

Newsletter

ISLAMIC ACADEMY OF SCIENCES



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Health and Nutrition theme for '93

Dakar hosts preparatory meeting

The Science and Organising Committee of the 1993 IAS Conference has recently concluded its first series of meetings at the University of Dakar, Senegal.

The conference will be entitled "Health, Nutrition and Development in the Islamic World," and will be convened in the Senegalese capital, during 22-26 November 1993.

The theme decided upon for this conference (Health and Nutrition), was partly chosen to complement the topic addressed by the Academy during 1992 (Environment and Development), and constitutes a cornerstone of the Academy's programme of action which aims to address the major contemporary issues facing the Islamic and Developing Worlds.

This conference has been design-

ed to achieve the following objectives:

- * To review the present state of population health in the Islamic World;
- * To review the nutrition problems of developing countries with the aim of formulating strategies to overcome them;
- * To highlight the major epidemics and diseases confronting the Islamic and Developing Worlds, and assess the national strategies adopted by countries in combating such diseases;
- * To recommend collective remedial measures that need to be adopted by governments and non-governmental organisations in order to eradicate the serious health and nutritional problems confronting the Third World;
- * To facilitate the exchange of views on health and nutrition strategies;
- * To incorporate health, nutrition and development considerations into national S&T policies; and
- * To define areas of importance in health R&D.

The conference will include more than twenty two invited presentations as well as some free submission papers.

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Jordan pays grant to Academy

The Islamic Academy of Sciences has recently received the annual grant of the government of the Hashemite Kingdom of Jordan.

The Academy's Executive Director General, Dr Anwar Bilbeisi, expressed his appreciation of the initiative of the Jordanian government, and lauded the continuous support Jordan and the Academy Patron-Prince Al-Hassan accord the IAS, the Secretariat of which is based in Amman, Jordan.

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Academy Fellow appointed PM

Prof. Abdul Salam Majali, Founding Fellow of the Islamic Academy of Sciences, and former President of the University of Jordan, has recently been appointed the Prime Minister of the Hashemite Kingdom of Jordan.

A delegation made up of the Academy President, Council Members and executive staff, visited Dr Majali at the Prime Ministry to congratulate him on his appointment and to wish him well in the service of his country.



New IAS Fellows elected

At a meeting, which was held at the Academy Secretariat during October 1992, an Academy Committee approved the results of the 1992 Fellowship elections.

The six newly elected IAS Fellows are; Prof. Kazem Behbehani who is a Kuwaiti Professor of Medicine, Prof. Mohamed Hag Ali Hassan who is a Sudanese Professor of Mathematics, Prof. Jamal Nazrul Islam who is a Bangali Professor of Mathematics, Prof. Zohra Ben Lakhdar (Mrs), a Tunisian Professor of Physics, Prof. Ahmet Hikmet Ucisik - a Turkish Professor of Metallurgical Engineering and Prof. Mikhael Zalikhonov who is a Balkarian (Central Asian) Professor of Geophysics and Glaciology.

With the 1992 Fellowship elections over, the number of IAS Fellows stands at present at 61 representing 20 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.

Council Member appointed Vice-Chancellor of BOU

Prof. M. Shamsheer Ali FIAS, Academy Council Member has recently been appointed Vice-Chancellor of the newly founded Bangladesh Open University.

Prof. Ali graduated from Manchester University with a PhD in Theoretical Nuclear Physics in 1965.

Prof. Ali has authored/co-authored 5 books as well as many scientific articles including many on science education through the media.



Hameed Khan wins Al-Khawarizmi Prize

Prof. Hameed Ahmed Khan FIAS, and Fellow of the Pakistan Academy of Sciences (PAS), has recently been awarded the Khawarizmi Prize of the Iranian Research Organization for Science and Technology (IROST), for his proposed project on the Development and Application of an Experimental Tool for Mineral, Oil, Gas Exploration and Location of Geothermal Energy.

Prof. Khan graduated from Birmingham University in the UK in 1972, with a PhD in Radiation Physics.

At present, Prof. Khan is the Chief Scientific Officer of the Pakistan Atomic Energy Commission and is the Head of SSNTD-Laboratory (PINSTECH).

The Editorial Board congratulates Prof. Khan and wishes him further success and progress.



Academy Treasurer assumes new post

Dr Fakhruddin Daghestani, IAS Treasurer has recently been appointed Director of the Centre for International Studies (CIS).

This new centre, which is part of the Jordan Royal Scientific Society (RSS), was founded for the purpose of conducting research related to economic and social developments in the international arena, with particular emphasis on the European Community and the countries of Central Asia and the Caucasus.

The Editorial Board congratulates Prof. Daghestani and wishes him every success.

