

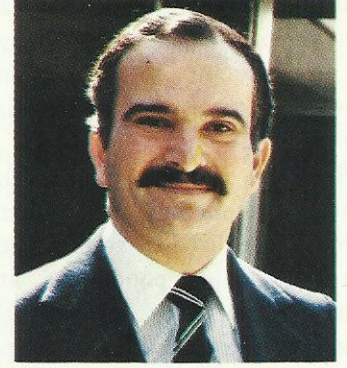
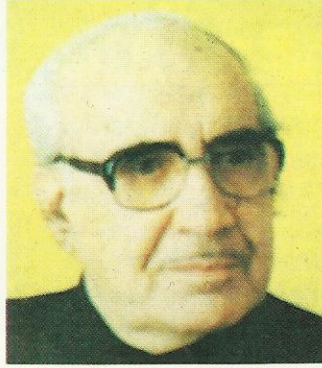
Newsletter

ISLAMIC ACADEMY OF SCIENCES



January 1991

Number 13



Ozal Patronises Technology Transfer Conference

President Khan, Prince Al-Hassan send messages

Under the patronage of His Excellency Turgut Ozal, President of Turkey, the Islamic Academy of Sciences convened its fourth annual Conference, Technology Transfer for Development in the Muslim World, in Antalya, Turkey, during 19-21 November, 1990.

Over one hundred experts and technologists took part in the three-day activity, in which five main and ten case-study papers were presented and discussed. A Working Groups' Session as well as Technology Fair were also organized as side activities to the conference proper.

State Minister Mehmet Yazar deputised for the President in inaugurating the conference which was jointly sponsored by the Islamic Academy of Sciences IAS, Turkish Scientific and Technical Research Council TUBITAK, Islamic Foundation for Science,

Technology and Development IFSTAD, Islamic Development Bank IDB as well as the UNESCO.

In His Excellency's opening address, which was delivered by Prof. Mustafa Doruk FIAS, the President stated that knowledge transformed into action was not only a force for economic and social prosperity, but also a powerful instrument of policy of nations, and that the advanced technology of our age was crucial to the international competitiveness of national economies.

One major disparity, the President added, was the imbalance in technology between developed and less-developed nations which necessitates serious efforts directed towards creating an indigenous scientific base.

The Turkish President concluded that there exists an urgent need to exploit all kinds of industrial and economic arrangements and

associations so as to enable Islamic countries to meet future economic and industrial development targets.

His Excellency President Khan

In his message to the conference, President Ghulam Ishaq Khan-President of Pakistan and Patron of IAS, which was delivered by the Secretary of the Science and Technology Ministry-Mr. Farouq Ahmad, the Pakistani President stated that the indiscriminate transfer of technology has created many problems in the developing societies extending from cultural erosion to economic domination and dependence.

The President concluded that this situation calls for considerable adaptive research and the creation of indigenous structures in the Islamic countries to cope with the new technological changes. →

His Royal Highness Prince Al-Hassan

In his message to the conference His Royal Highness Al-Hassan Ibn Talal, Crown Prince of Jordan and Patron of the IAS, delivered by Prof. Abdel Salam Majali FIAS, stated that Islamic countries have been facing tremendous challenges on the social and economic development scenes over the last few decades.

HRH went on to say that although moderate achievements have been realized by some Islamic countries, the economic and technological gap between the Islamic countries and the developed countries is still widening. This is because more emphasis is put on apparent technology transfer, than on real and qualitative inputs of endogenous science and technology components, such as research and development, effective management and organization.

Real technology transfer cannot occur without technology-based development planning, that aims at increasing demand for the national research and development system and other technology components, and makes available the necessary resources to provide the supply required.

Real technology transfer HRH added, also implies mastering the imported technologies, introducing adaptations, and improving products and processes.

Such a technological development is indeed difficult to accomplish without co-operation between Islamic countries, HRH concluded.

