



Arab Network of Nuclear Regulators (ANNuR)

AAEA Prospective



An Introduction

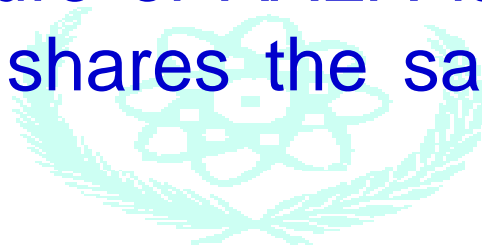
Daw Mosbah

Arab Atomic Energy Agency



The AAEA

- ➡ It is a sub organization of The Arab league.
- ➡ 13 Arab states are members of AAEA
- ➡ The structure of AAEA is similar to that of IAEA and shares the same principles and objectives.





13 member states

African Countries :

Egypt
Libya
Sudan
Tunisia
Algeria
Comoros
Djibouti
Mauritania
Morocco
Somalia



Gulf Countries:

Bahrain
KSA
Kuwait
Oman
Qatar
UAE

Asian Arab Countries :

Iraq, Jordan, Lebanon ,
Palestine, Syria, Yemen,

1st meeting of the Arab Network of Nuclear Regulators (ANNuR), 20-22 January 2010, Hammamet ,Tunisia

AAEA Missions

- Coordinates among member states in the field of peaceful applications of atomic energy,
- Suggest and sponsor many coordinated research projects between Arab States in different fields of atomic energy applications,
- Assists in human resources development and transfer of knowledge and information concerning nuclear sciences & technologies,
- Sets up unified Arab regulations for radiation protection, nuclear safety and security and safe handling of radioactive materials.

- Recently AAEA developed with member states “The Arab Strategy for Peaceful use of Atomic Energy up to 2020” Approved by the Arab summit,
- A ten year programme up to 2020 has been developed by Arab experts touching all fields of nuclear applications including nuclear power,
- AAEA is ready to assist Arab states to develop their nuclear infrastructure and act as coordinator between member states to foster exchange of experiences.

Nuclear activities and facilities in Arab countries

- Arab countries are at different stages of development and capabilities, in general;

Activities:

- Use, import, produce and export, sources of ionizing radiation for industrial, research, agriculture and medical applications.

Facilities:

- Have nuclear and irradiation facilities for different purposes:
 - Equipments for radiotherapy & nuclear medicine,
 - Ion and electron beam accelerators for fundamental research, elemental analysis, radioisotope production,.....applications,
 - Gamma irradiators, neutron sources,
 - radioactive waste management facilities (storage and disposal),
 - research reactors.

Research Reactors in ACs

- **Egypt:** has a 2 MW Russian research reactor, and a 22 MW Argentinean research reactor, at Inshas.
- **Algeria:** has a 1MW Argentinian research reactors, at Draria and 15 MW China made RR in Ain Ouessara.
- **Libya:** has a 10 MW Russian research reactor and a critical stand facility at Tajura
- **Morocco:** has a 2 MW TRIGA, USA research reactor at Mamoura
- **Syria:** has a China made 30 Kw MNSR (Miniature Neutron Source Reactor) at Deer Alhajar



Recently many Arab countries have expressed their interest in adopting nuclear energy for electricity generation and sea water desalination and sought assistance from IAEA



Key drivers of ACs interest in nuclear power

- Growing energy demand – to double by 2030
- Domestic security of energy supply concerns
- Volatility of fossil fuel prices and low operational costs of NPPs
- Global climate change
- Nuclear industry's increasing experience and improved safety and security record
- Ability to apply nuclear power to desalination
- Desire to sell hydrocarbons profitably in international markets

RIGHTS AND OBLIGATIONS

All states have the right to acquire nuclear technologies for peaceful utilisation for socio economic development, but it is their responsibility to do it **right**





National obligation



Establish an infrastructure to ensure safety and security including:

- A comprehensive legal regime
- Competent, adequately financed, independent regulatory body
- Sound educational system
- Technological capabilities
- Well developed Management system
- Spread safety & security culture