Visitors to IAS Secretariat

During November 1992, Mr El-Tayeb Gubara from Sudan, who is a UNEP consultant based in Saudi Arabia visited the IAS Secretariat in Amman where he was met by Dr Anwar Bilbeisi, Executive Director General of IAS and Eng. Mounneef Zou'bi, IAS Technical Affairs Director.

Discussions focused on the latest Academy Conference, which was held in Kuala Lumpur (Malaysia), under the title of "Environment and Development in the Islamic World."

EDITORIAL LETTER

Third World Development: Back to Basics

Seldom, in the past, has mankind experienced such tremendous changes as it has at the present time. The wind of change is hitting all corners of the globe with such strength that no stone seems to remain unturned. An international journalist writes: "the media have barely been able to keep up with the rush of world events. Day after day, the headlines of our daily papers and news magazines shout the news of revolutionary changes taking place in every corner of the globe."

Perhaps therefore it is time for Third World, including Islamic, countries to re-assess their overall strategies-including development and S&T policies-in the light of the new international realities.

Great importance needs to, yet again, be attached to objective inter-country and inter-institution co-operation. Not only to absorb and accommodate these tremendous changes but also to set the scene for a wide-ranging developmental phase, that would not exclude any of the, fifty or so, Islamic countries.

Emphasis in this rejuvenated effort must be placed on the human being, for it is man who plans and executes any developmental strategy and it is he who ultimately benefits from it.

Importance also needs to be based on resource allocation, which is after all a key factor in any comprehensive development stride.

The Islamic World, with its vast geographical size, is naturally quite richly endowed with material resources. From the academic viewpoint however, it is still poor in terms of "exceptionally qualified" human resources.

A reasonable compromise needs therefore to be worked out whereby a "resource levelling" exercise would be undertaken on the nation-state, regional and Pan-Islamic scene so that people would have the resources at their disposal to undertake developmental activities in general, R&D in particular.

It is not unrealistic therefore to again think of such plans bearing in mind all of the above, particularly as there exists already a reasonable institutional set-up to undertake such a developmental drive.

The Organisation of the Islamic Conference Ministerial Committee on Scientific and Technological Co-operation (COMSTECH), the Islamic Academy of Sciences (IAS), the Islamic Foundation for Science, Technology and Development (IFSTAD), the Islamic Development Bank (IDB), etc..., do all represent effective arms of the Ummah, and can do a lot more than they are, once a flow of material support is allocated to them.

International
Plant Tissue Culture
Conference,
Dhaka,
Bangladesh.

19-20 December, 1993

FIRST CIRCULAR

Organized by
Bangladesh Association for
Plant Tissue Culture (BAPTC)
Dhaka, Bangladesh.

Preamble Bangladesh Association for Plant Tissue Culture (BAPTC) has decided to organize its next Biennial conference at an International level on the 19 and 20th December, 1993, in the Department of Botany, University of Dhaka, Dhaka, Bangladesh. Interested Plant Tissue Culture Scientists are cordially invited to attend the conference.

Theme Plant Tissue Culture for Crop Improvement

Language English will be the working language.

Sessions The conference will be divided into the following sessions:

1. Meristem culture and its prospect in horticultural, ornamental, medicinal and food crop
2. Somaclonal variation and its utilization in crop improvement
3. Anther and pollen culture
4. Improvement of fibre and rubber yielding plants through *in vitro* culture
5. Tissue culture in forestry and environment
6. Production of secondary metabolites and its prospect of commercialization
7. Genetic manipulation and transformation
8. Posters

Details of the scientific programme, registration form, format for abstracts etc. will be included in the Second Circular.

Abstracts Participants will have options to present their findings in the form of a paper or a poster.

Registration fee

Local : Member	Tk 200.00
Student	Tk 150.00
SAARC countries :	US\$ 20.00
Accompanying person :	US\$ 15.00
Other Foreign Countries :	US\$ 50.00
Accompanying person :	US\$ 40.00

Depending upon the position of the funds partial to full local hospitality will be extended to SAARC and foreign delegates.

Travel Participants are requested to arrange their own travel.

Weather During the month of December the climate is pleasant, the temperature ranging from 12 - 25°C.

Other information Interested participants are requested to fill in the attached preregistration form and to send to the Chairman, Organizing Committee latest by the 15th April, 1993. The Second circular will be sent to only those who would return their preregistration form with necessary information.

All correspondences should be made to the following address.

Professor A. S. Islam

Chairman, Organizing Committee,
International Plant Tissue Culture
Conference,
C/o. Department of Botany,
University of Dhaka,
Dhaka-1000, Bangladesh.

International Plant Tissue Culture Conference

19-20 December, 1993

Dhaka, Bangladesh.

