

Newsletter

ISLAMIC ACADEMY OF SCIENCES

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Al-Hassan patronises IAS Conference

President Khan sends message

Under the patronage of His Royal Highness Prince Al-Hassan, Crown Prince of the Hashemite Kingdom of Jordan and Patron of the Islamic Academy of Sciences, the Islamic Academy of Sciences convened its fifth international conference, "Science and Technology Man-power Development in the Islamic World" in Amman (Jordan), during 16-19 December 1991.

Over one hundred and twenty people took part in the three and a half day activity in which seven main-theme and nine case-study papers were presented and discussed. A number of free-submission

papers from Jordan as well as one by the UNCSTD were included in the conference programme.

A roundtable presentation and discussion was also included in the conference, in which short country case-studies were presented by Academy Fellows from Egypt, Turkey, Pakistan, Sudan, Indonesia and Jordan.

The conference was a joint activity between the Academy, the Islamic Foundation for Science, Technology and Development (IFSTAD), the Islamic Development Bank (IDB), Royal Scientific Society (RSS) and the World Bank.

In His Royal Highness's opening address, Prince Al-Hassan appealed to Islamic countries to build bridges of co-operation amongst themselves and to adopt the policies, on the regional and inter-state levels needed to confront common challenges and play an active role in the new world order.

In referring to the particular characteristics of the Middle East, HRH noted that the region abounds a multitude of cultures, religions and races. This was a source for enriching society rather than being a source for conflict.

The IAS Patron renewed his call for a conference on security and co-operation in the Middle East which can benefit from the Euro-



pean experience in this field, particularly with regards to launching inter-state co-operation.

By referring to the Middle East's main problems, Prince Al-Hassan mentioned migration and the general movement of human resources, whether forced or natural, and the predicted shortages in water.

The United Nations' various organisations and other international institutions have not in general been able to cope with the basic human needs of refugees within the Middle East region, estimated at 4.5 million, the Prince added.

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General Assembly convened in Amman

Future activities assessed, Standing Committees reformed

The General Assembly of the Islamic Academy of Sciences, the Academy's governing body, held its sixth meeting in Amman, during 12-13 Jumad II 1412, corresponding to 18-19 December 1991.

Prof. Mumtaz Kazi FIAS chaired the meetings in which forty Fellows took part.

A range of issues were discussed by the Academy Fellows including programmes, activities as well as the finances of the Academy.

Report of the Secretariat

The Executive Director General of the Academy, Dr Anwar Bilbeisi presented his report to the Assembly, in which he summarised the activities of the IAS Amman Secretariat during 1991.

The EDG stated that the Secretariat managed to secure additional income for the Academy, maintain its publications and renew contact with numerous regional, Islamic and international organisations.

The Secretariat also hosted meetings of the Committees of the 1991 and 1992 Conferences as well as the IAS annual June Council meeting.

Treasurer's Report

The IAS Treasurer, Dr Fakhruddin Daghestani FIAS, presented to the Assembly the financial accounts of the Academy for 1991, as well as the estimated budget for 1993.

The General Assembly discussed at some considerable length the finances of the Academy and approved means to support it financially.



IAS General Assembly, in Session

The Assembly approved the Statement of Accounts of the Academy for 1991 as well as the estimated budget for 1993 and commended the Treasurer and IAS executive staff for their efforts in managing the financial affairs of the Academy.

The Academy Journal

Prof. Mehmet Ergin FIAS, IAS Vice-President, presented a report on behalf of Prof. Naci Bor FIAS, the Journal's Chief Editor. Prof. Ergin briefed the Assembly on the financial situation of the Journal as well as the plans of its Chief Editor to maintain quality, periodicity and visibility in the Islamic World and beyond.

The President of the Academy commended highly the superb effort of the Journal's Chief Editor whose efforts made the IAS Journal the so-well received publication it has become.

Election of New Fellows

The House approved, upon a recommendation from the Council, the results of the 1991 Fellowship Elections, in which there were three winners.

Academy Visibility

The idea of introducing local chapters of the Academy was assessed by the House.

It was also generally agreed that annual conferences, training programmes as well as publications remain the best ways through which the Academy can get the appropriate exposure and visibility.

Mobilisation of Resources

The House deliberated extensively on means and ways to raise funds for the Academy and its various activities, ultimately deciding to form a 4-Fellow committee to undertake this task with some organisations and individuals in the Islamic World, and beyond.

Academy Standing Committees

A consensus existed that the membership lists of these Committees should be updated, and that each Fellow should decide which Committee he would wish to serve, and that the Committees need to meet once a year, alongside the annual Academy Conference.

At its annual meeting, which was held in Amman (Jordan), alongside the 1991 Conference, the General Assembly approved the results of the 1991 Fellowship elections.

The three newly elected IAS Fellows are: Prof. Mohammad Ahmad Hamdan FIAS who is a Jordanian Professor of Mathematics, Prof. Abdus Salam Mia FIAS who is a Bangali/USA national and Professor of Veterinary Medicine and Prof. Bambang Hidayat FIAS, who is an Indonesian Professor of Astrophysics.

With the 1991 Fellowship elections over, and the 1992 elections just underway, the number of IAS Fellows stands at present at 56.

Academy establishes Fund

In pursuance of the decisions of the General Assembly of the Academy, which met in Amman (Jordan), during December 1991, the Academy Secretariat has recently established a new Fund at a local Jordanian bank.

The Academy hopes that governments, institutions as well as private individuals in the Islamic World, would contribute to this Fund, proceeds from which would be allocated towards financing the various activities of the IAS.

The details of this Fund are as follows:

Bank: Jordan Islamic Bank
Branch: Shmeisani
Account: The Islamic Academy of Sciences-Trust Fund
Account Number: 809/\$91
Telephone of Bank: 677107
Telex: 23994, 24150
Facsimile: 691700
PO Box 925997, Amman, Jordan.

S&T Manpower Development; A Scenario

The concept of Science and Technology Manpower Development has, in this day and age, become a key variable in the national development strategies of countries.

It is in part to fulfill the need to review the S&T manpower situation of Islamic countries, that the IAS convened its fifth annual conference, "Science and Technology Manpower Development in the Islamic World," an activity which the Academy succeeded into making, the crowning achievement of the first five years of its existence. The mix of topics that was discussed, the rich experiences of participants and the striking examples that were drawn of countries that have had a successful human resources development and countries that have had not, made the activity, in which over a hundred participants took part, quite a success.

A consensus has always existed that human resources are the backbone of any society. Policy planners throughout the world have, for two decades almost, recognised the need for, and expressed commitment to, human resources programmes.

It always becomes clear that there are primary areas that form the pillars of any manpower development policy. Below are some:

(a) Planning and Co-ordination

For a country to develop its human resources, it needs to set itself reasonable targets for growth in the various areas, and then to go about implementing the mechanism of obtaining the technical human resources required to fulfill the tasks set.

(b) Education

This is perhaps the root of all human resources issues in that a country needs firstly to eradicate illiteracy from within its population through, as one Academy Fellow put it, the adoption of a crash programme the implementation of which would bring down the rate of illiteracy to (the probably acceptable) 2% level.

Science education needs to receive more attention in the national educational systems of countries, if the deficiency in qualified S&T human resources is to be eliminated.

(c) R&D Investment

In all Islamic and other Third World countries, the combined public and private investment in R&D has to rise to over 1% of the Gross National Product (GNP), for genuine development not be starved of adequate resources.

It would be certainly an added bonus if Investment Ratio (Government or Public sector) to private sector >1, i.e. If the volume or private sector investment in R&D was greater than the government of public sector.



(d) Incentives

For humans operate well, they need incentives. For S&T human resources to function/develop, they need a quantity and quality of incentives (financial, social, personal, political, scientific,... etc.).

