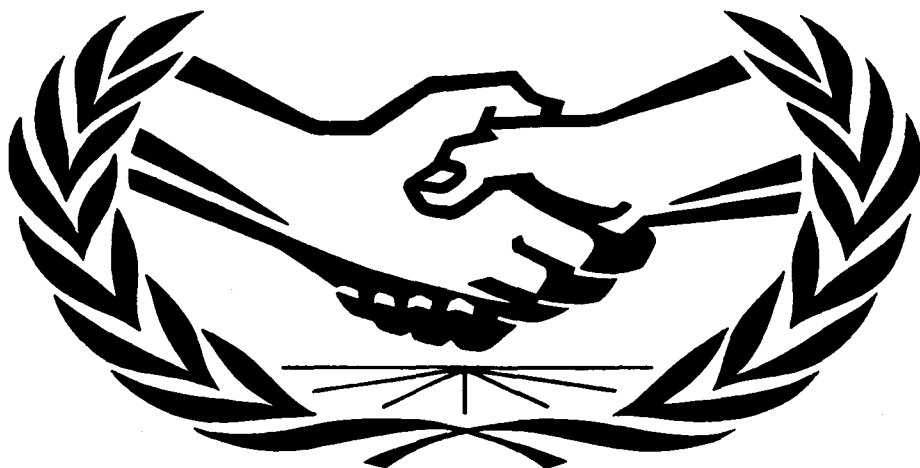


INTERNATIONAL ATOMIC ENERGY AGENCY



THE  
ATOM  
IN  
INTERNATIONAL  
CO-OPERATION

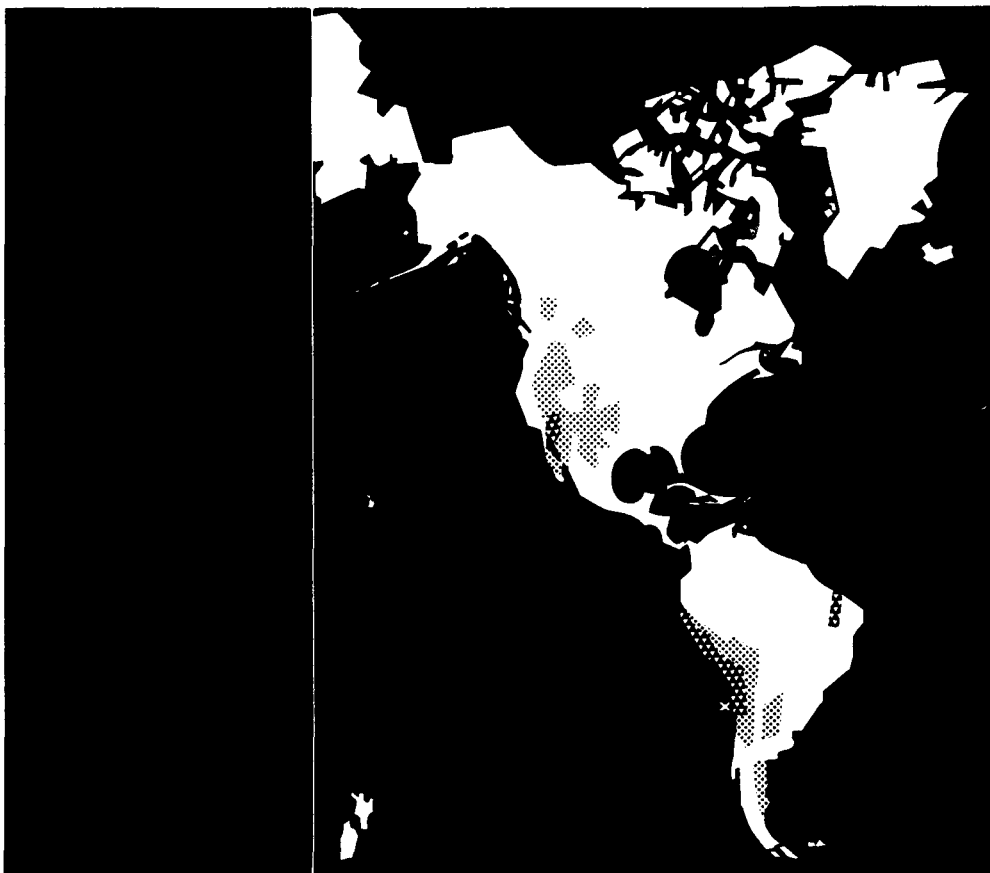
PEACE AND PROGRESS



THROUGH CO-OPERATION

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THE UNITED NATIONS INTERNATIONAL  
CO-OPERATION YEAR

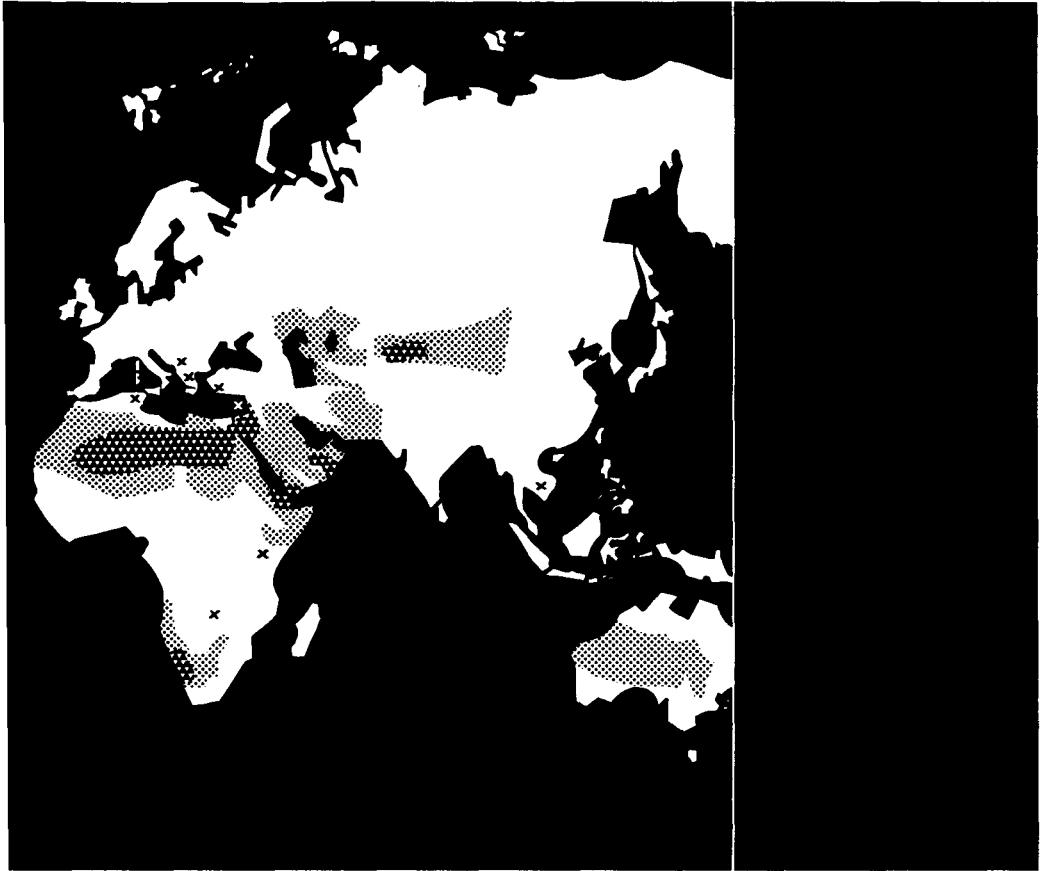


Two-thirds of the earth's surface is arid (shown in black) or semi arid (shaded).

## THE WORLD NEEDS WATER

Nuclear power could be used in large dual-purpose plants to desalt water and produce electricity. IAEA has a team of experts at work on this question.

President Johnson describes the Agency as a "focal point" for international cooperation in this field. Under a cooperation agreement between USA and USSR, IAEA is to receive copies of documents exchanged and to participate in scientific meetings.



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## ISOTOPES AND WATER RESOURCES

Radioisotopes are being extensively used to solve problems of water supply and circulation.

The map shows some places where Agency scientists have carried out field-work leading to better use of water resources.



## ISOTOPES AND WATER RESOURCES

The Agency helps Member States to make the best use of their water resources.

It carries out analyses, supplies technical information and expert advice, and has also provided equipment and awarded research contracts.

IAEA is collaborating with the World Meteorological Organization, national institutions, and over 100 collecting stations, in a world-wide survey of the concentration of oxygen and hydrogen isotopes in rainwater. The results can help to solve local problems of water supply.

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Agency scientists do field work on such problems as inter-connections between water bodies, flow of streams, and the direction, speed of flow and age of groundwater.





## THE WORLD NEEDS POWER

Nuclear Power can Fill the Need.

