

In the Name of God

Report on  
**The 1<sup>st</sup> meeting of the Ad Hoc committee for the Eastern  
Mediterranean Health Genomics and Biotechnology Network**

Tehran, Islamic Republic of Iran  
18-20 February 2006



EASTERN MEDITERRANEAN HEALTH GENOMICS AND BIOTECHNOLOGY NETWORK  
EMHGBN

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## **1. Introduction**

The Eastern Mediterranean consultation for establishing a regional biotechnology network was held in Tehran, Islamic Republic of Iran from February 18 to February 20 2006 for representatives of selected centers of excellence in (health-related) molecular biology, biotechnology and genomics in the Eastern Mediterranean Region. The purpose of the meeting was to initiate the establishment of a regional genomics and biotechnology network.

His Excellency Dr. Malek Afzal, Deputy Minister for Research and Technology, Islamic Republic of Iran inaugurated the meeting and conveyed a message of apology from Dr. Rouholamini Najafabadi regarding his absence in the session due to a travel to Cuba on the Hepatitis B vaccine technology. He also mentioned two reasons for two months delay in holding the Ad Hoc committee meeting as follows: 1) political changes in governmental structure which led to administrative reconstruction 2) prolonged discussion with WHO in order to get some financial support. He added that on Dr. Abdur Rab request, Pasteur Institute of Iran sponsored the meeting and only the traveling cost of the members was compensated by WHO. Moreover, it was declared that Dr. Ali Haeri will resign and will be replaced by Dr. Sardari.

Dr. Mubashar Sheikh, WHO Representative in the Islamic Republic of Iran, delivered greetings of Dr. Hussein A. Gezairy, WHO Regional Director for the Eastern Mediterranean. Furthermore, he expressed regrets of Dr. Abdur Rab, Regional Advisor, Research Policy and Coordination, WHO/EMRO, for his nonattendance in the session due to his other commitments. However, Dr. Mubashar Sheikh introduced Dr. Mohamad Afzal as a representative of Dr. Abdur Rab for this meeting. Dr. Hossein Malekafzali Ardakani, Deputy Minister for Science and Technology, Islamic Republic of Iran, gave an overview of the Iranian experience in genomics and biotechnology development. Delegates from Bahrain, Egypt, Islamic Republic of Iran, Morocco, Oman, Pakistan, attended the consultation. Professor Mohammad Hassar (Morocco) was elected as the Chairperson. The program, list of participants, Dr. Hamdi's, Dr. Mahboudi's and Dr. Zeinali's presentations are included as Annexes 1, 2, 3, 4 and 5 respectively.

## **2. Objectives**

Collaboration among institutes to create networks and partnerships for information exchange, training and research was an important recommendation of the renewed health research policy for development in the Region, expressed by the meeting in 2004 which was reiterated in this session. Moreover, the need to develop a broad regional consensus,

vision, mission and policy for health genomics and biotechnology development was emphasized.

The consultation was an outcome of the Eastern Mediterranean effort for establishing a regional biotechnology network in 2004. Specific objectives of the consultation were the creation of a regional biotechnology network; development of a framework for action and targets for the regional biotechnology networking in genomics and biotechnology, definition of priorities for applied research in genomics and biotechnology; as well as concentration on ways for establishing steering committee as a major point for proceeding to the future plans.

In order to accomplish these objectives, it was necessary for the participants to identify key issues, challenges and criteria for priorities, explore opportunities and mechanisms for collaborations, and focus on functions and responsibilities of the partners within the network. The network should also play a leading role in identifying potential areas for research, harnessing funds for research and initiating joint research projects in applied health genomics and biotechnology. The Ad Hoc committee that will continue till end of 2006, decided to join their meeting with the international Genomics & Biotechnology conference which is going to be held in Tehran at the end of 2006 and or beginning of 2007, (expecting more than 200 people from the area). This will be a suitable time for discussing about the formulation of steering committee. However, the Ad Hoc members requested for more information regarding that conference, which was promised to be sent to the group as soon as it is ready.

Taken together, the goal of the meeting was to follow up matters from last year's meeting, making regulations and constitution for creating the network and to establish basics for formulating steering committee, approve the vision, mission and strategic goals as well the website & logo for EMHGBN.

### *Discussion*

It was pointed out that technology plays very critical roles in all aspects of the society due to fast development. Only 10% of the research in the whole world is being performed by developing countries and over 90% of that takes place in developed countries. Thus, it is very crucial to establish networks through which institutes in developing countries forge links with each other and have scientific interactions. This would stimulate advancement in relevant capacities within the developing world. Building such partnerships requires careful consideration; partnerships should ensure that all partners profit equitably, and the health interests of developing countries remain uncompromised. The committee was contented for HBV joint project between Iran and Cuba and named that as one of examples for establishing the network; as well it was hoped that the establishment of the network will be strong asset in building up a very successful group together.

Economical burdens are important obstacles for creating such networks. Therefore, it is very important to clearly assign roles and responsibilities to each participating country in

the net. Promising assistance in fulfilling the expectations of the committee with regard to formation of the regional net was proposed by Dr. Mubashar Sheikh, WHO representative.

It was also noted that not all countries and institutes participated in the regional consultation, however members hoped that this small group could be very effective and in due course time when the networking is established, the numbers will grow.

Promotion of advocacy was mentioned as a key step for creation of regional biotechnology network. It is currently hard to accomplish the objectives of Ad Hoc committee concerning arrangement of the network, due to lack of communication among scientific institute in the regional countries. To overcome such problems and accelerate the speed of creating the net, establishing a national network within each country is demanded. Every participant from a country or an institute was requested to share the experiences of building their local network as well as offering mechanisms for extending their national nets to a regional net. Also, there was a consensus that the method for linking the national networking with regional networking should be considered. Nevertheless, owing to shortage of time and potency to achieve the highly extensive objectives discussed in 2004 meeting, the group agreed on prioritizing the objectives and narrowing them down to crucial elements which are feasible to perform during the coming year before having the international genomics and biotechnology conference in Tehran. The steering committee will be responsible for achieving the extended objectives.

