



*The Research Reactors in Arab
Countries: characteristics and utilizations*

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AAEA - Tunis



The Arab Atomic Energy Agency **AAEA** is an Arab scientific organization

➤ AAEA established in 1989.



➤ AAEA is working within the framework of the League of Arab States to coordinate the scientific efforts of the Arab Countries in the field of peaceful uses of atomic energy. It contributes also to the transfer of the peaceful nuclear knowledge and technologies.



Arab 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,



Goals and Roles of the (AAEA)

The socio-economical development in Arab countries is facing high challenges. The AAEA works hard to enhance these challenges by promoting the peaceful applications of atomic energy in many aspects of life.





Goals and Roles of the (AAEA)

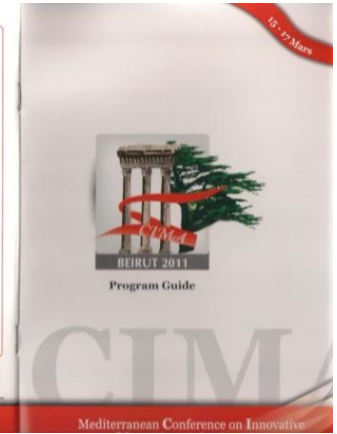
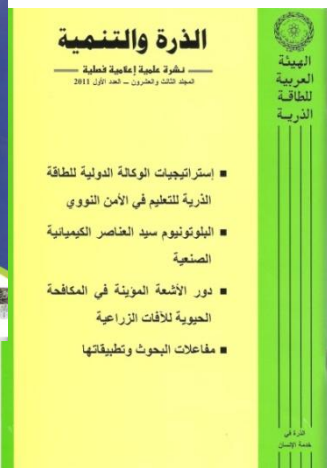
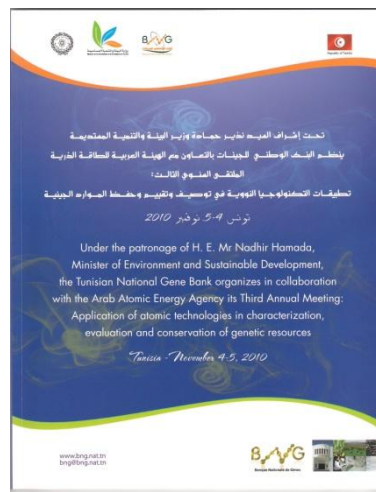
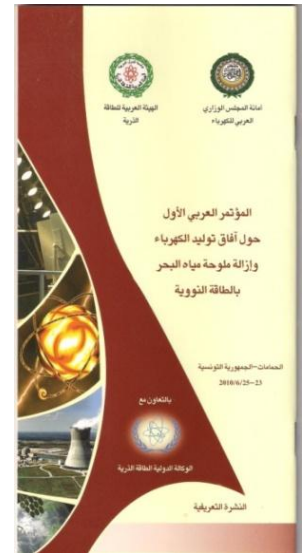
The AAEA implements many activities to achieve its objectives.

These activities contribute to build and develop the human resources needed for nuclear science and technology programs.



The activities include

- ✓ training courses,
- ✓ workshops,
- ✓ experts meetings, expert missions,
- ✓ scientific visits, on-the-job training,
- ✓ conferences and seminars.





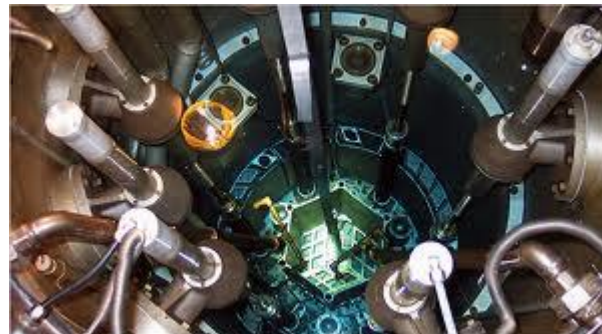
One of the most important tasks of AAEA is to coordinate between Arab states to share their laboratory facilities and develop the human resources which have the capabilities of assimilating the nuclear knowledge and its application