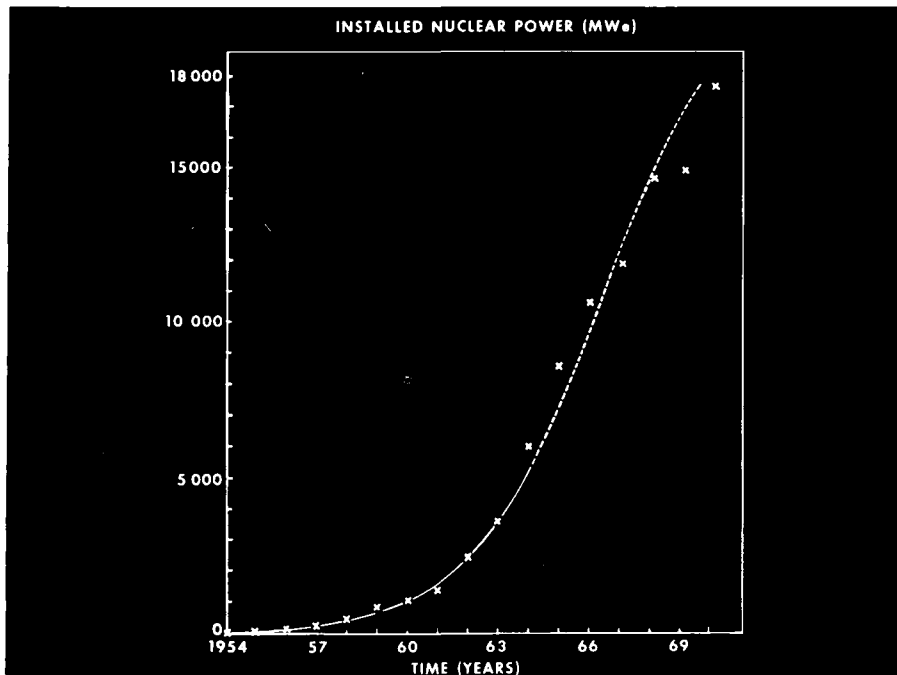
The IAEA helps countries to determine whether they should use nuclear power and to plan its introduction.

The Agency -

- Has assisted such countries as Finland, Republic of Korea, Pakistan, the Philippines and Thailand to make preliminary assessments of nuclear power.
- Provides technical advice on siting, design and specifications, and safety of nuclear power plants. IAEA teams have helped Pakistan, the Philippines and UAR in this way.
- Has helped Pakistan to evaluate tenders for a nuclear power station.
- Is carrying out a United Nations Special Fund study on nuclear power in the Philippines.
- Advises on safe operation of nuclear plants.

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Nuclear Power Reactors in the World and their Output.





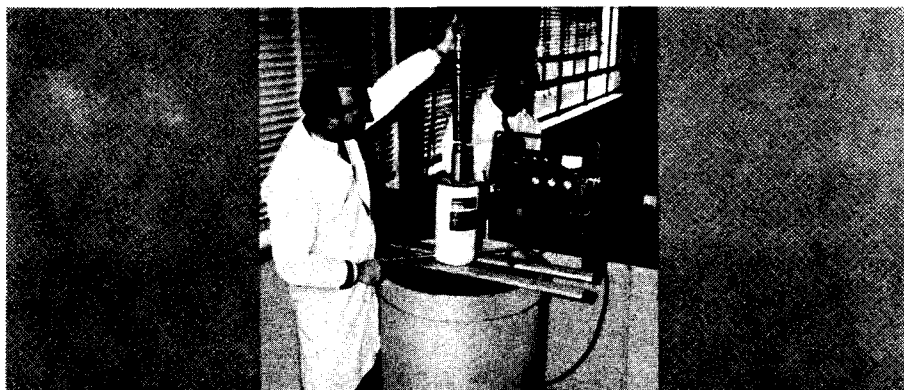
## ISOTOPES IN AGRICULTURE

Isotopes can help in so many ways to improve the world's food supplies that IAEA and the UN Food and Agriculture Organization have formed a Joint Division of Atomic Energy in Agriculture.

This is promoting the use of isotopes and radiation in developing better methods of cultivation, better strains of livestock and plants, and in combating diseases and insect pests.

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In Lebanon, an IAEA visiting expert calibrating equipment used for measuring soil moisture.



IAEA is helping to establish methods of eradicating such insect pests as the olive fly, Mediterranean fruit fly and leopard moth, by means of radiation. Possibilities are being studied for other insects such as the tsetse fly, carrier of sleeping sickness.





## THE INTERNATIONAL CO-OPERATION YEAR



■ Rice ○ Maize

Measuring uptake of fertilizer in rice plants by means of radioisotopes.