Name : _____ I would like to present a **paper** ☐

Address : _____ **Poster** ☐

Paper title : _____

Phone :

Fax :

Signature,

Date :

(Continued from page 1)

The Committee proposed the following titles for some of the invited presentations:

- * Fundamental Aspects of Health, Nutrition and Development in the Islamic World;
- * Islam and Health;
- * Research and Development in Tropical Diseases and Immunology;
- * Combating Major Diseases In Africa: Present Situation, Future Outlook and Remedies;
- * Environmental Health and Poverty (with reference to large urban centres);
- * Health and Nutrition Education in Developing Countries;
- * Introducing Considerations of Health and Nutrition into National S&T Policies of Developing Countries;
- * Diet and Nutrition in the Sahel Countries;
- * A Nutritional Profile of Jordan: Shortcomings, Remedies and Developments: A Country Case Study; and
- * Present Day Perspective of Child Nutrition and Future Planning.

The meeting of the Science and Organising Committee was chaired by IAS Council Member, and Rector of the Cheikh Anta Diop University, Dakar, Prof. Souleymane Niang FIAS, and attended by Prof. Iba Mar Diop FIAS, Prof. Abdelhafid Lahlaoui FIAS. The meeting was also attended by Eng. Mounnef Zou'bi, the IAS Technical Affairs Director as well as Mr Tafsir Diatara of UCAD, Dr Magueye Kasse of UCAD, Dr Ousseynou Dia of the UCAD, Mr Ibou Ndiaye as well as Mr Assane Sarr of the Senegalese Ministry of Foreign Affairs.



HRH Prince Al-Hassan at the Thirteenth Academy Council Meeting

ISLAMIC THOUGHT AND SCIENTIFIC CREATIVITY

*An International Quarterly Journal of the Organization of Islamic Conference (OIC)
Standing Committee on Scientific and Technological Cooperation (COMSTEC)*

CALL FOR PAPERS

Published quarterly in March, June, September and December, *Islamic Thought and Scientific Creativity* focuses on such subject areas as:

- Islamic thought and contemporary scientific thinking
- Muslim contribution to the growth of science and technology
- Science and religion
- Islamic philosophy and scientific creativity
- Qur'an and science

Manuscripts of articles for publication may be submitted in duplicate, accompanied by an abstract of 100-200 words. Layout and use of references should conform to those in the journal. Please limit the use of diagrams. Articles may also be sent on a floppy diskette along with a hard copy.

As a token of appreciation, COMSTEC pays up to US\$250.00 (Rs 3,000.00 in Pakistan) as remuneration.

Please send your papers to:

The Editor,
Islamic Thought & Scientific Creativity,
3 Constitution Avenue,
Sector G-5, Islamabad,
Pakistan
Phone: 614372
Fax: 92-51-825254
Telex: 54549 COMST PK

Ministry of Science, Technology and the Environment of Malaysia

Background

The Ministry of Science, Technology and the Environment of Malaysia was established in 1973 as the Ministry of Technology, Research and local Government. In 1976, the Ministry assumed its present name in view of the more targeted role it plays in promoting and developing science and technology in the country.

Objective

The Ministry was established to develop and promote the nation's science and technology base in line with efforts to advance the nation's pace of industrialisation.

Simultaneously, it has to ensure that its efforts are environmentally-sound, and support the sustained management and development of the nation's natural resources for a better quality of life.

Strategies

The Ministry has formulated the following strategies to achieve its objectives:

- * Increase research and development activities through more effective planning and management of research programmes;
- * Develop a society that is more receptive and appreciative of science and technology and its benefits;
- * Encourage and develop local technology as well as improve the mechanism for the transfer of technology;



Prof. Omar Abdul Rahman

- * Improve the nation's ability to assimilate and adapt to new technologies; and
- * Control pollution and manage activities which will conserve the natural environment through integrated planning.

Divisions

Science and Technology Division

This division comprises two units.

The Policy and Research Management Unit co-ordinates research activities under the Intensification of Research in Priority Areas (IRPA) Programme. This unit also functions as the Secretariat to the Cabinet Committee on Science and Technology, and the National Council for Scientific Research and Development (NCSRD).

The Development and Implementation Unit focuses on implementing the National Action Plan for Industrial Technology Development. It also works closely with Non-Governmental Organizations to inculcate science and

technology awareness through promotional activities.

International Division

The role of the International Division is to effectively advocate Malaysia's policy and position at the international level and to ensure that it optimises its participation in forums concerning science, technology and the environment.

It is actively involved in international programmes such as the Inter-Government Oceanic Commission and presently acts as the Secretariat for the ASEAN Committee on Science and Technology. It also co-ordinates and participates in bilateral programmes on science and technology with several countries.

Conservation and Environment Management Division

This division formulates, manages and co-ordinates policies, strategies and programmes related to conservation and the environment at national, regional and international levels. It also monitors the implementation of legislation.