(e) Organised De-centralisation

Advocates of central S&T planning exist and have a point. However, it cannot be but true that the freedom of heads of R&D institutions to take bold decisions often enables them to undertake great strides and contribute greatly to the development of their countries.

Finally, one can talk no end it seems, as to the details that can be learnt and taught about S&T manpower development. The point remains however that the Ummah needs to adhere to its development policies and really be self-motivating in all "departments" of human resource development.

Jordan's RSS convenes international seminar

The Royal Scientific Society, Jordan's main research and development institution, convened an international seminar in the first half of April 1992 entitled, "The Commercialisation of Solar and Wind Energy Technologies."

The seminar, which was patronised by His Royal Highness Crown Prince Al-Hassan, Chairman of Jordan's Higher Council for Science and Technology and Patron of the Islamic Academy of Sciences, was attended by more than 150 participants representing many countries and numerous local, regional as well as international organisations.

Over thirty presentations were made in this week-long activity, which included pre and post-

seminar excursions to the various RSS solar and wind energy stations throughout Jordan.

The IAS was represented at the seminar by Mr Mouneef Zou'bi, the Academy's Technical Affairs Director.

The Royal Scientific Society of Jordan and the Academy have maintained excellent relations over the years culminating in the Academy supporting one of the RSS's informatics courses in September 1991.

The RSS, in turn, has been one of the co-sponsors of the Academy's 1991 Conference, "Science and Technology Manpower Development in the Islamic World," which was held in Amman (Jordan), 16-19 December 1991.

IDB delegate visits IAS

Mr Ahmad S Hariri, Officer-in-Charge at the Technical Co-operation Programme at the Jeddah-based Islamic Development Bank, has recently visited the Secretariat of the Islamic Academy of Sciences, in Amman.

Mr Hariri was received by the Executive Director General of the Academy, Dr Anwar Bilbeisi, and the Technical Affairs Director, Eng. Mouneef Zou'bi.

Many items were discussed during the visit including IDB's possible support for the 1992 and 1993 Academy Conferences.

The Islamic Development Bank has been a regular supporter of the various activities of the IAS over the years and has indeed provided financial support for the Academy's 1990 Conference which was held in Antalya, Turkey.

Training guide for 1992 published

A recent addition to the library of the Islamic Academy of Sciences has been the "1992 Training Opportunities in OIC Member Countries."

This excellent guide, which is published annually by the Ankara-based Statistical, Economic and Social Research and Training Centre, provides the most comprehensive details about training programmes in the various OIC-countries and is compiled using the information supplied by the institutions included in it.

The editorial board congratulates Dr Sadi Cindoruk, Director General of SESTRIC, Ankara (Turkey), on the superb efforts he and his colleagues expended in editing this publication.

Conference in Tunisia

The Ecole National des Sciences de l'Informatique will host the sixth International Conference in Computer Science (JISI '92) in Tunis from 20-22 May 1992.

Submissions in English or French are invited on the subject of computer information systems in the specific areas of Architecture and Organisation; Design and Management; Set-up and Security; and Decision Support.

For further information please contact: Montasser Oualli, JISI' 92 Chairman, Ecole Nationale des Sciences de l'Informatique, PO Box 275, Cite Mahrage 1002, Tunis, Tunisia. Fax: 78727.

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The Academy Patron also referred to the prospect of the contribution, in all spheres, that the displaced people can make in the development process of their own countries, benefiting from the various skills they acquired after their long years of service outside their countries.

His Excellency President Khan

President Ghulam Ishaque Khan, President of the Islamic Republic of Pakistan and Patron of the IAS, emphasised the importance that ought to be given to human resources development.

In his message, which was delivered by Prof. Naeem Khan FIAS, the President also pointed out to the deficiency of Muslim countries in this resource.

"We do not have enough qualified people to man our production system or work in our research laboratories or teach in our universities," the President added.

The President reminded the participants of the great scientific heritage of the Ummah and that the prevalence of the appropriate environment during the 8th-12th centuries C.E. led to the Ummah producing towering figures in the various fields of science.

In referring to the particular concept of scientific manpower development, the President noted that it is a long-drawn process, the results of which appear after a decade or two and which require meticulous planning to succeed.

"Most of the Muslim countries have done very little planning for human resource development in the field of science and technology. Perhaps it is difficult to forecast manpower requirements for an economy which is still evolving and

which remains subject to external and internal instabilities of political and economic nature. Nevertheless, the importance of manpower planning for successful application of science and technology to the development process cannot be overlooked," the President said.

President Khan concluded his statement by saying that Islamic countries should launch a comprehensive programme of action for human resources development for the successful application of science and technology to the development process.

This programme, the President went on to say, must aim to provide workers with a conducive environment for work, attractive careers, incentives and improved service conditions since uninterested workers cannot produce the desired results.

"We need competent workers, gifted researchers, creative leaders and technical managers fully committed and dedicated to Islamic renaissance and who can steer the S&T development in the Islamic World," the President concluded.

His Excellency President Mumtaz Kazi

In his address Prof. M A Kazi, President of the IAS and Co-ordinator General of COMSTECH, thanked HRH Prince Al-Hassan for gracing the conference and agreeing to address its opening session. Also, he thanked His Excellency Ghulam Ishaque Khan, President of the Islamic Republic of Pakistan for the message he had sent on the occasion.

The IAS President added that the backwardness of many Islamic countries is due to the shortage of trained and qualified manpower in S&T. Therefore, the Islamic countries should launch an elaborate

programme for human resource development in areas of critical importance of S&T. Effort must be made to train young scientists, engineers and doctors to upgrade the S&T potential of the country.

A strategy for a short term must be adopted, the IAS President added, the migration of many qualified staff to the west "brain drain" is one of the most serious problems of the developing world today, they must be invited and attracted back to their countries of origin to help the local scientists upgrade their capability.

Prof. Kazi went on to say that the Islamic countries are faced with very serious shortages of technical manpower in every sector of the economy, particularly in the S&T sector. The number of institutions offering such type and such level of training is not adequate.

The IAS President proposed that women should be encouraged to take up scientific careers because of the continuing exodus of talent from the Muslim world. Therefore, their access to scientific disciplines should be facilitated, and they should be provided scholarships and other incentives to encourage them to pursue their studies.

Prof. Kazi concluded that the attainment of high standards of excellence by the colleges and universities of the country is an important prerequisite for a meaningful scientific and technological effort for development.

The President finally thanked the Council and executive staff of the Academy for their efforts in organising the conference, Islamic Foundation for Science, Technology and Development IFSTAD, Islamic Development Bank IDB, Jordan's Royal Scientific Society RSS and the World Bank for co-sponsoring the fifth conference with the IAS.

Inaugural Address of HRH Al-Hassan Ibn Talal Crown Prince of the Hashemite Kingdom of Jordan and Patron of the Islamic Academy of Sciences

Ladies and Gentlemen:

First of all, I would like to thank you for your preparation of the ongoing roundtables in Amman. These include a roundtable currently held on Education Development Resources in the region, and a roundtable on Human Resources Development, particularly in relation to recent mass migration, hosted by the Economic & Social Commission for West Asia. But most of all, I would like to thank Professor Kazi and our hosts at the Islamic Academy of Sciences for their scientific flexibility and tolerance in accepting that we combine this plenary opening meeting.

I would like to say at the outset that I was heartened by President Ghulam Ishaque Khan's recent message, which you all heard, when he said:

"We have to reverse the course of history through scientific application within the Ummah." I would add, however, that this can be best done by advancing the cause of humanity. For clearly when we speak about human resource development in science and technology, we are not speaking about an indeterminate or an intangible, unless we wish to make it so. On this point I would say that I am proud to be associated with the Islamic Academy of Sciences, which states among its objectives that it is non-political, non-governmental and non-profit making.

However, I would like to add that the Arabic language does not differentiate clearly between politics and policies (سياسة وسياسات),

policies and action-oriented programmes. I note with great interest that the recent series of meetings held in the context of the European region have all been political in terms of nomenclature, have all emphasised interdependence and transnational thinking, and have all based themselves soundly in profound scientific studies in the various fields and disciplines which they address.

