Newsletter

ISLAMIC ACADEMY OF SCIENCES

January-March 1995 Volume 9 Number 21

Al-Bashir inaugurates Water Conference

Academy patrons send messages

The Islamic Academy of Sciences has concluded its eighth international conference which was held in Khartoum (Sudan), 5-9 December 1994.

The conference which was entitled "Water in the Islamic World: An Imminent Crisis," was inaugurated by his Excellency, Lt. General Omar Hassan Ahmad Al-Bashir, the President of the Republic of Sudan.

The conference aimed to assess the water security situation in the Islamic World, with particular reference to countries with immediate and short-term difficulties and to develop innovative proposals for future activities in water resources management.

An objective of the conference was to recommend collective remedial measures that needed to be adopted by governments in order to combine agricultural and water policies within a sustainable development context.

A further objective of the conference was to facilitate the free exchange of views on the current national and regional water problems.

Over 80 participants took part in this conference, in which eighteen major presentations were made. The presentations tackled specific topics, which were considered to be very important in there own right. These included desalination technology, biosaline agriculture as well as water-saving technologies. Other presentations highlighted the water security situation in OIC-member countries.

The conference was a joint activity between the Academy, Ministry of Education and Scientific Research, Khartoum (Sudan), National Centre for Research Khartoum (Sudan), Islamic Development Bank (IDB), OIC Ministerial Committee on Scientific and Technological Co-operation (COMSTECH), United Nations Educational, Scientific and Cultural Organization (UNESCO), Islamic Educational, Scientific and Cultural Organization (ISESCO), United Nations Environment Programme (UNEP) and the World Bank.

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IAS Patron, Marking RSS anniversary, urges shift from services to production

His Royal Highness Crown Prince Hassan, Patron of the Islamic Academy of Sciences recently called for close focus on developing Jordan's industry and agriculture with the aim of achieving self-reliance and said the Kingdom's priority was to build and develop itself by the year 2005.

Addressing the gathering of scholars and academicians marking the 25th anniversary of the Royal Scientific Society (RSS), HRH also called for closer attention to be paid to Jordan's youth since they represent the Kingdom's hopes.

IAS Patron said Jordan should move towards increasing local production rather than concentrating on providing services.

The Crown Prince said intellect could not be broadened through empty slogans and statements but through giving them meaning and content.

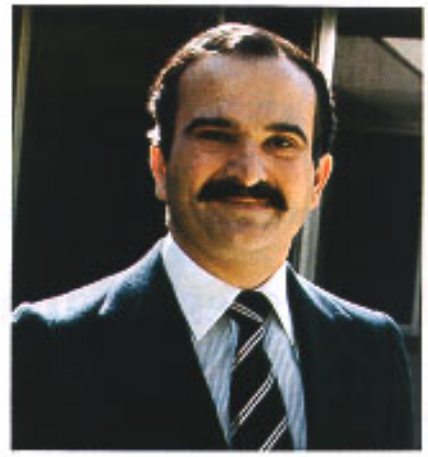
Prince Hassan expressed hope that the institutions of higher education in Jordan could serve as a basis for a national plan for science and production.

He also emphasised the need to have clear-cut plans to develop Jordan's human resources and train them to meet the requirements of the era.

Science and Technology should be integral parts of higher education, he said.

The Crown Prince underlined the role of universities, societies and clubs could play in serving local communities and encouraging cooperation and the spirit of team work.

Noting that 70 percent of Jordan's population were below the age of 25 years, the Regent also emphasised the need to foster



dialogue among the country's youth.

HRH expressed hope that Jordan's experts in planning and sciences would be successful in turning the Kingdom into the focal point for investments in the Middle East.

The Crown Prince said Jordan, which has signed a peace treaty with Israel, was not seeking closer ties with Israel or to depend solely on the U.S. and welcomes regional cooperation with Arab and Muslim countries.

The Academy Patron noted that there is a major gap between the level of incomes 130 million Arabs and seven million Israelis and said that if the conditions remain as they are today then the Israeli per capita income would be 17 times that of the Arab citizen.

Prince Hassan paid tribute to all those who work out RSS's 35 laboratories and other institutions and called for adherence to their standards and specifications.

RSS President Dr Hani Mulki also addressed the ceremony, which was attended by Her Royal Highness Princess Sarvath, the RSS board of trustees, former society Presidents and other invited guests.

Dr Mulki thanked His Majesty King Hussein and Prince Hassan for their support of the society.

He said the assets of the society by the end of 1994 totalled JD 22 million compared with JD 500,000 in 1972.

He said the number of the society's personnel in 1994 stood at 600 compared with 142 in 1972.

The society, Dr Mulki said, has seven specialized technical centres while in 1972 it had only two.

The revenues of the society in 1994 were JD 6 million, compared to 500,000 in 1972, he said.

Potash Company and Arab Bank donations received

The Arab Potash Company, a multi-interest industrial firm in Jordan, has recently made a contribution to the activities and programmes budget of the Academy.

The Arab Bank has also made a similar contribution.

The IAS hopes that many other companies and institutions would contribute to the endowment fund of the Academy so that the IAS is enabled to undertake more activities and implement further programmes which are directed towards catalysing the general process of development of the Ummah.

The Council of the Academy, has communicated its thanks through the Deputy Executive Director of the Academy to both the Arab Potash Company and the Arab Bank and has instructed the DED to see to it, that these two contributions are properly acknowledged in all Academy publications, and indeed on the roster of IAS Supporters which is maintained at the IAS Secretariat building in Amman.

