GOVERNMENT OF
THE STATE OF ISRAEL

IAEA

INTERNATIONAL ATOMIC
ENERGY AGENCY

COUNTRY

PROGRAMME FRAMEWORK

2006 – 2010

On behalf of the Government:

19 September 2006

Israel Michaeli
Ambassador
Resident Representative of Israel to the IAEA

Date

On behalf of the International Atomic Energy Agency:

19 September 2006

Ana María Cetto
Deputy Director General
Head, Department of Technical Cooperation

Date

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1 INTRODUCTION

The main objective of the Country Programme Framework (CPF) document for the State of Israel (thereafter named Israel) is to identify and agree, with the International Atomic Energy Agency (thereafter named the Agency) on areas of high priority to the country for technical co-operation. It is intended to respond to the major needs of Israel, and to guide the Agency to define the end-user oriented high-impact projects which are sustainable, have strong government support and commitment, and are of a type where the Agency can make an important contribution. It is also based on further consultations within the Agency and between the Agency and Israel.

The Israeli authorities completed the initial draft of the CPF Document during an Agency's field CPF Mission from 26 to 30 June 2005 and in consultation with its members. It is based on discussions with the Israel Atomic Energy Commission (IAEC), as the main counterpart and national liaison for all TC matters with the Agency, and other relevant governmental bodies and scientific institutions.

The endorsement of the CPF Document by the relevant Government bodies and the Agency, while not being legally binding, demonstrates common commitment and shared responsibility to implement a programme of cooperation as set out in **sections 3 to 7** of the CPF Document.

ANNEX 1 describes the main objectives of the CPF Document.

2 COUNTRY PROFILE

2.1 Historical Background

Israel has been formally established on 14 May 1948 through the declaration of independence, upon the end of the 30 years' British Mandate of Palestine and according to a United Nations' General Assembly resolution 181 of 29 November 1947.

On 26 March 1979, a peace treaty was signed with Egypt. Israel and Palestinian officials signed, on 13 September 1993, a Declaration of Principles (also known as the "Oslo accords"). On 26 October 1994, a peace treaty was signed with the Hashemite Kingdom of Jordan.

Israel joined the Agency on 12 July 1957 and is a party to four multilateral agreements and an agreement with the IAEA on the application of safeguards (see **ANNEX 2**).

2.2 Geography

Long and narrow in shape, it is some 470 km in length and about 135 km across at the widest point.

Mountains and plains, fertile land and desert are often minutes apart. The width of the country, from the Mediterranean Sea in the west to the Dead Sea in the east, can be crossed by car in about 90 minutes; and the trip from Metulla, in the far north, to Eilat at the country's southern tip takes about six hours.

Israel's climate ranges from temperate to tropical, with plenty of sunshine. Two distinct seasons predominate: a rainy winter period from November to May; and a dry summer

season which extends through the next six months. Rainfall is relatively heavy in the north and center of the country, with much less in the northern Negev and almost negligible amounts in the southern areas. Regional conditions vary considerably, with humid summers and mild winters on the coast; dry summers and moderately cold winters in the hill regions, hot dry summers and pleasant winters in the Jordan Valley; and year-round semi-desert conditions in the Negev. Weather extremes range from occasional winter snowfall at higher elevations to periodic oppressively hot dry winds which send temperatures soaring, particularly in spring and autumn.

The land used for agriculture represents 552 000 ha, of which arable land totals 411 000 ha (against 141 000 ha for pasture, 2001 estimates). Only 328 200 ha of arable land are effectively used of which only 59% is being irrigated (1999 est.).

Natural resources: timber, potash, copper, phosphate rock, magnesium bromide, clays, sand, sulfur, small amount of natural gas and crude oil.

2.3 Water

Located on the edge of a desert belt, Israel has always suffered a scarcity of water. Archaeological discoveries in the Negev and other parts of the country reveal that local inhabitants thousands of years ago were already concerned with water conservation, as evidenced by a variety of systems, designed both to collect and store rainwater and transfer it from one place to another.

The total annual renewable water resources amount to some 1.7 billion cubic meters, of which about 65% is used for irrigation and the balance for urban and industrial purposes.

The country's water sources consist of the Jordan River, Lake Kinneret and a few small river systems. Natural springs and underground water tables, tapped in controlled quantities to prevent depletion and salination, are also utilized.

As maximum use has been made of all freshwater sources, ways are being developed to exploit marginal water resources through the recycling of waste water, cloud-seeding and desalination of brackish water.

To overcome regional imbalances in water availability, most of Israel's freshwater sources are joined in an integrated grid. Its central artery, the National Water Carrier, completed in 1964, brings water from the north and central regions, through a network of giant pipes, aqueducts, open canals, reservoirs, tunnels, dams and pumping stations, to the semi-arid south.

2.4 Demography

Israel is home to a widely diverse population from many ethnic, religious, cultural and social backgrounds. A new society with ancient roots, it is still coalescing and evolving today. Of its 6.6 million people (2004 data), 77% are Jews, 19% are Muslims and Christians of Arab origin and the remaining 4 percent comprise Druzes, Circassians and others not classified by religion. The society is relatively young and characterized by economic resourcefulness and cultural creativity, which contribute to its continuing development.

About 91% of Israelis live in urban areas. The average population growth rate is 1.2% (2005 est.).

About 9% of Israel's population lives in rural areas, in villages and two unique cooperative frameworks, the kibbutz and moshav, which were developed in the country in the early part of the 20th century.

2.5 Administration

Israel is a **parliamentary democrac**y. The **President** is the Head of State, elected by the Knesset (the parliament).

Israel's Declaration of Independence (1948), Supreme Court precedents and especially a series of Basic Laws are used in place of a written constitution.

Israel has declared itself a Jewish and a democratic State. The Declaration of Independence proclaims equality for all citizens, irrespective of religion, race or sex.

Legislative power lies within the **Knesset**, a unicameral **parliament** with 120 members elected for a four-year term by in general, country-wide, direct, equal, secret and proportional elections.

The executive authority is the **central governmen**t, led by cabinet of ministers under the leadership of the Prime Minister. The Cabinet is selected by the Prime Minister and approved by the Knesset.

The **judicial system is** independent and consists of general law courts (in three judicial levels, including the Supreme Court) and other authorities with restricted judicial powers (such as Labour, Military and Religious courts). The Supreme Court also sits as the High Court of Justice. The President of the Supreme Court is the head of the entire judicial system. All citizens are entitled to a hearing and legal representation. Judges enjoy both substantive and personal independence. Judges are nominated by a nine-members Judicial Selection Committee on an apolitical and permanent basis.