The process that they have adopted has, of course, been described as the Helsinki process. I would like without further ado to turn to the following transparencies.

I would suggest that this immediate region- the West Asian region- is a region in the narrowest possible sense. I would refer you to the scientific approach once again, by emphasising the volatility of the region in which we live. We have here a circle of diversity of 70-mile radius, in desperate need of harmonisation. The contents of this circle are of deep concern and significance to the Ummah, containing as they do sites holy to Islam as well as to the other two Abrahamic faiths.

From a demographic perspective, we must address the recent mass migration of Palestinian refugees from the Gulf in transnational terms. In the light of the detailed studies compiled on the qualifications of these migrants, it is likely that they will make tremendous contributions in their new environment, provided that opportunities are available and that pluralism in the broadest possible sense is developed in the Muslim Ummah.

Ladies and Gentlemen:

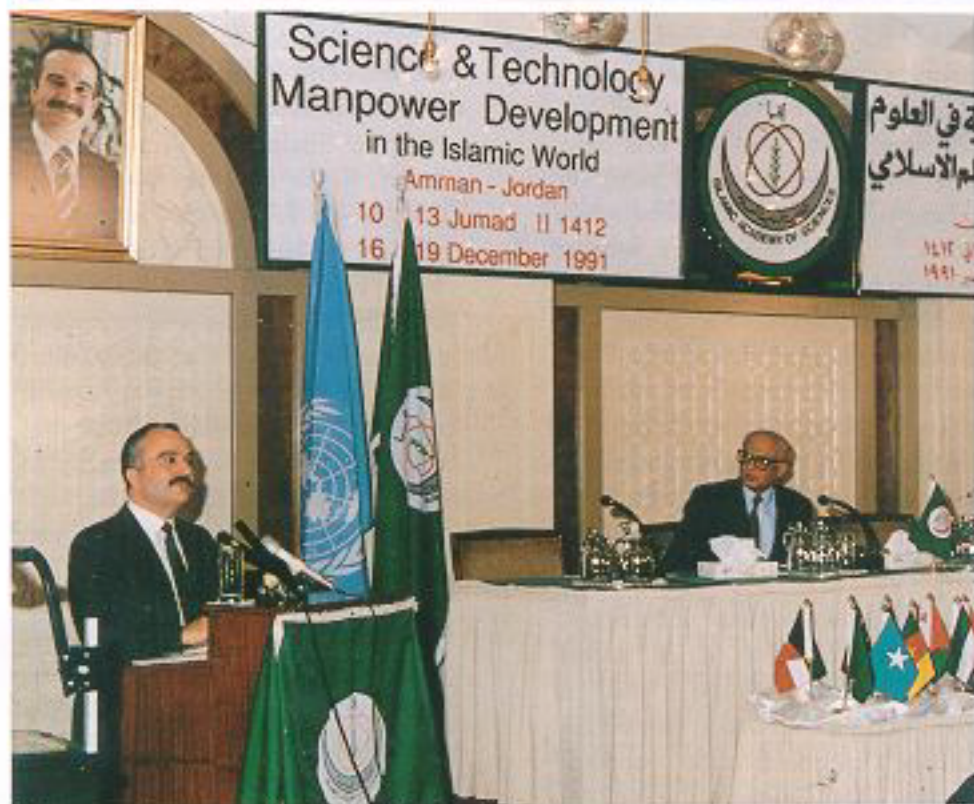
We are not talking about an intangible in human resource development. I do not presume to speak on behalf of anyone here, coming as you do from different parts of the globe, but I would like to refer specifically to two themes. These are human resource development; and natural resource development. In this context, science must surely be soft science, in the sense of making human beings capable of managing their resources.

What resource is more important than life-giving water? In this region, we have the Mediterranean, the Dead Sea, Lake Tiberius; we have the rivers Jordan, Yarmouk, Litani, Barada, Al-Awali. These are life-giving in their contribution to energy, mineral development, water for both municipal and rural use. The geographical diversity of the region is determined by water resources: fertile plains, forests and deserts alike.

But here we run into political questions, for waters form parts of territories, and 25% of the mainland within the 70-mile circle is occupied by force. I speak of the West Bank, the Golan Heights, South Lebanon. And these occupations are inextricably bound to armaments technology, ranging from stones to nuclear warheads.

This circle of 70-mile radius must be expanded. An international awareness of the interrelated challenges of demography, environment and regional development is absolutely vital to the achievement of peace and stability in the circle of diversity. Cooperation must thus be evolved into a broad 700-mile radius, to include the Nile-Euphrates Circle.

We have heard over the last hundred years how our adversaries



seek to exert influence and control from the Nile to the Euphrates. What do we, the people of the region, have to say correspondingly about developing our own political will and political vision, and our own programmes for interrelated development? It appears to me that prosperity, rather than stagnation and the widening income gap referred to so many times in the statements of President Ghulam Ishaque Khan, is essential for peace.

I would like to say here that it is patently obvious that no single nation-state can effectively manage its resources in total isolation from a regional and international context. We are transparently interdependent. Having said that, interdependence has led to a structured format over several years in the context of Europe, and I would like to share with you some observations on that format.

The concept of the Helsinki process has evolved to include regional cooperation proposals such as the

Conference for Security and Cooperation in the Mediterranean (CSCM), which was referred to by the Palma de Mallorca Report of last year. You will also recall the Charter of Paris, which involved 34 countries, and three dimensions: security, economy, and the human dimension, which includes cultural dialogue, human rights and religious tolerance.

The initial ticket to this kind of regional structure requires a minimum standard of common ideas: territorial integrity, the rejection of force, and, indeed, arms control. The Americans and Russians speak of a rather longer menu: arms control, Arab-Israeli peace, Lebanon, the Gulf, regional economic development, human rights and democratic freedoms.

As we have developed our own conceptual schemes here in this country, we have felt that the starting menu for regional cooperation requires a direct interrelation between energy policy, debt reduction and arms control. These three key areas form a 'kickoff triangle' to a

workable regional cooperation structure. When I say energy, I refer to basic resources, to the energy we need to power and fuel our water projects; and I draw your attention also to the fact that non-oil producing countries are not as yet fully fledged members of a regional or indeed international dialogue on complementarity of this important resource. Regional development plans would, of course, include in greater detail a paradigm including energy, water and transport.

The geostrategic parameters of Middle East security include people, resources, environment, ideology, activism, and security dimensions. These are all highly political areas. I would draw attention to the fact that people, as a theme, is interrelated with a parallel theme of resources and the environment, under which oil, water, debt and land are expressions of our political vision and our political will.

May I continue, Ladies and Gentlemen, by addressing the areas of commonality between the roundtable of ESCWA, and the ongoing meeting of the Islamic Academy, and briefly draw your attention to a few key points. The resource capacity of the UN and other international agencies of multilateralism in general has not kept pace with basic humanitarian needs, the needs of refugees and displaced persons. Bearing in mind that all statistics have their limitations, the figures on mass migration of population over the past year, in terms of Asians and in terms of population in this region, indicate the largest mass migration to take place in this century. The total number of people involved is four and a half million, including Asians displaced in the course of the Gulf crisis.

We are living through what has been described as 'donor fatigue', in which visas are presented by foreign embassies to those who are qualified, but not to the rank and file of human migrants. As the final report on the work of the Independent Commission on International Humanitarian Issues (ICHI), entitled "Winning the Human Race" noted, this happens largely because of the serious lack of a precise mandate for humanitarian organisations. Consequently their terms of reference often overlap or conflict, tending to cause these organisations to operate in an atmosphere of rivalry. As a result of these factors, institutional interests often take precedence over humanitarian concerns.