National infrastructure is enhanced by a Global Nuclear Safety & Security Regime

The Needs


Most Arab countries have currently limited nuclear activities and capabilities and there is a clear need for:

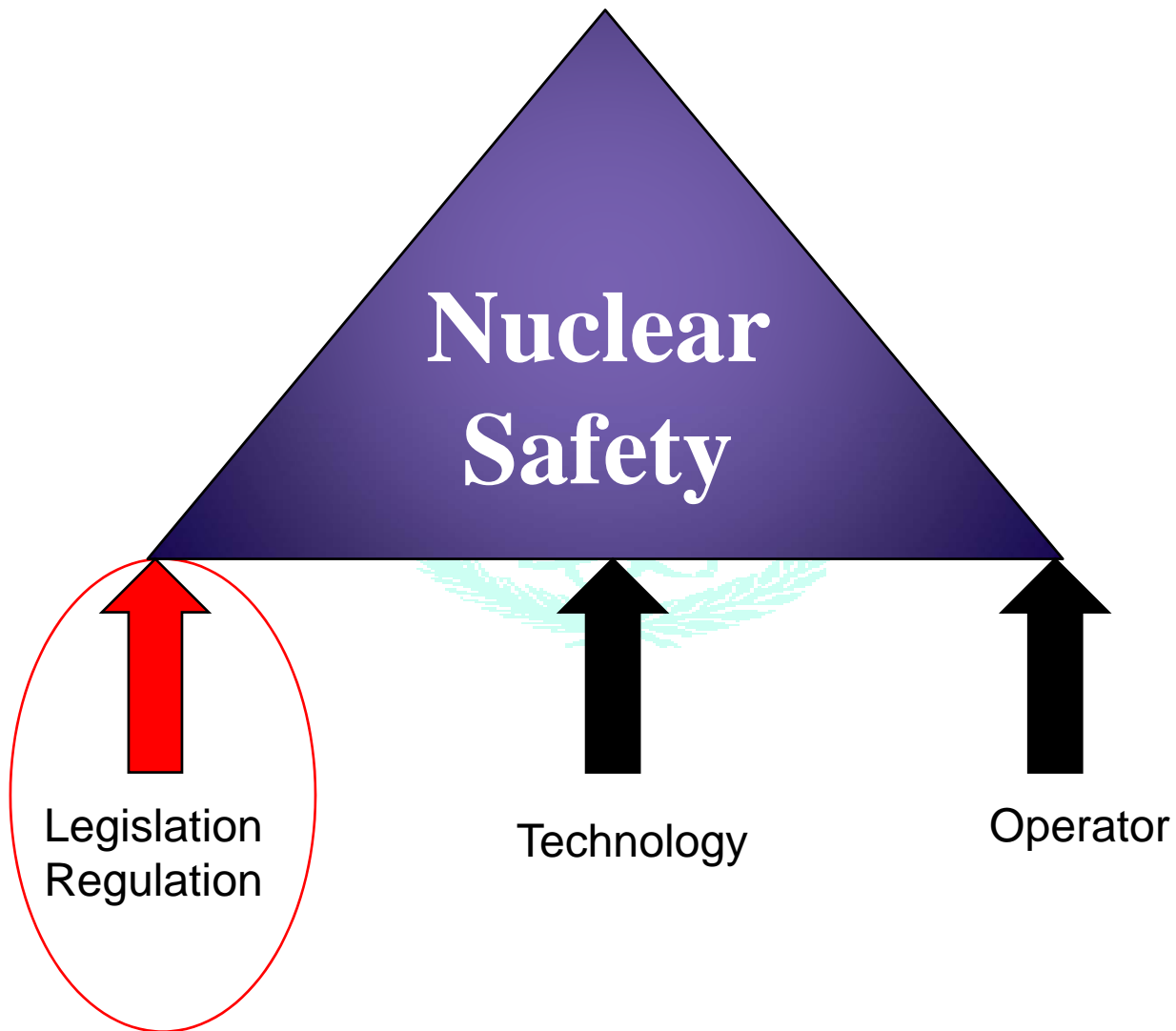
- National infrastructure and capacity building at an institutional, organizational and technical levels to initiate and sustain a safe and secure utilization of nuclear technology and power programmes.
- Human resources development especially in nuclear safety and security.
- Development of the infrastructures and capabilities for the legislative and regulatory framework, nuclear safety, nuclear security, emergency preparedness and response and radioactive waste management activities.
- Sharing knowledge, best practices and lessons learned related to S&S matters