Burma, Ceylon, China (Taiwan), Hungary, India, Italy, Republic of Korea, Madagascar, Pakistan, the Philippines, Thailand, and UAR collaborate with IAEA in a joint programme on rice cultivation.

Argentina, Brazil, Colombia, Mexico, Peru and Romania are participating in a similar programme for maize.





## ISOTOPES IN MEDICINE

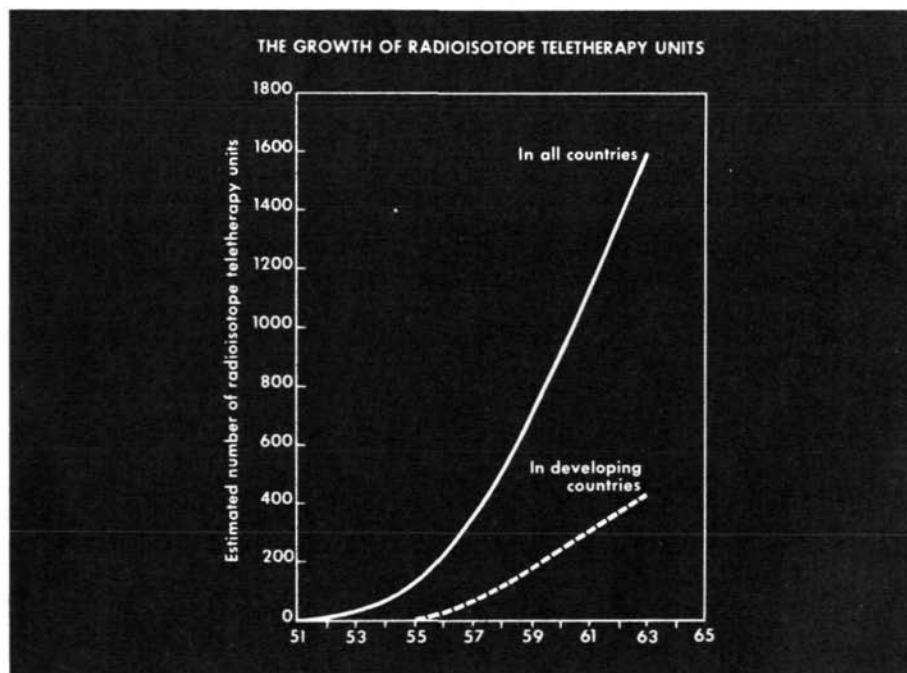
Working in close collaboration with the World Health Organization, IAEA promotes the use of radioisotopes for medical diagnosis, treatment and research, by means of training courses and fellowships, technical information, expert services and equipment, and research.

For example, 34 institutions in 29 countries are taking part in a programme using isotopes to study tropical diseases such as hydatid cyst and hookworm.

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Radioactive cobalt provides a convenient means of treating disease by radiation. In recent years the number of cobalt units has increased rapidly throughout the world.

IAEA helps developing countries in the installation and use of this equipment. It provides guidance on the radiation dose to be administered and sends doctors to advise on the use of the equipment.







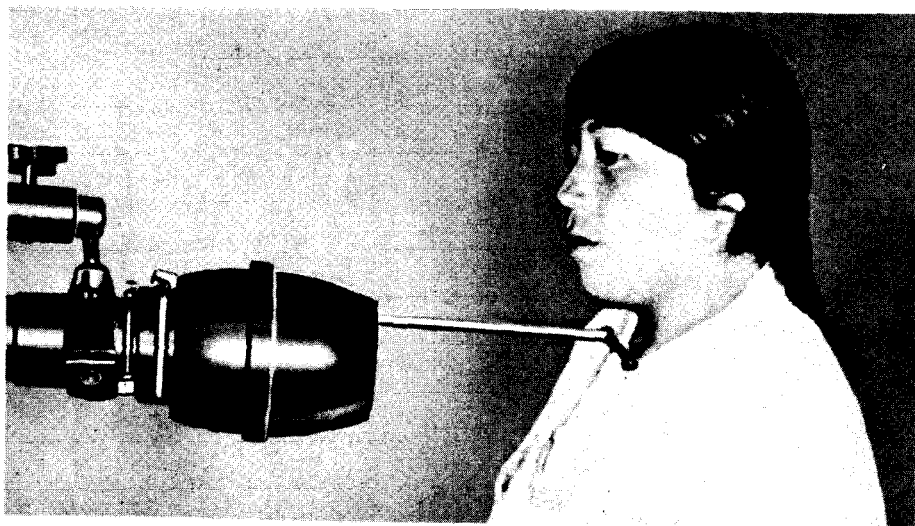
## THE INTERNATIONAL CO-OPERATION YEAR



IAEA has established uniform standards for calibrating the equipment used and for making the measurements. Agency experts have visited 183 institutions in 40 countries to do this.