National Science Centre

The Centre strives to motivate a desire towards a better understanding of science and technology through involvement in "hands-on" exhibits, demonstrations and a variety of activities and experiences.

It provides an exciting and informative atmosphere for people of



all ages to learn, discover and explore the relationship between science and technology, and everyday life.

Malaysian Centre for Remote Sensing (MACRES)

The role of the Malaysian Centre for Remote Sensing (MACRES) is to conduct research for the development of remote sensing and related technologies and to promote their applications for resource management, environmental protection and strategic planning in Malaysia. MACRES functions by conducting research and by providing expertise, support facilities and remote sensing data to the user community of these technologies in the country.

Technology Park Malaysia

Technology Park Malaysia acts as a catalytic vehicle for commercialisation of research and development findings by providing access to sources of expertise, specialised equipment and information. To be housed in an appropriately designed building with a park-like setting, it will provide linkages to research institutions and universities. Technology Park Malaysia plans to have a resource centre, an information centre and a technical support centre, making available a range of management, marketing, financial and technical assistance designed to promote and support indigenous technology and innovations.

Malaysian Science and Technology Information Centre (MASTIC)

Set up to gather, process, analyse and disseminate information on

science and technology, MASTIC will also develop national science and technology indicators and monitor technology trends for forecasts and impact assessment studies.

Management Division

The Management Division provides support in the areas of general administration, personnel, manpower training, finance and security. This division also co-ordinates the implementation of the Ministry's development projects and the activities of its agencies, so that they are in line with the objectives of the Ministry.

Departments

- * Malaysian Institute of Micro-Electronic Systems (MIMOS);
- * Department of Environment (DOE);
- * Standards and Industrial Research Institute of Malaysia (SIRIM);
- * Malaysian Meteorological Services;
- * Department of Chemistry;
- * Department of Wildlife and National Parks;
- * Nuclear Energy Unit; and
- * Atomic Energy Licensing Board.

Programmes

- * National Action Plan for Industrial Technology Development (APITD);
- * Intensification of Research in Priority Areas (IRPA) Programme;
- * Environmental Programmes; and
- * Science and Technology Promotion Programme.

Jordan's Cabinet approves trade agreement with OIC

The Government of Jordan has recently endorsed the recommendations of the financial and economic committee on a draft agreement between member states of the Organisation of the Islamic Conference (OIC), on the trade preferential system.

The draft agreement was approved by the OIC's Standing Committee for Economic and Commercial Co-operation. The agreement provides for promoting trade among the OIC member states and providing the necessary facilities to encourage such trade.

New books at IAS Library

The IAS has lately received a recent publication of the Asian and Pacific Development Centre (APDC), entitled "Biotechnology for Asian Agriculture: Public Policy implications."

This publication comprises the proceedings of a seminar which addressed the topic of Public Policy Implications of Biotechnology for Asian Agriculture, which was held on 6-8 March 1989, New Delhi, and was organised by (APDC) in collaboration with the Genetics Trust of India and the Indian Council of Agriculture Research.

The book which comes in 300 pages will be useful to researchers and academicians involved in biotechnology-related programmes as planners, policy-makers, administrators and scholars.

The Academy has also received the book of the proceedings of the symposium entitled, "Biotechnology for Energy," December 1989, Faisalabad (Pakistan), which was sponsored by the ISESCO.

Industrial Corrosion and its Prevention

(A Ten-Day Workshop with Laboratory Demonstrations)

Objective

Corrosion has always presented a problem to engineers in all branches of industry. Production is often hampered by unscheduled periods of shutdown caused by material failures through corrosion, resulting in economic losses. In addition, the ever increasing concern about pollution and safety are other considerations forcing engineers to find means of combating this costly phenomenon.

Deterioration through corrosion has to be accepted as an unavoidable fact as long as metallic materials are used. The estimates of the cost of corrosion to a nation vary between 1-3.5 percent of the Gross National Product (GNP). Evidently, the target of the battle against corrosion cannot be to eliminate it completely. On the other hand, experience has shown that substantial savings are possible based entirely on adequate utilisation of existing knowledge.

In spite of this very simple fact, the widespread lack of awareness of corrosion and particularly of the numerous ways corrosion causes direct and indirect losses is rather contradictory. Certainly, the Islamic World is no exception of this. Although no indications of the order or magnitude of corrosion losses in Islamic Countries are available at present, many cases are known of corrosion being controll-

ed effectively, at least in some countries in this part of the world.

These facts formed a starting basis for the Islamic Academy of Sciences to organise a workshop on the very well established fundamentals of corrosion. Through this activity, it is hoped to provide a fruitful basis for the exchange of state of the art knowledge and experience acquired in the Islamic World.

Approach

In line with the above objectives, the workshop will be conducted in mainly two parts. In the first, the invited experts will present reviews on selected topics that form the fundamentals of corrosion and its control. The participants will be encouraged to come up with their specific corrosion problems to be discussed and analysed.