2.6 National Nuclear Authority

The Israel Atomic Energy Commission (IAEC) was established on 13 June 1952. The IAEC is headed by a Director General who reports directly to the Prime Minister.

The Prime Minister is the Chairman of the IAEC. The IAEC operates two nuclear centers: Soreq Nuclear Research Centre (Soreq NRC, established in 1958) and the Nuclear Research Center Negev (NRCN, established in 1959).

The IAEC advises the Government on all matters related to nuclear research and development, determining policy and priorities in this field, implementing policies outlined by the government and representing Israel in national and international institutions dealing with nuclear issues such as the IAEA and the CTBTO.

2.7 Economy

Israel has a technologically advanced market economy with substantial government participation.

It depends on imports of crude oil, grains, raw materials, and military equipment. Despite limited natural resources, Israel has intensively developed its agricultural and industrial sectors over the past 20 years. Israel imports substantial quantities of grain, but is largely self-sufficient in other agricultural products. Cut diamonds, high-technology equipment, and agricultural products (fruits and vegetables) are the leading exports.

Israel has been internationally acclaimed throughout the years, in particular for its extraordinary achievements in agriculture, irrigation, and various high-tech industries and electronic start-ups. Free trade agreements with Europe (EU and EFTA) and the United States during the past two decades facilitated Israel's expanding exports of goods and services (which exceeded $42 billion in 2003), as well as its participation in international business enterprises (which contributed to the country's accelerated growth during most of the 1990s).

A considerable part of the government's external debt is owed to the USA, which is Israel's major source of economic and military aid.

The international situation in the Middle East and the difficulties in the high-technology market, led to small declines in GDP in 2001 and 2002. The economy grew at 1% in 2003, with improvements in tourism and foreign direct investment. In 2004, rising business and consumer confidence - as well as higher demand for Israeli exports boosted GDP by 3.9% (GDP per capita $20 800, 2004 est.).

2.8 Energy and Energy Policy

Although Israel favors privatization of state-owned companies, the energy sector remains largely nationalized and state-regulated. The Ministry of National Infrastructures is the national authority responsible for the national energy infrastructure.

Until a recent significant offshore natural gas discovery, Israel has had essentially no commercial fossil fuel resources of its own, and had to depend almost exclusively on imports to meet its energy needs. Israel has attempted to diversify its supply sources and to utilize alternatives like solar and wind energy.

2.8.1 OIL

Israel's energy economy is based on imported fossil fuels, especially crude oil. In recent years, Israel has stepped up its imports from Russia and the Caspian region (Kazakhstan, Turkmenistan, etc.) and now gets a majority of its oil from the former Soviet Union.

Two major refineries, both owned and operated by Israel's Oil Refineries Ltd. (ORL) and located at Haifa and Ashdod, meet all of Israel's demand for refined oil products.

2.8.2 NATURAL GAS

Israel expects to increase the use of natural gas especially for electricity generation, currently dominated by coal-fired plants for energy security, economic, and environmental reasons, and has been looking at various options in recent years.

Over the past three years, several energy companies have discovered significant amounts of natural gas off the coast of Israel. Initial estimates of 3-5 trillion cubic feet (Tcf) in proven reserves would be enough potentially to supply Israeli demand for years, even without natural gas imports.

2.8.3 COAL

Israel meets approximately 32% of its energy demand requirements from coal (primarily for electric power generation). The National Coal Supply Corporation (NCSC), a largely government-owned company (74% of the shares) established in 1981, is solely responsible for securing the country's coal imports.

Growth in Israel's coal demand (and imports) is being driven mainly by rapid growth in electricity demand. A new coal terminal opened at Ashkelon in 2000 to handle coal imports for Israel's two coal-fired power plants located there.

2.8.4 ELECTRICITY GENERATION

Israel has about 9.7 gigawatts (GW) of installed electric generating capacity (at 20 power stations, including 7 major thermal plants) (2002 est.). Nearly 70% of this is accounted for by coal-fired plants, 25% by fuel oil-fired units, and the remainder by gasoil and independent power producers (IPPs).

The country also is a world leader in solar technology research, and relies heavily on solar energy for water heating (around 80% of Israeli homes have solar water heaters).

The Israel Electricity Company (IEC) is converting its oil and diesel-fired generators to natural gas, and expects to generate 40% of its electricity from gas by 2007.

Besides fossil fuels, Israel considers expanding the utilization of other indigenous options, such as solar power to generate electricity. In early 2002, the IEC approved the construction of Israel's first solar power station, a 100 MW plant to be built in the Dimona area of the Negev Desert.

At the present time, Israel has no nuclear power plants. However in 2002, the Ministry of Infrastructure announced that it was proceeding with plans to study construction of a 1 200 MW nuclear plant at Shivta, in the Negev Desert. The Ministry has set 2020 as a target date for the plant.

Israel and Jordan held talks in October 1999 regarding possible cooperation on a shale-oil-fired plant. The two countries also have talked about linking their power grids and have discussed several proposed joint power stations, including a 1 000 MW plant to be located on the two countries' border, a 100 MW wind farm, a 150 MW solar thermal plant in the southern Arava desert near Eilat, and an 800 MW plant in Jordan that would supply power to Israel.

2.9 Environment Protection

Rapid population growth and steady expansion of agriculture and industry have contributed to environmental problems, especially in the coastal area where more than half of Israel's population and most of its industry are concentrated. To combat pollution Israel has adopted a multifaceted program of inspection, legislation, enforcement, and international cooperation, including within the framework of the Mediterranean Action Plan. Israel has ratified the 1976 “Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution” and its related protocols.

With regard to hazardous substances, including radioactive materials, Israel has promulgated a policy of "cradle to grave" management that is based on licensing, regulation and supervision over all aspects of their production, use, disposal and treatment. Israel has adopted international standards in this area, including the IAEA Code of Conduct on the Safety and Security of Radioactive Sources. Enforcement of legislation, implementation of a national contingency plan for integrated emergency response to accidents, and remediation and upgrading of the national site for hazardous waste should minimize potential dangers to health and the environment. The Ministry of Environment is the national competent authority in this area.

2.10 Agriculture

Agriculture in Israel is largely shaped by: (i) the Negev Desert accounting for some 50% of Israel's national area, (ii) the very limited area of pastures and (iii) the high dependence on water in order to utilize the arable land.