Iran was referred to as a good model for taking initiative action to establish both biotechnology and molecular medicine national networks. It was noted that the advocacy of the national government is an essential factor for founding national network within each country; this was driven from experiences of creating the national networks in Iran. Bahrain and Oman are prepared for constructing local networks; however they need to obtain some data from Iran in this regard.

Furthermore, strategies to generate a national network will be good feeding for institution of steering committee. This does not mean that the Ad Hoc committee is going to select the steering committee members; however methods for organizing local networks could be used as a basis to form the steering committee.

As the members are only representing the organization in which they belong to, creating the regional network should be started. Creating the regional network is apart from the formation of steering committee. The regional network will be highly recognized once it is established.

It was pointed that getting all biotechnology institutions involved in the regional net work would be time-consuming; therefore, it is better to start the regional network with only two or three interested institutions. In the course of time, this creates opportunity for collaboration with other scientific organizations leading to more candidates for the net. Also as it seems to be extremely difficult for some countries to establish a national network, cooperation between centres of excellence in the field of molecular biology or

any related field can be a preliminary step to create the regional network. In this agreement, holding international workshops between countries in the region was suggested. For instance, online training courses in broad range of molecular biology related fields such as PCR, genetic counselling or bioinformatics can simply be started. Iran is fully equipped to hold regional workshops in any related field to molecular biology and / biotechnology. Iran has already held international workshops in English. As an example one of these online workshops was on Real-time PCR in which three persons participated from Bahrain. Iran is all set to hold at least 3 joint workshops on life threatening issues such as Leishmania, Malaria and HIV in year 2006. Oman is ready for having workshops on Malaria, HIV and TB.

However, the group agreed on the necessity of an analytical process on genetic and infectious diseases that are common within the region. These analyses should be performed by the regional network in order to build a regional database and create room for scientific consulting which eventually results in developing strategies towards solving such problems and implementation of certain rules.

It is noteworthy that in order to avoid creating any sensitivity, news of having such workshops should be circulated to all biotechnology or molecular biology related organizations within a country. In this case; it will be their choice whether or not to take shares in holding the workshop. The news of having a workshop can be posted on the EMHGBN website; however the presence of such a website has not been announced to all Ad Hoc committee members.

### **3. Rationale and modalities of the establishment of a regional networking in health genomics and biotechnology**

The report on Eastern Mediterranean consultation for establishing a regional health genomics and biotechnology network held in August was agreed to be used as the key activities of the regional network:

#### ***a) Challenges for the regional network on health genomics and biotechnology***

- There is lack of communication and coordination between scientists and researchers to share knowledge and experience. The scientists and researchers work in isolation, there is lack of teamwork and little will or desire to interact.
- There is a lack of focus on national priorities. The research is mostly driven either by individual interest or by donor compulsion. This leads to extreme variation in the kind and quality of research. This fragmentation does not only limit the utility of such efforts, but also serves as a deterrent to forging links that are aimed at common goals and objectives in national interest.
- The development of genomics and biotechnology in Member States is skewed to sectors other than health such as agriculture and animal husbandry, industry, petrochemical and others, as these are seen as development sectors. The potential

of health genomics and biotechnology for national growth as has not yet been fully realized and therefore political support for health sector biotechnology and genomics is lacking. The scientific interaction and exchange between genomics and biotechnology in the different sectors is weak.

- Restrictions are increasingly being imposed by the industrialized world in the area of science and technology on (mostly) Muslim nations in the new world order scenario and there are deliberate and systematic attempts to discourage genomics and biotechnology development in developing countries by the industrialized world.
- Financial investments, particularly in health genomics and biotechnology, are small and capacities (both human and material) are weak.
- The overall national environments, vision and management processes necessary for developing science and technology in the region are not present. Low literacy and public ignorance contribute significantly to the lack of developments in this field. School and university education in the area of genetics are of a poor quality and standard.

***b) Crucial factors for success***

- There is need for the partners to commit to common goals and a vision to pursue the stated goals and objectives. The interaction between the partners should be based upon dynamic and mutual understanding of each other, and should be conducted in a clear and transparent manner.
- The partners in the network need to realize and understand the added value and benefits to their own strengths as a result of being a member of the Network.
- The network must function independently of the influence of governments and international organizations such WHO and others. It should have its own mandate and system of governance.

***c) Key activities of the regional network***

- Generate a database for each country including information and list of centers of excellence and scientists.
- Develop a website with hyperlink to all other members of the network to share information
- Develop and support national networks in health biotechnology in the Member States.
- Develop linkages with the identified national focal persons in genomics and biotechnology.
- Establish a regional secretariat for the network.
- Engage in organizing education and training programs, meetings, seminars and dissemination of information related to health genomics and biotechnology.
- Engage in constructive dialogue with stakeholders such as private sector, industries, health managers and related social sectors.



- Provide technical support to partners for developing skills and capacity strengthening in research and development for health care technologies.

The participants expressed the view that although there is need for greater financial support by WHO, the regional network should not rely solely on support from this organization. A few options for fund raising were indicated as follows: getting membership fees, contacting international funding agencies and advertising for some pharmaceutical companies. However, as long as EMHGBN is not fully supported and managed by WHO, such approaches are possible.

It was demanded to find terms of references (TOR) for advocacy and fund raising with regard to establishing a regional net work. WHO representative was concerned about the ways to share the resources, experiences, men, machine, money, matter and management to establish a network.

#### **4. EMHGBN website and Logo**

Contributors from Iran articulated that in spite of financial burden they managed to construct a website for EMHGBN ([www.EMHGBN.net](http://www.EMHGBN.net)). This was simple portal website however; it needed a lot of data to be included by members. For example creating links with other organization is very important, i.e. the link with Ahmed El Taibi in Canada, Dubai biotechnology, VACSERA, Jeddah Bio city and others need to be added. It was suggested that the EMHGBN website to be linked to the WHO website so that it will be advertised to whoever has access to the WHO website. The information about having any international workshop will be placed on the EMHGBN website.

