

(which, it must be emphasized, is by no means unanimously embraced) has been up until the present, a political problem, identified as “the Palestinian problem” in shorthand. But, just as the Palestinian situation, since Arafat’s departure from Lebanon, is beginning to present signs of hope for a broader Egyptian and Jordanian effort at peace with Israel, now the economic collapse is threatening from another quarter. Herein lies the real danger of the economic unraveling; herein lies the tragedy of Israel’s finest achievement, its educational institutions and broad popular culture being sacrificed to austerity. To the extent that Israel’s “scientific experiment” is allowed to be smashed in the laboratory, there will be no possibility whatsoever for exporting the scientific knowledge it has yielded, for the mutual benefit of other nations in the region.

## Israel’s experiment: greening the desert

by Paolo Raimondi

Israel’s extraordinary technological and scientific capability, developed in less than 30 years, has made it the outstanding example of how to build an industrialized, advanced nation without “natural resources,” using exclusively the power of the human mind. This in itself is reason enough for all to support the continued existence and development of the Israeli state. Israel’s achievement could become the vehicle for the development of Third World countries, in particular the Arab world. It is in the interest of the Western world to preserve this potential for peace and development and defend it against the destructive policies of the International Monetary Fund (IMF).

At present Israel has about 4,000 active scientists. For a country with a population of 4 million, this compares favorably with the 200,000 scientists in the United States, 40,000 in the United Kingdom, 30,000 in West Germany, and 20,000 each in France, Canada, and Japan. Israel, according to recent reports, has as many scientists as both Poland and East Germany; it ranks 16th in the world in the number of its scientists. Israel invests 2.2 percent of its Gross National Product in scientific research and development, second only to the United States and Holland, each with 2.3 percent.

### Needed: 63,000 engineers

Despite its recent devastating economic crisis, Israel’s commitment to science and technology is still shaping its programmatic discussions. In a recent editorial, the Tel Aviv daily *Ha’aretz* voiced alarm over a report issued by the Ministry of Trade and Industry forecasting a manpower shortage

in various branches of engineering as early as next year. The ministry has projected that another 5,000 engineers and 8,000 technicians will be needed by 1985 to overcome potential bottlenecks in the country’s technological and economic development.

This also presents a problem for Israel’s defense forces. A military spokesman recently said: “The army itself needs a higher level of technically trained people today, and, of course, the need in the civilian market is steadily growing. We will need 63,000 more engineers, practical engineers and technicians, by 1990.”

The application of Israel’s technological and scientific methods, which have produced such remarkable results in all the leading industrial sectors, including the laser and computer industry, has fostered major breakthroughs in agriculture. Israel has become known for victories in the fight to conquer the desert—making unusable land arable and productive. Since Israel’s founding, one of its major goals was to guarantee an independent food supply. This was achieved through massive capital investment and support for research and development in all the areas of agriculture. Though its available land and water resources have not expanded, Israel’s agricultural yields have increased at a rate of about 5 percent annually.

### Making the desert bloom

One of the country’s early major challenges was to penetrate the Negev Desert, a region uninhabited for obvious climatic and economic reasons. The plan from the beginning was to create the conditions for urban settlements and agro-industrial centers to win over the desert for human beings. Now several small towns such as Beer Sheba, Dimona, Yeroham, are the best examples of human achievement in ordering nature for a higher purpose of development. In these centers, the Israelis have built some of their most advanced research institutes, where agronomists and other scientists are making major biological and chemical advances to improve dramatically the methods of cultivation and productivity.

Israel has devoted much attention to the problem of assuring plentiful water for cultivating desert areas. In 1952 Israel created the TAHAL, Water Planning for Israel Ltd., a government corporation entrusted with developing national water resources, and designing and planning all national and regional water supply systems. Now 80 percent of all water is allocated to the agricultural sector. Over the past 20 years, TAHAL corporation has focused the skills of more than 700 technicians and engineers to solve three major problems: 1) transporting irrigation water from the north to the south of the country; 2) pumping up water which averages 82 meters below ground level; and 3) developing desalination projects. (Israel’s fresh water resources can provide for less than 40 percent of today’s arable land—190,000 hectares out of a total of 440,000.)