We refer, Ladies and Gentlemen, to human resources in terms of mass migration. I would like, therefore, to remind you of the various categories of migration: fleeing from persecution, fleeing from internal conflicts, fleeing from poverty, from famine, from natural disasters, from wars, and the mass expulsion of labour migrants.

Recent events, the recent trauma, the recent earthquake in this seismic zone has drawn attention to those who fall outside the net of the current refugee regime and the body of international law, institutions and practices that has evolved to deal with refugees and displaced people. As we discuss these issues with the International Committee of the Red Cross and Crescent Societies and with international lawyers concerned with new norms of humanitarian law, I would like to remind you, as Fellows of the Islamic Academy of Sciences, that the majority of these population upheavals occur within what we so readily refer to as the Muslim Ummah.

It is for this reason that I would strongly recommend that serious consideration be given to the current jargon and idiom in this field. The world around us refers to the future in terms of "the new world order." It is time that we, as Muslims, contribute to the discourse, contribute with our own charter of human rights, contribute with our own charter of transnational thinking, and move from attempts to reverse the course of history, to emphasising that this can and will take place only by advancing the cause of humanity.

The demographic dimension, particularly in North Africa, closely neighbouring Europe, and is therefore an important aspect of Europe's approach to the process of security and cooperation in the Mediterranean. Recently, these trends have been coupled with potential demographic pressures from Eastern Europe and the former Soviet Union. Europe attaches a high priority to dealing effectively with these twin challenges of mass migration from the South and East; and I recall in this context that we as Arabs proposed to the International Labour Organisation (ILO) a labour compensatory facility in the mid-1970's. We do not intend to be an embarrassment and a burden to each other in the context of the Muslim Ummah. But we will continue to be an embarrassment and a burden to each other unless and until international norms are applied in terms of transnational thinking.

Within the Middle East, the Arab-Israeli conflict has led over the last four decades to a West-East pattern of mass population movement. The recent Gulf crises generated a reverse East-West back flow of population from the Gulf. Jordan is caught in between these

twin demographic pressures from the West and from the East.

Yet we observe the criteria applied to Soviet Jewish migration, under which the per capita compensation for each individual migrant is estimated at \$50,000. I would like to state very clearly that in terms of our attempts to look at compensation, we find the greatest difficulty indeed in arriving at such a figure, and can only assume that when we speak of economics, as when we speak of science, the reality is political. Let me remind you that when the American Cap Report was published in 1952 on the subject of compensation for mass migration of people across the board within this region, \$800 per capita was the figure (1952 figures). Now we are speaking of \$50,000 per capita. On the basis of the \$800 figure, we had to provide the seed and the tools, the start-up capital in an agrarian economy; a point well made by President Ghulam Ishaque Khan.

Where, in this context, is equal treatment? We can object, as we and others do, to the housing loan guarantees. But at the same time, I would strongly recommend that we as Muslims identify clearly and present to the policy makers those background reports that emphasise the fact that without human stability, there is no stability, no science, and no movement from dependence to self reliance.

In the Middle East, the problems associated with migrant labour and mass movement of population pose the kind of transnational challenges that have inspired the conventions of the ILO, the Social Charter of the Council of Europe, and the Social Charter of the Twelve. Are there parallels to be developed within the context of the Muslim Ummah?

Events in any particular region

are no longer localised, but tend to affect an ever-increasing proportion of the globe. This increasingly globalised nature of international relations, on the military, political and economic dimensions alike, has meant that many of the challenges confronting the world community today-including the mass movement of population-are in reality only susceptible to globalised solutions.

I ask you, Ladies and Gentlemen, Scholars of the Academy, will the future be determined by human calculation or by a 'system catastrophe?' It should not merely be a matter of awaiting the outcome of confrontation between demography and technological solutions. For in the words of three eminent scholars, Professors Falk, Kim and Mendlovitz:

"Malthusian demographic pessimists and Kahnian technological optimists... sleep in the same bed but have different dreams."

There seems to me to be only one satisfactory approach to these challenges. We need a new code of conduct for times of peace. A code of conduct to inform the emerging calls for the shaping of the future in a more just and humane direction. In relation to the new world order, I quote Henry Kissinger, commenting on the statement of George Bush earlier this year:

"The order in which no nation must surrender one iota of its own sovereignty, an order characterised by the human law rather than the resort to force, the cooperative settlement of disputes rather than anarchy and bloodshed, an unstinting belief in human rights."

Kissinger reports that Woodrow Wilson, almost a century ago, made the same calls. There is no new

world order; there is, rather, a return to a pre-World War order. Wilson insisted that the standards of national selfishness that once governed the council of nations be replaced by a new order of things, in which the only questions would be: Is it right? Is it just? Is it in the interest of Mankind? With all due respect, Muslims do not need to be reminded of these questions. For what is Islam about if not justice? And that justice, as we all believe as a tenet of faith, comes from the Almighty.

So in terms of the new conduct, how can we as Muslims reverse the course of history and advance, by advancing the cause of humanity?

I return to the world of 1991, and say very briefly to you as scientists that the dominant social paradigm, or the vision of an ideal future, has shifted in recent decades from an industrial to an ecological basis. Ecology has superseded industrialisation as an instrument for resolving the challenges facing humanity. Is it not time, Scholars of the Academy, dear friends, for a second shift in that paradigm towards a human or humane axis? The world is, after all, ultimately composed of individual human beings.

The reality of world politics has meant that the nonterritorial associations or organisations formed by the world community reflect in their functioning the relative power of the strong. We are told today that this region will soon be governed by the parameters of a newly emerging donor organisation, the Middle East facility in the World Bank in Washington. A further complication arises out of the perceived need for specialisation in order to achieve efficiency. But the globalisation of international relations has transmuted "specialisation" into "sectoral

fragmentation."

The recent mass migration, to which I have alluded many times, is a case in point, relating to institutional or sectoral fragmentation. As I recently advised the new Secretary General of the UN, Boutros Ghali, the consequences of that migration fall firmly on the shoulders of the UN family and indeed on the shoulders of all of you represented here today. They fall under the jurisdiction of such diverse organisations as the ILO, UNHCR, ESCWA, UNDP, UNRWA, and the Islamic Development Bank; while the Economic and Social Commission for Asia and the Pacific has, we are told, a specific interest in broadening discussions with South Asia and West Asia.

Can we, in abstraction, identify these topics? Can we, in abstraction, serve humanity? Can we in abstraction from the skeletons in our cupboard - the prejudices and the hatreds between ourselves as Muslims - identify objectively and scientifically a paradigm for future cooperation? A paradigm in which we do not have to agree, *de rigueur*, with the same numerical value on a scale of ten points; where we can agree maturely to disagree; where we can recognise that the shortfall in our agreement is paid for by our children, and by our children's children?

At the other end of the spectrum, what do we have? Bilateral assistance, which by its very nature is a by-product of state-to-state vested interests. Bilateral assistance urgently needs to be supplemented by regional approaches that globalise demographic imperatives of mass population movements and unprotected migrant labour.

To attempt to coin a bold new term, what may be needed, Ladies and Gentlemen, is an approach based on "Anthropolitics": putting

humanity at the centre of politics.

I hope that we can qualify one of the objectives of the mandate of this organisation. While I fully agree with the Academy being non-governmental and non-profit making, when we say non-political, I would like to say anthropological. This is so especially as we look at the world around us from our region, and as we say in Arabic (اهل مكة ادري بشعابها) : "The people of the Holy City (Mecca) are surely more cognisant of the course ahead." *

I thank you for your patience, your flexibility, and indeed for your intellectual generosity in accepting my attempt to impress upon you all the nature of the challenges ahead, and in allowing me, as a Muslim brother, to rest my conscience in having spoken out once again. I feel that our basic renewable commodity in this part of the world can only be vision and the will to implement. (وقل اعملوا...)

والسلام عليكم ورحمة الله وبركاته

As part of a scientific approach to emphasize the volatility of the region by pointing out the inherent diversity of a relatively small area within the wider Middle East context.

