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## **A PLAN FOR THE ECONOMIC DEVELOPMENT FOR THE GAZA STRIP**

### **Free Industrial Zone on Land and on Artificial Islands**

Ernst G. Frankel, Professor Emeritus of Ocean Engineering and Management, MIT

#### **Overview**

A Plan for the sustainable economic development of the Gaza Strip was presented at the *Inaugural International Conference of the Center for Macro Projects and Diplomacy* at Roger Williams University in Bristol, Rhode Island on April 15/16, 2004. The mission of the Plan was summarized as having as its primary concerns:

- job creation
- sustainable economic development
- environmental security

The economic condition of Palestinians in the Gaza Strip is dire, with a per capita income estimated to have sunk to less than \$600/year, with unemployment near 42% and youth unemployment even higher (source: PCBS). More than 30,000 workers from Gaza lost their jobs in Israel since 2000, with an additional 6,000 workers with jobs in the border (Eretz) Industrial Zone being only intermittently employed. Average daily wages in Gaza have held steady at about 55 NI Shekels (about \$11.62) or only about 75% of those earned in the West Bank and 30% of those earned by Israeli workers.

At the same time consumer prices increased by nearly 6% during the last 2 years, reducing standards of living even further. The most urgent need appears to be the establishment of reliable employment for a significant number of residents of the Gaza Strip, which is not subject to political and/or security problems, and which generates adequate income. Experience with the development of industrial zones elsewhere has shown that for each job generated in such a zone at least three jobs are generated outside the zone by a spin-off effect, which generates new demand for services, consumables, and more. As a result, establishment of say 30,000 jobs in a new industrial zone could generate as many as 120,000 new jobs in total, more than replacing those lost in Israel, reduce unemployment to only 20-25%, and double average per capita income in the Gaza Strip.

This Plan is advanced now, when the Israeli government announced the unilateral withdrawal from the Gaza Strip within 1-2 years, including the dismantling of Jewish settlements in the area. This will require

Palestinians in the Gaza Strip to become even more self-sufficient, as it is unlikely that free border crossing of workers from Gaza to Israel will be permitted after the withdrawal, and the jobs traditionally offered in the Jewish settlements and their factories located in the strip will no longer exist.

These destitute conditions are the principal contributing factors driving the violent unrest, the growth of the military organizations, and the general feeling of hopelessness. Meaningful, reliable, secure, long-term jobs for tens of thousands in nearby factories and offices (located less than half the distance of work places in Israel) in an Arab (Egyptian) environment, managed by a globally renowned consortium and world-class tenant companies would provide not only income, economic stability, growth of self-esteem, and most importantly an effective outlet for the lack of faith in the world that most these assume does not care about their plight.

### **The Gaza Strip**

The Gaza Strip extends northeast from the Egyptian border of the Sinai Peninsula for 40 km (25 m) with the Mediterranean Sea to the west and Israel to the east. The strip is about 10 km wide (5.6 m) on average. The Palestinian authority is responsible for civil government but Israel maintains control over security. With a population of more than 1.21 million lives on an area of about 140 sq m with a population density of about 8600 per square mile, one of the highest in the world. While the land is traditionally used for farming most people live in cities such as Gaza, Rafa, Khan-Yunis or Jabalyah. There are some orange groves and other fruit plantations as well as some vegetable farms. Eighty-six percent of the population is living in the towns or “refugee” camps that are really low-cost housing developments erected mainly by the UN which also provides a substantial proportion of the food and clothing required. Water, electric power, and telephone service is mainly delivered by Israel which connected its distributed services after the departure of the Egyptian administration in 1967.

The situation is becoming more urgent now when Israel appears to lose faith in the possibility of a peace agreement and is building a separating fence around Gaza and the West Bank to permanently separate the populations ostensibly for security and to prevent suicide bombers from crossing, but the reality will be a de facto social and economic separation of the populations that will demand the rapid development of economic opportunity alternatives which this project is designed to offer.

## **Proposed Plan**

The proposed Plan is based on providing long-term, reliable, secure, well-paying employment, and business opportunities for Palestinians, mainly from the Gaza Strip as well as for Egyptians residing in

the northern Sinai, by establishing a “Free Industrial Zone” at the border initially between Egypt and the Gaza Strip, located at or near the site of the former Israeli town of Yamit built in the northern Sinai. Later the zone would be expanded inland and offshore in Palestinian waters onto a large artificial island with a connecting causeway, which will also serve as a jet aircraft runway and with a deep water port. The island located at the southern most end of the coast of the Gaza Strip would be used by both the Egyptian border Free Trade Industrial Zone as well as serve as the principal port for the Palestinian entity.