Government support to the agricultural sector amounted in 2000 to $169.7 million. This figure represented 5% of agricultural production value. The long-term trend in Government policy is towards a sharp decline in the overall subsidies to the sector. The two most important items, which represent public support to the sector, are: the development budget, which assists farmers in investing in production assets and the use of water. The share of agriculture in GDP varies around 1.6 to 2.0% reflecting the growing constraints of water supply to agriculture and the fast development of high-tech industries.

Shortage of water, a relatively small local market and high technological level of agricultural know-how enable the sector to change the crop structure toward high added value commodities, mostly directed to export.

2.10.1 STRUCTURE OF THE AGRICULTURAL SECTOR

The cooperative sector plays a dominant role in the organizational structure of the Israeli rural areas. Most of the manpower living in rural areas is not employed in agriculture but is engaged in industrial activities or services. The two main forms of cooperative settlements are the kibbutz and the moshav. The kibbutz is a distinct socio-economic entity based on cooperative principles. The members of a kibbutz own collectively the means of production and share social, cultural and economic activities. The moshav is a village of some 60 to 100 family farms. Each family maintains its own household and earns its income from what it produces, while at the same time, belonging to the moshav's cooperative framework. Historically, the moshav was a village of private farmers who acted on the basis of individual initiative, growing mostly orchards. At present only a small number of farms are fully engaged in agriculture. The average size of a moshav farm is between 2.5 to 6 ha. The kibbutz and moshav today account for 81% of the country's fresh agricultural produce.

The Jewish non-cooperative sector includes mostly non-agricultural rural settlements, such as regional centers, rural communities as well as educational institutions. Some of them are based on the moshav settlement type.

The Arab agricultural sector is based mostly on traditional crops, such as olive orchards, vegetables; some of them for export (strawberries) as well as flowers. This sector is also an important producer of sheeps and goats.

2.10.2 AGRICULTURAL PRODUCTION

During the last decade the total value of agricultural production decreased by almost 15% at real prices. However, this development represents different changes: declining of agricultural product prices and increasing quantity of production. Some export crops, in particular citrus and cotton, suffered from a drastic reduction of prices and exported volume. In livestock products the prices received by producers were far behind the cost of living index.

The share of horticulture and field crops in the total value of agricultural production remained stable during the last ten years. This part of production is the main export supplier of Israeli agriculture. Livestock production, depending heavily on imported

grains, cannot compete efficiently on foreign markets and therefore is directed mainly to supply domestic demand.

Most horticulture crops are based on subtropical and deciduous fruits, and large selection of vegetables are grown under plastic cover or in greenhouses as well as in open areas but mainly under irrigation. However, due to water shortage, most basic grains for human and livestock consumption are imported.

The livestock products area is characterized by very intensive use of technology, resulting in very high yields. For example, average milk production has increased two and half times since the 1950s – from 3 900 liters annually to an average close to 11 000 liters per dairy cow in 1999. Poultry farming, the major supplier of meat for domestic demand, has developed under extreme variations of climate. This fact has necessitated the development of poultry breeds that are highly disease resistant.

2.10.3 EXPORT OF AGRICULTURAL COMMODITIES

Development of fresh agricultural exports started in Israel, apart from citrus, as a result of overproduction. However, due to long-term policy, farmers efforts, expansion of marketing facilities, a trend of specialization has taken place.

Israeli fresh agricultural exports are based on four groups of commodities: vegetables, fruits, including citrus, flowers and field crops. Flowers and ornamental plants production has become the most important item in the agricultural fresh exports replacing traditional citrus as a main export branch of Israeli agriculture. High levels of technology, together with direct contact with markets, mostly auctions in Netherlands and continuous adaptation of supplied products, representing new varieties, to the European consumer taste, have strengthened the position of the Israeli farmer on the international flower market.

Export of agricultural inputs is based mostly on Dead Sea minerals used as fertilizers as well as on the chemical industry of pesticides and herbicides. Both sectors represent 68% of agricultural inputs exports. Other items exported are the result of agricultural development in Israel, which has been a laboratory and testing ground for irrigation systems, agricultural equipment and know-how.

2.10.4 AGRICULTURAL RESEARCH & DEVELOPMENT

The high technological level of Israeli agriculture is attributed to the achievements of R&D activities, largely undertaken by the public sector. In 2000 the overall expenditure for R&D amounted to $69.4 million. The Ministry of Agriculture and Rural Development plays in this area a dominant role through the responsibility for the Agricultural Research Organization (ARO), the most important complex of agricultural research institutes in the country. Government expenditure for R&D activities coming via the Ministry of Agriculture and Rural Development represents 64.1% of the total budget for this purpose. The remaining funding come from various institutions and is based mostly on bi-national agreements, which aim to develop R&D activities of mutual interest to two countries that established the fund. In addition, farmers, through their professional organizations and marketing boards participate in financing agriculture research (in 2000, they contributed $16.2 million to the overall expenditure for this activity (24% of total)). The share of R&D in the agricultural GDP increased from 3.3% in 1986 to 4.6% in 2000.

The objectives of the research and development activities are defined as follows:

- Increasing an efficient use of water and the use of effluents,
- Water recycling,
- Restraining the use of chemicals and environmental protection,
- Promoting organic agriculture,
- Developing equipment and machinery in order to limit the need for seasonal workers,
- Development of new crops for local and exports markets,
- Improving the quality of agricultural products.

2.11 Science and Technology

Since its establishment, Israel has strived to nurture science, technology, and academic studies. Israel's economic achievements depend upon, to a large extent, the available scientific and technological potential. More than half of all of Israel's exports are the result of the increasing growth of the high-tech industry.

In the last years, the following factors have played a significant role in placing Israel in the forefront of science and technology worldwide.

Investment in R&D – In the last decade Israel has numbered among the leading countries in the world in terms of the rate of investment in civilian R&D in relation to the GDP, with expenditure for civilian R&D as high as 4% of its GDP.

Investment in education and learning – Large resources are directed by Israel towards education, higher education and manpower training.

Immigration – In the 1990's Israel received a massive immigration from the former Soviet Union, characterized by a wealth of human potential, which contributed greatly to the development of science, research and economic growth.

Technological innovation and globalization – These additional processes taking place on a worldwide scale especially influence small countries like Israel.

The peace process – The peace process contributes to opening up new markets to Israeli products and to a significant increase in investment in Israel.