Probably the most diverse region on the map of the world is a relatively minute circle only 70-miles in radius with its centre in Lake Tiberius.

Contents of the Circle

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2. Capitals
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3. Demography
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Shi'ites Maronites Bedouins Soviet Jews
Druze Greek Orthodox Circassians Ethiopian Jews
Alawis European Jews Kurds Evacuees from Kuwait
Ismailis Oriental Jews Armenians Returnees from the Gulf
4. Water
The Mediterranean, The Dead Sea and Lake Tiberius
Rivers: Jordan, Yarmouk, Al-Litani, Barada, Al-Awali and Al-Kalb...
5. Geographic Diversities
Fertile plains, Forests and Desert
Mount Hermon : 9000 ft above sea level
Jordan Valley : 1300 ft below sea level
6. Territory Occupied by Force (by Israel)
25% of the mainland within the circle including the West Bank, the Golan Heights and South Lebanon
7. Effective Armament
Ranging from stones to nuclear warheads

The Circle
(In desperate need)



Peace and stability in the Circle of diversity (70-mile radius) requires an international awareness of the interrelated challenges of Demography-Environment-Regional Development. Regional cooperation must be evolved both in this circle and in the complementary Nile-Euphrates circle (700-mile radius). Prosperity, rather than stagnation and a widening income gap, is essential for peace.

NILE - EUPHRATES CIRCLE
(700 mile radius)



MIDDLE EAST SE EXISTING MAT

	Geo-Strategic Parameters	Military
PEOPLE	Demography	Police State
RESOURCES/ENVIRONMENT	Oil	- Desert Storm - Desert Shield
	Water	Hydraulic
	Debt	Military Debt
	Land	Border Disputes
IDEOLOGY/ACTIVISM	Radicalism (Nationalistic and Religious)	- Absence of - Controlled
	Terrorism	Repression
	Arms (Conventional & Non-Conventional)	Arms Race

		Geo-Strategic Parameters	SECURITY DIMENSIONS		
			Military	Political	Economic
PEOPLE	Demography		Conference on Security and Cooperation in the Middle East (CSCME)	The Intifada Palestinians in the GCC	
	Oil		Energy Strategy	Price Indexation Stabilization Fund	
	Water		International Court of Justice International Arbitration	Regional Water Plan	
	Debt		Regional Stabilization Structural Adjustment	Regional Sinking Fund Debt Reduction	
	Land		International Court of Justice International Arbitration	Regional Environmental Plan	
RESOURCES/ENVIRONMENT					
IDEOLOGY/ACTIVISM	Radicalism (Nationalistic and Religious)		Human Rights	Regional Development Fund	
	Terrorism		Democracy	Socio-Economic Development	
	Arms (Conventional & Non-Conventional)	Control of Weapons	Confidence Building Measures	Defense Expenditure Reduction	

CURRY DIMENSIONS

	Political	Economic
freedoms media		

EUROPE	U.S.-SOVIET	JORDAN
<p>Conference on Security & Cooperation in the Mediterranean (CSCM)</p> <p>- Palma de Mallorca Report</p> <p>- Charter of Paris</p> <p>Three Dimensions:</p> <ol style="list-style-type: none"> 1 . Security 2 . Economic Dimension 3 . Human Dimension <p>(Human rights, cultural dialogue, religious tolerance)</p> <p>- Admission Ticket:</p> <p>Minimal standard of common ideas e.g.:</p> <p>Territorial Integrity</p> <p>Rejection of Force</p> <p>Arms Control</p>	<p>Search for Common Ground (SCG) and the Soviet Academy of Sciences (Institute of World Economy and International Relations (IMENO))</p> <p>Conference on Peace & Cooperation in the Middle East (CPCME)</p> <p>Baskets:</p> <ol style="list-style-type: none"> 1 . Arms Control 2 . Arab-Israeli Peace 3 . Lebanon 4 . The Gulf 5 . Regional Economic Development 6 . Human Rights and Democratic Freedoms <p>Something for Everyone, Forbearance, Flexible Baskets, Wiggle Room, Flexibility in Form and Language, Starting a Political Process, Equality of Participants.</p>	<p>Conference on Security & Cooperation in the Middle East (CSCME)</p> <p>Regional Matrix:</p> <p>Security</p> <p>Military Political Economic</p> <p>People</p> <p>Resources</p> <p>Ideology</p> <p>Starting Menu:</p> <p>Energy Policy</p> <p>Kick-off Triangle</p> <p>Arms Control Debt Reduction</p> <p>Regional Development Plan:</p> <p>Water</p> <p>Energy</p> <p>Transport</p>

Scientific and Technological Co-operation among the Muslim Countries.

Prof. M. A. Kazi FIAS

**President of the Islamic Academy of Sciences
Co-ordinator General of COMSTECH**

It is now universally recognized that science and technology provide the most effective means for achieving progress and development, self-reliance and independence and above all national harmony and security. The Islamic World had a glorious past in terms of scientific achievements, but its present S&T capability is far from being enviable. Infact, no single Muslim country today is self-sufficient in the context of S&T excellence, nor is the cumulative capability of the entire Islamic World sufficient to create enough high quality science and to apply it either for the acquisition or the generation of new technologies. The Muslim World is totally dependent on the North for its technological needs as well as for the training of its high level scientific and technological manpower; a situation which needs to be corrected as early as possible.

The Islamic World is faced today with numerous challenges mostly arising out of economic exploitation, illiteracy, cultural subversion and internal dissensions. This has created a wide-spread consciousness of the need for solidarity amongst the Muslims and developing the necessary capability for self-reliant development. There is an increasing realization in the Muslim countries that only a concerted, collective and persistent effort could free it from poverty and underdevelopment and protect it from overt aggression and domination. Infact, there is a strong consensus amongst the Muslim countries for initiating a joint action for re-building a

sizeable S&T capability in the Islamic World.

The Islamic World is confronted today with a constant threat from the advanced countries. Partly due to the strategic location of the Muslim countries and their oil and raw materials and partly because of accumulated religious prejudices, the belt of Muslim countries has become an arena of heightened power play, rivalries and conflicts. Border conflicts in different regions of the world are often master-minded and encouraged to create ready markets for absorption of expensive defence equipment and technology resulting in skyrocketing national defence budgets and expenditure thus causing further degeneration of these already sick economies. Furthermore at present the world affairs are almost exclusively dominated by the industrialised countries and therefore all international arrangements, systems and institutions are designed to serve their common interests. The underlying structural disequilibrium in the present international division of labour, monopoly in production and trading system have lodged the Third World countries into perpetual state of unfavourable trade balance, debts and unemployment. The world is thus so sharply polarised that one part of the mankind is blessed with undreamt power, affluence and profusion of amenities whereas the other part which comprises the bulk of humanity in the developing world faces absolute poverty and



unmitigated hardship.

These imbalances and inequity have created a situation in which the rich are becoming richer and the poor are becoming poorer. Today, 20 per cent of the affluent world enjoys 70 per cent of the aggregated GNP of the world, whereas three fourth of mankind has the paltry share of seventeen per cent. The Bandung Conference, the five UNCTAD's, the two special sessions of UN Assembly, the Vienna Conference on science and technology and the North-South dialogue have proved unequivocally that the wealthy nations have become so, not only because of their individual and collective efforts but largely because of continuous transfer of valuable resources of men and materials to them from the poorer countries of the world. This drain is still continuing at an alarming rate and to the growing disadvantage of developing countries.

A number of countries in Asia and Africa got their independence during the period between the late forties and early fifties. Seen in retrospect, in a little over quarter of a century quite a few of these countries have progressed beyond expectations and have completely transformed their economy into a more viable and a more productive one by an effective and intelligent

use of science and technology. Some have even become nuclear powers and thereby have earned a better negotiating position with the affluent and advanced nations of the world. On the other hand the Islamic World is still struggling with many of its immediate problems seeking their solution. There is, therefore, an urgent need for scientific and technological revolution in the Islamic World.