His Excellency Mehmet Yazar

In his address, His Excellency

Continued on page 4



Antalya Declaration

At the end of the Conference, the IAS issued a declaration the complete text of which will appear in the forthcoming conference proceeding. Following is a shortened version of the Antalya Declaration:

The Muslim World is still at the receiving end of a global process of technology transfer, with the technological gap between technology-exporting countries and the majority of Muslim countries wider than ever.

Notwithstanding some of the restrictive measures taken by the technologically advanced countries that constrain the normal flow of technology, there exists a number of success stories where Islamic countries have managed to build national capabilities to assess, assimilate, maintain and develop technology.

This is often the case with countries that have managed to integrate their R&D efforts with the activities

of technology transfer and where, the sometimes tabooed, private-public sector co-operation was/is national adopted strategy.

Inter-Islamic co-operation in the generation and transfer of technology coupled with a continuous process of upgrading of national human resources' basis are factors of paramount importance to a homogeneous process of technology transfer.

Information and first-hand practical experience remain the factors most essential to the success of the technology-based development and technology transfer processes in any country. Indeed, a lot has been accomplished in several Islamic countries with regard to technology transfer through the proper utilisation of these resources.

It is the duty of the decision makers and entrepreneurs of the Muslim World to take steps to acquire technology from all sources

and to encourage the joint public-private sector efforts in this process, and to adopt the necessary country-level measures to assess, select and maintain, develop and diffuse technology with the ultimate objective of integrating technology into the technology infrastructures of Islamic countries.

A sound, imaginative and flexible S&T Manpower base would have to be created. Such a base is not only essential to the proper integration of the transferred technology into the importing country's technological infrastructure, but is also a necessary measure to strengthen R&D activities and integrate them with the technology transfer operations.

Promoting inter-Islamic co-operation at all levels coupled with a comprehensive process of information dissemination, are two essential phenomena for a speedy, well balanced process of technology transfer.

Antalya Technology Fair, a success

His Excellency Mehmet Yazar, Turkish Minister of State, inaugurated the Antalya Technology Fair, an activity previously designed to coincide with the Antalya Technology Transfer Conference.

Eight major Turkish industrial establishments displayed a wide-ranging array of technology and technology-oriented products.

The activity offered a timely opportunity for the conferees, who were of twenty nationalities, to appreciate the high standard achieved by some of the Islamic World's leading industrial firms.

The IAS hopes that activities such as this will help in promoting dialogue between the industrialists of the Muslim World and increasing co-operation in the different technology transfer aspects.

Aiming at a better technological future

The World has been rushing head long into all-out technological revolution the scale of which has created a substantial technological inequality between the technologically advanced and the less developed countries.

Technology Transfer as the process of selecting, acquiring, developing, diffusing and managing technologies, is one possible course of action that might bridge this ever widening gap between the two groups of countries aforementioned. Transfer of technology is a proven means of fostering technological development in developing countries without necessarily making them increasingly dependent on technologically advanced countries.

A prerequisite for a successful technology transfer process is a strong endogenous capacity in research and development in the transferee country which would act as regulator of the whole transfer mechanism.

For this prerequisite to successfully come about without undue hindrance, and as part of a comprehensive approach to technology transfer, Islamic countries individually and through OIC off-shoot organizations have available two possible courses of policy.

The first is the creation of a sound, imaginative and flexible S&T Manpower base. Such a base is not only essential to the proper integration of the transferred technology into the importing country's technological infrastructure, but is also a measure necessary to strengthen the country's own R&D activities and integrate them with the technology transfer operations.

The second is to encourage decision makers and entrepreneurs of the Muslim World to take whatever steps to acquire technology from all sources and to adopt the necessary measures to assess, select and maintain, develop and diffuse technology with the ultimate objective of integrating technology into the technology infrastructures of Islamic countries.

With these guidelines in mind, the Islamic Academy of Sciences aims to assemble the widest possible array of scholars and decision makers at these gatherings so that genuine off-the-hook exchange of ideas and incidental long lasting co-operation between the representatives of countries can be initiated.

Working Groups, a new activity

A new activity was organized by the Scientific Committee of the Technology Transfer Conference.