2.11.1 NATIONAL SCIENTIFIC GOALS

On the basis of the above, the national scientific goals have been set-up by the Ministry of Science of Technology as follow:

- Establishment of a new infrastructure research program in nano-technologies, biotechnology, preservation of vegetal gene resource, agriculture, etc.
- Strengthening Israel's position in the aviation field.
- Incorporating Israeli scientific entities within International scientific frameworks.
- Intensifying research on homeland security.
- Broadening of a wide-band national network for research, culture and public services.

- Coordination of all government research activities and follow-up on the distribution of national investments in research & development.
- Familiarization with science and technology within the development areas and promotion of science and technology within the minorities section.

2.12 Higher Education

Higher education plays a pivotal role in the economic and social development of the country. Almost a quarter of a century before the state came into being, the Technion - Israel Institute of Technology in Haifa was opened (1924) to train engineers and architects and the Hebrew University of Jerusalem was founded (1925) as a center of higher learning for youth in the Land of Israel and to attract Jewish students and scholars from abroad. When Israel attained independence (1948), enrollment at the two universities totaled about 1,600. In 2002-2003 some 258 000 students attended the country's institutions of higher learning. Of these, 47 percent attend universities and 39% are enrolled in colleges, while 14% participate in courses through the Open University. Other Israeli higher education institutions include: Weizman Institute of Science (established in 1934), Bar Ilan University established in 1955), Tel Aviv University (established in 1956), Haifa University (est. established in 1963), Ben Gurion University in Negev (established in 1967, it operates the only faculty of nuclear engineering in Israel). There are also regional colleges that offer academic courses under the auspices of one of the universities. The Open University (established in 1974), patterned on the British model, offers distinctive, non-traditional higher education opportunities towards a bachelor's degree.

In addition, specialized institutes provide various disciplines in art, nursing, rehabilitation therapies, teaching and sports. Several private degree-granting colleges offer subjects in great demand such as business administration, law, computers, economics and related topics. At some, additional tracks are available, leading to certificates or vocational diplomas in a variety of subjects ranging from technology and agriculture to marketing and hotel trades.

2.13 Health Sector

Israel has a well-developed infrastructure of medical and paramedical services, as well as research and bioengineering capacities. The health-care system provides extensive medical coverage through a network including hospitals, clinics and mother-and-child care centers. The Israeli public has expected and demanded the provision of modern and progressive services to meet its needs, requiring investment in sophisticated equipment as well as research and professional expertise, in order to remain up-to-date with leading international standards. The result of this has been an ongoing rise in health expenditures. In 2002, the total health expenditures amounted to 8.8% of the GDP. National health care system

The National Health Insurance Law, in effect since January 1995, sets forth the state's responsibility to provide health services for all residents of the country. Until the introduction of this law, the majority of residents had been insured by one of four comprehensive Health-Maintenance Organizations (HMOs). The law stipulates that a standardized and comprehensive range of medical services (including hospitalization), continues to be supplied by those HMOs.

The Ministry of Health supervises the equality and availability of the medical services supplied by the HMOs, who are also required to submit quarterly financial statements which are open to public scrutiny.

2.13.1 BIOTECHNOLOGY AND PHARMACEUTICALS

One of the contributing factors to Israel's success in the biotech business is Israel's high level of education and academic research (i.e. almost 60% of academic publications are in bio and clinical medicine and related fields). The biotechnology sector currently employs more than 5 000 people, the majority of whom have a university degree.

Research is carried out at seven universities, five colleges, ten specialized institutes and major hospitals, hosting over 800 life sciences research projects. Two Israeli universities – the Hebrew University and the Weitzmann Institute - are among the top ten universities both in number of registered patents a year and in turnover from commercialising patents.

Israeli medical supply companies have established a reputation for manufacturing and exporting high-quality products to markets that adhere to the highest medical standards. Within the last decade the Israeli biotechnology sector has emerged and grown impressively, with the number of companies increasing at a rate of 17% per year. Israel is one of 12 nations with the greatest number of biotech companies in the world.

In the field of radiopharmaceuticals, the Soreq Nuclear Research Centre operates a radiopharmaceuticals division that manufactures and distributes nuclear medicine products for diagnostics (imaging, cardiology) and therapy.

2.13.2 THE ISRAEL NATIONAL CANCER REGISTRY

With about 22,000 cases of cancer in 2002, combating cancer is a major priority of the Ministry of Health. As early as 1960, the Israel National Cancer Registry (IRNC) was established, with notification becoming mandatory as from 1982. The objectives of the INRC are:

- To keep a dynamic national database for cancer incidence and mortality,
- To provide information regarding incidence, mortality and survival,
- To support health policy,
- To participate in the evaluation of technologies, treatment and medical research.

Israel is the host country of the Middle East Cancer Consortium (MECC) that was established in May 1996 through an official agreement of the Ministries of Health of Cyprus, Egypt, Israel, Jordan, and the Palestinian Authority. The objective of the MECC is to reduce the incidence and impact of cancer in the Middle East through the solicitation and support of collaborative research. Since its inception, MECC's major activities have been the Cancer Registry Project (CRP). MECC has also been involved with training and postgraduate programmes for medical and nursing staff in the fields of medical oncology and radiotherapy. The CRP aims to support population-based cancer registries within MECC members and develop linkages among them (see above). The Small Grants Programme enables clinicians and scientists within MECC signatories to submit research proposals for funding. All proposals are peer-reviewed for their scientific merit and must involve collaboration between more than one participating MECC members.

2.13.3 RADIOTHERAPY AND SAFETY OF PATIENTS

Israel is characterized by a rapid adoption of advanced medical developments such as nuclear technologies for diagnosis and treatment. There are 6 radiotherapy centers treating patients from Israel and from the territories under the jurisdiction of the Palestinian Authority. Approximately 2 000 000 diagnostic X-Ray procedures are conducted annually (2003), including 1 000 000 Chest X-Rays, 600 000 CT exams and thousands of invasive procedures involving radiation. This increased reliance on advanced technologies has resulted in growing exposure to radiation, and calls for enhancing the safety of patients and medical staffs.

In recent years the issue of patients' safety has become a focus of increasing public, media and political interest. As a result, in 2004 the MoH has initiated a program to upgrade the national infrastructure for the safety of patients. Specifically, Israel has expressed its interest in focusing on training of personnel and renewing pertinent equipment in the area of radiation medicine and radiation safety.

2.14 International Development Cooperation and Assistance

Israel's official overseas development cooperation was launched in 1958 with the aim of sharing with the rest of the developing world the know-how and technologies which provided the basis for Israel's own rapid development. MASHAV, the Hebrew acronym for the Center for International Cooperation, was established as a division of the Ministry of Foreign Affairs. What started as a modest program focused on grassroots-level human capacity building at a time when Israel itself was still very much a developing country, has blossomed into an extensive program of cooperation throughout the developing world with the aim of promoting sustainable development and social equity.