IAS and TWAS sign agreement

The Islamic Academy of Sciences (IAS), has recently signed a co-operation agreement with the Third World Academy of Sciences (TWAS).

This agreement aims to strengthen co-operation between the two institutions with the purpose of furthering the development of science and technology in the Third world.

The two institutions have agreed to consult and co-operate with one another in the development of activities of common interest, designed to foster and promote research performed by scientists and scientific institutions in the Third World, and to facilitate their contacts with the world scientific community.

The two parties also agreed to exchange scientific information of common interest, and relevant scientific publications such as books, journals, newsletters and proceedings.

This agreement was signed by the Secretary General of the IAS, Prof. Ali Kettani and Prof. Adnan Badran, the Secretary General of TWAS.

It is worth noting that the Third World Academy of Sciences was founded in 1983 to give recognition and support to research carried out by scientists from developing countries, and to facilitate their contacts and foster research for Third world development.

In addition, the Third World Academy of Sciences, which operates from its Secretariat at Trieste (Italy), awards prizes, research grants and Fellowships to scientists working and living in Third world countries.

EDITORIAL LETTER

On the verge of the new millennium

With five years to go, to the start of twenty first century, OIC countries have a timely opportunity to reflect on developmental policies of the past, for it is over the next few years, perhaps decade, that our developmental policies would result in our countries, developing or becoming stagnant as merely the recipients rather than the providers.

It is now a question of choice, as to whether our countries would want to advance as progressive models of human-based development seekers or imbalanced entities of basic commodity and raw materials exporters.

Scientists and technologists have a pivotal role to play, in ensuring that some benefit is drawn out of the difficulties of the past, and the abundant experience most of them have gained, enables them to affect the dynamic change required.

Nobody can help but notice that todays world is clearly becoming, more than ever, a world of haves and have nots.

This is not only true in terms of material resources, but also in terms of ability and drive. A small group of people and states are dynamic, innovative and with a genuine will to change for the better.

Others are immersed in desperate poverty and stagnation.

Scientists and technologists have a tremendous responsibility to ensure that the coming five years are fruitful in all aspects and that their countries are suitably positioned in the year 2000 to face up to the tremendous challenges that lie ahead.

North Cyprus host for '95

The President of North Cyprus had in late 1994, extended an invitation to the Academy to convene its Ninth Conference in his country.

The General Assembly of the Academy, at its Khartoum meeting, discussed a range of topics for Conference '95, ultimately choosing "Science Education," as the main theme for this major activity of the Academy.

The first meeting of the Science and Organising Committee was held in Turkey and at the Eastern Mediterranean University in North Cyprus during March 1995. The meeting was attended by Dr Mehmet Ergin FIAS, Dr Naci Bor FIAS, Dr Hussein Ateshin and Eng. Mouneef Zou'bi, Deputy Executive Director of IAS as well as a number of local officials representing the university.

The Committee agreed that the theme for the conference would be *Science Education for Development in the Islamic World*, and finalised a short list of agencies that might be requested to join the Academy, in organising/sponsoring the conference.

The Committee agreed on the objectives of the conference and discussed, at some length, a list of possible conference papers and academic contributors.

Eng. Mouneef Zou'bi was also briefed on the various arrangements that the Northern Cyprus authorities will make to ensure the success of the conference.

General Assembly meets at Khartoum

The Ninth meeting of the General Assembly of the Islamic Academy of Sciences was held in Khartoum (Sudan), 4 December 1994. The meeting was chaired by Prof. Mumtaz A Kazi, President of the Academy, and attended by all Academy Fellows participating in the Eighth IAS Conference.

The General Assembly firstly, recited *Al-Fatiha* for the late Prof. Salimuzzaman Siddiqui, Fellow of the Islamic Academy of Sciences, who passed away in June 1994.

The General Assembly reviewed the activities undertaken by the Academy Council and Secretariat during 1994, and acknowledged the efforts volunteered by the Science and Organizing Committees of the 1994 Conference.

The House approved the 1993 Statement of Accounts and assessed the Academy's financial state of affairs. The General Assembly also approved the general Trial Balance of 1994.

The House discussed various proposals through which income for the activities of the Academy could be generated.

The House endorsed the results of the 1994 Fellowship Elections, in which there were five winners from Egypt, Pakistan, Germany, Sudan and Turkmenistan.

Induction formalities for Prof. Noor M Butt and Prof. Ahmedou Moustapha Sow were performed during the meeting, for it was the first meeting in which these two newly elected Fellows participated.

The General Assembly discussed also a list of other important issues during the meeting, including the theme of 1995 Conference, ultimately deciding to have "Science Education" as the theme for the 1995 Conference.

(Continued from page 1)

The conference was concluded with the publishing of the IAS Khartoum Declaration, "Water in the Islamic World: An Imminent Crisis." The declaration emphasised the importance that Islam and the Islamic Values System attach to water, as the source of every living thing, and appealed to the decision makers of the Islamic countries to establish the mechanisms through which inter-country water conflicts can be resolved justly and amicably.

His Excellency Lt. General Al-Bashir

In his address at the opening session of the conference, President Al-Bashir welcomed the Fellows of the Academy and the conference participants and expressed his happiness at the convening of the Academy Conference in Khartoum.

President Al-Bashir praised the Academy for addressing major contemporary issues that face the Ummah, foremost among which was the issue of, "Water in the Islamic World."

The President said that more attention should be given to the issue of water resources, as one of the major issues confronting the Islamic world. He indicated that the awareness of the scientists of the Ummah of one of the most critical challenges it faced was being represented by the Academy's concern of that important issue, adding that scientific techniques should be adopted for the exploitation and development of water resources.