Conference participants were all invited to take part in the proceedings of three Working Groups, each of which was assigned to discuss one of three previously adopted themes:

- Selection, Acquisition and Dif-

fusion of Foreign Technologies.

- Role of National R&D Institutions in Technology Transfer.
- Co-operation between Islamic Countries for Technology Transfer.

A general consensus existed at the end of Working Group's Session, that the deliberations that took place therein, benefited the participants and academically complemented the extensive deliberations that had already taken place during the conference proper.

Mehmet Yazar, Turkish Minister of State for Science and Technology stated that Muslim countries were in transition from an industrial society to an information society, where stunning developments have been taking place in all S&T spheres.

A by-product of these phenomena he added, has been the internationalisation of knowledge and information to an extent that made the transfer of technology a process of great importance, not only for less developed and developing countries but also for industrialised countries also.

The Minister added that for a successful technology transfer process to take place, a sufficiently high level scientific and technological base needs to be founded within the acquiring country. The proper adaptation to indigenous conditions and diffusion of acquired technologies as well as the management of such technologies under local conditions are the other prerequisites for a successful technology transfer process, the Minister concluded.

His Excellency Mehmet Ergin

In his address to the Conference, His Excellency Prof. Mehmet Ergin FIAS, Chairman of the Conference's Organizing Committee and former President of TUBITAK, emphasised the importance of technology transfer as the ability to select, acquire, develop, diffuse and manage technologies imported or transferred within a country with the support of the national research and development system of the country.

Prof. Ergin went on to state that although Islamic countries enjoy a visible richness and variety of technologies utilised for the advancement of their society, most of these are either imported or

developed in collaboration with foreign companies.

Although Islamic countries have been successful in bringing in new technologies Prof. Ergin indicated, there exists doubt as to the success Islamic countries have had in assimilating these technologies.

Prof. Ergin then explained that the structure of the 1990 Conference, due to the complexity of the concept of Technology Transfer, was different to the previous conferences organized by the Islamic Academy of Sciences.

Appreciating this complexity, the Scientific Committee decided to add activities to the conference for increased participation, particularly of public and private sector industries. Activities such as a technology exhibition, at which technology products would be displayed.

Another new concept, was the introduction of a Working Groups' Session, which would enrich the deliberations and output of the conference, Prof. Ergin concluded.

His Excellency Mumtaz Kazi

In his address, Prof. Mumtaz Kazi FIAS, President of the Islamic Academy of Sciences and the Co-ordinator General of COMSTECH, stated that the world is undergoing an unprecedented process of technological change.

The speed of technological advancement has created a vast disparity between the developed and developing countries, which can only be overcome through greater investment in science and technology if the developing countries hope to survive with dignity in this increasingly complex world, Prof. Kazi stated.

Unfortunately, Prof. Kazi added, the development process in the Muslim countries has been largely

based on technology imported from advanced countries on turn-key bases leading to a situation of excessive dependence on supplier nations.

This has greatly impeded the growth and creativity of indigenous science and technology in the Islamic World. Muslim countries must therefore ensure that all technological development is based on maximum utilisation of the indigenous manpower and material resources.

A fresh approach towards technology transfer Prof. Kazi added, is essential for reducing excessive dependence on outside sources. Strengthening of domestic technological capability is crucial for improving the country's standing in matters related to technology transfer.

IAS President went on to say that the basic strategy that needs to be adopted by Islamic countries to achieve self-reliance is to move away from predominant reliance on the importation of technology to an optimal mix of the importation of unpackaged technology and upgradation of indigenous technology.

The President concluded that if the goal of self-sustained socio-economic progress is to be achieved, the Muslim world must become an active producer instead of being a passive recipient, as it is at present.

The President finally thanked the Turkish Scientific and Technical Research Council TUBITAK, the Islamic Foundation for Science, Technology and Development IFSTAD the Islamic Development Bank IDB, the United Nations Educational, Scientific and Cultural Organisation UNESCO for co-sponsoring the conference with the Islamic Academy of Sciences.

