
PALESTINE ACADEMY for SCIENCE and TECHNOLOGY

NEWSLETTER

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Editorial

Dr. Imad Khatib

In its newly published study: "Scientific Research in Palestine", Palestine Academy has iterated the need to build the national capacity in science and technology that contribute effectively to sustainable development. For that reason, the Academy has recommended transferring significant national resources for developing and promoting the basis of applied science and technology in order to safeguard well being and viability of the state of Palestine.

Building the S&T for sustainable development can create and maintain productivity and some sort of independent science and technology capacity at all levels of skills and fully array S&T infrastructure. This implies building a capacity for integrated, problem-driven research and for interdisciplinary research simultaneously, understanding complex systems, dealing with irreducible uncertainty, in addition to integrating across fields of knowledge.

The focal point in S&T capacity building is science and technology teaching at primary and secondary school levels, which should be carefully developed and enhanced. This should positively help by increasing the share of enrolment in the basic sciences, promoting graduate programs at Palestinian universities, in addition to tackling the decline in science and technology teaching and teaching quality. It is therefore, essential for the governmental institutions and mainly the Ministry of Education and Higher Education to work cooperatively with other national institutions to fill the gap by developing proper capacity building programs targeting the human resources. Governmental institutions should invest in education, training and research and development. They should also attract the private sector to support these programs by developing and promoting the exchange of experiences and capacities that will benefit all parties. Training for capacity building in science and technology should focus on women as much as they focus on men, because it will certainly help in accelerating development at all levels.

Capacity building in science and technology for sustainable development should be extended to national institutions, especially Palestinian universities and R&D centers, to develop and maintain the quality of teaching and researching. Institutional capacity should be concentrated on providing adequate infrastructure including proper high quality university buildings and modern laboratories, providing variable research funding mechanisms and durable accessibility to communication facilities including the internet in addition to providing adequate salaries and career recognition. National institutions should tackle the brain-drain problem and therefore, should make all effort to attract Palestinian scientists living in the Diaspora to return back in order to contribute in building the capacities of the state of Palestine. Building human and institutional capacities must be guided by proper national policies that are associated with relevant and effective strategies and action plans which should be fully integrated in the national development aims. We at the Academy extend our hands for cooperation with Palestinian National Authority institutions and other key national institutions for the sake of developing and formulating the proper strategies.

The importance of a knowledge society: the case of the Palestinians

Presented in TWAS conference "Capacity Building for Academies in countries with predominantly Muslim communities, and Symposium: Science, Religion and Values"

Palestine, a land rich of history and important to the three monotheistic religions around the world has been a meeting point for diverse cultures. It has always been a source of inspiration for artists, writers, poets, musicians and world leaders. In the heart of the land, which is Jerusalem, Moslem Caliph Abdul Malik built the Dome of the Rock and the Roman emperor Constantine built the church of the Holy Sepulcher. Moslems, Christians and Jews of Palestine coexisted for decades and had contributed to all aspects of life. The three monotheistic religions encouraged knowledge, as it is the way for faith and submission to God.

As for Islam, it has always encouraged knowledge, al-ilm in Arabic, and the Ruler of Islamic civilization encouraged learning and investigation of the universe. The first word in the Quran is: "Read," because, "in everything you learn there are signs of the Creator." During 800 years of prosperity, the Islamic State thrived on ideas - while others feared them. Islamic civilization was the first to "globalize" knowledge, innovation, security and commerce. Muslim scholars kept knowledge alive and passed it on to others, making today's global civilization possible. As for other religions, the Quran distinguishes the Christians and Jews as "People of the Book," those who believe in the one God and abide by a divine message. To Muslims, Abraham, Moses, Jesus and Mohamed are all equal messengers of God. That is why Christianity and Judaism continued to flourish in Egypt and the Levant, among other places. Forced conversion of the "People of the Book" is strictly forbidden. A verse in the Quran states, unequivocally: "Let there be no compulsion in religion."[†] There are plenty of references to knowledge and the pursuit of knowledge in the Qur'an. The general feeling they leave the reader with is that the possessor of knowledge or wisdom has been given a very powerful gift, and that the pursuit of knowledge is something, which should be done actively by everyone:

[96:1-5] Read! In the name of your Lord who created - Created the human from something which clings. Read! And your Lord is Most Bountiful - He who taught (the use of) the Pen, Taught the human that which he knew not.

There are also references in the Qur'an describing the value (in the sight of Allah) of a knowledgeable person as opposed to an ignorant person stating that they are not equal:

[39:9] ...Say: Are those equal, those who know and those who do not know? It is those who are endowed with understanding that remember (Allah's Message).