The President went on to stress the fact that the Islamic World should do everything possible to make all attempts of the Powers of the North fail, by refusing to be merely consumers of technology, and should direct its efforts towards becoming technologically and scientifically advanced.

His Excellency called on the IAS to establish centres for joint research, and undertake scientific projects adding that the Islamic world possessed the human and financial resources required for a great renaissance of the Ummah.

His Excellency President Leghari

In his message to the conference which was delivered by Prof. Naeem Ahmad Khan FIAS, President Sardar Farooq Ahmad Khan Leghari, President of Pakistan and Patron of the Islamic Academy of Sciences, thanked His Excellency, Lt. General Omar Hassan Ahmad Al Bashir, President of the Republic of Sudan for hosting the Academy Conference and expressed his hope that the Proceedings of the Conference would be published, and distributed to all policy makers in Muslim countries.

The President pointed out that the majority of Muslim countries were agricultural, and the populations were engaged in tilling the land for their living.

"Water is our life-line, we need regular water supply for irrigation, industry, clean environment and the growing needs of an ever increasing population. All these require effective management and development of water resources," he added.

Water scarcity had caused drought and famine in some countries of the Islamic World and large numbers of people had been lost. "Therefore strategies to guard against these eventualities, have to be developed in every country of the Islamic World," he stated.

The President highlighted some of the priority issues that needed to be addressed such as water harvesting, groundwater utilization, sea water desalination, sewage water treatment, brackish water usage and channeling of flood water.

"It is a challenge to scientists of the Islamic World to develop guidelines and strategies to help solve these problems. With increase in population these problems have become acute. What we need to do is to strengthen our R&D Centres of Water Resources Management which should share with each other the results of their research. It is only through co-operation and working together that we will be able to solve these problems," the President concluded.

His Royal Highness Prince Al-Hassan

In his message to the Conference, which was delivered by Prof. Mohammad Hamdan FIAS, HRH Prince Al-Hassan thanked the President and people of the Republic of Sudan for hosting the Academy Conference.

HRH said that most Islamic countries were trying hard, with varying degrees of success, to build the society of knowledge, faith and work, in which each and every individual could enjoy a decent life.

This objective entailed facing serious difficulties for the obstacles that faced social, economic, cultural, environmental development were wide-ranging and varied.

"Thus to face these difficulties there is no alternative other than a united effort coupled with unlimited dedication," he stated.

HRH went on to highlight some of the problems that faced the

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Islamic World, specifically mentioning the scarcity of water in many countries of the Islamic World.

Many countries faced the water-related problem of the passage of international rivers, orginating in other countries, through their territories. Many conflicts and possible conflicts were looming on the horizon as a consequence.

Therefore, a regional operation should commence to achieve an agreement on the general principles, which we would all accept, to share common international waters on the basis of regional co-operation in all water related aspects.

Internal water sharing, in our countries could be considered as important as regional sharing, and the competition would become more severe in due course. Therefore, democratic dialogue has an important role to play in finding solutions that our societies would accept.

HRH concluded by emphasizing the importance of achieving self-improvement and regional co-operation, and that countries in the area could rely on their national experiences in the area of legislation and institution building to achieve this. This, he added, was the case demonstrated by the Declaration of Principles, the Israeli-Palestinian agreement and the Jordan-Israel Treaty (of Peace), that an overall agreement on the subject amongst the countries of the region could be achieved.

His Excellency Prof. Kazi

In his address, Prof. M A Kazi, President of the Academy and Co-ordinator General of COMSTECH, thanked His Excellency, Lt. General Omar Hassan Ahmad Al-Bashir, President of the Republic of

Sudan, for gracing the conference with his presence and addressing its opening session. He also thanked the two patrons of the IAS, HRH Prince Al-Hassan Ibn Talal and HE Mr Sardar Farooq Khan Leghari, President of the Islamic Republic of Pakistan for the messages they had both sent on the occasion.

Prof. Kazi firstly noted with concern the importance of water for mankind for its survival, continuity and progress.

He said that in Muslim countries there had been an acute shortage of water which caused aridity and drought and resulted into widespread hunger and famine.

"Its contamination and impurity at various locations have killed millions. Its shortage has also caused conflicts and political misgivings between neighbouring countries who share the same source of water." All these issues called for immediate and prompt action, Prof. Kazi added.

Most of the world lakes and rivers receive enormous quantities of municipal sewage and industrial waste. These wastes contain chemicals and toxic materials and thus continuously poison the natural groundwater and surface water, he stated.

"The Islamic world is faced today with numerous challenges arising mostly out of economic exploitation, ignorance, cultural subversion and internal dissension. Besides, the Muslim World has to take careful note of the political trends that are emerging as a consequence of scientific and technological revolution."

Therefore, collective strength in science and technology would enable the Ummah to play a crucial role in world affairs, by making an effective contribution to world peace and the establishment of the New International Economic Order, he added.

Prof. Kazi went on to say that Muslim countries were living in an era which necessitated the need for working together in co-operation and collaboration and not in isolation and seclusion.

"Co-operation is an activity of the cultured people. In Islam, it is an objective of faith. Islam provides corporate motivation to the people who subscribe to its tenets.

Everything is done in the name of Allah (SWT) collectively and jointly. Let us then resolve to work together and achieve collective strength and capability by again reviving the concept of an Ummah," Prof. Kazi concluded.