The world is undergoing today an unprecedented technological change. It has become difficult even for many advanced countries to keep pace with the new developments of the recent years. The more prospective and forward looking nations are, therefore, investing heavily in science and technology in order to manage their future with assurance and confidence. This lends great urgency for the Islamic countries to take positive action in strengthening their capability in areas of critical importance. Besides, the Islamic World must take full cognizance of the political trends that are emerging as a consequence of scientific and technological revolution.

The Islamic World today constitutes nearly one-third of the humanity that is inhabiting this globe. Out of nearly one billion Muslims in the world, three fourths of them have their own sovereign states. The rest are distributed in every nook and corner of the world. Extending from Morocco to Indonesia, the Muslim World occupies the middle belt of the globe and assumes position of extreme strategic importance. It controls the vital land routes and air bridges between Europe and Africa, Asia and Europe and between Asia and Australia. It has vast coast lines, sea lanes, territorial waters and maritime zones. It is a rich world although most of it remains still

unexplored and unexploited.

The Muslim countries have tremendous economic attributes which can produce a very happy and peaceful world for them. They are richly endowed with natural resources. They produce nearly 50 per cent of world's oil. They account for 40 per cent of world's export of raw materials. A number of these countries abound in natural wealth, others have greater potential for manpower and there are some which possess a relatively higher level of technological know-how. These differences can foster the quality of close friendship and co-operation between these countries especially when there is an identity of purpose, similarity of views, agreement in order of priorities, parallelism in the social and situational behaviour, and above all common faith and destiny. The hybridization of these elements can yield astonishing results to generate affluence and well-being among the masses in the Islamic World.

The backwardness of many of the Islamic countries in present times is not due to their poor resource endowment as much as, it is due to their inability to exploit the available resources because of their continuing weakness in science and technology capability. Unfortunately, the development process in Islamic World has been based largely on technology imported from advanced countries leading to a situation of excessive dependence on supplier nations. This has not only impeded the growth and creativity of the indigenous S&T sector but has also, in many cases, been exploited for exercise of undue political and economic pressure on the recipient country.

The use of S&T for development, as well as, for successful technology transfer, depends on adequate and

effective S&T infrastructures. Although the basic infrastructure of S&T is available in many Muslim countries, it is neither large enough nor strong enough to bring about the much cherished S&T revolution. The Islamic countries, therefore, need a strong base of S&T to solve their problems of food, defence, security, shelter, fuel and energy, health and pollution, exploitation of mineral resources and boosting of their agricultural and industrial production. A minimum critical operational size of science is always necessary for developing the problem-solving capability of any nation.

The Islamic World has already missed the industrial revolution and as a result has paid heavily for its failure to keep in step with the creators of new knowledge. The world stands today poised for another leap forward. If they fail to capitalize again on the opportunities made available to them now they will be left behind and there will be no reprieve for them from the verdict of history.

Islam is a progressive religion. There are no inhibitions to development in the value system prescribed by Islam. Unfortunately due to the continuous decline of the Muslim society for the past few centuries the Islamic World has stagnated for a long time. Political institutions have not grown to provide stability to national governments. Education system is neither goal oriented nor widespread. The existing production system is not large enough to meet the needs of the growing population and the R&D system is not capable of exploiting the available natural resources or to produce new technologies and know-how. This situation must change if Muslim countries are to survive with dignity in this fast changing world.

Islamic Academy of Sciences
Science and Technology Manpower
Development in the Islamic World

DECLARATION

Adopted in Amman (Jordan), on the
13 Jumada II 1412
19 December 1991

PREAMBLE:

WHEREAS Allah (God) Subhanahu-Wa-Ta'ala has created Man in the best of forms and endowed him with reason, dignified and honoured him above all other creation and entrusted him with the vicegerency on earth;

WHEREAS Allah has made knowledge a source of honour and dignity of man, and hence has urged him to seek, utilise and disseminate it for the benefit of all mankind;

WHEREAS scientific and technological knowledge has currently reached heights never achieved before, in human history and has become a powerful tool of might and affluence;

AND WHEREAS the Ummah has lately been lagging behind in these two areas;

NOW THEREFORE the Islamic Academy of Sciences:

(a) **REALISING** that there is a high rate of illiteracy within the Ummah at a time when this has been almost eradicated in most developed countries;

(b) **REALISING** the deficiency of Science and Technology Institutions in many Muslim countries;

(c) **NOTING WITH CONCERN** the limited enrolment in S&T studies, and the deteriorating

quality of instruction in such institutions;

(d) **NOTING WITH CONCERN** the financial constraints under which most S&T institutions are operating, at a time when the research carried out at such institutions has become very costly;

(f) **NOTING WITH CONCERN** the lack of co-ordination among the various agencies offering technical/vocational training for manpower on the one hand and those involved in production on the other;

(g) **OBSERVING WITH CONCERN** a poor uniformity and equivalence, in standards and certification of programmes outside the formal training systems, which hampers co-operation and integration;

(h) **NOTING** the mismatch between the output of S&T institutions and the needs of the employment market, which leads to the redundancy of talents and their eventual wastage;

(i) **NOTING** the lack of relevant curricula, at a time when these are being developed at a very fast rate, the shortage of; properly qualified and motivated teaching faculty, facilities, equipment and supporting staff, appropriate text-books, teacher-guides as well as education manuals and other teaching aids in the native languages of Islamic countries; and

(j) **REALISING** that the alarming brain drain of Muslim talent in the area of S&T, at a devastating rate, is a direct consequence of the lack of personal freedom and respect for human dignity and the absence of the appropriate working environment and incentives, in many countries.

APPEALS to the leaders and policy and decision makers of the Muslim World to:

(a) **Take** resolute actions to nurture the fundamental Islamic values of freedom, divine justice and dignity of Man;



(b) **Take** immediate measures for the eradication of illiteracy in the whole of the Ummah within the next two decades;

(c) **Adopt** a strategy of increasing the current S&T manpower levels, to those needed for the Ummah to catch up with international standards;

(d) **Take** the necessary steps to increase the share of S&T expenditure, up to at least 1% of the GNP of countries, within the next decade;

(e) **Take** the necessary measures, to upgrade the quality of the output of S&T institutions, especially in the area of human resources, based on internationally accepted indicators;

(f) **Re-organise** the teaching of Science and Technology in such a manner so as to motivate both students and teaching staff to take up such areas for careers;

(g) **Take** the necessary measures to eliminate the mismatch between the output of the S&T educational systems and the requirements of the Ummah, through proper co-ordination among various institutions offering such education and training on the one hand and the production sectors on the other, as

well as by harmonising the educational standards and certification of the various countries, for both formal and informal programmes;

(h) **Take** the necessary steps to revise the primary, secondary and tertiary level S&T curricula in the various educational establishments, to bring them in line with the needs of the Ummah as well as to raise the standards of educators and provide the necessary incentives for their motivation;

(i) **Undertake** the necessary planning to introduce S&T education in the national languages of Muslim countries, and to encourage writing textbooks, teacher-guides and manuals in such languages;

(j) **Introduce** courses on the history and philosophy of sciences emphasising the great Islamic heritage in S&T so as to provide further motivation to students in the Islamic World;

(k) **Accelerate** efforts towards increasing co-operation in the area of S&T between the various Muslim countries in order to share benefits, achieve complementarity and

reduce research costs;

(l) **Take** steps to promote the participation of private sector groups so that they would shoulder, together with governments, the responsibility of human resources development in Muslim countries;

(m) **Introduce** a proper system of performance evaluation in the R&D sector and provide necessary material and moral incentives for excellence of individuals in these and other fields;

(n) **Revise** the S&T policies in all Muslim countries putting human resources at the forefront of their planning policies;

(o) **Find** out those areas in which excellent work is being done in the Muslim world at an international level, and publish the findings of such an investigation. This would greatly facilitate the exchange of scholars and hence the promotion of S&T manpower within the Ummah; and

(p) **Establish** regional and subsequently the Ummah-level common markets for locally-manufactured products and endogenous services.