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[The importance of a knowledge society: the case of the Palestinians]

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[58:11] ...Allah will raise up to (suitable) ranks (and degrees) those of you who believe and who have been granted knowledge

Knowledge society usually offers significant opportunities for those who develop and maintain high skill levels and can achieve considerable social and economic success.

Those who do not are at risk of marginalization with little prospect of finding sustainable employment and means that it provides for full engagement in other aspects of social, cultural and economic lives.

As for the Palestinian society; Moslems and Christians alike, knowledge was always a challenge and constitutes an important aspect in sustaining social and economic development. The long-term occupation of Palestinian lands and the denial of the Palestinians to establish a viable state on their legitimate land have impacted all aspects of life for the Palestinian people. In the absence of a "recognized" political system (i.e. a government), along 27 years of occupation, the Palestinian community realized the importance of knowledge as an important instrument for developing all sectors of their society. They realized that a knowledge society depends mainly on an educational system capable of meeting the needs of the society in all sectors. Therefore, schools and higher academic institutions were established. Those many Palestinians who got the chance to get their academic degrees abroad and return back to their homeland realized the needs for establishing higher academic institutions to offer other Palestinians a place to fulfill their ambitions. Unfortunately, the occupation has constantly been targeting the sustainability of these institutions by using measures such as depriving Palestinians living in some areas from accessing other Palestinian areas for the sake of education. In so doing, students coming from the Gaza strip to study at Birzeit University in Ramallah were unable to reach their university; a situation which makes the Palestinians more determined to face these measures by establishing more higher academic institutions to fulfill the needs of those who were denied of their basic right to education. Today we have eleven universities granting B.Sc., B.A.s and M.Sc. in many scientific disciplines. We also have several institutions granting diploma certificates for students who did not have the chance to get high grades in schools so as not to marginalize those without good academic achievement. Even recently, when two Palestinian universities are being forced to close on long-term basis (6 months), Palestinians are more determined than ever to surmount every obstacle standing in the way of their basic right to education through conducting lectures and exams for more than 7000 students on private premises, schools, and using the internet.

Other sectors were subject to the same conditions, e.g. the Health sector being one of the most important. The Palestinians have established health institutions and societies to provide health needs for the people. In 1968, the Palestine Red Crescent Society was established. Today it runs hospitals, clinics, rehabilitation centers, ambulances, social services, training centers throughout Palestinian cities and communities as well as in some Arab countries. Recently, national universities have been working hard on meeting the needs of national health institutions for human resources by establishing faculties of medicine in three major universities.

Although essential academic and service providing institutions were established, there exists however, a lack in scientific based research and development institutions are needed to tackle not only natural science based problems but also social sciences.

Science and Technology in general and research and development in particular are considered to be essential instruments for achieving sustainable social development. The establishment of the Palestine Academy for Science and Technology five years ago in Palestine was directed mainly to promote the importance of S&T in the society and to raise societal awareness on the values and ethics of science and technology.

In order to fulfill its mission in achieving knowledge society and social sustainable development, Palestine Academy has adopted the following in its policy and associated strategy plans that were developed in cooperation and coordination with other national institutions:

1. With regard to educational challenges in a changing society, the Academy is pursuing a variety of aims to provide a brighter future for children and the youth who form approximately 50% of the population. The Academy seeks to instill values of ethical behavior as well as knowledge and skills for adult life. On the level of schools, and in order to meet the required higher standard of education, the Academy started a program entitled the school curriculum development and evaluation cycle. It has started with two main subjects, namely science, and technology. On issues related to environment, the Academy is developing awareness and basic education programs in cooperation with other national stakeholders targeting the youth and aiming at activating the youth especially in the field of leadership.
2. As for education innovation and information technology, the Academy seeks to enrich the content of education, to allow the society to have further access to learning and to develop and strengthen the ability of understanding and innovation. The Academy also seeks to support basic and applied scientific research and the exchange of information among the S&T stakeholders. The recent study entitled "Scientific Research in Palestine; the Reality, Obstacles and Means of Activation", which was conducted by the Academy in cooperation with the national (S&T) relevant institutions showed a consensus among the participating institutions on that issue. On the international level the Academy seeks, through implementing multilateral cooperative program, to promote the international exchange of valuable information. For example, the Academy is a core partner in the Euro-Mediterranean Information Society (EUMEDIS) initiative where the academy is currently implementing a program towards strengthening the knowledge of industrial sector.
3. Realizing the importance of international cooperation with similar institutions, the Academy is working on promoting international scientific exchange programs. The international experiences have high values for the society at all levels. The increasing interdependence of the world economy has increased the need for mutual understanding through international cooperation and exchange in various fields and friendly relationships based on mutual trust among nations. On the international level, Knowledge and skills are increasingly transferable, and hence the Academy seeks to encourage more mobility at all levels of education and training through a diversity of exchange programs.