General Assembly convened at Antalya

Council re-elected, Manpower theme for 91

Under the chairmanship of Prof. Mumtaz Kazi FIAS, President of the Islamic Academy of Sciences, the fifth IAS General Assembly was convened at Antalya. during 18-21 November, 1990.

The twenty nine participating IAS Fellows discussed, over the four-session duration of the Assembly, a wide range of issues including the programmes, activities and finances of the Academy.

Report of the Secretariat

The Executive Director General, Dr. Anwar Bilbeisi presented his report to the General Assembly on the activities of the Secretariat during the previous year.

The report outlined the efforts undertaken by the Secretariat to increase co-operation with organisations of a nature similar to that of the Academy, both on the academic and financial levels.

Treasurer's report

The IAS Treasurer, Dr. Fakhruddin Daghestani FIAS, presented to the Assembly the financial accounts of the Academy for 1990 as well as the estimated budgets for 1991 and 1992.

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

The General Assembly endorsed the Academy's budget for 1991 and 1992 and commended the Treasurer and IAS staff for their comments on revenue estimates and expenditure and their recommendations.



IAS Scientific Journal

The Chief Editor of the IAS Scientific Journal presented his report to the General Assembly summarising the financial situation of the publication as well as its plans for maintaining quality, periodicity and appropriate visibility.

The Assembly commended Prof. Bor, Chief Editor, for his unrelenting efforts into making the IAS Journal so-well received publication, it has become.

Election of new Fellows

The General Assembly approved, upon Council's recommendation, results of the 1990 Fellowship election, in which 3 new Fellows were elected.

The General Assembly also approved an amendment to item 11 of the By-Laws for the Election of New Fellows.

Election of new Council

The General Assembly deliberated for some time as how to formulate

Statutes and By-Laws for the election of the Academy's Council.

Upon a seconded proposal from the floor, the General Assembly voted by secret ballot to re-elect the IAS Council for a second four-year term, during which period the appropriate Statutes and By-Laws would be formulated for the election of the IAS Council.

Standing Committees

The House listened to a report by Prof. Mustafa Doruk FIAS on the operational mechanism of the Academy's Standing Committees and how this can be upgraded.

Many Fellows indicated that for the Committees to operate more efficiently, meetings on a limited bases should be convened prior to the annual meeting of the Committees.

The General Assembly decided ultimately to leave it to the Council to decide upon an appropriate procedure for the Committees that would make them more effective as instruments through which the Academy can achieve its objectives.

Professor Ibrahim's Medal

The General Assembly approved the institution of a medal after the late Prof. M. Ibrahim FIAS, of Bangladesh, in recognition of the invaluable service he had offered to the international medical community in the field of diabetes.

Theme of fifth conference

The General Assembly deliberated for some considerable time on the theme for the IAS's next conference at the end of which, the House adopted "Science and Technology Manpower Development in the Muslim World" as the theme of the IAS's fifth conference.

The General Assembly was concluded on Wednesday 22 November, 1990.

New IAS Fellows elected

At its annual meeting, convened at Antalya during November last, the General Assembly of the Academy approved the results of the 1990 IAS Fellowship elections.

The newly elected Fellows are Prof. J. (Younis) Ario Katili who is an Indonesian Professor of Geology, Prof. Mostefa Khiati who is an Algerian Professor of Medicine and Prof. Abdel Hafid Lahlaoui who is a Moroccan Professor of Medicine also.

The Editorial Board congratulates Professors Katili, Khiati and Lahlaoui on their election and wishes them success in the service of the Islamic Academy of Sciences.



Eng. Zou'bi joins IAS staff

IAS Council has recently approved the appointment of Eng. Mounneef Rafe' Zou'bi as the new IAS Technical Affairs Officer. A position which became vacant with the resignation of Dr. Mohammad Halaqah, Ex-Assistant Director General.

Eng. Zou'bi is a graduate of the UK's Loughborough University of Science and Technology with an MSc and BEng degrees, and has a particular interest in information technology and communication.

Before joining the IAS in August 1990, Eng. Zou'bi has worked with several engineering firms both in Jordan and the UK.