Induction of Fellows Katili, Khiati and Hamdan



New issue of Journal published

Volume 4, Number 3 of the Journal of the Islamic Academy of Sciences has recently been published by the IAS.

This issue contains more than 18 articles covering such subjects as Chemistry, Biochemistry, Food Chemistry, Petrochemistry, Geology, Botany, Nuclear Engineering, Microbiology, Bacteriology, Genetics, Physiology as well as other medical and non-medical articles.



Volume 4, Number 2 of the Journal, which was published recently also, contains more than 13 different articles on such subjects as Chemistry, Physics, Medicine, Geology, Botany and Statistics.

Both issues also contain some editorial letters and general S&T editorials.

The Journal is the leading IAS publication and one which is edited and published in Turkey under the chief editorship of Prof. Naci M. Bor FIAS.

Full details about the Journal and the articles it contains, as well as subscription procedure, can be obtained from the Editor; Prof. Naci M. Bor FIAS, Mithatpasa Cad., No. 66/5, Ankara, Turkey.

The IAS has recently published Volume 1, Number 2 of the Arabic language version of COMSTECH's quarterly journal, "Islamic Thought and Scientific Creativity."

The publication which is co-sponsored by the Royal Academy for Islamic Civilization Research,

Al Albait Foundation, contains the following articles; "Influence and Transfer of Islamic Science to Medieval Europe" by Dr Qaiser Mushtaq, "Lawful and Unlawful Foods of the Peoples of the Scriptures" by Dr Javaid Aziz Awan, "Muslim Women in Science and

Arabic Islamic Th

RESOL

WHEREAS Allah (SWT) is the Creator and Sustainer of the universe and knows all and everything that is in the Heavens and Earth including the invisible;

WHEREAS Al-Quran is the main spring of knowledge and invites the believers to observe, reflect, reason, explore and understand the signs and patterns of Allah (SWT) in His creation;

WHEREAS Al-Quran proclaims that those believers to whom knowledge is vouchsafed occupy higher ranks and exalted positions in the Muslim society;

WHEREAS the Prophet of Islam (SAW) attached great importance to the study of natural phenomena and pursuit of knowledge and is reported to have said that "scholars are heirs of Prophets;"

WHEREAS the Islamic polity of the past had always recognized the value of knowledge and had held its distinguished scholars, scientists and men of letters in high esteem and honour;

The Fellows of the Islamic Academy of Sciences attending this Sixth General Assembly in Amman, Hashemite Kingdom of Jordan, on 15th December, 1991 corresponding to 9 Jumad-al-Thani 1412.

Recalling their history, culture, civilization and great tradition of learning, scholarship and love for knowledge between the 8th and 12th centuries A.D;

Recalling further their rich heritage of Islamic thought and scientific creativity as well as the pioneering work that was produced during those days in the field of Science and Technology;

Recognizing the outstanding contributions of their predecessors in the fields of science and technology and their great achievements and discoveries in unfolding the laws of nature;

Recognizing further that these men of learning have left behind an unenviable legacy of scientific thought, scientific study and scientific research for mankind;

Believing that the glory of the past provides inspiration for the future and that no community in the world can afford to ignore the contributions of its men of letters, scholars and scientists; and

Realizing that had the present Academy of Sciences existed in those days, these men would have been its most honoured and distinguished Fellows.

ought published

Technology" by the late Lois Lamyah Al-Faruqi, "Misgivings about the Holy Prophet's Third Marriage" by Dr Fahmi Mahmoud and Miss Nurhana Ibrahim and "Divine Guidance, Its Purpose and Scientific Creativity" by Dr Rafiq Mirza,

Volume 1, Number 3 of the Journal contains the following articles; "The Concepts and Criteria Underlined in the Holy Quran for the 'Book' that Guides and Educates" by Dr N A Baloch, "International Islamic Calendar and New References for an Exacting Presentation" by Dr Mohammad Ilyas, "Creation of Universe and some Astronomical Phenomena:

Quranic Concepts and Scientific Theories" by Dr Shah Manzoor Alam and "Islamic Approach to Physical Sciences" by Dr. S. Sadrul Hassan Rizvi.

Volume 1, Number 4 contains the following articles; "Evolution of Man, Quranic Concepts and Scientific Theories" by Dr Shah Manzoor Alam, "Muslim Contributions to the Scientific Method" by Prof. M M Qurashi and (late) Dr Mohammad Saud, "Science Research Activity in the Contemporary World and Muslims" by Prof. M A K Lodhi and "Use of Cross and Swastika as Symbols in Muslim Calligraphy in Persia" by Dr S Mahdihassan.

UTION

Consider it a great honour and privilege to associate the following esteemed and eminent personalities of their times with this Academy

1. Abu Musa Jabir Ibn Hayan (721-815)
2. Abu Yusuf Ibn Ishaq Al-Kindi (801-873)
3. Abu Abdallah Ibn Musa Al-Khawarizmi (died in 863)
4. Abu Abbas Ahmed Ibn Mohammad Al-Farghani (died in 860)
5. Abu Abdallah Mohammad Al-Battani (858-929)
6. Abu Al-Hassan Ali Ibn Sahl Rabban Tabari (838-930)
7. Abu Nasr Ibn Al Farakh Al Farabi (870-950)
8. Abu Bakr Mohammad Ibn Zakariya Al-Razi (864-930)
9. Abu Hassan Ali Ibn Hussain Al Masudi (died in 957)
10. Abdul Rahman Al-Sufi (903-980)
11. Abu Wafa Mohammad Al-Buzjani (940-997)
12. Abu Sahl Wijan Ibn Rustam Al-Kuhi (988-)
13. Abu Al-Qasim Khalaf Al Zakrawi (936-1013)
14. Abu Ali Hassan Ibn Al-Haitham (965-1040)
15. Abu Raihan Mohammad Al-Biruni (973-1041)
16. Abu Ali Al-Hussain Ibn Abdallah Ibn-Sina (980-1037)
17. Abu Bakr Mohammad Ibn Al-Hassan Al Karkhi (died in 1016)
18. Abu Al-Qasim Maslimah Al Majiriri (died in 1007)
19. Ghiyath-Al-din Abdul Fateh Omar Al-Khayyam (1044-1123)
20. Abu Hamid Ibn Mohammad Al-Ghazali (1058-1128)
21. Abu Fateh Umer Ibn Ibrahim Al-Khayyam (died in 1009)
22. Abu Al-Hassan Ibn Ahmad Ibn Yunus (died in 1009)
23. Abu Abdallah Mohammad Al-Idrisi (1099-1166)
24. Abul Waleed Mohammad Ibn Ahmad Ibn Rushd (1128-1198)
25. Abu Marwan Abdal Malik Ibn Zuhri (1091-1161)
26. Abu Jaffar Mohammad Ibn Wasil Al-din Al-Tusi (1201-1274)
27. Ala-Al-Din Abu Al-Hassan Ali Ibn-Al-Nafis (1213-1288)
28. Abu Muhammad Abdallah Ibn Al-Baitar (died in 1248)
29. Qutb-Al-Din Al-Shirazi (1238-1311)
30. Abdul Rahman Ibn Mohammad Ibn Khaldun (1332-1395)
31. Jalaluddin Mohammad Al-Rumi (1207-1273)

posthumously as Fellows of the Islamic Academy of Sciences and hope their epochmaking contributions will continue to inspire their successors, the present Fellows of the Academy. May (Allah) God rest their souls in peace.



All three issues also contain some articles which evaluate the language of certain Quranic verses which deal with scientific facts.