At the end of his address, Prof. Kazi thanked the IAS Science Committee for their excellent work in organising the conference as well as the sponsors of the conference.

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Prof. Suleiman Gabir Hamad FIAS

In his statement to the conference, Prof. Suleiman Gabir FIAS, Co-ordinator of 1994 Conference, welcomed the President of Sudan and thanked him for inaugurating the opening session of the conference, and thanked all participants who took part in the plenary session.

Prof. Gabir said that the word "Water" is mentioned more than 60 times in the Holy Quran, emphasising the vital importance of water, the source of every living thing, by which God rewards or punishes man. God ordered us to use water in the best way for its importance for mankind, he added.

Prof. Gabir went on to say that the Academy would at the end of the conference issue the Khartoum Declaration on "Water in the Islamic World: An Imminent Crisis." The Declaration would represent a policy statement on the issue and would be distributed to all relevant parties and decision makers in the Islamic World and beyond.

Prof. Gabir, who is the principal of the National Research Centre in Sudan, at the conclusion of his presentation thanked Dr Ibrahim Ahmed Omar, Minister of Education and Scientific Research as well as Dr Gazi Salahuddin, Minister of State, as well as all those individuals who had contributed to the success of the conference.

IAS Council holds meetings

The Council of the Islamic Academy of Sciences held its eighteenth meeting on Sunday, 4 December 1994 at the Khartoum Hilton Hotel, Khartoum, Sudan.

The meeting which was the last formal activity of the first Academy Council - elections for a new Council were scheduled for later on in the week - was devoted to reviewing the activities that the Council and IAS Secretariat had undertaken during the previous year.

It is worth noting that the first Academy Council, 1986-1990, 1990-1994, was made up of Dr Mumtaz A Kazi-President, Vice-Presidents; Dr Saleh Al-Athel, Dr Mehmet Ergin and Dr Mohamed Kamel, Secretary General; Dr Ali Kettani, Treasurer, Dr Fakhruddin Daghestani, Members; Dr Achmad Baiquni, Dr M Shamsher Ali and Dr Souleymane Niang.

The nineteenth meeting of the Council of the Islamic Academy of Sciences - the first meeting of the new Council - was held on Friday, 9 December 1994.

The meeting was the first of the newly elected Council of the Islamic Academy of Sciences.

At this meeting the President of the Academy, Dr Mumtaz Kazi, welcomed the newly elected members and expressed his satisfaction at the way the conference and activities had been organized.

The Council at this meeting approved the appointment of Eng. Mouneef R Zoubi, Technical Affairs Director, as the Director of the Islamic Academy of Sciences.

A number of decisions were also taken regarding the programme of publications of the Academy so that the proceedings of the previous Academy Conferences could be published in as short a time as possible.

The Academy Council for the period 1994-1998 is made up of the President; Dr Mumtaz Kazi, Vice-Presidents; Dr Ali Kettani, Dr Mehmet Ergin and Dr Iba Mar Diop, Secretary General; Dr Fakhruddin Daghestani, Treasurer; Dr Mohammad Hamdan, and the following five Members; Dr Naci Bor, Dr Syed Zahir Haider, Dr Misbahuddin Shami, Dr Zaghloul El-Naggar and Dr Suleiman Gabir Hamad.

New IAS Council elected

The Council of the Islamic Academy of Sciences had completed its 4-year term of office at the end of the 1994. The 9-member Council was first elected in 1986, when the Academy was founded, and re-elected in November 1990.

The first Council was made up of Dr Mumtaz A Kazi President, Vice-Presidents; Dr Saleh Al-Athel, Dr Mehmet Ergin and Dr Mohamed Kamel, Secretary General; Dr Ali Kettani, Treasurer, Dr Fakhruddin Daghestani, Member; Dr Achmad Baiquni, Dr M Shamsher Ali and Dr Souleymane Niang.

The new Academy Council, which was elected at the Khartoum meeting of the General Assembly, during the 1994 Academy Conference, is made up of the President; Dr Mumtaz Kazi, Vice-Presidents; Dr Ali Kettani, Dr Mehmet Ergin and Dr Iba Mar Diop, Secretary General; Dr Fakhruddin Daghestani, Treasurer; Dr Mohammad Hamdan, and the following five Members; Dr Naci Bor, Dr Syed Zahir Haider, Dr Misbahuddin Shami, Dr Zaghloul El-Naggar and Dr Suleiman Gabir Hamad.

The Editorial Board congratulates the newly elected Council Members and wishes them success in the service of the Islamic Academy of Sciences.

The Eighth Conference of the Islamic Academy of Sciences

Water in the Islamic World: An Imminent Crisis

DECLARATION

Adopted at Khartoum (Sudan)
5 Rajab 1415
8 December 1994

PREAMBLE

WHEREAS Allah (God) Subhanahu-Wa-Ta'ala has created Man in the best of forms, and provided him with the sustenance, as well as the means and resources to improve his well-being and has created all things in due balance;

WHEREAS the Holy Quran contains more than 60 references to water-as the source of every living thing (21:30), the resource which revives the earth (2:164), the resource which is provided in (due) measure (43:11)...;

WHEREAS the teachings of Islam are immaculate in emphasizing the importance of water as the source of every living thing;

WHEREAS the Islamic Values System provides a remarkable Code of Ethics, which reflects the importance of water and the balance required in its use;

WHEREAS Islam promotes a needed ecological balance between all living creatures and their life-sustaining environment;

WHEREAS all countries have a right to a reasonable standard of living and consequently need to provide their populations with their basic needs of water for drinking, personal and house-hold use;