The aim of this meeting is to address these needs

NUCLEAR SAFETY AND SECURITY

The nuclear safety and security measures that need to be taken to protect workers, public and environment are of utmost importance and interest to the Arab countries and the international community





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- Nuclear safety and radiation protection are the prime responsibility of the operators / licensees.



- The role of regulators is to ensure that this responsibility is fully secured, in compliance with the regulatory requirements

Need for national RB

ACs need to establish, develop and sustain a national regulatory bodies in relation to nuclear safety, and security framework based on the international instruments and the IAEA Nuclear Safety & Security Standards and Guidelines.

The RB has to be:

***Independent, Transparent, Efficient,
Reliable, Robust, Competent***

The Regulatory Body must

- Has ability to carry out its mission
- Has authority
- Has technical competence
- Resources
 - Staffing
 - Funding
- Be independent from promotion or utilization of nuclear energy



The Regulator Duties

- ✓ Setting Standards and Guides
- ✓ Licensing or Permitting
- ✓ Inspection and monitoring
- ✓ Take appropriate action from operating experience feed back
- ✓ Ensure accident preparedness
- ✓ Enforcement
- ✓ Coordination with other bodies
- ✓ Supply information to the public

Globalization of S&S

- Nuclear safety & security are a global issue.
- “Accident anywhere is an accident everywhere”
- There are many instruments for achieving high level of nuclear S & S on a global basis, such as international nuclear S&S related conventions, IAEA safety standards and guides, safety review services provided by the IAEA.
- Continued regional & international cooperation is needed to ensure the safe and secure introduction and expansion of nuclear power

Multinational Networks Among Regulators

Purpose: share common experiences and advice among regulators facing similar problems.

Examples:

- International Nuclear Regulators Association (INRA)
- Western European Nuclear Regulators Association (WENRA)
- Network of Regulators of Countries with Small Nuclear Programmes (NERS)
- Asian Nuclear Safety Network (ANSN)
- Global Nuclear Safety and Security Network (GNSSN) developed by IAEA to provide linkages to existing networks
- Forum of Nuclear Regulatory Bodies in Africa (FNRBA)
- Time to establish Arab Network of Nuclear Regulators (ANNuR)