Such a project will require an agreement by the Egyptian government to lease land (10-40 square km) to an international Free Industrial Trade Zone consortium or intermediary and to permit it to operate outside Egypt’s customs and tax boundaries. It is expected to attract significant investments in productive assets such as factories, logistic centers, power plants, communications facilities, assembly and warehousing centers, and financial service operation. Using the existing housing, road, electric power, telephone and other infrastructure left behind by Israel’s withdrawal, initial development costs of the site should be greatly reduced. The project envisions use of Egyptian construction firms, employment of Egyptian police, border guards, administrators, managers, and engineers growing from a workforce of a few thousand to about 5000 over a five-year period. The remaining workforce of about 20-40,000 will be provided by day workers from Gaza so as to provide meaningful long-term, secure employment to Palestinian workers. Investors will be attracted by

- low land and development costs
- abundant low or reasonable cost educated and skilled labor
- strategic site location
- easy and preferred access to European Union and U.S. markets
- effective and efficient transport links that will initially use Egyptian logistic and port infrastructure
- access to low cost material and energy sources

The total initial investment in preparing the “Free Industrial Zone” is estimated to be \$200-300 million (5-10km<sup>2</sup>) plus prepaid leasing costs. The industrial plants themselves are expected to be built and equipped by zone tenants that would be offered long-term 10-30 year leases of land and related

infrastructure. There are important incentives for Egypt including economic development of the desolate northern Sinai.

Revenues to the Egyptian government and economy are estimated to grow from about \$200 million/year-\$1,000 million/year in lease fees, personal income taxes, and various dues (no customs and corporate taxes though). In addition there will be many spin-off or secondary benefits to both the local communities and population as well as to the Egyptian government and economy at large. It will significantly increase government revenues, provide a base for the economic development of the northern Sinai Peninsula, as well as a variety of other economic benefits for the country, particularly as most transactions such as worker pay and all kinds of services will all be in hard-to-get foreign currency. Egypt is currently going through a severe economic crisis resulting from lack of tourism and low commodity prices for some of its important exports. Investors/operators in the Free Industrial Zone are expected to come primarily from OECD countries.

While Egypt's per capita GDP of nearly \$2600 is low by Middle Eastern standards, it is high by African standards (Sudan's per capita GDP \$860). But the economy needs urgently non-farm employment with over 50% of the population dwelling in urban areas and urban unemployment over 30% total and 50% among the youth. Egypt urgently needs new economic activity, which will generate new jobs directly or indirectly. Such a development would also increase economic activities and opportunities in Egypt such as banking, insurance, education, and health care as well as increased use of Egyptian transport, port, energy supply, and communications. As a result, Egypt should be able to reap significant economic benefits from this project. In addition, it should provide access to foreign direct investment in Egypt and later in Gaza in addition to new knowledge and technology.

## **The Project**

The proposed project consists of three phases and a vision of providing an effective economic development opportunity for the Palestinians so as to remove the scourge of destitution and hopelessness which provides the principal reason for the long simmering conflict. At the same time it is to make the Palestinians less dependent on Israel and provide a meaningful opportunity for Egypt to gain economically and play an effective role in Middle Eastern peacemaking. The map of Israel and location of the Gaza Strip is shown in Figure 1.

As time is of the essence, the first phase of the project is planned on a 5-8 Km<sup>2</sup> strip of land between the town of Rafah on the Gaza Strip and the former Sinai town of Yamit, built by the Israelis and abandoned

as part of the peace deal with Egypt. The second phase consists of the construction of an 8-10 km causeway into the sea at the coast just north of the border in Palestinian territorial waters to serve as a connector to the offshore artificial (reclaimed) island industrial zone and deepwater port to be started at that time. Phase 3 is the construction of the reclaimed offshore (2 km<sup>2</sup>) artificial island free industrial offshore zone with a large free transshipment port that is designed to serve the two free industrial zones, the Gaza Strip, West Bank, and the developing north Sinai area of Egypt. To gain significant transshipment traffic, attracted by the strategic location of the port, it is suggested to designate the port as a “free port” so that it can serve all surrounding areas – Egypt, Gaza Strip/West Bank (Palestine), Israel, and Jordan.