The second part will consist of laboratory work. The participants will have the possibility to create the most pronounced types of corrosion damage under laboratory conditions, and would try to inspect and identify the type of corrosion.

Finally, each participant would provide a case-study on a selected topic from the various branches of industry.



Prof. MDoruk, Programme Co-ordinator

Who will attend?

The workshop is designed to address essentially chemical, petroleum, metallurgical, mechanical and electrical engineers in companies, state and private organisations engaged in:

- Petroleum production and transport;
- Petroleum refineries;
- Petro-chemical and chemical industry;
- Food industry;
- Pharmaceutical industry;
- Sugar industry;
- Fertiliser industry;
- Paper industry;
- Metallurgical industry;
- Mobile and stationary offshore structures;
- Water treatment plants; and
- Pipeline engineering.



The workshop would be attended by scientists from Islamic Countries who have an interest in corrosion and by engineers who are actively involved in inspection, monitoring and prevention of corrosion, failure analysis and material selection.

Subjects to be covered

Day 1

Introduction to corrosion: definitions, importance of corrosion, economic aspects of corrosion.

Basic principals of corrosion: corrosion rate, electrochemical reactions, electrode potentials, corrosion tendency, corrosion kinetics, passivity.

Day 2

Forms of corrosion: uniform, pitting, crevice, galvanic and grain boundary corrosion, fretting, stress corrosion, high-temperature corrosion.

Day 3

Corrosion monitoring and testing: weight-loss tests, special techniques to evaluate corrosion, measurement of corrosion rate by linear polarization and electrical resistance method.

Day 4

Material selection and design: principles and methodology of material selection, review of materials, demonstration of computer-aided material selection, design principles to minimize corrosion.

Day 5

Corrosion prevention through Inhibitors: types of inhibitors, selection and performance evaluation.

Day 6

Corrosion prevention through coatings and linings: metallic, inorganic and organic coatings, surface preparation and other factors that determine the quality of coatings, testing and inspection of coatings and linings.

Day 7

Corrosion prevention through cathodic and anodic protection: criteria of protection, galvanic and impressed current applications of cathodic protection, demonstration of computer-aided design of cathodic protection systems, examples of the application of anodic protection.

Day 8

Corrosion in heating and cooling systems: water chemistry, scaling and corrosion aspects, treatment of water to prevent heating and cooling systems from corrosion.

Day 9

Selected topics on corrosion in various branches of industry. Content should be designed to comply with the particular needs of the participating countries.

Where will the workshop be held?

The workshop will be held at the Middle East Technical University

(METU), Ankara/Turkey. The Centre for Continuing Education at METU will be in charge of implementing the workshop.

Cost

US\$1,200 (including food, lodging and local expenses).

When?

July, 1993.

Language

English will be the language of lectures and laboratory sessions.

COMSTech COURSE ON PLANT TISSUE CULTURE AND TRANSFORMATION

Based on the successful COMSTech Course on Tissue Culture and Transformation run at the Centre of Excellence in Molecular Biology, this laboratory manual describes methods for the plant tissue culture and regeneration of plant. The methods are clearly laid out for easy use in the local environments. The book will prove invaluable to both the advanced level researcher and students wishing to study plant tissue culture and genetic transformation.

Price: \$ 10.00 Rs. 100.00

**Available from COMSTech
3-Constitution Avenue,
G-5/2, Islamabad
Pakistan**

UNEP plans factory studies in Africa

Environment and Industry ministers in three African countries have agreed to study key industries to see what was needed to make dated, polluting factories cleaner. Mostafa Tolba, Executive Director of the United Nations Environment Programme (UNEP), said paper and pulp and cement plants in Egypt, Senegal and Zimbabwe would be studied during the year. "Egypt, for example, produces 17 million tonnes of cement a year.

That produces a colossal amount of dust. What does Egypt need? Is it simply filters, or what?" Mr. Tolba said. He added the industries chosen for the study were typical products in developing countries. Mr Tolba and other officials said discussions about cleaning up industry often ran into a dead-end because developing countries felt they could not afford expensive changes to production methods.

Jordan adopts draft

Jordan will soon introduce a new environmental law that will treat existing pollution and introduce new protection measures.

The draft legislation proposes the creation of an independent environment department which would consolidate the work of various governmental departments presently dealing with environmental issues under one umbrella.

A special fund will also be established to finance environmental protection projects with complete authority to invest its allocations in commercially viable investments.

The law which was drawn up in response to the recommendations of many international environmental conferences, including the IAS's own Kuala Lumpur Conference on Environment and Development, will not, it is believed, pose a hindrance to economic and industrial growth as it was drafted by representatives of all sectors whose work might be affected by it. These include scientists who represent private and public sectors, industry as well as environmental protection agencies.