These aforementioned items are few of many others that the Academy seeks to achieve even during these tough times we are undergoing. The Academy would like to extend a hand to all sister academies for initiating and enhancing constructive cooperation for the sake of all nations so we can all live in prosperity.

Palestine Academy Cooperative Initiatives

EUMEDIS-SMITE project

The Academy is the core partner of the EUMEDIS-SMITE project which aims at improving the competitiveness of small and medium enterprise through IT based environmental planning. A web based informational node for the food, textile and hotel sectors will be created to assist the interested firms to improve their environmental performance and to provide SMEs with up to date tools and access to environmental information customized for their specific needs. The overall goal of the smite project is to support SMEs to improve their competitiveness, and their position in the market, by adopting prevailing environmental policies and practice, which will entail using newly developed information technologies through the internet. Smite is a regional project operating in Syria, Lebanon, Jordan, Palestine, Egypt, Tunisia, Turkey, Cyprus, Malta, Greece, Denmark, and Germany.

Recently, the Academy held a meeting attended by end users and stakeholders and consulting companies at Claridge Hotel. The meeting's main concern was to update on the achievement attained so far and to emphasize the benefit to be bestowed upon end users, in terms of improving local and international sectors, through offering an international web specified in the project. The second phase of workshop will be the awareness campaign, which will be held in October 2003, and is to be attended by EC and donor countries, in addition to national institutions.

SMITE-EUMEDIS First Annual Meeting in Beirut

Palestine Academy has participated in the first annual meeting of SMITE project, which is funded through the Euro-Mediterranean Information System (EUMEDIS). The meeting was held on the premises of the Lebanese Industrial Association during the period 16th -18th February 2003. During the meeting, progress made in participating countries and planned future tasks have been discussed. The meeting coincided with the 1st SMITE Awareness Campaign held in Beirut/Lebanon. The Lebanese Minister of Environment, EU delegation to Lebanon, and several governmental, foreign, and private bodies have attended the 1st Awareness Campaign in addition to SMITE partners.

EURO - MED MEDRESSA¹ - III New Initiative

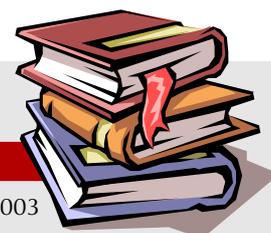
Europe and their Mediterranean Partner Countries (MPC) are moving closer together, at least on the political side, with the development of a Free Trade Area by 2010, following the Euro-Mediterranean Partnership Agreement by all nations involved in 1995. This important political move not only aims at easing trade but explicitly envisions closer joint research activities, technology transfers, co-operation and integration and at the same reducing cultural gaps between the two regions.

However, much remains to be done to transfer this vision into reality, in particular with the current developments in that region, Europe needs to play a much stronger role, not only politically but also practically by fostering RTD cooperation and business relations. In this context, the Euro-Mediterranean Partnership Agreement has a very important aspect for the economical development which is the new free-trade agreements between partners of the European Union. The parties have set 2010 as the target date for the gradual establishment of this area which will cover most trade with due observance of the obligations resulting from the WTO. This Mediterranean Partnership is to develop into a much closer economical, political and societal relationship in the future. It can be seen as a trigger for the business world on both sides to establish closer alliances as well as deeper co-operation in R&D. In the context of this MEDRESSA-III initiative¹, the following are the most relevant statements from the Barcelona agreement:

- _The promotion of mechanisms to foster transfer of technology
- _The increase of participation in joint research projects
- _The encouragement of regional co-operation and integration all aiming to "reduce the gap between Mediterranean Partner Countries and their European neighbors".

It is this practical side in which MEDRESSA III initiative will act as a catalyst by bringing people together, helping them to understand each other and showing ways to collaborate. The technical side of reaching this objective consists of altogether 40 Partnership. Events in the MPC over 3 years on which European SMEs and researchers meet their prospective counterparts. These physical meetings will be supported by a virtual meeting place: the Medressa Mediterranean Information Portal (www.medressa.com). This Portal will provide partner technology search facilities, product and technology presentations and serve as a central information point for all the 6th European Framework Program (FP6) activities related to the MPC. MEDRESSA III will actively help in reducing the cultural gap between the regions through cross-cultural competence training for Europeans and MPC participants and soft skill training courses specifically for the Mediterranean institutions and companies. With these training courses it will not only aim at facilitating business across cultural boundaries, but also enable a stronger and more active participation of the MPC research community in the FP6. The initiative involves several Mediterranean and European countries. Palestine Academy for Science and Technology represents the national focal point for the MEDRESSA - III initiative.

¹MED-RESSA: the Arabic word for school. In the old days, the word was always associated not only with a place for teaching how to read and write but also with the centre for propagation and dissemination of knowledge and wisdom.