The subject project, as noted, would be implemented in three phases.

Phase	Description	Timing
1	Construction of a free industrial zone along the Gaza Strip-Sinai border	2005-2007
2	Construction of an 8-10 Km causeway into the sea to serve as a runway/airport-temporary port and construction road for artificial island free zone and deep water port	2007-2010
3	Construction of 2 square Km artificial island and deep water port	2010-2013

Excluding lease costs and other government transfers, the development and construction costs of the three phases of the project are estimated at:

Phase 1 5-8 square Km, improvements, infrastructure, fencing, etc.	US\$200-300 million
Phase 2 5-6 Km causeway 100 m wide paved and armored)	US\$200 million
Phase 3 2 square Km artificial island in 12-15 m deep water	

Dikes and armor	\$160 million	
Reclamation	\$240 million	
Infrastructure	\$120 million	
Port construction	\$200 million	
Equipment	<u>\$ 65 million</u>	
Total		US\$785 million

This works out at about \$260/m<sup>2</sup> or \$23.96 ft<sup>2</sup> of fully developed industrial land, with direct access to deep water, air transport, and a large educated workforce.

It is planned to coordinate the developments of the onshore Egyptian Free Industrial Zone and the one build subsequently on a reclaimed offshore island in Palestinian territorial waters. Both nations may agree to combine the two free industrial zones into one managed jointly. As it is likely that an international Free Industrial Zone/Free Port investor and operator will be involved such as the one used in the existing Suez Canal Free Industrial Zone, such an arrangement would be quite attractive and mutually beneficial.

### **Alternative Organizational Structures for and Benefits of Free Industrial Zones**

Free port industrial zones can be organized, owned, and operated in a variety of ways. Each has particular advantages and disadvantages. The range is between complete government or public sector ownership, development, and operation, where the public sector entity owns the land, develops all the infrastructure, supplies all the services, divides the zone into appropriate plots, builds standard factory and commercial buildings, and even invests in materials handling and logistics equipment. Tenants lease ready-made factory/commercial buildings and introduce their manufacturing/service equipment and operate it relying on the entity to not only provide all the necessary industrial services, but also control social infrastructure/services such as hospitals, food services, transportation, training, etc. Leases are usually 5-20 years and are renewable. The entity may also go into joint ventures with some tenants and invest in manufacturing equipment as well and/or provide some working capital in return for port ownership, profit sharing, etc. This model gives government a large degree of control and was used in China in the early years of industrialization and move towards a market economy. It was also used on a smaller scale in Egypt and other Middle Eastern countries.

The other extreme is where government simply acquires (and owns) the land of the zone, develops only infrastructure (roads, power, etc.) leading to/from the zone, if necessary gets all the permits, and leases the land to one or more industrial park developers or even to a mix of developers and individual industrial commercial tenants who become responsible to not only build their facilities (factories, etc.) but also arrange for the infrastructure construction (and service provision).

The land in that case could be sold, leased for a long time (say 99 years) or the arrangements may be BOO or BOT. In other words, each is on his own and free to negotiate any terms with infrastructure/service providers. Obviously the latter model involves very little government involvement or control. For that

matter, it also does not require government investments and in fact government or a public entity could sell the land at a premium and establish significant tax and other revenue-earning potentials without much, if any, financial exposure.