Once the draft legislation is signed into law, the proposed general corporation for the environment will work out regulations which will be passed to other



environmental Law

governmental organisations to use as the criteria for issuing licences for industries and businesses.

The corporation will have the legal authority to monitor compliance with its laws by industries and individuals and take action against those who violate them. Punitive action will range from fines to closure of industries that violate the law.

Considering the technical difficulties and time needed to prove environmental damage, the draft law adopted "the assumed responsibility theory which puts the burden of the proof on the defendant and not the plaintiff."

Although the draft law says the corporation will identify threats to the environment and set standards for acceptable levels of pollution, it does not specify what these levels are. Environmental protection measures are currently included in the general health law, which entrusts enforcement to various government agencies.

By adopting a law on the environment, Jordan will fulfill two international treaties signed at the Earth Summit in Brazil last year.

Once Jordan adopts the draft law, the country will be entitled to financial assistance from international organizations concerned with the environment.

Indonesian Biodiversity conservation project approved

The Government of Indonesia, the United Nations Development Programme (UNDP), and the World Bank finalized a joint agreement on a project to conserve Indonesia's riches of biodiversity.

The agreement was signed by Mustapha Didjaja of the National Development Planning Board, and UNDP resident representative.

The preparation phase of the biodiversity conservation project for Indonesia will receive a grant of US\$ 1.56 million from the Global Environment Facility (GEF), which is being co-ordinated by the World Bank, UNDP and the United Nations Environment Programme.

The first phase involves a pre-investment feasibility study to develop a new approach to biodiversity conservation in respect of the Kerinci Seblat National Park on the island of Sumatra, which harbors endangered animals and is home to the world's largest flower, the Rafflesia and the world's tallest flower, the Phallus Lily.

The integrated conservation and development project aims to conserve Kerinci Seblat's biodiversity, through a comprehensive management plan while maintaining the area's economic and social development potential and ensuring a sustainable livelihood for the local people. To implement this and other biodiversity activities GEF is expected to provide an additional US\$ 12 million, with other donors

being encouraged to co-operate.

The aim is to provide people who live in the park with sources of income, such as small and medium-scale enterprises, without upsetting the ecological balance of the protected area.

The ICDP approach for Kerinci Seblat is something of a litmus test, not only for other parks in Indonesia, but also worldwide.

About 180,000 people living in and around the Park are expected to participate in the project activities.

The people's help will also be sought to mark the Park's boundaries and manage buffer zones, where a massive greening programme is needed to stabilize slopes and stop erosion.

The help of non-governmental organizations will also be enlisted in project design, assessment and evaluation as well as to rally community support and develop a conservation education programme to communicate project objectives to villagers.

People may also be trained as Park guides and Park patrollers to support ecotourism. A systematic resource base for biological diversity will be developed at the Herbarium Bogoriense and Museum Zoological Bogoriense which house the major Indonesian fauna reference collections. People's awareness of the need to help conserve Indonesia's biodiversity, will also be promoted.

Striking a balance with nature

The Islamic Academy of Sciences convened its sixth annual conference in Kuala Lumpur (Malaysia), 10-14 August 1992. The Conference which was entitled "Environment and Development in the Islamic World," was designed to be a major international activity, tackling the issue of environment friendly development.

Following is an article which was extracted from a recently published paper in "Quarterly Review," Thailand Development Research Institute. Views expressed in the article reflect those of the authors; Dhira Phantumvanit and Claudia Winkelmann, and not necessarily those of editorial board of the Newsletter of the Islamic Academy of Sciences.

Environment concerns in the developing countries of the Pacific Rim are widespread and challenging. The region combines some of the world's fastestgrowing economies with some of its most delicate ecosystems. Issues of concern in the region include global climate change, deforestation, urbanization, expanding energy use and the disposal of solid and hazardous wastes.

The overriding question, however, is how to find an optimal trade-off between the environment and economic development. To strike such a balance, environmental consequences clearly must be carefully weighed against the financial benefits, proven or potential, of development projects.

Within the developing countries of the Pacific Rim, a warming of the atmosphere might cause changes in rainfall and humidity. It

might also raise the sea level through thermal expansion and melting of the polar ice caps. These changes could affect agriculture, human settlements and, in some cases, the very existence of small island nations such as the Maldives.

The Pacific Rim countries are ill-equipped to deal with the social and ecological disruptions which might result from global warming. And yet, development projects in these same countries enhance the likelihood of this phenomenon. Newly emerging industries and the increasing use of cars reflect the region's increasing affluence, while also contributing significantly to fossil-fuel usage and greenhousegas emissions.