Summer/ Winter 2003 and Upcoming Events

Event	Place	Date
Workshop towards Environmental Awareness	Ramallah	Octobre 2003
Awareness Campaign for Eumedis- Smite	Ramallah	Octobre 2003
Workshop towards Presenting the Academy Policy and Bylaws	Ramallah & Gaza	December 2003

GLOWA - Jordan River Part 2 project

Palestine Academy has signed the contract and the relevant documents of the tri-lateral GLOWA - Jordan River Part 2 project. The project, which is funded by the German Ministry of Education and Research (BMBF) is part of the Global Change of Hydrology Cycle (GLOWA) program. GLOWA program, which was launched by the BMBF, has five large cluster projects. Two of these cluster projects are located in Germany (Danube, Elbe) and the others are investigating river catchments area in North and West Africa (Draa, Queme, Volta) as well as in the Near East (Jordan).

Each of these projects is tackling the following scientific core themes in an interdisciplinary and integrative research approach:

- _Natural variability of precipitation, variations caused by human activities and their effect on the hydrological cycle.

- _Interactions between the hydrological cycle, the biosphere and the land use.

- _Water availability and conflicting water issues.

GLOWA - Jordan River Part 2 involves Germany, Palestine and Jordan. On parallel to Part 2, GLOWA - Jordan River Part 1 project is also ongoing and involves Germany and Israel.

On September 22-23, 2003, a kick-off meeting will be held at Potsdam University in Germany. During the meeting partners are supposed to present their working groups, their detailed work plan for the first phase of the project and actual work and activities already started. The Academy is currently working on the Work Package I which tackles the climate change issues in the region and possible future scenarios including its effect on the hydrology cycle.

(Visit GLOWA - Jordan River Web Site at:

<http://www.glowa-jordan-river.de>

Frontier of Science and Engineering meeting in Turkey

Twenty Palestinian scientists and engineers residing in Palestine and affiliated with Palestinian academic and research institutions in addition to a few Palestinian scientists and engineers working abroad will be participating in the Frontier of Science and Engineering program meeting. The meeting is going to take place on the premises of the KOC University in Istanbul/Turkey during the period 21-23 September 2003. The program is supported and organized by the US- National Academy of Sciences and involves several regional countries. It has been agreed among the participants that the following selected topics will be presented and discussed during the meeting:

1. Biodiversity in a changing world
2. Water Management
3. Mathematics of complex phenomena in fluids
4. SARS, emerging global threat
5. Combating cancer

Environmental Awareness project

Due to the importance of environmental issues, many dangers surrounding our environment leading to environment corruption and life risks, the environment enlightening project has at last come into being. Such a project has been given to school students - the largest section in society having the greatest impact.

Capacity Building for Academies in countries with predominantly Muslim communities and Symposium: Science, Religion and Values

A Workshop on Capacity Building for Academies in countries with predominantly Muslim communities and Symposium: Science, Religion and Values, was held in Trieste, Italy on 5-7 March 2003 to discuss how to build scientific capacity in countries with predominantly Muslim communities, and examining science, religion and values in today's world. This workshop was organized by INTERACADEMY PANEL ON INTERNATIONAL ISSUES (IAP) & the THIRD WORLD ACADEMY OF SCIENCES (TWAS), and was co-sponsored by the US National Academy of Sciences (US NAS); the Islamic Educational, Scientific and Cultural Organization (ISESCO); and the Organization of Islamic Conference Standing Committee on Scientific and Technological Cooperation (COMSTECH).

The aim of the workshop was to bring together the presidents of science academies and the ministers responsible for science and technology from 15 countries with predominantly Muslim communities to present and discuss the structure and functions of their academies of science and the ways and means of developing their capacities to fulfill their basic mission, including the provision of independent advice to governments. The workshop therefore provided an opportunity for these academies to discuss and share experiences on important issues of common concern.

The workshop was followed by a one-day symposium that examined the intricate relationship between science, religion and values that has always been a driving force both within and among civilizations. The symposium also addressed the important role of academies in promoting a culture of excellence in science as an integral part of the cultural values of societies.

Participants published recommendations emphasizing ways to promote science and to strengthen the role of academies in the region, in part through support from IAP. Participants expressed hope that such efforts would have a positive impact on national science academies throughout the Muslim world.

