the Charter, it is pertinent to make a realistic assessment as to how the Charter has served the requirements of the Member States for which COMSATS was created.

COMSATS is basically an international organization for promoting socio-economic development in its Member States through the application of science and technology. Another important feature of its objectives is to sensitize the Governments of the Member States on the basic importance (centrality) of the use of the powerful tool of science and technology to achieve tangible results. One basic requirement for such a need is to incorporate in the Charter a mechanism whereby the scientific and technological programme of any country can serve as a complimentary force to boost the multi-year economic plans of that particular country. It is, therefore, evident that in order to fulfil the demands of an international organization, the Charter of COMSATS should contain provisions which should be outward looking and facilitating the interaction among the Member States and the world community with an air of openness and transparency.

The developing Member States of COMSATS have common socio-economic problems and common difficulties in achieving higher standards of quality in scientific and technological activities. The major areas of difficulties are the competencies and the funding. A partial solution of these problems, which has rendered satisfactory results in many developing countries, is to institutionalise intensified collaborative research among such developing countries under the concept of TCDC (technical cooperation among developing countries). It is also well understood that meaningful technological results cannot be achieved unless the developing countries establish stronger collaborative links with the advanced industrialized nations. This leads to a single operative modality for success, i.e., a centralized approach by the developing countries for the transfer of

knowledge and technology from the developed nations of the world to the less developed countries. This approach entails centralized planning, management, strategy formulation, programme designs and funding. The policy making organs should, therefore, be structured on these centralized lines and procedures be adopted in accordance with this focused concept. All such requirements have to be incorporated appropriately in the Charter which governs the work of the organizations dealing with science and technology on international level.

The present Charter of COMSATS does not adequately cater for an effective centralized approach. The working of COMSATS is mainly centered around the activities of its institutions of excellence. These institutions or centres primarily tend to cater for the policies and requirements of their respective Governments and competent authorities. As a policy they seldom can give priorities to the requirements of outside organizations, no doubt how strong the commitments may be. Further, such centres would give more importance to such technical projects which have a national character which leads to individualistic approaches to the network rather than allowing a hot pursuit to a common programme. This tendency of scattered approach and interests takes strength from the fact that the existing funding mechanism does not cater for meeting the expenses of a common programme but the funds collected on voluntary basis are generally allocated to the individual donor country which spends it on its own project of choice.

There are some other specific points in the Charter which do not augur well with the achievement of the objectives of COMSATS mission due mainly to their incoherent approach and uncoordinated functionality concepts. For example,

1. Article 1 of the Charter of network poses restrictions on the open membership. Wide spectrum of membership is always helpful in promoting the economic and scientific activities among the collaborating partners.
2. Article 4 of the Charter of network stipulates four organs to govern the activities of the network. The objectives and functions of all these organs demand the necessity of a highly coordinated, continuous and timely approach for the work of the network. No mechanism is available in the Charter for such a necessity. Even the frequency of meetings have not been mentioned for the Technical Advisory Committee and the Consultative Committee.
3. Article 8 stipulates that the Coordinating Council shall approve the programmes and budgets of the network. But it is not clear in the Charter who will make the programme of the network. The TAC's

- functions are to review the quality and relevance of the programme (Article 12-a) and to provide independent assessment of the programmes of each Member Centre (Article 12-b). Similarly Article 17 regarding the functions of the Secretariat mentions only assisting the Member Centres in establishing collaborative programmes but all these provisions do not assign clear responsibility to any one entity to formulate the overall programme for the network.
4. Article 8, in addition to the promotion of approving programme of the network, calls for approving the budget of the network. The charter does not give any indication of the nature and the substance of the budget to be followed by the network. The individual centres are expected to raise funds to fulfil their own requirements (Article 1a). This again negates the ownership of the programmes as a whole by the network and leads to the pursuit of scattered projects by the individual centres in line with the characteristics and terms and conditions of the funding sources rather than adopting a coordinated, focused and target-oriented approach for the common programme of COMSATS.
 5. The Technical Advisory Committee which is the main technical body of the network plays the role of an evaluatory entity only (Article 12,a,b and c). Review, assessment and relevance of programmes and achievements, though a sensitive issue, constitutes only a part of the overall technical activities of any organization. Formulation of policies, programmes, strategies, implementation plans, etc., are also important upstream activities. The Charter is silent about these aspects with respect to the TAC which logically should have more responsibility on these activities. It is interesting that policy making for the network has been assigned to the Consultative Committee (Article 13-a) whose interests may not always be aligned to those of the TAC. Further, fund-raising for centres at national, regional and international levels by the Consultative Committee (Article 13-e) seems fairly unrealistic. The functions reserved for the Consultative Committee are so important that they warrant prompt and frequent meetings of this organ on regular basis. But the provisions of the Charter do not stipulate any time frame for the meetings which renders the programme execution highly ineffective.
 6. Article 14 of the Charter deals with the composition and functions of the Secretariat. This Article provides for a small team only of the Secretariat staff. The job and responsibilities of the Secretariat, on the other hand, demand a strong workforce of qualified and experienced people. The contradictory provisions of responsibilities and the Secretariat composition in the Charter make it difficult for the Secretariat to fulfil its routine obligations.

7. Article 20 of the Charter empowers the Coordinating Council and the Consultative Committee, with the assistance of the Secretariat to negotiate with donor agencies and international organizations for financial and technical assistance needed for the network. This is a highly impracticable mechanism which calls for a joint action by the three organs of the network together to undertake two very important functions of COMSATS, i.e., funds and technical assistance.
8. The Charter in its present form does not contain clear policy guidelines on concepts and mechanisms of technical cooperation with the North in order to fulfil network's objectives. It is evident that close technical cooperation with the North is essential both for capacity building and for the transfer of technology in the developing countries. In addition, it is also evident that quality scientific and technological education in the countries of the South is diminishing with the passage of time. For the purpose of sustained socio-economic development in the South, it would be imperative to forge strong links with the North for the upgradation of scientific education in order to create and maintain a critical mass of the world class scientists as stipulated in Article 2-a of the Charter.

This is a preliminary analysis of the Charter of COMSATS which may be given due consideration at policy level with the proposal that a special committee could be formulated by COMSATS to undertake detailed studies.

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