Networks Objective

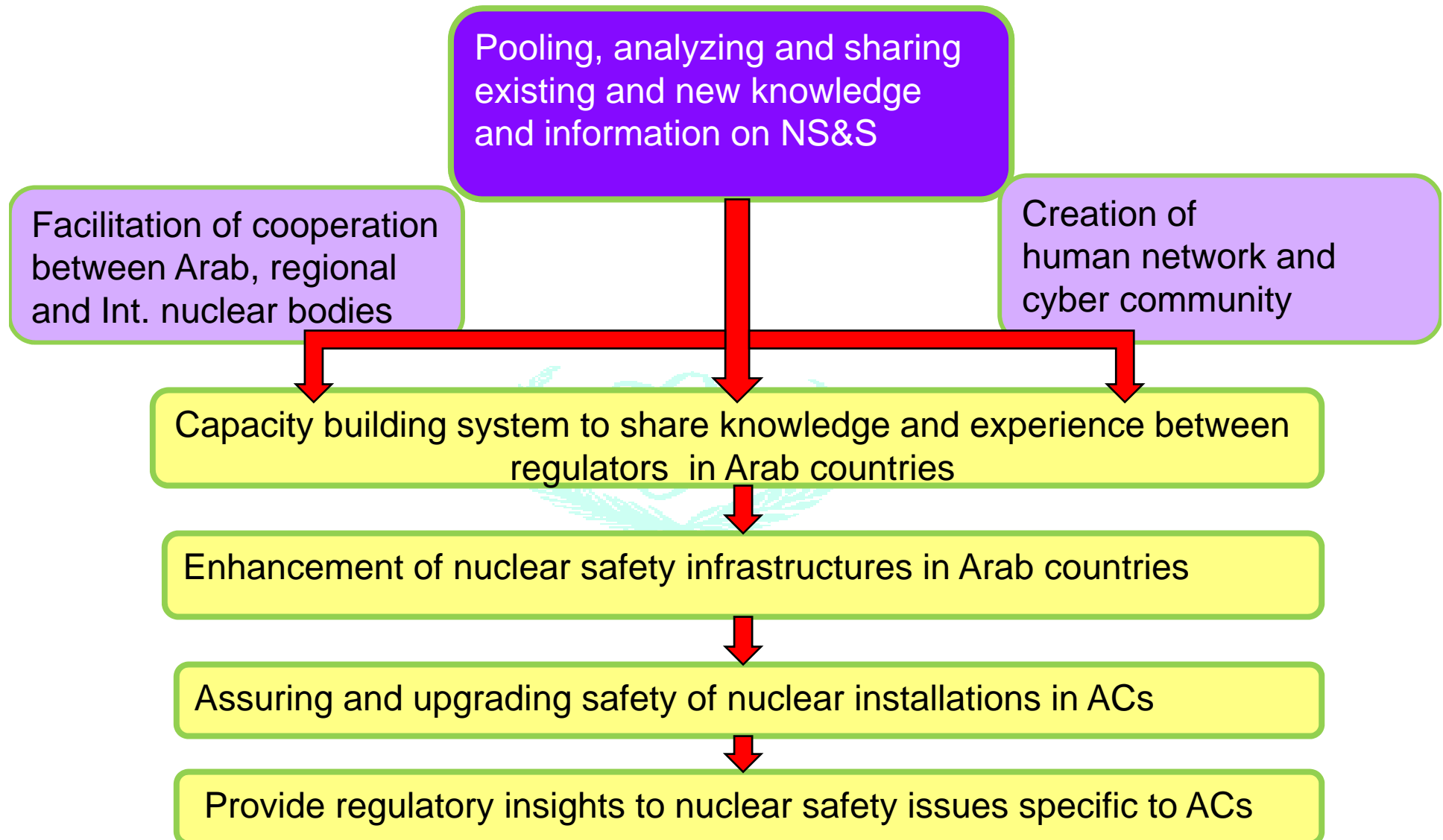
- 👉 To ensure that safety and security knowledge, experience, and lessons learned are made visible and available, through links between platforms, and exchanged broadly,
- 👉 To enable and support interaction and collaboration between competent people and organizations.