Since 1958, MASHAV – the Center for International Cooperation of the Foreign Ministry of Israel - has trained almost 200 000 course participants from approximately 140 countries in Israel and abroad and has developed dozens of demonstration projects worldwide in fields of Israeli expertise.

Over the years, MASHAV has consistently made its priority the aims of poverty alleviation, provision of food security, empowerment of women and upgrade of basic health and education services, putting Israel's own creative solutions at the disposal of the developing world. The formalization of these priorities in the Millennium Development Goals has only caused MASHAV to redouble Israel longstanding efforts to put Israeli solutions at the service of the developing world in order to further these aims.

In addition, Israel has declared that it stands ready to cooperate with neighboring countries and with the Palestinians in areas relevant to the IAEA TC program, such as radiation protection, nuclear medicine and agriculture.

3 OVERVIEW OF PAST TC ACTIVITIES

3.1 Assistance Received

The Agency's Technical Co-operation programme with Israel over the years covered a spectrum of subjects (see **ANNEX 3**). In the years 1976 to 2004, 29 national TC projects

have been implemented covering mainly: Application of Isotopes & Radiation in Food & Agriculture, Radiation Medicine & Health, Nuclear Chemistry & Radiochemistry, Nuclear & Radiation Safety & Nuclear Security, Nuclear & Atomic Physics, and Nuclear Engineering & Technology. During that period, and in addition to TC support in terms of equipment, expertise and training, extra budgetary resources were allocated from US funds to projects dealing with the Sterile Insect Technique against the Mediterranean Fruit Fly for an amount of $738 600. Along those years, Israel provided in-kind contribution amounting to $51 200.

A review of the most relevant achievements through the support of TC projects during this period is provided in the following sections.

3.1.1 APPLICATION OF ISOTOPES AND RADIATION IN FOOD AND AGRICULTURE

The Sterile Insect Technique-based area-wide medfly control programme was set-up by the Plant Protection Department and Inspection Services of the Ministry of Agriculture in cooperation with the Israel Cohen Institute for Biological Control and the Arava Medfly Eradication Programme. A feasibility study done with the support of the Agency concluded positively for the use of the SIT against the medfly in the Arava Valley, in conjunction with the Jordanian side of the valley. As from 1998, SIT-based control operations of the medfly were implemented in the Arava/Araba Valley, in collaboration with Jordanian authorities with, as from 2001, extra-budgetary support from the USA. The results obtained have encouraged the Israeli Government to support the extension of these activities to the northern part of the country, and the private sector to establish a commercial medfly rearing facility in Kibbutz Sde Eliyahu in the Bet She'an region. These efforts are presently supported through projects ISR5010 and ISR5011 (see **section 4**).

3.1.2 RADIATION MEDICINE AND HEALTH

In 1979, the Department of Oncology at the Rambam Medical Center was equipped with a Gamma camera that allowed studies of cerebral blood flow in cancer patients. As from 2000, the Department was supported for the implementation of a national quality assurance programme in radiotherapy in conformity with the guidelines of the European Organization for Research and Treatment of Cancer. The Department is presently supported through project ISR6013 (see **section 4**).

As from 1997, the Department of Nuclear Medicine of the Chaim Sheba Medical Centre was assisted in setting up facilities for a semi-quantitative evaluation of the acquired brain perfusion single-photon emission computed tomography (SPECT) scans. The Department acquired increased capability to perform the realignment of brain perfusion scans done at different times, as well as with the scans done with other morphological techniques such as MRI and CT. This capability to realign and superimpose the results of different studies done on a patient with brain injuries has been extremely useful and has increased the overall performance of the diagnosis as well as its accuracy.

The Institute of Oncology of the Soroka University Medical Center and the Rabin Medical Center were supported for the introduction of new equipment for quality assurance in 3D conformal radiotherapy and the implementation of a routine in vivo dosimetry programme.

3.1.3 NUCLEAR CHEMISTRY AND RADIOCHEMISTRY

The Hadassah Medical Organization and, to a lesser extent, the Radiopharmaceutical Section of the Soreq Nuclear Research Center, were supported in various aspects related to the production and the quality control procedures of radiopharmaceuticals.

The Racah Institute of Physics received assistance that improved the detection capabilities for trace elements in environmental samples.

3.1.4 NUCLEAR AND RADIATION SAFETY AND NUCLEAR SECURITY

This field of activity received support through technical co-operation from as early as 1977. Through advice on safe location of a potential nuclear power plant, upgrading of radiation spectrometry laboratory, setting quality assurance programme, improving safety procedures of nuclear installations and radiation protection in medical exposure, the IAEC has acquired knowledge and capabilities in this complex field.

3.1.5 NUCLEAR AND ATOMIC PHYSICS

As from 1977, assistance was provided to strengthen the capabilities of the two cooperating laboratories that formed the Israeli Secondary Standard Dosimetry Laboratory i.e. the IAEC and the Research Institute for Environmental Health.

3.1.6 NUCLEAR ENGINEERING AND TECHNOLOGY

Though ample knowledge was already available in Israel, two projects implemented in the late seventies by the IAEC and the Israel Institute of Technology aimed at gaining expertise in research reactor modification and safety.

3.2 Israel as a Donor

See **section 2.14**.

4 CURRENT TC PROGRAMME (2005-2006)

The national technical co-operation programme approved by the Agency for Israel for the current cycle (2005-2006) comprises two projects with a total hard-core budget for three years of around $349 000 (see **ANNEX 4**). The following projects are included in the programme:

- **"Strengthening the Capacity for the Area-wide Control of the Mediterranean Fruit Fly Using the Sterile Insect Technique" (ISR5011).** This project builds upon the present project to be closed in 2006 (see below) and it aims at expanding the area-wide suppression of the Mediterranean fruit fly by supporting the establishment of national sterile insect emergence and rearing facilities. It is expected that the sustainable, long-term and cost-effective use of the SIT as part of an integrated approach to suppress medfly will result in a significant decrease of pesticide use and the recurrent pesticide residue problem allowing production and exports of low pesticide commodities.
- **"Establishing a National Dosimetry Service for Radiotherapy Audits" (ISR6015).** This project aims at establishing a national quality assurance programme for radiotherapy dosimetry with the focus on dosimetry audits of radiotherapy beam calibration using thermo-luminescence dosimeters (TLDs). It is expected that, through the establishment of a national dosimetry service for

radiotherapy TLD audits, the Israeli radiotherapy centers will comply with the international dosimetry standards. This should result in a more accurate dose delivery to patients undertaking radiotherapy treatment in Israel.