Further details about the English language version of this Journal can be obtained from COMSTECH Secretariat, 3 Constitution Avenue, Sector G-5, Islamabad, Pakistan.



Prof. Mohammad Ahmed Hamdan FIAS

Prof. Mohammed Ahmed Hamdan is a Jordanian professor of mathematics, elected to the Fellowship of the Academy in 1991.

Prof. Hamdan obtained his BSc from Cairo University in 1957 and his PhD in statistics from Sydney University in 1963.

Formerly, Prof. Hamdan served as minister of education and higher education in the government of Jordan, and as president of Yarmouk University, Irbid, Jordan.

Prof. Hamdan has published over 60 works in a wide range of mathematical, applied statistics as well as higher education topics.

Prof. Hamdan is a member of the International Statistical Institute, Third World Academy of Sciences and Union of Arab Physicists and Mathematicians.

The other academic activities of Prof. Hamdan include the membership of the editorial boards of the Mu'tah Journal of Research and "Dirasat" and the Research Journal of the University of Jordan.

Currently, Prof. Hamdan is a teaching professor of mathematics at the University of Jordan in Amman, and the appointed president of Zarqa University.



Prof. Hameed Ahmed Khan

Prof. Hameed Ahmed Khan is a Fellow of the Islamic Academy of Sciences and the Alexander von Humboldt Foundation of Germany.

He is an internationally renowned figure who has published over 300 technical papers, and has presented a large number of his scientific works at international conferences.

The President of the Islamic Republic of Pakistan decorated Prof. Khan with the Sitara-i-Imtiaz Award, in recognition of his basic scientific research work.

Moreover, Prof. Khan is the awardee of the "Scientist of the Year Award" of the National Book Council of Pakistan as well as the Pakistan Academy of Sciences Gold Medal in 1975.

Prof. Hameed Ahmed Khan is a Fellow of the Islamic Academy of Sciences and the Alexander von Humboldt Foundation of Germany.



Prof. Zaghoul Raghieb El-Naggar FIAS

Prof. Zaghoul El-Naggar is an elected Fellow of the Islamic Academy of Sciences.

Prof. Naggar is a member of the Geological Society of London, the Geological Society of Egypt and the American Association of Petroleum Geologists, Tulsa, Oklahoma. Prof. Naggar is a fellow of the Institute of Petroleum, London.

A professor of geology at King Fahd University of Petroleum and Minerals (KFUPM) Dharan, Saudi Arabia, Prof. El-Naggar was educated at Wales University in the United Kingdom from where he obtained his PhD in Geology in 1963.

Prof. Naggar is the author/co-author of many books and more than 30 research papers in the field of Islamic Thought, geology, general science and education. He was awarded by the Ministry of Education in Egypt the top "Secondary Education Award" as well as the seventh Arab Petroleum Congress Best Papers Award in 1970.

Prof. El-Naggar has taught at Ain Shams University, Cairo; King Saud University, Riyadh; University College of Wales, Aberystwyth, U.K.; Kuwait University and the University of Qatar in Doha.



Prof. Sinasi N Ozsoylu FIAS

Prof. Sinasi Ozsoylu became a Fellow of the Islamic Academy of Sciences in 1988.

A professor of pediatrics and head of the hematology and hepatology department at Hacettepe University in Ankara. Prof. Ozsoylu graduated from Istanbul University in 1951, with an MD degree in medicine.

Prof. Ozsoylu is a member of the Turkish Medical Society, Turkish Pediatrics Society and European Society for Pediatric Hematology and Immunology and the World Federation of Hemophilia.

He is the author and co-author of many books and has over 420 published papers to his credit, of which over 180 were published in the USA and Europe, mostly on hematology and hepatology.

Prof. Ozsoylu is a past President of the European Society for Pediatric Hematology and Immunology. He is also a member of TUBITAK (Turkish Scientific and Technical Research Council: The Medical Group), and has been the recipient of the Dogramaci Award in 1972.

Prof. Ozsoylu lists amongst his academic activities, the membership of the editorial boards of six medical journals in Turkey.

The Islamic Academy of Sciences IAS

The IAS is an independent, non-political, non-governmental and non-profit making organisation of distinguished scientists and technologists dedicated to the promotion of all aspects of science and technology in the Islamic World.

The establishment of the Islamic Academy of Sciences IAS was recommended, by the Organisation of Islamic Conference; OIC Standing Committee on Scientific and Technological Co-operation COMSTECH, and subsequently approved by the Fourth Islamic Summit held at Cassablanca, in 1984. The Founding Conference of the Academy was held in Jordan in October 1986.

The Government of Jordan graciously hosts the IAS at Amman, where the headquarters of the Academy started functioning in April 1987.

The main objectives of the Academy are:

- * To serve as a consultative Organisation of the Islamic Ummah and institutions in the field of science and technology.*
- * To initiate science and technology programmes and formulate standards of scientific performance.*
- * To promote research on major problems facing the Islamic countries and to identify future technologies of relevance for possible adoption and utilisation.*

IAS Newsletter

Published in English by the Islamic Academy of Sciences.

Editorial Board:

Dr Anwar M Bilbeisi

Eng. Mounneef R Zou'bi

The Editorial Board welcomes all articles, particularly short ones, and would consider the appropriateness of any material submitted for publication in accordance with IAS's own regulations.

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COMSTECH pays grant to IAS

The Secretariat of the Islamic Academy of Sciences has recently received the annual grant of the COMSTECH for the year 1992.

The Academy uses COMSTECH's annual grant to cover activities it organises, including the annual Academy Conference.

COMSTECH is the Organisation of the Islamic Conference: OIC Standing Committee on Scientific and Technological Co-operation. COMSTECH, at its founding in 1982, was mandated to undertake follow-up action and implementation of the resolutions of the Organisation of the Islamic Conference, study all possible means of strengthening co-operation among member states and draw up programmes and submit proposals designed to increase the capability of the Islamic states in the field of science and technology.

The membership of the Committee has since its founding, been enlarged twice and presently comprises all the 45 Islamic states.

The main objectives of the COMSTECH are the following:

- (i) Assessment of the human and material resources of the Muslim countries and determination of S&T needs and requirements of the Ummah;
- (ii) Building up of indigenous capability of Muslim countries in the field of science and technology through co-operation and mutual assistance;
- (iii) Promotion of continuing co-operation and co-ordination in S&T areas amongst the

Muslim countries, with a view to achieve collective strength in S&T for solution of the problems faced by the Muslim countries; and

- (iv) Creation of an effective in-

stitutional structure for planning, research and development and monitoring of S&T activities in high technology areas at regional and Ummah levels.

Muslim Scholars



AL-FARABI (870-950CE)

Abu Nasr Mohammad Ibn Mohammad Ibn Farkhan Al-Farabi was born at Farab, in present day Tajikistan (Muslim central Asia).

Eastern and Western scholars have agreed that Al-Farabi, Al-Pharabius in Europe, was a great philosopher and musician, who had acquired the mastery of several languages as well as many branches of knowledge and technology.

Al-Farabi contributed considerably to science, philosophy, logic as well as to medicine. As a philosopher, he attempted to integrate theoretical science with practical science.

Al-Farabi, it is said, benefited from translating greek philosophy books as well as from studying the philosophy of *Al-Kindi*, to which he added a great deal.

Al-Farabi wrote, at least 69 books, most of which were transferred to Europe through the Crusaders and through the Andalus. Some of his more famous books include *Fusus Al-Hikam*, which remained a text book of philosophy for centuries.

Al-Farabi has been considered a founder of studies of Islamic philosophy and his work, it has been said, paved the way for Ibn Sina's and Ibn Rushd's works on philosophy and other topics.

(Taken from: *Personalities Noble*, National Science Council of Pakistan, edited by Hakim Mohammed Said).

* Reference was made to "Arab and Islamic Scientific Heritage" by Prof. Ali Abdullah Daffa' FIAS.