Deforestation has occurred as a result of infrastructure development, shifting cultivation and commercial logging. The contribution of these activities to economic development is clear, but their environmental costs are far-reaching. In addition to releasing greenhouse gases, deforestation reduces the water-retention capacity of soils, thereby causing flooding. It also destroys the natural habitat of highly valuable diverse tropical plant and animal species which now survive, only in the world's tropical forests.

Urbanization and over-crowding are occurring across the Pacific Rim. The environmental consequences include greater traffic congestion; insufficient water supplies; inadequate sewerage and solid and hazardous waste disposal; and increasingly hazardous air emissions from cars and industries. These factors combine to lower the

quality of life and reduce the population's productivity. In addition, a lack of proper urban infrastructure discourages both local and foreign investment.

By the year 2000, if present trends continue, energy requirements could increase by as much as 85 per cent in some developing countries of the region. To meet that demand would require enormous expenditures for administration, training, construction and maintenance. Energy conservation therefore should be a primary goal for all Pacific Rim nations. The introduction of tax subsidies would create incentives for greater energy efficiency and conservation, thereby reducing the need for added power-generation capacity. Tax incentives would also encourage the choice of cleaner energy sources.

The time has come for nations to recognize and act upon the fact that economic development cannot be separated from society's other problems. Environmental management is an integral part of development, particularly in those countries facing an economic transition from agriculture to industry. A forward-looking strategy is clearly necessary. And by acting now, costly technological adjustments and clean-up costs can be held to bearable levels.

As countries develop their industrial bases and encourage foreign investment, they must do so in ways which generate the highest benefits for their people at the lowest monetary and environmental costs.

Alarming illiteracy

A recent UNESCO report indicates that the total number of illiterate adults in the world comes to around 950 million people. That is to say 25% of the world's population. This percentage, which was estimated to be 26.5% in 1990, will become of the order of 22% in the year 2000.

The report also states that around 75% of the total number of illiterate men and women come from ten countries, that is to say 705 million people. These countries are; India (281m), China (224m), Pakistan (43m), Bangladesh (42m), Nigeria (29m) Indonesia (27m), Brazil (18m), Egypt (16m), Iran (15m), and Sudan 10 million people.

The report further indicates that the ratio of illiterate people in industrialised countries comes to 3.3%, while in developing countries it is 35% and in the 47 least developed countries about 60%.

In developing countries there are nearly 130 million children, aged 6 to 11 years, without access to schools, and about 227 million youths aged 12 to 17 years, deprived from education.

The UNESCO report further states that the percentage of eradication (of illiteracy) for adults is growing all over the world, and would probably come to 75% at the end of this decade. As for African Countries situated to the South of the Sahara, and the Southern Asia countries, the ratio could be less

than in the 47 least developed countries.

Currently, seven out of eight children aged less than 15 live in developing countries. In African countries south of the Sahara, the number of such children is estimated to be about 50% of the total population, while the ratio of children below 15 years of age does not exceed 20% of the population in North America, Europe and Japan.

Arabic Islamic Thought published

The IAS has recently published Volume 2, Number 3 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; "Muslim Contribution to Medicinal Botany:

Historical Approach" by Dr Hakim Mohammad Said, Dr Hakim N. Zubairy and Dr A. Saeed, "God and the Science of Creation" by Dr M. Manzoor-i-Khuda, "Science in the Islamic World, Opportunities and Challenges" by Dr Z.A.

Hashmi, "Misconceptions About Status of Women in Islam" by Dr Fahmi Mahmoud and Dr Nurhana Ibrahim.

Volume 2, Number 4 of the

Journal contains the following articles; "Muslim Contributions to Pure Physics: A Critical Survey" by Dr Sadrul Hasan Rizvi and Prof. M.M. Qurashi, "Islamic Scientific Thought and Contributions of Muslims" by Prof. Raziuddin Siddiqi, "The Heart and the Organs of Sense Perception" By Dr Muzaffar Iqbal, "Technology Transfer in Ummah Through Baitul Funoon" by Dr Mirza Arshad Ali Beg.

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





Prof. Zohra Ben Lakhdar FIAS

Zohra Ben Lakhdar was one of the winners of the 1992 Fellowship elections of the Academy.

A Professor of Physics at the University of Tunis since 1992. Prof. Ben Lakhdar was educated at the University of Tunis and the University of Paris VI, from where she obtained her PhD (State Doctorate in Atomic Spectroscopy).

Prof. Ben Lakhdar lists among her career objectives; (a) Conducting applied research group to meet the national needs, (b) Helping to improve scientific teaching procedures.

Formerly, Prof. Ben Lakhdar has served as Head of Spectroscopy Laboratory, supervisor of postgraduate students for Tunisian DEA Diploma as well as co-chairman of molecular spectroscopy group for Master Degree and PhD courses.

Furthermore, Prof. Ben Lakhdar is the author of many scientific papers in physics and mathematics and has been a founding member of the Tunisian Physics Society and a founding member of the Tunisian Astronomy Society.