In addition there are two national projects from the previous cycle that are to be completed in 2006:

- **"Upgrading the Area-Wide Control of the Mediterranean Fruit Fly Using the Sterile Insect Technique" (ISR5010).** This project builds upon project ISR5009 and was designed to maintain the Arava Valley free from the Mediterranean fruit fly and to expand the use of SIT to Western Negev. This project has been successful (see **section 3.1.1**) and it is expected to be closed in December 2006 when the USAID support will cease.
- **"Quality Assurance in the Use of Advanced Techniques for Radiotherapy" (ISR6014).** This project aims at developing and implementing a quality assurance (QA) programme for intensity-modulated radiation therapy (IMRT) and fractionated stereotactic radiotherapy (FSR). This project should result in the adoption and regular use of a QA programme for the advanced techniques of treatments to be provided with a new accelerator facility at Rambam Medical Center. Therefore it is expected that a substantial improvement will be achieved in both quality and quantity in the treatment of cancer patients at the Department of Oncology at the center.

In addition to its national projects, Israel is also registered as participating to regional and interregional TC projects aiming mainly at human resource development, pre-project assistance and use of the SIT.

5 OTHER INTERNATIONAL ASSISTANCE

Israel is a member or has close co-operation with many international organizations, such as BIS, BSEC (observer), CE (observer), CERN (observer), CNGO, CPC, CSD, CTBTO, EBRD, FAO, IADB, IBRD, ICAO, ICC, ICCt (signatory), ICFTU, ICRC, IDA, IFAD, IFC, IFRCS (observer), ILO, IMF, IMO, Interpol, IOC, IOM, ISO, ITU, MIGA, OAS (observer), OPCW (signatory), OSCE (partner), PCA, UN, UNICEF, UNECE, UNCTAD, UNESCO, UNEP, UNHSP, UNITL, UNDC, UNHCR, UNIDO, UPU, WCO, WHO, WIPO, WMO, WToO, and WTO (see **ANNEX 6**), and has benefited from various technical co-operation programmes and projects.

Israel is one of the founding and active Member States of the Synchrotron-light for Experimental Science and Applications in the Middle East (SESAME) since its early days under the auspices of UNESCO in 1999 as well as now as an independent international organization.

6 FOCUS OF FUTURE TC PROGRAMME

The Government considers the use of nuclear techniques as an important component of the main national policies in fields of:

- Promoting the safe use of radioactive materials in medicine, science, industry and agriculture:

  - Upgrading the national radiation dosimetry services and radiation exposure control
  - Strengthening QA in application of radiotherapy and imaging in medicine
  - Enhancing QA in production of radioisotopes for medicine (therapy and imaging)
- Developing and enhancing human resources in the area of radiation applications in medicine, industry, science and agriculture (education, training, knowledge management);
- Expanding the application of radioisotopes in agriculture;
- Upgrading the nuclear medicine infrastructure;
- Advancing national capabilities in the area of nuclear science and engineering;
- Improving and strengthening the security of radioactive sources in medicine, industry, science and agriculture;
- Promoting the application of radioisotopes in environmental protection.

7 PROPOSED PROJECT CONCEPTS FOR THE NEXT CYCLES

The areas identified under **section 6** illustrate the main needs and priorities of Israel and provide a comprehensive background for possible technical cooperation. These priorities must be considered over two to three programming cycles, within the implementation constraints and the existing financial possibilities available to the programme. Therefore the identification, formulation and selection of specific projects will be made using the evaluation and appraisal mechanisms of the Agency, taking into account the policy for consolidation of funds, importance of "fewer but better" TC projects, and considering that some of the areas highlighted above shall continue to be addressed under the regional programme. Endorsement of projects will follow relevant technical consultations and discussions with the Agency, including technical field missions as required. The usual Agency's procedure for approval of TC projects will be followed. The spectrum and size of the TC programme for Israel strongly depends upon the availability of resources including possible extra-budgetary contributions.

On the basis of the above sections, the following have been identified as priority issues for the next TC cycles and may be developed into national TC projects subject to availability of additional funds, with the consideration given complementarily with regional projects and other assistance to the country in the mentioned fields:

7.1 Agency TC Programme Cycle 2007-2008

The following concepts were submitted for the 2007-2008 TC Cycle:

1) Upgrading the National Secondary Standards Laboratory (SSDL) – Ministry of Health & Soreq Nuclear Research Center.
2) Feasibility Study to Address the Integration of the SIT into Olive Fly Suppression Programs – Ministry of Agriculture.
3) University Undergraduate Program on Medical and Radiation Physics – Ben Gurion University, Faculty of Nuclear Engineering.

4) Feasibility Study for Using Irradiation as a Quarantine Treatment – Ministry of Agriculture.
5) Introducing the Benefits of Biodosimetry Technology to Israel – Soreq Nuclear Research Center.
6) Monitoring Mobile Radiation Sources – Ministry of Environment.

7.2 Agency TC Programme Cycle 2009-2010

In the next cycles Israel intends to focus on issues of health, safety, environment and advanced nuclear science. In particular, Israel intends to submit project concepts in the following areas:

- Upgrading the national radiation protection infrastructure (continuing the project submitted for the 2005-2006 cycle);
- Enhancing the production of radioisotopes in linear accelerators;
- Strengthening the safety and security of radioactive sources and materials, used in industry and medicine.

Additional areas and projects may be added closer to the submission deadline.

Annex 1: THE CPF DOCUMENT

The Country Programme Framework (CPF) is a concise document specifying key areas where nuclear applications play a significant role in achieving national development objectives. This is where the Agency concentrates its technical co-operation efforts and resources. It typically covers the forward period of 4 to 6 years and is prepared in close co-operation with and endorsement of the country concerned.

In order to achieve impact, a limited number of sectoral objectives are addressed to ensure that only the highest priority projects are allocated a significant financial appropriation. Particular attention is demanded to ensure that Institutes involved in the implementation are securely established with respect to infrastructure and capacity being available to service the successful and sustained execution of the project.