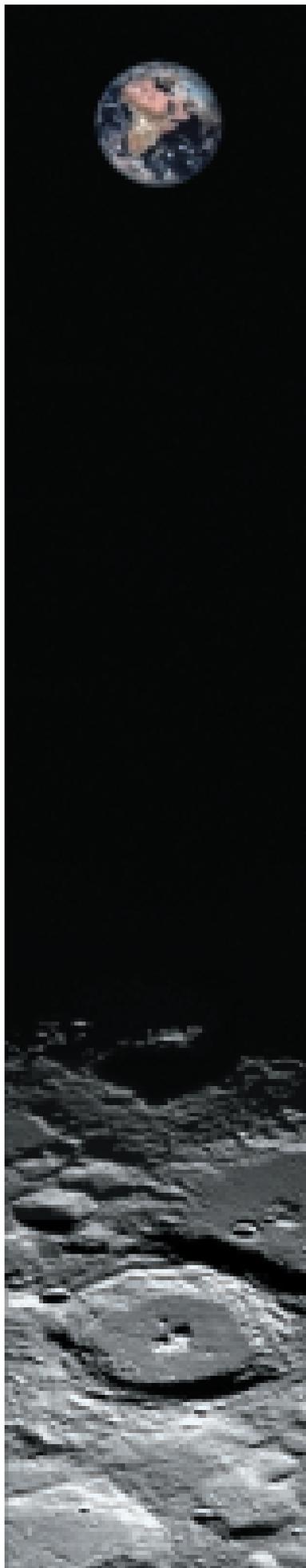
Information about the workshop, recommendations and symposium report is available on:

<http://www4.nationalacademies.org/iap/iaphome.nsf/weblinks>.

After the meeting in Trieste, Italy, it was decided that one of the Academies might hold another meeting as a follow-up to discuss the capacity building of academies and find out ways and means for collaboration and cooperation.

Pakistan Academy of Sciences is taking a lead in holding a 2-day meeting of Interacademy Panel in January 2004 in Islamabad, Pakistan in collaboration with the Commission on Science and Technology (COMSTECH) and the Third World Academy of Sciences (TWAS). The meeting will focus on developing cooperation in Science & Technology (both R&D and Education) between various countries.

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News from Palestinian Universities

Islamic University

The Faculty of Engineering at the Islamic University of Gaza will organize an International Exhibition for Engineering Industries and Information Technology in cooperation with the administration of Exhibitions and Markets in the Ministry of Economy, Industry and Trade. The Exhibition will be held at The Islamic University of Gaza during the period 22-24 Sept 2003 concurrent with the International Conference on Engineering and City Development.

Also, the Deanery of Scientific Research organized a workshop on cloning in cooperation with Islamic University of Gaza Clinic. The workshop has addressed cloning as one of the most important issues related not only to science but also to other factors like human feelings, and the fact that people should benefit from knowledge and studying cloning intensively.

The Faculty of Religion Foundation, stressed using cloning in curing diseases and in improving productivity but not in humans as it contradicts the concept of marriage. In other news, the importance of Electronic Learning in Educational Process was discussed, and the Academic Affairs held a symposium on Web Based Learning Development on the 25th March 2003.

Ms Nawal Ismael, a graduate from the Faculty of Engineering has been awarded a prestigious award (Technology and Industry Award by Hesham Hijawy) for her research in the field of Technology and Industry entitled "Input- Output Control for Network Computerized Systems in Factories"

Moreover, the Faculty of Engineering organized its conference on Student Professionalism Awareness on 7 April 2003. The conference included different sessions that tackled a variety of subjects such as: career growth, job finding, profession morals and management skills. In other news, IUG President, signed a cooperation agreement to execute 3 projects in health care with MARAM Project. The project aims at training 100 workers in the field of health and 100 individuals from the community in pre-hospital emergency and vaccine research.

American University

In an effort to boost the implementation of the contemporary technologies of IT in national higher educational institutions; the University will organize a "Fourth IT Conference in Higher Education" in cooperation with ANERA. The conference is being sponsored by a number of national and international institutions, among them is the Palestine Academy for Science and Technology. The IT Conference will be held at The University during the period 08-10 October, 2003. For more information, you can visit the website of the conference on: <http://www.aauj.edu/itc2003>

In its continuing mission to better serve the local community; the Continuing Education Center (CEC) at AAUJ has commenced an Advanced IT Community Training Program (AITCIP). The highly advanced courses are introduced with certification in mind. Java programming and Database design were at the core of the program. The training courses are being sponsored by ANERA. Certified instructors are being provided by ATS (Palestinian partner for Oracle) and the College of IT at AAUJ.

In other news, Students of the college of allied health and medical sciences at the Arab American University at Jenin will be receiving training in Poland during the summer of 2003 while other students majoring in physiotherapy or occupational therapy will spend this summer at hospitals and training centers of the Medical College at the "University of Medical Sciences" in Poznan.

Moreover, the Arab American University at Jenin, in collaboration with other Palestinian medical and allied health agencies, is organizing the "First Scientific Conference on Therapy and Rehabilitation of Individuals Injured during the Intefadha", which will be held at the University in the last week of August 2003. Abstracts for participation can be submitted via electronic mail at the following email address: src@aauj.edu

Al Quds University

The Office of Research announced a call for proposals grants: the PRIPOD in the fields of Physical and Environmental People Interaction; the German Research Association / DFG in the fields of physical and biomedical sciences; and the Rolex Award for \$100,000 in the fields of science and medicine, exploration and discovery, technology innovation and environment, cultural heritage.