Perhaps Israel’s most significant achievement in this area has been the development of the drip irrigation system, which

is based on perforated plastic hoses laid along the crop rows, dripping the required amount of water directly to the roots of plants. The system ensures that only a predetermined amount of water is used. It can also incorporate a regular and controlled supply of fertilizers with the correct amount of air. Drip irrigation is usually totally automated with systems capable of controlling the irrigation process. Current systems also have special facilities for underground installation and filtration of salt or brackish water.

Since the first drip irrigation experiment in 1965 in the center of Hatzetim in the Negev Desert, TAHAL corporation has become an internationally known company called upon by many developing sector nations for planning and constructing irrigation systems and constructing agro-industrial complexes. Israeli companies have become leading world suppliers of such systems; the United States now has 600,000 acres irrigated with the drip method. The potential for the developing countries, and in particular for the Arab deserts, is extraordinary.

One of the technologies of irrigation developed and exported by TAHAL is the sprinkler method, which has produced excellent results. TAHAL has been engaged in several projects in Latin America, and in Iran it was involved in the Ghazvin Agricultural and Water Resources Development Project to reconstruct the region after the disastrous earthquake of 1963. This project did not survive the Khomeini regime.

All these technologies and systems are of great importance for agriculture in all arid and still-to-be-developed regions, and will undoubtedly make a vital contribution to man's struggle to solve the world food crisis.

Recent discussions in Israel have focused on an urgent program for developing nuclear reactors. Israelis are aware that they are 20 years behind in nuclear power development because of the 1963 decision to stay out of this sector, mainly for reasons connected to the war danger. But now Israel is in talks with the U.S.A. and France to pave the way to overcome the nuclear power gap. The discussions incorporate large projects such as the Mediterranean-Dead Sea Canal and others which could reverse the region's present trend toward economic collapse. It is important to note that the recent decision to stop the canal project, imposed by the IMF, came shortly after the Israeli government gave the green light last summer for the creation of the Mediterranean-Dead Sea Hydroelectric Project—the starting point of the canal project.

This technological potential of Israel is a reality nobody should allow the IMF to destroy. Irrigation, desalinization technology, the engineering for agro-industrial complexes, and similar scientific and technological contributions should become more the subject of strategic deliberation. If the United States and Europe want to truly contribute to establishing peace in the Mideast, they must put in the forefront the Great Projects idea which will allow Israel and the Arab world to join together to build up a future of economic prosperity and peaceful cooperation.

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## U.S. Policy Toward Israel

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# A much-needed shift in emphasis

by Lyndon LaRouche, Jr.

*The following statement was issued by Democratic presidential candidate Lyndon H. LaRouche, Jr. on Dec. 30, 1983.*

The sometimes disgusting, and sometimes immediately self-defeating feature of recent decades' U.S. policy toward Israel, is that Washington's visible policy-thinking degrades Israel to the status of a restive, and often troublesome Anglo-American "agent of influence," both in the Middle East and in other regions of the world in which Israel's intelligence capabilities are judged a significant factor.

Since the doctrine of "Flexible Response" was formally introduced to U.S. strategic doctrine, approximately 20 years ago, U.S. strategic thinking and foreign policy generally has focussed upon actual or probable local "hot spots" in various parts of the globe, and upon "local wars" associated with such "hot spots." This thinking is reminiscent of British colonial policy during the late 18th and 19th centuries. Accordingly, U.S. policy-thinking towards Israel has degraded Israel to the role of "agent of influence," as British practices defined "agent of influence" from Prime Minister William Pitt the Younger onward.

Only those features of Israel's policies and internal life which touch upon that nation as such a supposed "agent of influence" command serious attention in Washington and our nation's major news media. The internal development of Israel as a nation in which people live and raise families, appears just plain "uninteresting" among our policy-shaping circles.

Specifically, Israel's national economy is in a crisis. Week by week, the effects of a worsening economic and financial situation become more savage. Israel's economy is being cranked-down by the same kind of austerity measures suffered by many developing nations under "IMF conditionalities." True, Washington feels itself obliged to act occasionally to take some of the worst of these pressures off the back of Israel, but we do so only to keep Israel in shape for its assigned role as an "agent of influence." The question of measures needed to create a self-sustained economic recovery appear to attract no interest around Washington.

Earlier this month, two of my representatives spent a period of time in Israel, during which they had the opportunity for meetings with a fairly representative sampling of