WHEREAS all countries have a right to a reasonable share of socio-economic development, as long as this development does not cause irreversible damage to the local, regional and global environments;

WHEREAS the Earth's natural systems of land, air and water are being damaged at unprecedented rates;

WHEREAS the achievement of water security and consequently food security was, and remains, one of the basic challenges facing many countries, and indeed humanity at large,

AND WHEREAS some Islamic and developing countries are suffering from:

* severe water deficits in the immediate and short terms; and
* the lack of comprehensive national water policies,

NOW THEREFORE the Islamic Academy of Sciences:

(a) **ACKNOWLEDGING** the work being done by many governmental and non-governmental organisations in the area of water and water policies;

(b) **ACKNOWLEDGING** that a basic pre-requisite for a Sustainable Water Resources Policy has to be the formation of up-to-date-bases that provide planners with realistic data which can be used in drawing up policies that primarily aim at:

(i) Providing the poorer and more rural sectors of society with their basic needs of water;

(ii) Charting practical paths in sectoral (municipal, agricultural and industrial) water sharing;

(iii) Exercising an appropriate level of demand management; and

(iv) Minimizing resource-losses through effective Water Resources Systems Operation.

(c) **TAKING INTO CONSIDERATION** the Bejing Declaration of 1991, and the 1992 UNCED Rio de Janiero (Agenda 21), and the *IAS* Kuala Lumpur Declarations on Environment and Development,

MOREOVER:

(a) **NOTING WITH CONCERN** the critical water shortages experienced in some Islamic countries; a situation which is hampering the socio-economic development and even the very existence of man, and is partly due to the basic scarcity of this resource since most

Islamic countries lie in arid and semi-arid regions, lack adequate storage capabilities and suffer from water distribution network inefficiency;

(b) **BEING EXTREMELY CONCERNED** with the existence of conflicts between sister Islamic countries over shared international waters;

(c) **NOTING WITH CONCERN** the non-existence of an Islamic/Developing Countries Code of Conduct which sets out guidelines for sharing of international waters;

(d) **NOTING** the absence of comprehensive national water resources policies in some of the countries that face serious shortages in the short and long terms;

(e) **OBSERVING WITH CONCERN** the absence of North-South and South-South co-operation in the area of water policies, a situation which is adversely affecting the development of sound water policies in developing countries;

(f) **BEING CONCERNED** with the serious depletion of fresh-water resources in many Islamic countries, which is partly due to the excessive use of water for irrigation, and the mis-use and mis-management of water in large urban centres;

(g) **REALISING** that the development of water-saving and desalination technologies has not been an R&D priority in most of the developed countries;

THE ISLAMIC ACADEMY OF SCIENCES, MEETING AT KHARTOUM, CALLS UPON the international community to:

(a) **EXTEND** all possible help to developing countries in terms of funding, training and supply of technology, to assist them in their quest to achieve some form of water and food security.

(b) **INVEST** in the development of water technologies partly based on the specific needs of water-poor countries;

(c) **DETERMINE AND MONITOR** the appropriate mechanisms for combating desertification, replenishing forests, halting flood and drought invoking phenomena,

CALLS UPON the leaders and decision-makers of the Islamic World to:

(a) **ESTABLISH** an Indepenent Islamic Commission to objectively and scientifically appraise water conflicts between countries, with the aim of formulating just and durable solutions to such conflicts, based on the ethics of Islam and the interest of all parties;

(b) **INSTRUCT** the relevant bodies in their countries to each objectively develop a Code of Conduct on the use of international shared waters, so that a unified Islamic Code of Conduct or an Islamic Water Charter can be adopted by all Islamic countries;

(c) **APPRAISE** their national water strategies and formulate solutions to upgrade any shortcomings in implementation or results;

(d) **ASSESS** the institutional set-up of the water sector in their countries and re-examine legislation related to this sector;

(e) **INCORPORATE** considerations of water into their national agricultural policies, with the aim of maximizing production without over-exploiting available water resources;

(f) **RE-EXAMINE** the policy of irrigated agriculture in light of the related social factors associated with this type of agriculture, such as stability of rural population which is agriculture dependent in many developing countries;

(g) **ENCOURAGE** house-holders to adopt chemical-free agriculture for house-hold food self-sufficiency, so as to limit the need for the highly mechanized, fertilizer-dependent and environmentally damaging agriculture;

(h) **INCORPORATE** where possible considerations of water into their national S&T policies, particularly in the areas of desalination, water-saving technologies and distribution networks efficiency;

(i) **PROVIDE** encouragement and funding to institutions that are active in research in saline-water agriculture;

(j) **FORMULATE AND EXECUTE** national water-harvesting policies (involving all sectors of society) that would ultimately maximize water volumes stored and minimize waste of this precious resource;

(k) **ARRANGE** to continuously monitor the various polluting and environmentally degrading effluents, eroding agents etc... and set up/support relevant R&D and extension projects on a national, regional and Ummah-level bases, so as to sustain non-renewable freshwater resources;

(l) **INCORPORATE** considerations of appropriate and economic water-use into educational policies, and indeed through the media, to eradicate ill-appropriate water-use practices;

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(m) **PROMOTE** co-operation between countries, institutions and NGOs in the Islamic World and beyond in the area of water resources management;

(n) **FACILITATE** the free exchange of information between countries and institutions on current national and regional water-problems;

AND APPEALS to the leaders, policy and decision-makers of the Islamic world to:

(a) **ADOPT** strategies that emphasize the great importance accorded by Islam to the environment, of which water is a major element, at the educational as well as the social and economic levels;