The logo was designed based on the map of the EMRO area and DNA structure. Blue and green colours were indicating WHO and peace respectively.

#### **5. A draft of Strategic Plan**

There was an agreement on considering both criteria presented in the slides and the WHO proposal as a comprehensive conclusion for a final draft of strategic plan. However, there was an objection as to the broadness of the objectives which make it unachievable.

##### ***The agreed vision by the group:***

- To create and sustain value by being recognized as a player in the international Biopharmaceutical, Genomics & Biotechnological Industry aiming at promoting health in the region valued by our customers & respected by our competitors.

Nevertheless, there was a comment on that as the vision should be network oriented not organizational oriented.

***The agreed mission:***

- Collaboration in production, training, Research & Development to be self reliant in Biotech, industries production.
- Cooperation between wealthy & poor countries to upgrade health standards
- Sustainable development of Health Genomics and Biotechnology through facilitation of high quality R&D collaboration, sharing information, training and experiences, technology transfer and distribution, in order to meet common and regional health needs of Member countries

***Goals***

- To help in capacity building in Genomics & Biotechnology through public awareness and promotion, training and educational programs.
- To promote regional common health objectives through R&D partnership and collaboration

Participants agreed that the last year meeting was very helpful and informative in terms of facilitating accomplishment of their idea in the health biotechnology area.

**6. Presentation by the members and invited guests:**

***a) A slide presentation given by Dr. Hamdi***

Dr. Hamdi gave a presentation on the general data about pharmaceutical and biotechnology companies in Egypt and their products, established biological and medical projects and their patented products, data on EMRO area, VACSERA and EMHGBN establishment (the complete presentation is found in annex 3).

The vision, mission and goals presented by Dr. Hamdi were included in those of the two handouts of strategic plans offered by the secretariat to finalize the meeting agreement.

***b) A slide presentation given by Dr. Mahboudi***

**MOLECULAR BIOTECHNOLOGY NETWORK IN THE ISLAMIC REPUBLIC OF IRAN**

Monoclonal antibody derived products, recombinant protein products, and vaccines dominate the current market, but transgenic animals and plant systems are rapidly emerging. The molecular biotechnology network was established in 2002 with a special grant of over US\$ 1

million. The intentions of the network are to utilize the services of the centers of excellence, share resources (human and material) and help capacity-building and policy development at the national level. Six national institutes of the country are members of this network, namely the Pasteur Institute, National Research Centre for Genetic Engineering and Biotechnology, Razi Institute for Vaccine Development, Sharif University, Tarbiat Modaris University and Medical Universities of Teheran, Shiraz and Mashad. The network makes invests in the development of infrastructure and technical know how in protein characterization, recombinant drug production and vaccine, gene sequencing and gene banks. Some of its active projects include development of diagnostic kits such as recombinant HTLV1/2, cancer diagnostics based on monoclonal antibodies, *H. pylori* detection kit and biopharmaceuticals.

### *Discussion*

The participants expressed the view that although there is need for greater investment in research by national governments, the national institutes in the Region should not rely solely on support from public sector. Collaboration with multinational companies through mutually agreed upon commitments should be sought for continued sustenance. It was discussed that the focus of application of biotechnology and genomics products development should be balanced between diagnosis and prevention of infectious, chronic and genetic diseases. It was pointed out that since the objective of establishing such networks is ultimately for public benefit, the networks should involve all stakeholders, from both the public and private sectors.

Close cooperation and integration between academic centers and the ministries of health would help coordinate research and application of biotechnology and genomic products at primary health care level.

Slides on Medical Biotechnology National Network in Iran have been affixed to annex 4.

### *c) A slide presentation given by Dr. Zeinali*

#### **NATIONAL PROGRAM FOR RESEARCH ENHANCEMENT IN HEALTH SCIENCES NETWORKS IN THE ISLAMIC REPUBLIC OF IRAN**

There are over 80 centers that are actively engaged in health research in the country. The national molecular medicine network was created in 2000, with the purpose of improving research management and for creating necessary, adequate and relevant infrastructure in this field in the post genomic era. Two other (related) networks were later created in the country, namely the national network for medical biotechnology and the national network for herbal medicine. There are currently 36 national centers that are members of the national molecular medicine network.

The national molecular medicine network functions through a board of directors and comprises a research committee and several technical committees such as medical genetics, cancer and infectious disease committees. Its activities include undertaking research projects and information dissemination through news media, seminars and conferences. The website for the network, [www.irmolmednet.ir](http://www.irmolmednet.ir), contains details of all relevant information regarding the network and its activities. Some of the current activities and achievements of the network

include: establishing other related networks; creating several molecular genetic laboratories for infectious disease diagnosis; developing vaccines (against leishmaniasis and early trials of the vaccine) and other products; building capacity and developing human resources in molecular sciences; helping develop perinatal and prenatal genetic disease programs; and creating a national bank of genetic materials.

Slides on Molecular Medicine National Network in Iran have been affixed to annex 5.

## **7. Formation of the regional network**

The national network in Iran was initiated and financed by the Ministry of Health (MOH) however; it is currently sponsored by drug agencies which are mostly governmental. It is the responsibility of each centre to look for a financial support from sources other than MOH. The network in Iran is a coordinating body and specific assignments are given to different partners. The regional network will be different from the Iran National network in terms of being accessible for foreign countries. The regional network is not allowed to set priorities for the health research in the region however; it can set some standards as to facilitating research area that are more prevalent in the region. Regional network will be more advisory and facilitate coordination than being an executive organization. Participant of the meeting discussed about the membership right for the regional net. This was a controversial issue; some members were intended to give the membership to all interested scientific people whereas the rest believed that the membership can only be offered to individual institutions and active laboratories. The raised question was what if a laboratory is not ready to get a membership for the regional network but the person who is working in that laboratory would be interested in being a member of the net, considering that the researchers are the key elements of the net they should not be ignored. However, it was noted that this is only a regional net not an association where individuals can apply for membership and also putting name of all the individuals on the net will cause a huge amount of administrative work as to responding their e-mail and so on. Taken together, there was a consensus on allowing individuals to be member of the net as reference group. According to WHO guidelines reference group is defined as follows:

## **8. WHO Reference group**

An EMHGBN reference group should be established to ensure adequate input from and outreach to a range of stakeholders and experts. It should comprise health researchers, and other experts, representatives of relevant industry groups, ministries of health and other relevant government departments, and community stakeholder groups. The principle role of the EMHGBN reference group should be to ensure the projects, themes and activities of EMHGBN are properly informed by full and accurate accounts of the issues and technicalities involved. The EMHGBN reference group will advise the steering committee and assist in planning research projects.