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The University has also signed an agreement with the UNDP on the use of molecular techniques in the study of plants genes.

In other news, a library exclusive to the Faculty of Dentistry was established in Abu Dees campus. The library books in addition to electronic books were offered by the library of Toronto, Canada. The faculty now seeks to strengthen its relationship with the Jordanian Universities, so as to give chance for professors from abroad to teach at Al-Quds University. The Dean of the Faculty of Medicine visited several universities and hospitals in Jordan, and they all agreed to train students of the fifth and seventh year from the College of Medicine at AL-Quds University in Jordanian hospitals. In other news, several books and articles were published by University Staff including "Plants of the West Bank" by Dr. Jaber Masalha and Dr. Khaled Salem, and "Optimal control of time-varying linear systems using wavelets" by Dr. Hussein Jaddu.

Representatives from the Faculty of Health Professions attended the 3rd annual conference for medical sciences in April 2003, which was held at Al Zarka' University in Jordan. The faculty and the Association of Friends of Thalassemia have signed a cooperation agreement with the International Red Crescent Committee and the Continuous Care Center in Lebanon on the establishment of clinics for Palestinians living in Lebanon.

Hebron University

The department of biology in the Faculty of Science & Technology is carrying out two scientific projects, the first project is concerned with the effect of pesticides on farms in Hebron district, Palestine. The project is carried out in association with the University of Oslo, Norway. The second project is directly concerned with extraction of medical chemicals in carob beans, and to find its role as an antimicrobial and antifungal agent.

In other news, the Faculty of S&T has been coordinating and conducting research since 1995 in cooperation with the Faculty of Medicine at Oslo University; a research entitled "Building Competence in Epidemiology in Palestine". Most of the research at Hebron University tackles occupational health issues. Four Ph.D. and eight masters thesis have been realized through this project and more than twenty research articles resulting from this project have been published in refereed journals.

The Faculty of Science & Technology at Hebron University has been also conducting research since 1998 with the Royal Scientific Society in the area of Anaerobic Treatment of Industrial Waste Water from Olive Mills under the project entitled "Reducing Environmental Impact of Olive Mills Waste Water". The research was awarded the outstanding applied research award by Hisham Hijawi Foundation.

Continued from page 5 (Palestine Academy Cooperative Initiatives).

The project includes eight various schools including private, governmental & UNRWA schools. A preparatory stage course 24 - 26 Feb, has been given by Dr Ziad Mimi and Ms. Rana Qaimari to school teachers dealing with issues such as the environmental siege, pollution, awareness, recycling, conserving and protection. At the end of the course, there have been a number of suggestions by the participating teachers regarding projects. The teachers have suggested appropriate plans according to student levels, school needs and suitable conditions for the application of such projects. To conclude, several projects have been agreed upon; the aims of such projects acknowledged environmental concepts and importance, dangers surrounding man's misuse, materials used, and the creation of a different generation and a leading group. The suggested projects are paper recycling, school gardens, environment newspaper and soap making of oil, waste materials etc.

The Project coordinator, along with Dr. Ziad and Ms. Rana Qaimari, visited the schools during the first week of March to evaluate the running of the projects and to discuss the difficulties the teachers are facing.

Other meetings are going to be conducted during July and August for preparing the environment file and the concluding day.

The end of the project will witness a concluding day, a show presenting projects of the schools concerned and an environment file having detailed explanation of the projects, therefore, forming a good guide to other teachers.

Palestinian Environmental Field Center

The current popular and political interest in environmental issues reflects the need for more concern about environmental education, which can play a role in revising society's environmental values. Environmental education has different forms and methodologies that make it effective while problems can rise when this education concentrates more on formal method and gives little attention to practical realities. The Palestine Academy for Science and Technology is actively addressing this problem and proposed to establish a Palestinian Environmental Field Center which can facilitate and promote environmental education and awareness. The center can increase people's awareness and knowledge regarding the environment in addition to stressing the importance and urgency of conservation and ecological sustainability.

The center will stand in a site that has biological diversity, besides its historical value; researchers, teachers student and even the public can visit this center and benefit from its different facilities which will include the following:

- Library
- Resource Management Models
- Seminar Hall
- Computer Center
- Migrating Bird Station
- Camping Site with nets
- Tools and Materials for indoor and outdoor environmental activities.

This center, when established, will solve a lot of problems for Palestinian schools and teachers where they will find a place to run their activities beside being a good site for summer camps.