(b) **INTRODUCE** appropriate legislation regarding the protection of the non-renewable water resources in particular, and the environment in general;

(c) **FORMULATE** educational policies that promote environmental protection, using the greatest instrument of environmental education- the environment itself-to revitalize the teaching/learning objectives;

(d) **TAKE** immediate measures for the eradication of illiteracy in the whole of the Muslim Ummah as a further means of increasing environmental protection through education; and

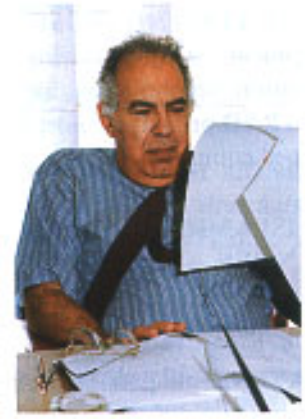
(e) **ADOPT** the measures required for the founding of an appropriate human environment for their peoples, in the basic areas of personal freedom, social and job security, health care, etc..., for these aspects complement resource-related development policies.

PROFILE OF NEW ACADEMY COUNCIL

Dr Mumtaz Ali Kazi was born in 1928. He obtained his PhD in Organic Chemistry from University of London. He has served as Professor Emeritus, University of Sind, Jamshoro. Dr Kazi who is a Founding Fellow and President of the Islamic Academy of Sciences, has written extensively on science policy formulation and S&T co-operation in the Islamic World. He is the author of several research papers in Chemistry. At present, he is the Co-ordinator General of COMSTECH.

Dr Iba Mar Diop is a Vice-President of the Islamic Academy of Sciences and Honorary Dean, Faculty of Medicine, University Cheikh Anta Diop, Senegal. He is a Founding Fellow of the Islamic Academy of Sciences and is the author of more than 250 publications on Infectious and Tropical Diseases.

Dr Mehmet Ergin is a Vice-President of the Islamic Academy of Sciences and a Professor at the Faculty of Engineering at Hacettepe University, Ankara, Turkey. He obtained his PhD degree in Chemistry (Physical Chemistry) from Glasgow University, Glasgow, the United Kingdom, in 1969, and formerly served as a President of the Turkish Scientific and Technical Research Council (TUBITAK).



Dr Ali Kettani is a Vice-President and Council Member and Founding Fellow of the Islamic Academy of Sciences and the former Secretary General of the IAS. Dr Kettani was the Director General of the Islamic Foundation for Science, Technology and Development for a number of years. He obtained his PhD in Electrical Engineering from Carnegie Mellon University (USA), in 1966. He was a lecturer at various Saudi Universities from 1969 to 1981.

Dr Mohammad Hamdan is the Treasurer of the Islamic Academy of Sciences who has served as the Minister of Education and Higher Education in the government of Jordan in 1989-1990. At present, he is the President of the Hashemite University in Jordan. He obtained his PhD in Statistics from Sydney University in 1963.

Dr Fakhruddin Daghestani is the Secretary General of the Islamic Academy of Sciences and Director General of the Natural Resources Authority of Jordan. He is a Founding Fellow of the Islamic Academy of Sciences, obtained his PhD degree in Mechanical Engineering from the University of Missouri, Colombia, MO., USA.

Dr Naci Bor is one of the newly elected Council members of the Islamic Academy of Sciences. Prof. Bor is the Chief Editor of the Science Journal of IAS. He has served as a Chairman of the Medical Research Centre at Hacettepe University, Ankara, Turkey, where he was a Professor of medicine for many years.

Dr Syed Zahir Haider is one of the newly elected Council members of the Islamic Academy of Sciences. At present he is a Professor of Chemistry at Dhaka University. He obtained his PhD in Organic Structural Chemistry from London University in 1958.

Dr Suleiman Gabir Hamad is a newly elected Council member of the Islamic Academy of Sciences. He obtained his PhD in Chemistry from the University of Sofia, Bulgaria, 1974. At present, Prof. Hamad is the principal of the National Centre of Research (NCR), as well as being a researcher at the same institution.

Dr Zaghloul El-Naggar is a Council member of the Islamic Academy of Sciences and Professor of Geology, King Fahd University for Petroleum and Minerals. He obtained his PhD in Geology in 1963 from Wales University in the UK.

Dr Misbahuddin Shami is a Council member of the Islamic Academy of Sciences and Secretary General, Pakistan Academy of Sciences. He obtained his PhD in Organic and Analytical Chemistry from Washington State University, USA in 1964.

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New Academy Fellows elected

The General Assembly approved the results of the 1994 Fellowship elections, at its annual meeting, which was held in Khartoum (Sudan), alongside the 1994 Conference.

The elections resulted in five candidates obtaining the required number of votes, thus becoming the newly elected Fellows of the Islamic Academy of Sciences.

The Five new IAS Fellows are; Prof. Ali Ali Hebeish who is an Egyptian professor of Chemistry and currently President of the Academy of Scientific Research and Technology in Egypt, Prof. Sayed Mohammad Qaim who is a Pakistani/German professor of Nuclear Chemistry and Division Head of the Nuclear Chemistry Institute in Germany, Prof. Mohammad Ilyas Burney who is a Pakistani professor of Medicine and currently Adviser at the National Institute of Health in Pakistan, Prof. Agadgan Babaev who is a Turkmen professor of Geography and director of the Desert Research Institute of the Turkmenistan Academy of Sciences and Prof. Hashim Mohammed El-Hadi who is a Sudanese professor of Veterinary Medicine and currently Vice-Chancellor of the University of Khartoum.