It was agreed that to design forms and send applications to centers of excellence within each country in a given time. Also, WR in each country can be a good option to circulate the corresponding letters.

## **9. The Steering Committee selection**

A council for selecting the steering committee members should be chosen from participant of the regional net. Steering committee members are selected according to their activities and scientific background. Members should be selected from different countries otherwise the steering committee will not be effective. It was agreed to have general assembly every 3 years in order to get enough time to accomplish duties. The General Secretary will be responsible to run the network and will be nominated from the country hosting the secretariat. Secretary is not part of steering committee. The hosting country will nominate the general secretary and the steering committee approves it.

The steering committee needs to have eight members. The general secretary has to be from the hosting country and is considered as non voting member. Voting members can be selected from any other country. It was agreed that two of the 7 voting members to be selected from a manufacturer/industry and the rest of the members can be selected from active scientists. In order to manage the meeting and all the administrative work, it was decided to choose the chairman and the secretary from the host country. There was a consensus that the chairman should be selected by steering committee and Vice chairman and Treasurer will be elected from members of the steering committee

Due to other commitments, Dr. Haeri resigned his position and after nominating Dr. Sardari, who had been serving as the acting director of EMHGBN for the past 6 months, all the ad hoc members approved the decision of appointing Dr. Sardari.

## **10. A summary of comprehensive conclusions on the discussed subjects during the meeting**

### ***Vision***

- ◆ *To create and sustain value by being recognized as a player in the international biopharmaceutical, genomics and biotechnological industry aiming at promoting health in the region.*
- ◆ *Sustainable development of health genomics and biotechnology through facilitation of high quality R&D training and sharing information, experience distribution and technology transfer in order to meet common and regional health needs of member countries.*

## ***Mission***

- ◆ *To induce collaboration in production, training, Research & Development to be self reliant in biotechnology and industries production*
- ◆ *To facilitate cooperation between wealthy and poor countries to upgrade health standards*

## ***Goals***

- ◆ *To promote regional common health objectives through R&D partnership and collaboration*
- ◆ *To facilitate capacity building in genomics and biotechnology through public awareness and promotion, training and educational programs.*
- ◆ *To prioritize health related R&D in genomics and biotechnology*
- ◆ *To support production of specific and new products*
- ◆ *To meet internationally recognized standards in health genomics and biotechnology*

## ***Membership criteria for joining the regional network (EMHGBN)***

- 1- *Institutions practicing state of the art research in human genomics and biotechnology.*
- 2- *Research & academic, public or private institutes or laboratories*
- 3- *Reference group of scientists with quality publications performing relevant activities*
- 4- *Biotechnology manufacturers or service providers*

## ***Key activities of the regional network***

- *Generate a database for each country including information and list of centers of excellence and scientists.*
- *Develop a website with hyperlink to all other members of the network to share information*
- *Develop and support national networks in health biotechnology in the Member States.*
- *Develop linkages with the identified national focal persons in genomics and biotechnology.*
- *Establish a regional secretariat for the network.*
- *Engage in organizing education and training programs, meetings, seminars and dissemination of information related to health genomics and biotechnology.*

- *Engage in constructive dialogue with stakeholders such as private sector, industries, health managers and related social sectors.*
- *Provide technical support to partners for developing skills and capacity strengthening in research and development for health care technologies*

### ***EMHGBN Reference group:***

*An EMHGBN reference group should be established to ensure adequate input from and outreach to a range of stakeholders and experts. It should comprise health researchers, and other experts, representatives of relevant ministries of Health and other relevant government, industry groups, public and private departments, and community stakeholder groups. The principle role of the EMHGBN reference group should be to ensure the projects, themes and activities of EMHGBN are properly informed by full and accurate accounts of the issues and technicalities involved. The EMHGBN reference group will advise the steering committee and assist in planning research projects.*

### ***The Steering Committee Structure***

- 1- The steering committee is comprised of 7 members.*
- 2- The seven members are elected by the general assembly, which is comprised of national and international institutions*
- 3- Two members of the committee will be from the biotechnology industry.*
- 4- The chairman is elected by the members of the steering committee.*
- 5- A vice chairman and a treasurer are elected from members of steering committee by the members.*

#### ***Notes:***

- ◆ *There is a need for general secretary and should be in place for at least three years.*

### ***The Secretary General***

- ◆ *The network is administered by the general secretary, who is from the country hosting the secretariat.*
- ◆ *He/She is nominated by the host country and approved by the steering committee.*

## **Notes**

- ◆ *Possibility to have two individuals from one country as they are not going to represent their country, they will represent the group.*
- ◆ *Formulate council members to meet every three years from all interested personnel in each country*
- ◆ *Next year big meeting will be hosted by Iran (more than 200 persons from the area) will be meeting in Tehran. That meeting will be held by end of 2006 or early 2007 called Genomics & Biotechnology. One or two representatives from each country could attend that meeting and at that stage the formulation of steering committee, could be considered. Ad Hoc committee decided to join their meeting with the expected meeting for Biotechnology which will be held in Iran end of 2006 & or beginning of 2007, but Ad Hoc members will need any brochures for that meeting, which was promised to be sent to the group as soon as it is ready.*
- ◆ *Every two years Iran is having their meetings in genetics and Biotechnology. Regardless of the possible sanction or embargo.*
- ◆ *Letter to be drafted to all institutes and manufacturers to offer them possibility of joining the group. A form for joining the group will be designed, then at that time the Ad Hoc members will be in a better position to start looking into moving toward choosing Steering Committee.*
- ◆ *WHO is our partners and will continue financing this group and advocate. (Dr. Afzal will be preparing a grant proposal in this regard)*
- ◆ *WHO representative in each of the countries allocate funds for running the network, but this is not possible as they can support the research and travel*