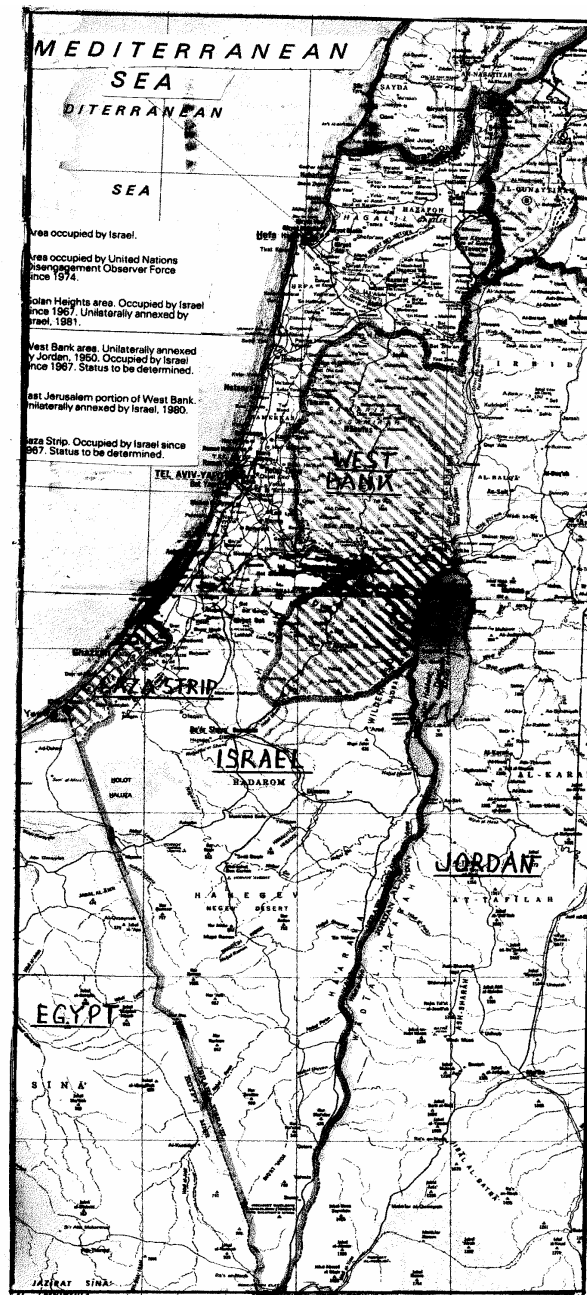


Figure 1: Israel and Palestine



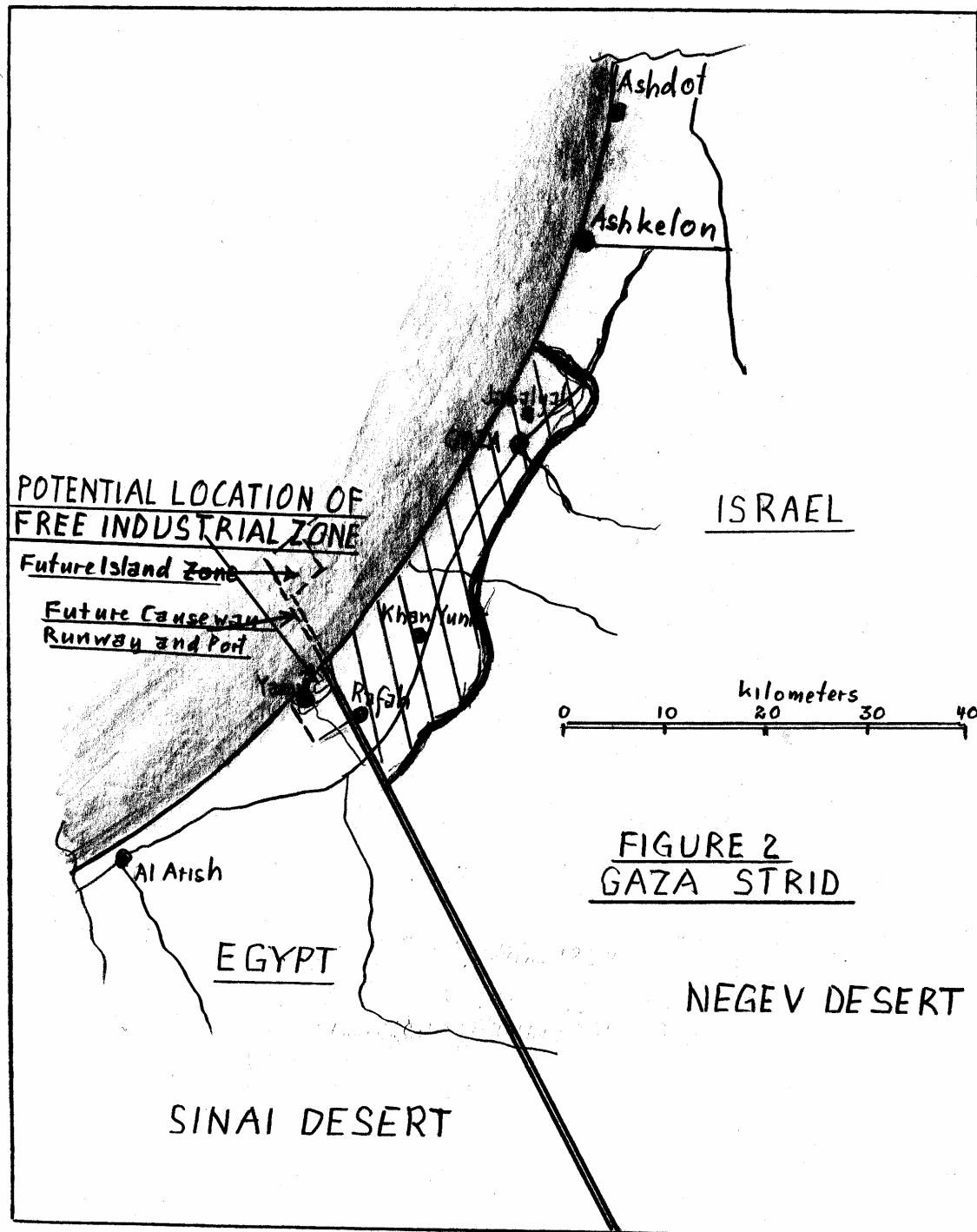


Figure 2: Potential Location of Free Industrial Zone

In fact in many cases such as in Dallas (Alliance Corp.) acts as the land owner, developer, and all. Between these two extreme are many different alternative models, each of which offers a different cost, economic potential, degree of control, and more.

No matter what model is chosen it will require reasonable involvement by government in security, safety, and utilization or use of the activities in the zone and assurance that they are developed in line with the general goals and objectives. The measure of success of the free port industrial zone is its contribution to economic growth in both Egypt and the Gaza Strip. To achieve this, the goals of the value-added activities in the free industrial zones must all be oriented towards achieving lasting economic growth. This not just in terms of new employment generation or new government tax revenues but in the establishment of a new economic structure of interdependent and mutually-supporting economic activities in logistics, manufacturing, research, education, services (banking, brokerage, trade, food, recreation, supply, repair, etc.) and supply services such as power, communications, water, sewage, fuel, etc.

The goal is to help establish a more balanced economy, independent of temporary incentives (tax breaks, etc.) which integrates all economic, social, and geographic sectors and offers long-term opportunities to all the diverse parts of the economy from labor, commerce, business, manufacturing, construction, services, trade, and government. To achieve this, it will have to generate jobs, taxes, business and investment opportunities, construction, services demand, increase real estate values, new training opportunities, large new transaction services incomes, etc. Indirect economic contributions are expected to be several times those of direct economic contributions.

The measure of success will mainly be the contribution of the direct and indirect employment generated to the GDP and GNP. In addition, revenues of service providers and transactional incomes should permit that sector to grow at least by twice its average annual rate. Government (treasury) income should grow at a compound rate significantly higher than the growth of the economy which itself should double its growth rate. In other words, measurements of success of the zone will be:

- < employment generation and growth rate
- < GDP/GNP growth rate
- < government (treasury) income growth rate
- < direct investment (long term)
- < foreign trade growth

- < quality (income) of jobs generated
- < transactional services revenues and profits
- < research activities (volume)
- < education (number of high level professionals trained and retained)

The free port and industrial zone development should maximize these objectives.

Investment in port-related industries and free port zones has become very popular with free ports flourishing all over the world. China now leads in the development of free ports and free economic zones, and now has over 30 with new ones established every few months. Some such as the Shenze Free Port Industrial Area or the Suzhou Free Industrial Zones have attracted hundreds of industrial companies and investments in excess of \$6 billion each. Altogether, investments in free economic/industrial zones in China averaged \$4 billion/year and the number of people employed directly or indirectly in these zones now number in the millions. On average, investments required per direct job created were \$80,000 in 1999. For each direct job on average three indirect jobs were created.