Conference on Scientific Research in Palestine at the University of Rome "La Sapienza"

On the 28th March 2003, Palestine Academy for Science and Technology has participated in a conference held on the premises of the University of Rome "La Sapienza" in Italy entitled: The Scientific Research in Palestinian Universities (It: STATO DELLA RICERCA E DIRITTO ALLO STUDIO NELLE UNIVERSITA PALESTINESI). In this conference, Dr. Imad Khatib, presented the recently released study (Scientific Research in Palestine: The reality, Challenges, and Means of Activation and Development), which has attempted to present and diagnose the situation of scientific research in Palestine, and ways and means of handling problems facing its activation and development, as it is of great importance to the development of various aspects of the Palestinian society and the future state of Palestine. Dr. Khatib met with professors from "La Sapienza" and discussed ways of cooperation in the field of scientific exchange programs.

Technology Education and Development

Palestinian Curriculum Development Center, Ramallah

For the last fifty years, Palestine has witnessed social and economic infrastructure destruction which impeded its human and natural resources development considerably making it impossible for Palestine to reach out to modernity.

Since 1994 and the establishment of the Palestinian Authority and its educational institutions, the question of social and economic development was on top of its agenda.

In Palestine, we think, like many others, that the need to develop and qualify the individual is the starting point for holistic development especially in areas such as the training and education the individual needs in order to adapt to modern transformations related to economy. Technology was perceived as a domain, which promotes creativity and productivity, at the same time allowing the individual and the group to look for solutions, exchange ideas and experiences, and research upon implementation of various projects, eventually resulting in scientific advancement at the national level.

The societal endeavor to provide human capacity capable of mastering skills of modern science and modern technology ushers a promising future in the area of production and development. Advanced societies know that the cadre is more important than the capital and human resources to improve national income. It increases and improves production, rationalizes consumption, savings and investments, as well as insuring positive healthy attitudes and habits.

Therefore, introducing technology from ages (11-18) aims at promoting hands-on skills, signaling transformation from factual perspective education to hands - on one through the major strands in the Palestinian technology curricula: graphing and drawing, hands on skills, careers and crafts, computer and information processing, science and technology in society and material and energy .

Inter Academy Panel -General Assembly in Mexico City

As a member of the Inter Academy Panel (IAP), Palestine Academy will participate in the IAP General Assembly which is going to be hosted by the Academia Mexicana de Ciencias (the Mexican Academy of Sciences) in Mexico City on 1-4 December 2003. The GA will be followed by two Satellite Symposia on the 5th and 6th of December. The GA, for the IAP, is a unique occasion to gather all members, allow for personal contact, present suggestions for future action and renew the Executive Committee. During the GA, the Academy will be presenting a Poster describing its main activities and plans.

News From Academies around the World and the Scientific Community

EUROSCIENCE - From 25 till 28 August 2004, EuroScience will organize a pan-European Open Forum on the Sciences in Stockholm, Sweden. This event, counterpart of the American AAAS annual meetings, will be the first of a series of biennial meetings, where discussions, seminars, debates and lectures take place in a wide range of scientific and scholarly fields. For more information, see www.euroscience.org or www.esof2004.org

GERMAN ACADEMIES - From 17-19 March 2003, the German Academies of Sciences held a conference on the theme of political advice on democracy "Politikberatung in der Demokratie". The conference was prepared and organized by the Heidelberger Akademie under the presidency of Prof. Dr. Gisbert Freiherr zu Pulitz. General issues of scientific policy advice practices, as well as the more specific experiences and needs in the present Germany were discussed.

For IAP Programmes, an International Conference on K- 12 Science Education (Monterrey, 11-13 May 2003) gathered top representatives from the private sector, government, science academies and schools, to discuss strategies for enhancing hands-on science education. A number of representatives from the IAP were in attendance. The report is available on: <http://www4.nationalacademies.org/iap/iaphome.nsf/weblinks/WWWW-5NMH5W?OpenDocument>

The French Academy of Sciences and The Royal Society, UK, has co-sponsored a "Prix Franco- Britannique" or "British-French Prize" since 1985 for young outstanding scientists. The prize, now in its 18th year, carries a reward of 6000 euros for travel. Christl Donnelly, a young British mathematician, working on epidemiology, is this year's winner.

Chinese Academy of Sciences has launched a research project for the diagnosis, prevention and treatment of serious acute respiratory syndrome (SARS). For more information, see: www.cashq.ac.cn/English

Calendar 2003

1-4 December 2003: IAP Conference "Science for Society" and General Assembly, Mexico City

Source: Allea News Issues 2003-6, 2003-5, 2003-3, 2003-1

Announcement

by the Arab American University in Jenin "Get a list of equipment in Palestine"

The head of the committee of Scientific Research at the Arab American University Jenin (AAUJ) requests "a list and names of analytical equipment available for research at Palestinian institutions". The list can be mailed directly to the scientific research committee at src@aauj.edu. The committee would like to compile a list of such equipment and location in order to establish future collaboration in the field of scientific research between Palestinian institutions especially with funding for research becoming more difficult under the political unrest in the region.