Prof. Ben Lakhdar has contributed to over six university textbook and has had over twenty technical works published.



Prof. Abdus Salam Mia FIAS

Prof. Mia is a Bangali Professor of Veterinary Medicine, who was elected to the Fellowship of the Islamic Academy of Sciences in 1991.

Prof. Mia obtained his PhD from California University in Veterinary Medicine in 1964.

At present, Prof. Mia is a consultant-former principal research scientist-at the Pitman-Moore Inc. (USA), as well as being an adjunct professor of life sciences at Indiana State University.

Formerly, Prof. Mia had served as Head of the Department of Medicine and Surgery Agriculture at the University of Bangladesh.

Prof. Mia has published more than eighty publications in national and international Journals, one textbook and has six patents to his credit. He is accredited with developing more than 20 different diagnostic tests including several immunodiagnostic tests.

Prof. Mia is the Awardee of Borden Scholarship Award as well as Phillips B. Hofmann Research Scientist Award in 1980.

At present, Prof. Mia lives in Terre Haute, Indiana in the United States.



Prof. Najih Khalil El Rawi FIAS

Prof. El-Rawi is a Founding Fellow of the Islamic Academy of Sciences.

Prof. El-Rawi, who is an Iraqi national, was educated at Cardiff University (UK). He obtained his MSc from Purdue University (Indiana, USA) in Road Engineering in 1963, and his PhD from Oklahoma State University in 1967 in Civil Engineering (soil stabilization).

Prof. El-Rawi has previously served as Minister of Industry and Minerals, President of the National Committee of Technology Transfer as well as President of Arab Teachers Federation.

At present, he is an Emeritus Professor of Civil Engineering at the University of Baghdad.

Prof. El-Rawi was President of the Scientific Research Council (Ministerial level) during 1980-1989. He is a member of the American Society of Civil Engineering since 1967, a member of the Iraqi Engineering Society since 1959 and an associate member of the society of Sigma Xi since 1967.

Prof. El Rawi has authored numerous technical and policy papers on a wide range of subjects.



Prof. Mikhael Zalikhhanov FIAS

Prof. Zalikhhanov is a Fellow of the Islamic Academy of Sciences who was elected in 1992.

Prof. Zalikhhanov who is of Balkarian (Central Asian) nationality, obtained his PhD in Glaciology in 1964 from Moscow State University as well as a PhD in Biology from Rostov University in 1968.

At present, Prof. Zalikhhanov is the Director of the Alpine Geophysical Institute.

Of the previous posts occupied by Prof. Zalikhhanov was that of head of the laboratory of engineering glaciology, director of Kabardino-Balkarian Department of the World Laboratory on Ecology and deputy director of the Alpine Geophysical Institute.

He has written more than 250 scientific works including 6 monographs. Also, he is the author of one popular-scientific book and 40 articles dealing with different problems connected with the protection of nature such as paleogeography, climate as well as glaciology.

Prof. Zalikhhanov's works have been described as dedicated to nature preservation. He has worked out programmes for the preservation of natural-national and glacial-parks in Central Asia.

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

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Eng. Mounseef 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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New issues of Journal published

The IAS has recently published Volume 5, Number 2 of the Journal of the Islamic Academy of Sciences.

This issue contains more than 13 different articles in such subjects as Chemistry, Ultrastructures, Biotechnology, Pharmacology, Botany, Pathology, Microbiology, Physiology, Radiation Protection, Epidemiology as well as Nephrology.

Volume 5, Number 3 of the Journal, which was published recently also, contains more than 12 different articles covering such topics as Chemistry, Radiation Physics, Statistics, Biology, Botany, Radiobiology, Immunology, Oncology, Physiology, Pharmacology, as well as Science History.

Volume 5, Number 4 contains 11 different articles in such topics as

Physics, Botany, Microbiology, Pharmacology, Dermatology, Physiology, Pharmaceutical Chemistry, Plant Biochemistry as well as Agriculture.

This Journal is the leading Academy publication, and one which 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: 90.4.4259487)

Muslim Scholars



JABIR IBN HAYAN (Died 803 CE)

Abu Abdallah Jabir Ibn Hayan Al Azadi was born in Tus (Khurasan)- the historically famous city in northern Iran.

Ibn Hayan is generally known as the father of chemistry. His major practical achievement was the discovery of some minerals and other acids. He was also responsible for developing a number of applied chemical processes.

Ibn Hayan devoted his efforts to the development of basic chemical methods and the study of the mechanisms of chemical reactions in themselves.

His books on chemistry, including his *Kitab-Al-Kimya* and *Kitab-Al-Sab'een* were translated into Latin and other European languages. These translations were popular in Europe for several centuries and have had an influence on the evolution of modern chemistry.

(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.