The final selection of projects to be funded within this framework by the Agency is the responsibility of the Department of Technical Co-operation, which considers the following aspects as central criteria for consideration during appraisal:

- The project is oriented towards an end-user
- The project responds to a major need of the country
- The project is realistic
- The project has strong government commitment for sustainability
- The project has visible socio-economic impact, and
- Nuclear technology plays a significant role

This CPF also serves to further the possibility of initiating regional projects where distinct benefits are derived from co-ordinated and co-operative activities involving typically three or more recipient Member States.

This CPF document has been prepared for the purpose of future making plans for technical co-operation between the Agency and Israel. Primarily, this document aims at providing clear communication between all stakeholders directly involved in the development priorities of the country as coupled to the management priorities and resource limitations of the Agency. The objective is to provide focus on a few areas, which are of priority to the Government and where technology available through the Agency can make a significant contribution leading to high quality projects. This will result naturally in providing priority guidelines for allocating resources when faced with requests for support.

The new strategy for technical co-operation pays a great deal of attention to the near-term and to medium-term programme, including high priority selection projects, which should meet the TC central criteria as set above.

Annex 2: MULTILATERAL AND SAFEGUARDS AGREEMENTS OF ISRAEL

Multilateral Agreements

	Title	In Force	Status
P&I	Agreement on the Privileges and Immunities of the IAEA		Non-Party
VC	Vienna Convention on Civil Liability for Nuclear Damage		Signature: 1997-08-19
VC/OP	Optional Protocol Concerning the Compulsory Settlement of Disputes		Non-Party
CPPNM	Convention on the Physical Protection of Nuclear Material	2002-02-21	Signature: 1983-06-17 ratification: 2002-01-22
NOT	Convention on Early Notification of a Nuclear Accident	1989-06-25	Signature: 1986-09-26 ratification: 1989-05-25
ASSIST	Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency	1989-06-25	Signature: 1986-09-26 ratification: 1989-05-25
JP	Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention		Non-Party
NS	Convention on Nuclear Safety		Signature: 1994-09-22
RADW	Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management		Non-Party
PVC	Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage		Non-Party
SUPP	Convention on Supplementary Compensation for Nuclear Damage		Non-Party
RSA	Revised Supplementary Agreement Concerning the Provision of Technical Assistance by the IAEA (RSA)	2000-06-16	Signature: 2000-06-16

Last updated on 2005-09-21 by OLA

Safeguards Agreements

Reg.No	Title	In Force	Status
1149	Application of safeguards	1975-04-04	Signature: 1975-04-04

Annex 3: RELEVANT NATIONAL INFRASTRUCTURE

Competent Authorities

The Israel Atomic Energy Commission (IAEC) advises the Government on all matters related to nuclear research and development, determining policy and priorities in this field, implementing policies outlined by the government and representing Israel in national and international institutions dealing with nuclear issues such as the Agency and the CTBTO. The IAEC handles the country's liaison for all IAEA activities with Israel. The IAEC operates two nuclear centers: Soreq Nuclear Research Centre (Soreq NRC, established in 1958) and the Nuclear Research Center Negev (NRCN, established in 1959).

Other relevant governmental authorities include the following Ministries:

- the Ministry of Environment is responsible for the regulation of radioactive materials in Israel
- the Ministry of Health is the national authority in the area of health, and supervises among other things the equality and availability of the medical services, including in the area of nuclear medicine
- The Ministry of Agriculture and Rural Development deals, among other things, with the utilization of nuclear technologies in agriculture
- The Ministry of National Infrastructures is the national authority responsible for the national energy infrastructure

Research Establishments and User Institutions

1) The Soreq Nuclear Research Center is an applied research and development institute operated by the Israel Atomic Energy Commission. Its principal facilities include a 5 MW research reactor, a 10 MeV proton cyclotron accelerator, sophisticated laboratories for applied research and development, as well as fully-equipped mechanical and electronic workshops.

Since its inception in 1958, Soreq has excelled in the introduction and incorporation of radiation based techniques into the infrastructure of Israel. The areas covered range from equipment for nuclear medicine and radio-pharmaceutics to non-destructive testing and development of sophisticated methods for detecting contraband and security-threat materials.

Soreq also offers radiation protection training, consulting and supervision and operates a personal dosimetry service.

Already in the 70's Soreq branched out of the nuclear field into areas as diverse as:

a. Laser physics and technology
b. Non-linear optics
c. Lidar based remote sensing of atmospheric and meteorological parameters
d. Interactions of high power lasers with matter
e. Nuclear, ultrasound and optical techniques in non-destructive testing
f. Simulating the space environment encountered at a variety of earth orbits and monitoring the quality of materials and electronic components deployed in satellites
g. Development and production of cryogenic vacuum enclosures for infra-red detectors
h. Operating a "nuclear pharmacy" for unit dose production and distribution

i. Production of FDG (radio-pharmaceutical for PET-scanning medical diagnostics)
j. Electro-thermal techniques for acceleration of projectiles into the hypervelocity range
k. Magnetic and Electro-magnetic sensing technologies

2) The Nuclear Research Center Negev (NRCN) was established in 1959 by the Israel Atomic Energy Commission as part of the national policy to develop the Negev desert. It contains a 26 MW reactor facility (IRR-2), fueled by natural uranium, heavy water cooled and moderated.
The research conducted at the NRCN is designed to broaden the basic knowledge in nuclear sciences and adjacent fields, and to provide the foundation for the practical and economic utilization of nuclear energy.
A national radioactive waste disposal site is situated at the NRCN. Radioactive waste from hospitals, research institutions, higher education facilities and factories is delivered to the site.

3) Academic institutions in Israel include the Technion - Israel Institute of Technology in Haifa, the Hebrew University of Jerusalem, Weizman Institute of Science, Bar Ilan University, Tel Aviv University, Haifa University, Ben Gurion University in Negev (which operates the only faculty of nuclear engineering in Israel). There are also regional colleges that offer academic courses under the auspices of one of the universities and the Open University, patterned on the British model, which offers distinctive, non-traditional higher education opportunities towards a bachelor's degree. In addition, specialized institutes provide various disciplines in art, nursing, rehabilitation therapies, teaching and sports. Several private degree-granting colleges offer subjects in great demand. At some, additional tracks are available, leading to certificates or vocational diplomas in a variety of subjects.

4) In the Health Sector there are 6 radiotherapy centres treating patients from Israel and from the Palestinian Authority. Approximately 2,000,000 diagnostic X-Ray procedures are conducted annually (2003), including 1,000,000 Chest X-Rays, 600,000 CT exams and thousands of invasive procedures involving radiation.