For more information: Telephone: 04 2510801 / 4

PALESTINIAN UNIVERSITIES IN SCIENCE & TECHNOLOGY ADVANCEMENT

Professor Hikmat S. Hilal, Ph.D.

Department of Chemistry, An-Najah N. University, Nablus, Palestine

Throughout my 23 year career, as an academic in Palestine, I have been faced with many basic questions. Examples of such questions are: what have the Palestinian Universities achieved to advance science and technology in Palestine? What should the Palestinian society expect out of our universities? What needs to be done in order to achieve such advancement? Indeed such questions are very basic and are not easy to answer. In this very short communication, I will try to regroup an outlook to the questions, bearing in mind that such a topic needs a far more comprehensive approach.

Advancement of science and technology in Palestine must be placed as highest priority. It is a challenge to individual, institutional and governmental levels. By one way or another, Universities have been foreseen as the spearhead to achieve the goals of advancing science and technology in Palestine. Despite the fact that they have carried the heavy burden for more than 20 years, people anticipate more and more.

Science, technology, development, education, research and manufacture are interrelated terms. They may not be considered as independent matters. Therefore, the following points need to be made clear:

- 1) Science and technology advancement is a comprehensive challenge. You may not advance in one discipline without having other disciplines active.
- 2) Education is a pre-requirement for advancement. Without a highly competent education, including school and university levels, no advancement will be foreseen.
- 3) Network structuring is a must. Individual efforts are not enough to initiate advancement. All institutions involved should follow an active network system directed toward advancement. Each institution should be interconnected via an input/output process.
- 4) Establishing a basis for science and technology is a must. There should be a complementary approach toward establishing a basis. Basic and applied researchers must be able to benefit from research infrastructure.
- 5) Having established the integrated infrastructure, priorities should be considered. Palestinian society has shortages in environmental preservation, water quality and resources, energy resources, agriculture research. These are examples of applied research with high priority. Despite their need, we could not progress in them without having a solid educational and research infrastructure.
- 6) Establish a mechanism showing how research activities will converge into a pipeline to serve society. Planning needs to be established and to show how society may benefit from activities.

7) Interdisciplinary research centers should be established. These are places where scientists from different disciplines and from different

schools work together. These are where traditional discipline boundaries disappear. In such centers you see people of different scientific levels and backgrounds function in a productive manner. 8) Research for education approach should also be established. Education and research are synergic. Education creates research. Research helps education. Top researchers should get students involved in their ongoing research in order to train them.

Palestinian universities have been active in teaching and research activities since their establishments, with individual differences. We all should be thankful for the effort. Research has been active at the individual levels, but no comprehensive approach has been established. As thus, the Universities in Palestine still need to have additional complementary institutions to be productive. The following are to be considered:

- 1) With the new evolution of Palestinian School Curricula, the universities need to be directly involved in such a process. There should be a no-conflict approach between universities and school curricula. Universities should mastermind curricula planning in Palestine.
- 2) Research centers in Palestine need to be established. An interdisciplinary approach should be considered.
- 3) Research infrastructure needs to be established. The universities will be a cornerstone in such a structure.
- 4) Active research plans need to be established. Planners should have the monetary support to spend on research. Planners also need to be aware of stages. Education, research and technology should be reframed in a productive manner.
- 5) Existing Palestinian institutions, such as Palestine Academy for Science & Technology, are expected to play a key role in structuring Palestinian future outlook for science and technology advancement. While doing so, my appeal is clear: please consider the comprehensive approach.

Going back to the above mentioned questions, the role of the university in advancement will be a key role. However, without other partners being available, the synergic effect will be significantly inhibited. The university can do educational and research activities but on individual level only. This is not unwanted, but not enough as well. This is less than expected. To reach the anticipations, the complementary approach of advancement in Palestine will be inevitable.

DIRECT ALL CORRESPONDENCIES TO:

PALESTINE ACADEMY FOR SCIENCE AND TECHNOLOGY

P.O.BOX 66839 JERUSALEM, 95908

URL: [HTTP://WWW.PALESTINEACADEMY.ORG](http://www.palestineacademy.org)

E-MAIL: [INFO@PALESTINEACADEMY.ORG](mailto:info@palestineacademy.org)

RAMALLAH OFFICE:

GAZA OFFICE

JERUSALEM-RAMALLAH ROAD

TAL-ALHAWA, PRCS BUILDINGS

TEL: +972 (0)2-2960524/6

TEL: +972(0)8-2835594/8

FAX: +972(0)2-2960525

FAX: +972(0)8-2835578