## **Action Plan**

- ◆ *There will be a 2-day meeting in end of April or early May in Oman (accommodation and local transport by Oman, and other costs like travel ticket by WHO and/or participants)*
- ◆ *General assembly to be held in one year as a satellite to a scientific meeting (Self financing by participating members)*
- ◆ *National workshops in countries to develop/establish national networks*
- ◆ *WHO to solicit the national networks to countries*
- ◆ *Technical genomics and biotechnology training workshops by at least three or more member countries*
- ◆ *Oman-Iran-Egypt: Bioinformatics (introductory and advanced)*



- ◆ *Iran-Oman-Pakistan: Real-time PCR and Gene expression for recombinant proteins*
- ◆ *Countries may start joint projects on the following subjects: Genomic analysis of chromosomal abnormalities among the different countries involved.*

## ***Finances***

- ◆ *WHO is our partners and will continue financing this group and advocate.*
- ◆ *Dr. Afzal will be preparing a grant proposal in this regard*
- ◆ *WHO representative in each of the countries allocate funds for running the network, but this is not possible as they can support the research and travel talk to the international organizations, IDB, ISESCO in Morocco & COMSTECH*
- ◆ *The host country should be responsible for the financial aspects of running EMHGBN secretariats*
- ◆ *Dr. Rouholamini-Najafabadi (of the host country and the head of Pasteur Institute of Iran) will commit 15,000,000 Tomans (Iran Currency, about €15,000) for personnel and other costs of the secretariat during 2006.*
- ◆ *A letter be dispatched to Dr. Abdur Rab, regarding an annual budget from top slicing COMSTECH/WHO projects on Genomics and Biotechnology of 5% of the budget (\$12,000) for EMHGBN*

*There will be a two-day meeting contributing by Ad Hoc members and WHO representatives in Oman during second half of April or early May. Accommodation will be provided by Oman. In case WHO is not committed to pay the transportation fees, members of Ad Hoc committee will be responsible for it.*

## **Annex 1**

### **PROGRAM**

#### **The Three Days Schedule of EMHGBN Ad Hoc Committee Meeting**

**Pasteur Institute of Iran**

**Saturday 18 Feb. 2006**

8:30 - 9:00 Registration

9:00 - 9:30 Opening address

Chief Guests:

Deputy of Research welcoming remarks,

Dr. Mubashar Shaikh,

Dr. Sirous Zeinali

9:30 - 12:30 Discussion of the members about:

- \_ Promotion of advocacy for creation of national biotechnology networks and identify national focal persons for liaison
- \_ Oversee the establishment of an EMHGBN
- \_ Developing a genomics and biotechnology country database

Group discussion on EMHGBN vision, mission, SWOT, goals, objectives, terms of reference

12:30 - 2:00 Lunch & prayer

2:00 - 5:30 Group discussion on Strategic Plan (SP)

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Sunday 19 Feb. 2006</p> | <p>9:00 - 12:30    Financial resources</p> <p>                    Role of WHO - EMRO</p> <p>                    Role of governments, private partners and international organizations</p> <p>12:30 - 2:00     Lunch &amp; prayer</p> <p>2:00 - 5:30      Role of governments, private partners and international organizations</p> <p>                    Dr. Hamdi presentation on The presentation included very rich data on the world, EMRO area, VACSERA and EMHGBN establishment</p> <p>                    Steering committee selection criteria</p> |
| <p>Monday 20 Feb. 2006</p> | <p>9:00 - 12:30    Group presentations</p> <p>                    Discussion &amp; Conclusion</p> <p>                    Closure of the meeting</p> <p>12:30 - 2:00     Lunch &amp; prayer</p>                                                                                                                                                                                                                                                                                                                                                              |

## **Annex 2**

### **LIST OF PARTICIPANTS (Alphabetic according to the country)**

#### **BAHRAIN**

Dr Shaikha Salim Al Arrayed  
Consultant Clinical Geneticist  
Head of Genetics Department  
Salmaniya Medical Complex  
**Manama**

#### **EGYPT**

Dr Ahmed Hamdi Ahmed Abdellatif  
Chairman  
The Egyptian Company for Biotech Industries (EGYTEC)  
**Cairo**

#### **ISLAMIC REPUBLIC OF IRAN**

Professor Hossein Malek Afzali Ardakani  
Deputy Minister for Research and Technology  
Ministry of Health and Medical Education  
**Tehran**

Dr. Ali Haeri,  
Advisor to the Head of Pasteur Institute in International Affairs  
Pasteur Institute of Iran  
**Tehran**

Dr Fereidoun Mahboodi  
Head of National Network for Medical Biotechnology  
**Tehran**

Dr. Soroush Sardari  
Pasteur Institute of Iran  
**Tehran**

Dr Sirous Zeinali  
Director  
Iranian Molecular Medicine Network  
Biotechnology Research Centre  
Pasteur Institute of Iran  
**Tehran**

**MOROCCO**

Professor Mohammed Hassar  
Director  
Pasteur Institute of Morocco  
**Casablanca**

**OMAN**

Dr Riad Bayoumi  
Professor  
Clinical Biochemistry Department  
College of Medicine and Health Sciences  
Sultan Qaboos University  
**Muscat**

**PAKISTAN**

Professor Zahoor Ahmad  
Centre for Applied Molecular Biology  
**Lahore**

**WHO Representatives,**

Dr. Mohammad Afzal,  
Short – Term Professional Research Policy & Cooperation, WHO – EMRO  
**Cairo**