5) In the area of Agriculture, the Ministry of Agriculture and Rural Development, through the Plant Protection and Inspection Services, is responsible for utilization of nuclear technologies, including in the area of SIT (sterile insect technique).

Nuclear Power Status

There are currently no nuclear power plants operational in Israel.

Annex 4: SUMMARY OF PAST IAEA CO-OPERATION 1976-2004

List of 29 national projects completed from 1976 to 2004 *(updated on 26 Feb. 2006)*

Project Number	*Title*	*Field*	*Completed on*	*Total Budget in US$*
ISR1007	Dosimetry	1K	1977-12-19	18,831
ISR1008	Dosimetry	1K	1980-02-26	26,013
ISR1009	Secondary Standards Dosimetry Laboratory	1K	1981-09-26	61,096
ISR1010	Nuclear Techniques for Monitoring Environmental Pollution	1L	2001-08-27	49,864
ISR2009	Activation Analysis	2C	1979-06-13	0
ISR2010	Radiopharmaceuticals	2G	1978-09-28	15,168
ISR2011	Radiopharmaceutical Quality Control	2G	1981-09-26	5,447
ISR2012	Detection of Trace Level Pollutants by AMS Technique	2B 1J	1998-07-14	167,490
ISR2013	Production of Fluorinated Radiopharmaceuticals	2G	2003-03-28	167,740
ISR4006	Nuclear Detectors	4G	1977-03-21	17,154
ISR4007	Metallurgy	4E	1978-09-28	16,095
ISR4008	Research Reactor Modification	4B	1981-09-26	28,580
ISR4009	Reactor Safety Studies	4A	1981-09-26	57,382
ISR5007	Herbicides in Plants	5G	1976-10-01	18,032
ISR5009	Feasibility Study of SIT for Medfly Eradication	5D	2001-09-13	789,101
ISR6008	Nuclear Medicine	6B	1976-05-09	3,376
ISR6009	Nuclear Medicine	6F	1979-09-28	61,210
ISR6011	QA in External Beam Radiotherapy and Brachytherapy	6C	2000-12-18	112,523
ISR6012	Brain SPECT Centre for Evaluation of Post-Trauma Injuries	6B	2000-10-31	177,513
ISR6013	An Expanded Quality Assurance Programme for 3D Conformal Radiotherapy	6F	2003-03-28	81,552
ISR7003	Radiobiology	7C	1976-08-01	18,781
ISR7004	Radiopharmaceuticals Control	7E	1977-06-22	20,407
ISR7005	Nuclear Techniques in Fisheries Research	7F	1981-09-26	7,359
ISR8008	Radioisotopes in Industry	8C	1977-06-22	12,444
ISR9003	Nuclear Power Reactor Siting	9F	1981-03-09	6,180
ISR9004	Upgrading Radiation Spectrometry Laboratory	9G	1999-01-27	71,743
ISR9005	Quality Assurance Programme in Diagnostic Radiology	9C	1996-12-19	67,198
ISR9006	Improved Research Reactor Safety	9D	1999-01-27	45,518
ISR9007	Radiation Protection in Medical Exposure	9C	2000-10-31	104,678
			Total	**2,228,475**

Annex 5: THE NATIONAL ON-GOING PROGRAMME 2005-2006

List of 4 active national projects *(updated on 21 Feb. 2006)*

Project Number	*Title*	*Field*	*1st Year of Approval*	*Total Budget in US$*
ISR5010	Upgrading the Area-Wide Control of the Mediterranean Fruit Fly Using the Sterile Insect Technique	5D	2001	1,360,400
ISR5011	Strengthening the Capacity for the Area-wide Control of the Mediterranean Fruit Fly Using the Sterile Insect Technique	5D	2005	229,690
ISR6014	Quality Assurance in the Use of Advance Techniques for Radiotherapy	6F	2003	184,640
ISR6015	Establishing a National Dosimetry Service for Radiotherapy Audits	6F	2005	119,520
			Total	**1,894,250**

Annex 6: LIST OF ACRONYMS OF ORGANIZATIONS AND INSTITUTES

ARO- Agricultural Research Organization
BIS- Bank for International Settlements
BSEC - Black Sea Economic Cooperation
CERN- European Organization for Nuclear Research
CNGO - Committee on NGO's
CPC- Committee on Programme and Coordination
CRP- Cancer Registry Project
CSD - Commission on Narcotic Drugs
CTBTO- Comprehensive Test Ban Treaty Organization
EBRD- European Bank for Reconstruction and Development
ECE- Economic Commission for Europe
FAO- Food and Agriculture Organization
FSR- Fractionated Stereotactic Radiotherapy
HMO- Health-Maintenance Organizations
IADB- Inter-American Development Bank
IAEC- Israel Atomic Energy Commission
IBRD- International Bank for Reconstruction and Development
ICAO- International Civil Aviation Organization
ICC- International Chamber of Commerce
ICCt (signatory)- International Criminal Court
ICFTU- International Confederation of Free Trade Unions
ICRC- International Confederation of Red Cross
IDA- International Development Association
IEC- Israel Electricity Company
IFAD- International Fund for Agricultural Development
IFC- International Finance Corporation
IFRCS (observer)- International Federation of Red Cross and Red Crescent Societies
ILO- International Labour Organization
IMF- International Monetary Fund
IMO- International Maritime Organization
INTERPOL- International Criminal Police Organization
IOC- Intergovernmental Oceanographic Commission
IOM- International Organization for Migration
IRNC- Israel National Cancer Registry
ISO- International Organization for Standardization
ITU- International Telecommunication Union
MECC- Middle East Cancer Consortium
MHO- Ministry of Health
MIGA- Multilateral Investment Guarantee Agency
NCSC- National Coal Supply Corporation
OPCW- Organization for the Prohibition of Chemical Weapons
PCA- Portland Cement Association
SESAME- Synchrotron-light for Experimental Science and Applications in the Middle East
UN- United Nations
UNCTAD- United Nations Conference on Trade and Development
UNDC - UN Disarmament Commission
UNEP - United Nations Environment Programme

UNESCO- United Nations Educational, Scientific and Cultural Organization
UNHCR- United Nations High Commissioner for Refugees
UNHSP - UN Human Settlements Programme
UNIDO- United Nations Industrial Development Organization
UNITL – UN Commission on International Trade Law
UPU- Universal Postal Union
WCO- World Customs Organization
WHO- World Health Organization
WIPO- World Intellectual Property Organization
WMO- World Meteorological Organization
WTO- World Trade Organization
WTOo- World Tourism Organization