At the Fifth IAS General Assembly, recently concluded at Antalya, IAS President welcomed Eng. Zou'bi and wished him every success in the service of the Academy.

New book issued by Al Albait Foundation

The Royal Academy for Islamic Civilization Research, Al Albait Foundation, has recently issued a new book of its publications' series entitled: Investment Strategy in Islamic Banking: Application, Issues and Problems.

IAS Council convened at Antalya

Under the chairmanship of IAS President. Prof. Mumtaz Kazi FIAS, the ninth and tenth meetings of the IAS Council were convened at Antalya on 17 and 21 November, 1990, respectively.

At its ninth meeting, the Council was addressed by the Executive Director General who presented the Secretariat's report outlining the activities of the Secretariat over the previous six months.

The Council discussed the financial situation of the Academy and reviewed means, the application of which would strengthen the Academy and enable it to carry out more of its activities.

The Council applauded the efforts of the IAS Scientific Journal's editorial staff for their continued dedication to the upgrading of the publication, which has become renowned for its quality.

The Council was also briefed as to the activities of the Programme

Review Committee with regards to the organising of training courses in Egypt and Turkey.

The 1990 IAS election procedure was concluded at the same session, election ballots counted and results approved.

The tenth meeting of the IAS was convened on Wednesday 21 November 1990, under the chairmanship of the IAS President.

The Council evaluated favourably the Technology Transfer Conference which had just ended and commended the efforts of the organisers.

The Council formally assigned the editorship of the Conference proceedings to the nominated editorial board.

The Council concluded its meeting by appealing to all IAS Fellows to do all they can to further promote the Academy as an institution as well as its activities and programmes.

IAS, Al Albait agree to sponsor publication

The Islamic Academy of Sciences and Royal Academy for Islamic Civilization Research, Al Albait Foundation, have agreed terms to jointly publish the Arabic version of COMSTECH's Islamic Thought and Scientific Creativity, the quality quarterly publication.

The Arabic version of Issue No. 1 Volume 1 of the publication will be issued during January, 1991.

Malaysian fund wins IDB prize

The Islamic Development Bank has recently awarded its prize for excellence in Islamic banking to the Malaysian Pilgrim Fund.

The fund, established in 1962, handles the savings of Malaysian Muslims and helps them make the pilgrimage to Islam's holy cities.

The IDB has another similar prize for the best research work in the field of Islamic economy, which this year went to Mohammad Anas Al Zarqa from Syria.

UNESCO Seminar paves way for education plan

The United Nations Educational, Scientific and Cultural Organisation UNESCO has recently concluded a four day meeting on population education and development with the adoption of the Amman Declaration announcing that a population education plan will be launched next year.

The four-day meeting was attended by directors of population education departments, university professors and people concerned with this matter. The forty participants came from Jordan, Syria, Tunisia, Yemen, Morocco, Egypt, Sudan, Lebanon and Bahrain.

The Islamic Academy of Sciences IAS

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 IAS is an independent, non-political, non-governmental and non-profit making organization of distinguished scientists and technologists dedicated to the promotion of all aspects of science and technology in the Muslim world.

The main objectives of the Academy are:-

- *To serve as a consultative organisation of the Muslim 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 utilization.*

IAS Newsletter

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Editorial Board:

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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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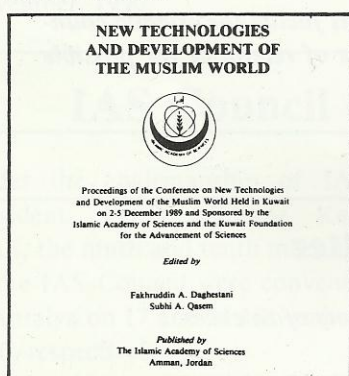
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IAS issues new book

The Islamic Academy of Sciences has recently issued the latest of its publication's series, *New Technologies and the Development of Muslim World*.

The book comprises the proceedings of the conference held in Kuwait during 2-5 December, 1989, by the Islamic Academy of Sciences in co-operation with the Kuwait Foundation for the Advancement of Science, and was inaugurated by HH Sheikh Jabir Al-Sabah, the Emir of Kuwait.