### **Target Industrial Commercial Sector**

Target industrial sectors/clusters that would benefit from locating in the free industrial zone in the northern (Egyptian) Sinai and/or on the offshore artificial island industrial zone in Gaza are manufacturers/assemblers of:

- < automotive parts/component manufacture/assembly and customizing/outfitting of basic automobiles imported from Far East (Japan/Korea)
- < home appliances, garden equipment, etc. assembly and customizing, such as air conditioners, refrigerators, solar water heaters, etc. using imported components and knock-down shells for just-in-time delivery to nearby markets (both home and industrial/commercial)
- < home electronics (TV, VCR, CD-RW, DVD players, etc.) assembled and customized for nearby markets
- < medical diagnostics and other test equipment (CAT scan, MRI, laser, x-ray, etc.) assembled, tested, calibrated for delivery to Latin/Caribbean markets
- < energy generating equipments assembly such as solar, fuel cell, wind power generators, gas turbines, diesel plant assembly

- < automated materials handling, warehousing, etc. equipment assembly
- < office equipment including security, storage, copying, etc.
- < communications equipment assembly, integration, etc.
- < food processing equipment assembly and plant engineering
- < other - largely enterprises benefitting from low capital costs/capital intensity/low transport costs

In summary, targets are industries that benefit from abundant, reasonably priced, trained, disciplined manufacturing workforce, backed up by advanced engineering/science capability that requires good, cheap, long-distance transportation (shipping), and relies on both large-scale global outsourcing, and extensive custom markets in nearby countries. All manufacturing activities in the zones are designed to generate import/export transshipment traffic, as well as value adding, employment activities in manufacturing, assembly, consolidation/deconsolidation and packaging.

The new technological age requires much more team work and coordination to truly produce its benefits. A change in cultural approach may have to be fostered to achieve not only the benefits of the new technology but also to convince industrial investors and port user that the expected performance will be achieved.

### **Workforce Training Requirements for the Free Industrial Zone**

The development of higher technology manufacturing will have implications for workforce training. First, technology is being introduced in a fashion that not only modifies but fundamentally alters the nature of job-skill requirements. This introduction of new technologies is not revolutionary, but is evolutionary. Therefore the training and retraining that it requires must be continuous and ongoing rather than a one-time occurrence. For a number of reasons, including poor levels of workforce academic preparation, there are impediments to specific job-related training. There are, however, correct methods for installing training programs as pursued by a number of companies. Most importantly, training should be viewed as a central part of government, developers, and company strategy. Workers, supervisors, and unions should all be involved in developing, implementing, and evaluating training programs so that the programs meet their objectives and address realistic levels and goals. Furthermore, training should be viewed as a long-term process and companies as well as plants should be viewed as places of continuing learning that maintain and advance the competence of their staff and workers in line with changing technologies.

There are competent educational institutions in Egypt (AAMTA – Alexandria) and in the Palestinian areas capable of providing skill training for the Free Industrial Zone workforce. Such training should take place in parallel with the zone development and its costs be part of the zone development costs.

### **Benefits of Plan**

The proposed plan offers an opportunity to advance the standard of living of Palestinians in the Gaza Strip and provide significant economic benefits to Egypt as well as the Palestinians. It is expected to attract foreign direct investment and will improve the technological and knowledge base of the people in Gaza and northern Sinai. It is a plan that could be started without delay and offer real jobs and economic benefits within the comparatively short period of one to two years. It can play a significant role in the peace process and in moving the area towards a more effective economic condition, full of hope and promise.

### **Next Steps**

Discussions are proposed to be held with major investors, industrial companies, free trade and port operators, government agencies, and public interests to promote the project and obtain support for it. An earlier attempt in 1992 of developing just the artificial offshore island concept as a free industrial zone and port off the shores of the Gaza Strip was well received and attracted major industrial firms, particularly in Japan, to indicate tentative support. We expect to be able to generate even more interest at this critical time.

### **Conclusion**

**Economic development is an essential stepping stone towards peace in the Middle East.** Without it real peace will not be attained. To achieve this though we must proceed quickly. This is of the essence as each day brings further hatred and bloodshed. The time is ripe for such a basic framework of a 3-step project, starting with an Industrial Zone at the Gaza-Sinai border. To achieve this, it will be necessary to get support and approval as soon as possible. A non-political economic development project with no preconceived requirements that offers a short-term impetus leading to long-term stability of the Palestinian economy and enhances employment significantly is important now to reverse the spiral of violence and hopelessness.

The project has a basic framework and a location that appears to be among the most logical and appropriate for industrial development. Other approaches have been tried for over 50 years without success. It is time to try new methods that are non-political and represent a win-win approach.

The opportunity is now and the need for a resolution of this problem greater than ever. Let us move ahead and show the world that with goodwill even the most intractable problem can be solved.