With the 1994 Fellowship elections over, the number of IAS Fellows stands at present at 70 representing more than 25 nationalities.

The Editorial Board congratulates the winners on their election and wishes them success in the service of the Islamic Academy of Sciences, and the Muslim scientific community at large.

Arabic Islamic Thought published

The IAS has recently published Volume 4, Number 2 of the Arabic language version of COMSTECH's quarterly Journal "Islamic Thought and Scientific Creativity."

This publication, which is co-sponsored by the Royal Academy for Islamic Civilization Research Al Albait Foundation, contains the following articles; "Education, Islam and the Challenge to Contemporary Muslim Societies" by Elma Ruth Harder, "State of S&T Manpower in the Muslim World: From 2nd to 12th Century Hijra" By Dr M. M. Qurashi, "Present Water Resources and Water Balance in the Muslim World" by Dr Mirza Arshad Ali Beg, "Some Thoughts on the Decline of Muslim Science" by (late) Allama I. I. Kazi.

Volume 4, Number 3 of the Journal contains the following articles; "The Day of Resurrection and Life after Death" By Dr Muzaffar Iqbal, "Muslim Contributions to the Science of Measurements" by Dr S. Sadrul Hassan Rizvi, "Water Supply Systems in the Muslim World" by Dr Mirza Arshad Ali Beg, "Islam and Science" by (late) Dr A. K. Brohi.

Further information about the English language version of the Journal can be obtained from COMSTECH Secretariat, 3 Constitution Avenue Sector G-5/2, Islamabad 44000, Pakistan.

Details of, and contributions to, the Arabicised version which carries the title "Al-Fikr Al-Islami Wa Al-Ibda' Al-Ilmi," can be addressed to the Islamic Academy of Sciences, PO Box 830036, Amman 11183, Jordan.

Prof. Noor Mohammed Butt FIAS

Prof. Noor M Butt became a Fellow of the Islamic Academy of Sciences in 1993.

Prof. Butt obtained his MSc in Physics from Punjab University, Lahore (Pakistan), in 1957, and his PhD from Birmingham University (UK), in 1965.

Prof. Butt is, at present, the Director of the Pakistan Institute of Nuclear Science and Technology, (PINSTECH), Pakistan.

Prof. Butt has published more than 50 research papers in the field of Solid State Physics.

His specific fields of scientific interests are neutron diffraction and scattering as well as research reactor utilization.

In recognition of his outstanding research work, Prof. Butt was awarded the Open Gold Medal in Physical Sciences, of the Pakistan Academy of Sciences in 1990. He was also awarded the "Sitara-i-Imtiaz," which was awarded to him by the President of Pakistan in 1991.

Among the previous posts occupied by Prof. Butt was that of Chief Scientist at the Pakistan Institute of Nuclear Science and Technology (PINSTECH), and Vice-President of Crystallography Society of Pakistan.

Prof. Suleiman Gabir Hamad FIAS

Prof. Suleiman Gabir Hamad is a Founding Fellow of the Islamic Academy of Sciences.

Prof. Hamad, who is a Sudanese national, graduated from Moscow State University from where he obtained his MSc in 1965. He obtained his PhD in Chemistry from the University of Sofia, Bulgaria 1971.

At present, Prof. Hamad is the principal of the National Centre of Research (NCR), as well as being a researcher at the same institution.

Prof. Gabir had served as convenor of the first Sudan Atomic Energy Commission as well as Director of the Council for the Scientific and Technological Research (CSTR), Sudan.

Prof. Hamad introduced the field of "Cellulose Chemistry and Technology," in Sudan for the first time through the establishment of CCTR.

Apart from being a Founding Fellow of the IAS, Prof. Gabir is a member of Indian Pulp and Paper Technical Association, and a member of the Advisory Board of the Journal, "Cellulose Chemistry Technical," Romania.

Moreover, Prof. Hamad is the author of many scientific papers which he presented through local and international Journals.

Prof. Korkut Ozal FIAS

A Turkish Professor of civil engineering, Prof. Ozal is a Founding Fellow of the Islamic Academy of Sciences.

Prof. Ozal graduated from the Technical University of Istanbul with an MSc in civil engineering.

Currently, Prof. Ozal is an Executive Director of the Board of the Jeddah-based Islamic Development Bank (IDB).

Prof. Ozal has more than seventy publications on different topics some of which he presented at many national and international seminars and conferences.

Of the previous posts occupied by Prof. Ozal was that of the Minister of Agriculture of Turkey in 1974, Minister of Interior in 1977, and Director of the Islamic Research and Training Institute of the Islamic Development Bank.

Furthermore, Prof. Ozal was responsible for the planning and implementation of the basic Oil and Petrochemical Industries in Turkey. Prof. Ozal was also one of the pioneers of the Middle East Technical University establishment and development.

In addition, Prof. Ozal has planned and designed several river basin, oil, energy and agricultural schemes.

Prof. Makhmud Salakhitdinov FIAS

An Uzbek Professor of Mathematics, Prof. Salakhitdinov was one of the winners of the 1993 Fellowship elections of the Academy.

Prof. Salakhitdinov was educated at Tashkent University from where he obtained his MS degree in Mathematics in 1955.

Currently, Prof. Salakhitdinov is the President of the Uzbekistan Academy of Sciences.

Prof. Salakhitdinov is a well known scientist and mathematician, who has undertaken leading research work in the fundamental and applied aspects of the theory of partial differential equations.