A total of 70 researchers and intellectuals from various Islamic and Non-Islamic countries took part therein, in addition to the relevant S&T institutions, some senior educationalists and businessmen also participated.



The book which was edited by Dr. Fakruddin Daghestani FIAS and Dr. Subhi Qasem FIAS, contains 17 major papers covering new technologies in the fields of industry, natural resources, education, food and agriculture, biotechnology, microelectronics, energy and informatics.

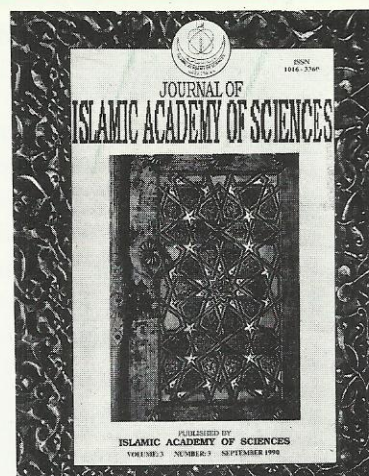
The varied experiences presented in the book can be considered as an excellent bases for scientists and policy makers to build upon regarding the promotion and upgrading of science and technology to serve as powerful instruments for the socio-economic development of developing countries in general, Islamic countries in particular.

New issue of Journal published

Volume 3, Number 3 of the IAS Scientific Journal has recently been published by the IAS.

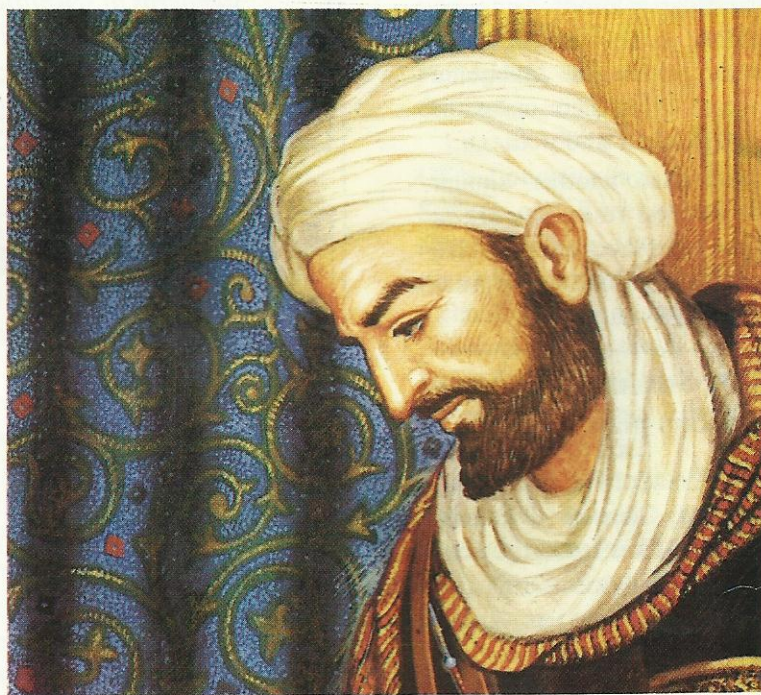
The IAS Journal is the flagship of the IAS's current publications and is edited and printed in Turkey under the chief editorship of Prof. Naci M. Bor FIAS.

The latest issue contains articles on chemistry, immunology, biochemistry, microbiology, infectious diseases, nuclear medicine, endocrinology, nuclear geology, gastroenterology, cardiology as well as veterinary obstetrics.



Plans will be embarked upon soon, by the Journal's Editor to increase the number of pages per issue to 160, and to increase number of issue per year to 6.

Muslim Scholars



IBN SINA (980-1037 A.D.)

Abu Al Hussain Ibn Sina was born at Afshana near Bukhara, where he received his early education. Later on in his life, he moved to Ray and then to Hamadan, where he wrote his world-famous book *Al-Qanun Fi Al-Tibb*, (The Law of Medicine), which had been taught at medical schools world-wide up the late eighteenth century.

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