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Measuring the uptake of radioactive iodine by the thyroid gland.





## TECHNICAL ASSISTANCE

Thirty-seven countries are receiving technical assistance in 1965, provided out of the Agency's own resources.

The main fields covered:

- Radioisotope production ■ Use of isotopes in medicine, agriculture, hydrology
  - Reactor physics, engineering ■ Reactor operation and use
  - Nuclear chemistry ■ Radiochemistry ■ Radiogenetics
  - Radiation physics ■ Solid-state physics
  - Nuclear electronics ■ Instrumentation
  - Food preservation
  - Health physics ■ Radiation protection
  - Raw Material prospecting and analysis
- 





## THE INTERNATIONAL CO-OPERATION YEAR

In 1964, IAEA provided technical assistance to a value of approximately \$3 million.

360 Agency fellowships were awarded in 59 countries.

27 visiting professors were sent to 16 countries.

Nine training courses were arranged, for 158 participants, in Ceylon, Israel, Denmark, Japan, Poland, Brazil, the Philippines, Austria and India.

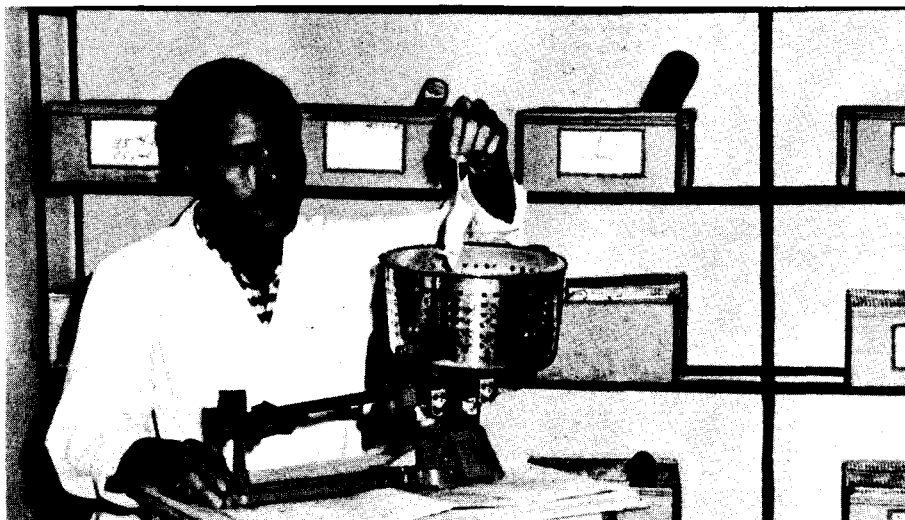
49 Agency experts worked in 25 countries.

IAEA supplied equipment to the value of \$611 000.

It awarded 56 research contracts worth \$382 480, and renewed 76 contracts worth \$389 173.

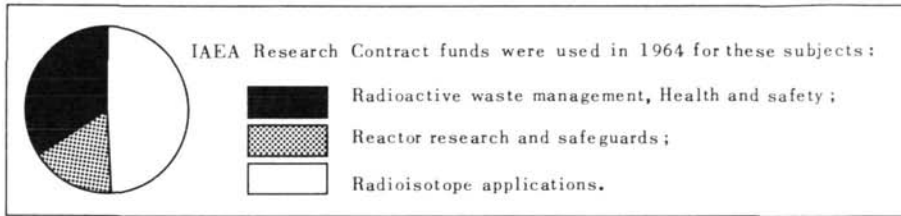
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Carrying out research on the biological effects of radiation at the Philippine Atomic Energy Research Centre, under an IAEA Technical Assistance project.





## THE INTERNATIONAL CO-OPERATION YEAR



The Agency's International Centre for Theoretical Physics at Trieste, Italy, devotes special attention to the needs of developing countries. An Advanced School for Theoretical Physics provides graduate training.

INFORMATION: IAEA arranges many scientific conferences and advisory meetings of specialists. It was responsible for the scientific side of the 1964 Geneva Conference on the Peaceful Uses of Atomic Energy. The Agency publishes numerous scientific and technical reports, and is an international clearing-house for atomic energy information.

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IAEA students from Cyprus, Nigeria and Turkey receive instruction at the Radioisotope Centre in Israel.