Dr Mubashar Sheikh,  
WHO-EMRO  
**Tehran**

## Annex 3

### DR. HAMDI'S PRESENTATION

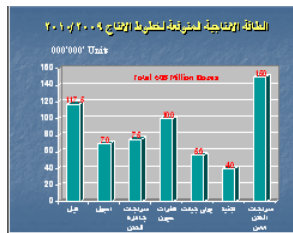


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Projects Abroad

| Company           | Participation share | Country      |
|-------------------|---------------------|--------------|
| Jordan Bio-Tec    | 5%                  | Saudi Arabia |
| Ala Bio-Tec       | 20%                 | Sudan        |
| Epi-Vac           | 100%                | Slovenia     |
| Arma-Vac          | 49%                 | Armenia      |
| Marla Bio-Pharmat | 30%                 | Malaysia     |
| Asia              | 40%                 | Syria        |

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**EMHGBN**

- Focus on needs specific to developing countries.
- Members have similar or comparable:
  - Environments
  - Diseases
  - Concerns
- Result → **EMHGBN**

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Topics for the meeting in Tehran Feb, 2006

- DEFINITION
- WHO ARE WE
- EMHGBN LOGO
- EMHGBN VISION
- EMHGBN MISSION
- ADHOC COMMITTEE MEMBERS
- STEERING COMMITTEE MEMBERS
- NETWORK FOSTERING
- WEBSITE ESTABLISHMENT

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**DEFINITION**

**EMHGBN**

East Mediterranean Health Genomics & Biotechnology Network

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East Mediterranean Health Genomics and Biotechnology Network

EMHGBN

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East Mediterranean Health Genomics and Biotechnology Network

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East Mediterranean Health Genomics and Biotechnology Network

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East Mediterranean Health Genomics and Biotechnology Network

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East Mediterranean Health Genomics and Biotechnology Network

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East Mediterranean Health Genomics and Biotechnology Network

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East Mediterranean Health Genomics and Biotechnology Network

EMHGBN

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**Vision**

- To Create and sustain value by being recognized as a player in the International Biopharmaceutical, Genomics & Biotechnological Industry aiming at promoting health in the region, Valued by our customers & Respected by our Competitors.

**Together we will be better**

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**Mission**

- Collaboration in production, training, Research & Development to be self reliant in Biotech, Industries production.
- Cooperation between Wealthy & poor countries to upgrade health standards

**Together we will be better**

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**Mission**

- Sustainable Development of Health Genomics and Biotechnology through facilitation of high quality R&D collaboration, sharing information, training and experiences, Technology transfer and distribution. In order to meet common and regional health needs of Member countries

**Together we will succeed**

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**Goals**

- To help in capacity building in Genomics & Biotechnology through public awareness and promotion, training and educational programs.
- To promote regional common health objectives through R&D partnership and collaboration

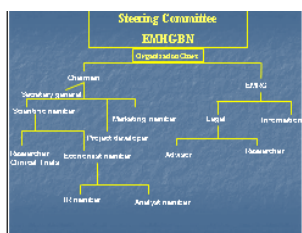
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**ADHOC COMMITTEE**

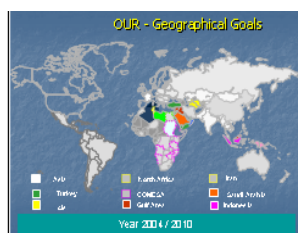
- Dr. Shaikha Al Arrayed Bahrain
- Dr. Ahmed Hamdi Egypt
- Dr. Fereidoun Mahboudi Iran
- Dr. Mohammed Hassar Morocco
- Dr. Riyadh Bayouni Oman
- Dr. Zahour Ahmed Pakistan
- Dr. Sultan Bahabri Saudi Arabia
- Dr. Ali Haeri Iran

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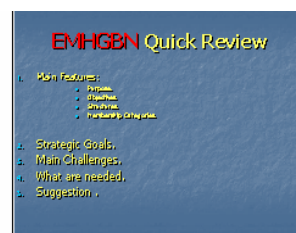




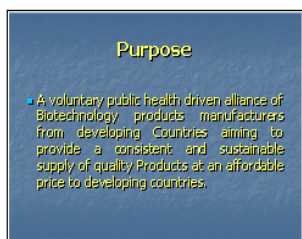
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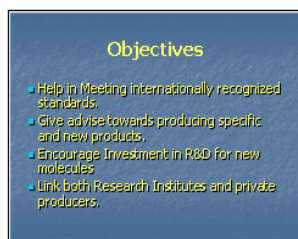
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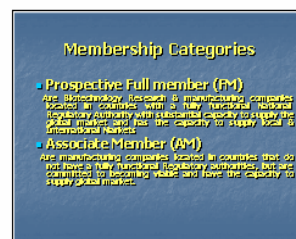
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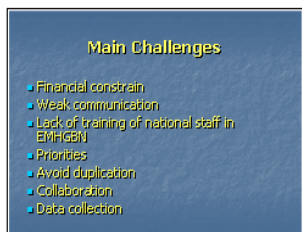
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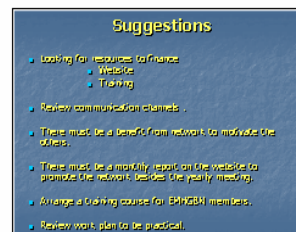
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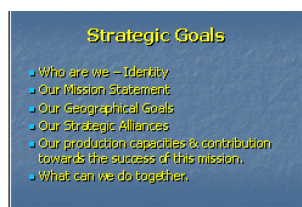
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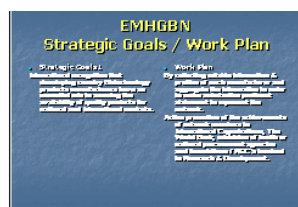
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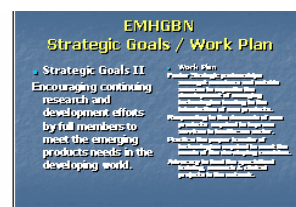
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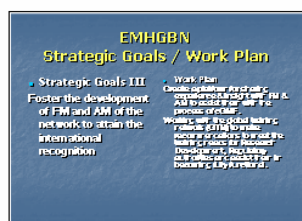
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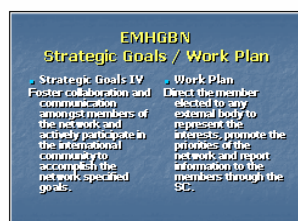
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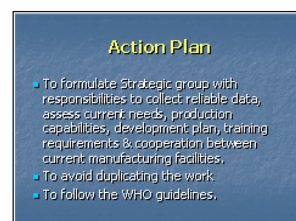
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## **Annex 4**