Radio-isotopes



Recherches

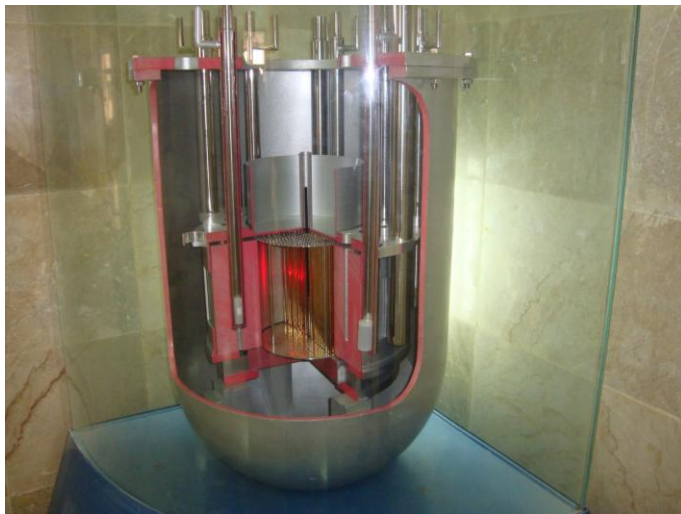


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Research Reactors

The use of nuclear research reactors depends heavily on the availability of qualified scientists, engineers and technicians. Many Arab countries still have insufficient training capabilities in nuclear fields, and are experiencing problems with high staff turnover and shortage of specialized professionals in these areas.





AAEA programs

AAEA put a comprehensive plan to implement “The Arab Strategy for Peaceful use of Atomic Energy up to 2020” . The plan includes Technical Cooperative Projects between Arab countries focusing on assisting member states to accumulate and exchange their knowledge resources available and sharing of laboratory and technological capabilities in field of Atomic Energy and Nuclear Techniques.

AAEA put 15 research projects in the areas of:

- 1- Nuclear power related field
- 2- Nuclear techniques and applications.
- 3- Life sciences and environmental applications.



The research reactors is a very versatile tool, that when used effectively, can contribute to a country's technological and scientific development. As most of the research reactor facilities are not being utilized fully, therefore AAEA regards that its technical cooperation projects between Arab countries in the field of RRs utilization are of the interest of long-term sustainability of RRs utilization programmes. Therefore, countries which do not have a RR can benefit a great deal from these AAEA activities and enjoy the facilities they do not possess.





Many activities have been undertaken by AAEA related to the utilization of RRs cover a wide range of subjects related to RRs such as:

- Research reactors: Design, operation and applications.
- Neutron Activation Analysis using RRs.
- Reactor safety and security systems.
- Radiation protection, regulations and legislations.
- Emergency plans, waste management, monitoring and early warning.
- Modelling of nuclear accidents and their effects on the environment and public health.
- Workshops and formations about the applications of RRs.



The characteristics of the research reactors in Arab countries

Country	Facility Name	Thermal Power (kW)	Type	Status	Criticality Date
Algeria	ES-SALAM	15,000.00	HEAVY WATER	OPER	1992/02/17
Algeria	NUR	1,000.00	POOL	OPER	1989/03/24
Egypt	ETRR-1	2,000.00	TANK WWR	OPER	1961/02/08
Egypt	ETRR-2	22,000.00	POOL	OPER	1997/11/27
Iraq	IRT-5000	5,000.00	POOL, IRT	SHUT	1967/01/01
Iraq	TAMMUZ-2	500.00	POOL	SHUT	1987/03/01
Jordan	JRTR	5,000.00	TANK IN POOL	PLAN	
Jordan	JSA - Jordan Subcritical Assembly	0.00	SUBCRIT	CONS	
Libya	IRT-1	10,000.00	POOL, IRT	OPER	1981/08/28
Libya	Tajura Critical Stand	0.00	CRIT	OPER	1981/08/28
Morocco	MA-R1	2,000.00	TRIGA MARK II	OPER	2007/05/02
Syrian Arab Republic	SRR-1	30.00	MNSR	OPER	1996/03/04