Among the previous posts occupied by Prof. Salakhitdinov was that of Minister of Higher Education of the Republic of Uzbekistan in 1988, as well as Director, Institute of Mathematics at Uzbekistan Academy of Sciences.

Moreover, Prof. Salakhitdinov has published more than 130 scientific papers in Mathematics, and has authored a number of mathematical textbooks in the Uzbek language.

In addition, Prof. Salakhitdinov is the awardee of Al-Bairuni Prize in 1974, as well as the Badge of Honour in 1974 for his remarkable contribution to mathematics.

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.

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.

Correspondence:

Islamic Academy of Sciences
PO Box 830036
Zahran
Amman 11183
Jordan

17 Djibouti Street
Sixth Circle
Telephone: 822104, 823385
Facsimile: 962-6-821803
Telex: 24368 IAS JO.

New issue of Journal published

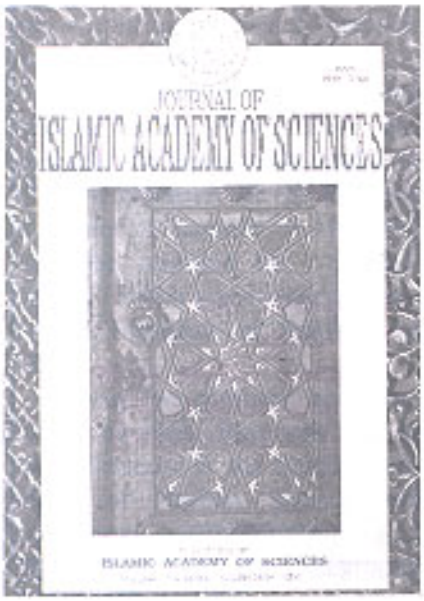
The Islamic Academy of Sciences has recently published Volume 7, Number 1 of its quarterly Science Journal.

The Journal is partly sponsored by the Organisation of the Islamic Conference Standing Committee on Scientific and Technological Co-operation (COMSTECH) and by the IHLAS Gazetecilik Holding of Turkey.

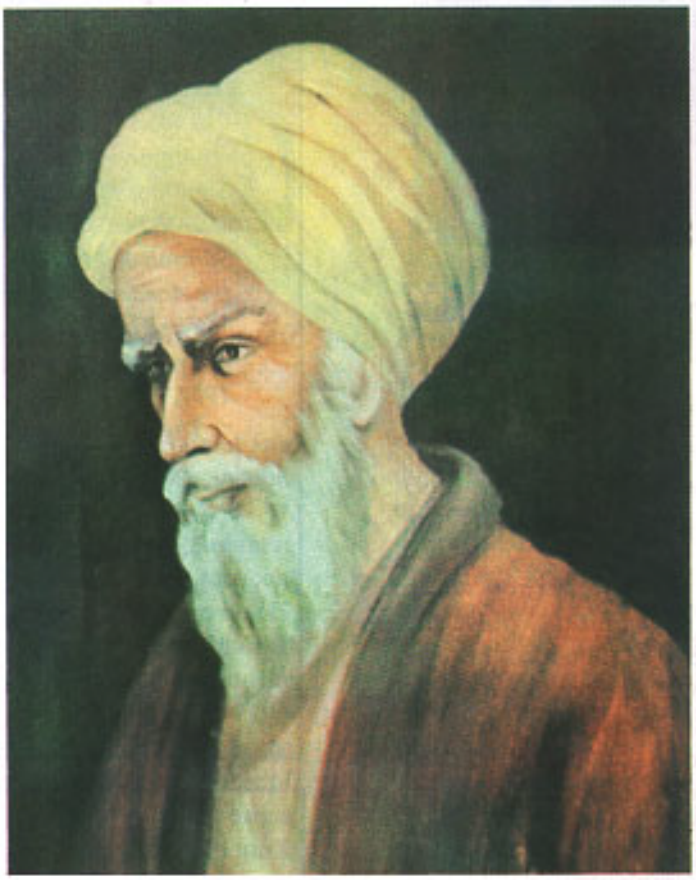
This issue of the Journal contains more than 11 articles in subjects such as Chemistry, Microbiology, Neurophysiology, Pharmacology, Botany, Food Science, Agriculture, Dentistry, Radiation Chemistry, Nephrology, Trace Elements as well as Cardiology.

The Academy Journal is edited and published in Turkey under the chief editorship of Prof. Naci M. Bor FIAS.

More details about the Journal and the articles it contains can be obtained from the editor; Prof. Naci M. Bor FIAS. Mithatpasa Cad., No 66/5, Ankara, Turkey. (Fax: 90.312.4259487).



Muslim Scholars



IBN Al-HAITHAM (965-1040 CE)

Abu Ali Al-Hassan Ibn Al-Haitham, who was known in the West as Alhazen, was educated in Basrah and Baghdad.

Ibn Al-Haitham was one of the most eminent physicists, whose contributions to optics and the scientific methods were very significant.

Ibn Al-Haitham made a thorough examination of the passage of light through various media and discovered the laws of refraction. He also carried out the first experiment on the dispersion of light into its constituent colors.

Ibn Al-Haitham's contribution to mathematics and physics was extensive. In mathematics, he developed analytical geometry by establishing linkage between algebra and geometry.

His most famous book "Kitab Al-Manazir," was translated into Latin in the middle ages and exerted a great influence upon Western science.

Ibn Al-Haitham's influence on physical sciences in general, and optics in particular, has been held in high esteem, and in fact it ushered in a new era in optical research, both in theory and practice.

(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.*