### **DR. MAHBOUDI'S PRESENTATION**

Medical Biotechnology Network consists of Iranian research centers or active laboratories in area of biotechnology with the main goal in supporting applied research and establishment of infrastructures

Med. Biotech. Network

- Intended to co-ordinate the national research policy in the direction of
  - Shared
    - Equipments and instruments
    - Expertise

Strategic plan

- Vision, Mission, goals and objective of this network was defined in 2001 and will renewed every 4 years
- The director of the network is selected by members for two years
- The network was started with 4 members and now is 17 members including some of the main administration of the government body

Priorities

- Recombinant proteins for treatment
- Diagnostic kits using recombinant proteins or monoclonal antibodies
- Transgenic animals as the recombinant protein production
- Bioproducts derived from either microorganisms or plan
- Establishment of the infrastructures techniques and laboratories for medical biotechnology such as proteomics, microarray

**Capacity Building: Infrastructural Investment**

Proteomics and Protein characterization

- Post Genome Era requires to move in protein characterization
- Recombinant drugs have been started to produce in Iran, We need to equip ourselves with QC which is concentrated on protein analysis such as AAA, Peptide map and mass specter

This is to build up capacities, and recombinant drugs like EPO as well genetic resources and bio products required.

- Genetic resources and Bio-products require more protein analysis capability in the country

#### Infrastructural Priorities: Gene Bank

- Gene Bank: Prokaryotic and Eukaryotic gene expression: Vectors and hosts (Plasmids, Bacterial strains, yeast)

– More than 50 recombinant expression vectors and hosts have been deposited so far

– Catalog with technical information will be available by the end of this year

Building up gene bank Prokaryotic & Eukaryotic gene expression, vectors and hosts (plasmid, Bacterial strains, Yeast).

Invested in Industrial protein purification, Amino acid analysis, Cloning and hybridization and Monoclonal antibody.

Main workshops they have.

#### Infrastructural Investment

##### Human Resources: E- Workshops

- Industrial Protein Purification
  - 120 Participants, Online for one month
  - 12 Experimental training for one week
- Amino Acid Analysis
  - 120 Online participants for one month
- Cloning and Hybridization
- Monoclonal Antibody

## Achievements

- Approval of H. pylori diagnostic kit based on ELISA technique
- Final form of HTLV1 (sending to National Reference laboratory)
- Final form of Ferretin (sending to National Reference laboratory)

## Future plan

- To define a biopharmaceutical project so that the majority of the members will participate
- A project that helps the technology development and capacity building
- A project that will be considered as the priority in the area of health
- T-PA is one of the candidate that can be split to different centers
  - Expression of t-PA in transgenic animals
  - Expression of t-PA in transgenic plant
  - Expression of t-PA in *P. pastoris*
  - Expression of t-PA in *E. coli*
  - Expression of t-PA in *L. tarantolea*

## **Annex 5**

### **DR. ZEINALI'S PRESENTATION**

Second presentation was about Iranian Molecular Medicine Network by Dr. Zeinali.

#### *Iranian Molecular Medicine Network*

#### **Introduction**

Iranian Molecular Medicine Network (IMMN) was created in early 2001 having at present more than 36 research institutes and centers joined as members.

IMMN is organized by the Deputy of Research and Technology, Ministry of Health and Medical Education, I.R. of Iran and member organizations.

#### **Aims and Activities:**

The aims of the network are:

Promoting interests and activities in the field of molecular medicine among public and scientific community in Iran.

Promoting collaboration and cooperation in the field of research and clinical practice among members.

#### **Iranian Molecular Medicine Network Organization**

Strategic Planning, (Revision every year during annual meetings)

Priority settings

Putting regular meetings in each centre now and then

Evaluating each centre's activities

Research capacity building

Project evaluation before, during and after.

Enhancing research and clinical practice in the field of molecular medicine providing training, technology transfer, education, workshops, etc. to promote research development and clinical practice in the relevant aspects.

Providing better planning, programming and priority setting.

Capacity building: research, clinical practice, bioinformatics, man power development

Better budgeting and resource mobilization and allocation.

Overall promotion of molecular medicine in all aspects in Iran.

The Network has gathered the largest number of research institutes and centers as well as clinical establishments involved in clinical research under one virtual umbrella.

### **Iranian Molecular Medicine Network**

At this time 36 centres are members of the Network.

Organization:

Director

Board of members

Research Committee

Technical committees in:

Medical Genetics

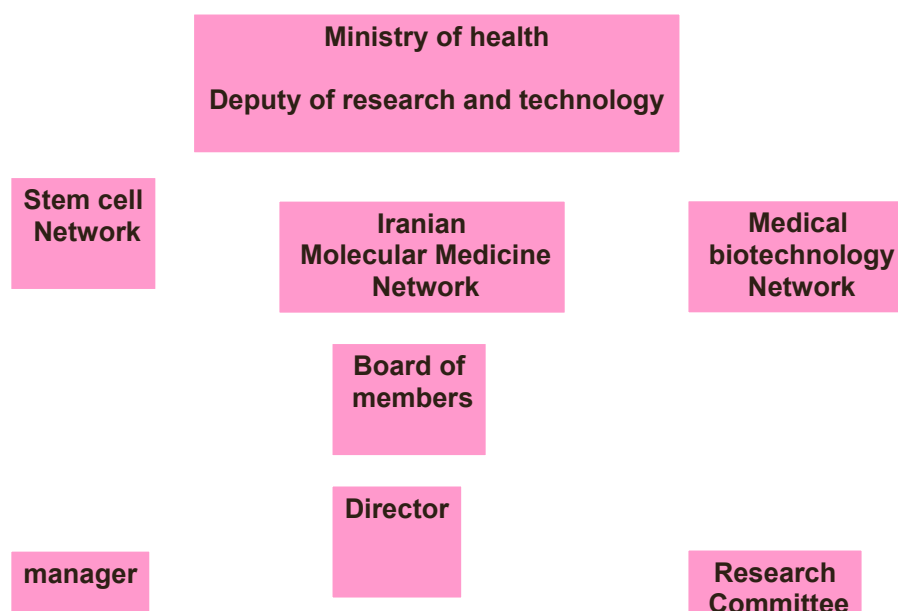
Cancer

Cellular

Infectious Agent

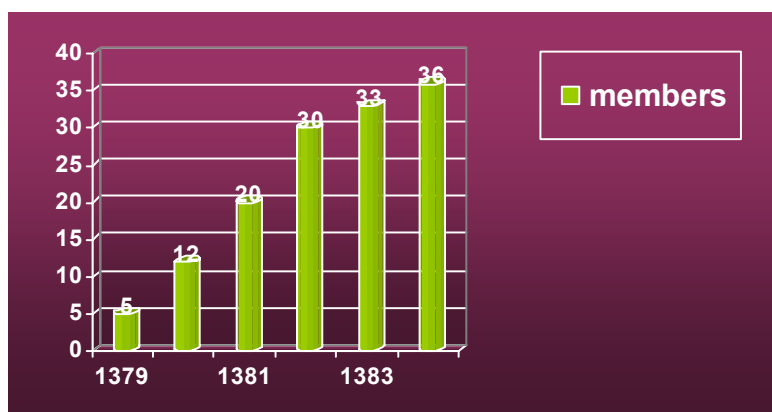
High Tech

### **Chart of organization**



Each center has a representative. Each year they choose 7 persons as research committee which makes main decision. In Iran 6 centers have created stem cell network.

### Chart of Members



### Present-Future

Gene Therapy, Transgenic, Stem Cell Research, Proteomics, Disease Gene Identification, Bioinformatics, Recombinant Vaccines and Drugs development, Monoclonal Antibodies, Genome Based Research, Genotyping Genetic Disorders, Molecular Microbiology Including Drug Resistance, Genotyping and Ribotyping of Microbes

### Iranian Molecular Medicine Network activates

Strategic Planning, (Revision every year during annual meetings)

Priority settings

Putting regular meetings in each centre now and then

Evaluating each centre's activities

Research capacity building

Project evaluation before, during and after

Training workshops and support of congress and workshops in molecular medicine.

### Some Achievements in Biotechnology and Genetics

Rapid increase in the production of high quality research publications (The scientific

impact of nations, Nature, Vol 430, 15, July 2004)

Creation of several molecular genetics labs

Creation of several molecular diagnostics labs for infectious agents

Phase one clinical trail for DNA Vaccine against Lishmania at Pasteur Institute of Iran

Rapid increase in the number of molecular scientists in the country

### **Some Achievements in Biotechnology and Genetics (Infrastructures)**

National Banks: National Cell Bank, National DNA Repository (genetic disorder DNA banks), National Cloning Vectors and Hosts Bank. National HLA Bank (bone marrow donor bank), National Cord Blood Stem Cell Bank

Creation of a Committee in Nano Medicine under the Nanotechnology Committee

Initiation of several new projects in Gene therapy, Transgenics, Stem Cell Therapy

### **Members**

1. Pasteur Institute of Iran (biotechnology department)
2. National Research center of genetic Engineering and Biotechnology.
3. Royan institute, cellular and Molecular Research center
4. Avesina Research center
5. Tarbiat modares university faculty of medical sciences
6. Breast diseases research center, Jahad Daneshgahi
7. Iran blood transfusion organization
8. Forensic medicine organization
9. Razi vaccine & Research institute
10. Endocrine& Metabolism Research center (Tehran University of Medical Sciences)
11. Rheumatology Research center (Tehran university of Medical Sciences)
12. Hematology, oncology &BMT Research center Tehran University of medical
13. Center for Research &Training in skin Diseases &Leprosy Tehran University of medical science
14. Digestive Disease Research center (Tehran University of medical science)
15. Cardiovascular Research center (Tehran University of medical science)
16. Children Medical Hospital-Genetic wards (Tehran University of medical science)
17. Medical ophthalmology Research center (Tehran University of medical science)
18. Reference laboratories of Iran, Research center
19. Genetics research center (university of social welfare& rehabilitation sciences
20. Endocrine and Metabolism Research center (Shahid Beheshti University of medical sciences)
21. Cellular Molecular Research center (Shahid Beheshti University of medical sciences)
22. Research center for gastroenterology and liver Disease (RCGLD)
23. Cellular Molecular research center (Iran University of medical sciences)
24. Genetics research center (university of social welfare & rehabilitation sciences)
25. Research Center for Gastroenterology and Liver Diseases (RCGLD)
26. Infectious Diseases Research Center ( Isfahan University of Medical Sciences)



27. Human Genetic Research Center (Iran University of Medical Sciences)
28. Thalassemia Research Center (Ahwaz University of Medical Sciences)
29. Infertility Research Center (Yazd University of Medical Sciences)
30. Immunology Research Center Buali Institute (Mashad University of Medical Sciences)
31. Diabetes Research Center (Yazd University of Medical Sciences)
32. Infectious Diseases Research Center (Ahwaz University of Medical Sciences)
33. Medical Biology Research Center (Kerman shah University of Medical Sciences)
34. Imam Hussein University.
35. Tehran University of Medical Sciences (Department of Medical Genetics).
36. Iranian welfare organization.