ANNuR establishment

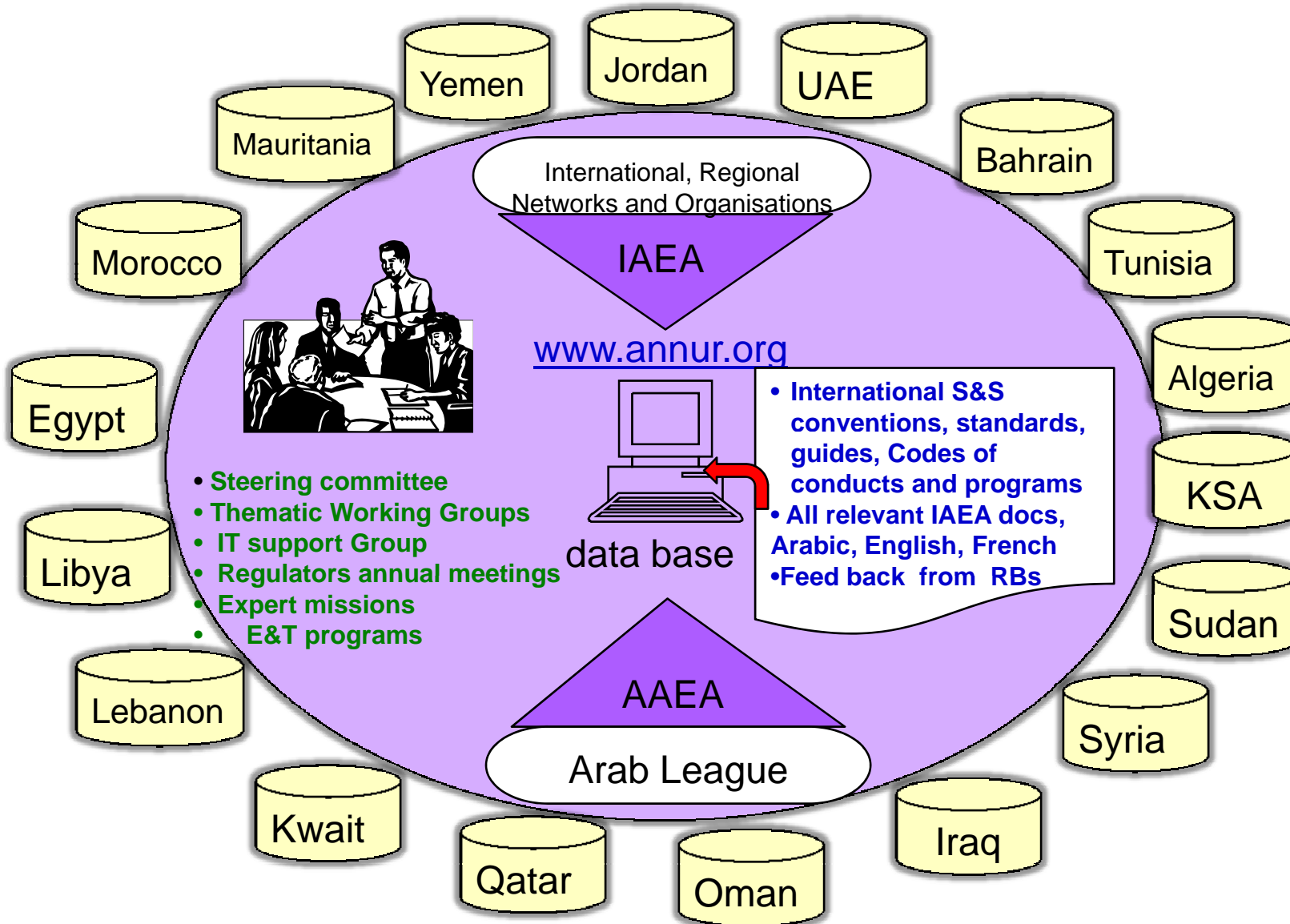
The purposes of ANNuR are:

- To enhance, strengthen and harmonize the regulatory infrastructure among ACs;
- To provide mechanisms for ANNuR to be an effective and efficient internationally recognized network for exchange of regulatory experiences and practices among the nuclear regulatory bodies in Arab states.
- To Interact positively with other international & regional networks as well as GNSRR

Objectives of the ANNuR



ANNuR



ANNuR establishment

- Formulation a three phase project
- Putting the Terms of Reference of ANNuR
- Production of action plan for implementation,
 - reflecting current and future needs of Arab RBs
 - production of relevant regulations and guidelines in Arabic language
 - Education and training programs for RBs staff
 - Expert missions and meetings

Action Plan

Phase I

2010: Planning & Analysis, Identify scope, requirements, prioritised needs of Arab RBs and required resources

Expert missions to help establishing, developing RBs

Develop Web Site... (estimated budget for this phase USD100,000)

Phase II

2011: Project Implementation

Focus on Education & Training, Meetings, Form Project Teams , production of regulations, standards and guidelines in Arabic

Database ,web improvement, Communication and Information Sharing

(estimated budget for this phase USD200,000)

Phase III

2012,2013 and beyond : Full Implementation,

Evaluation, Lessons Learned, E&T.....Sustainability.

(estimated budget for this phase USD200,000)



**Hope this meeting will
achieve its goals
Thank you**