

**Gaza Industrial Estate
Study for
Common Bonded Warehouse/Container Storage Yard**

TSG-SITE Project

Prepared for:

**United States Agency for International Development
Palestinian Industrial Estates and Free Zones Authority**

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Background

This study concerns the establishment of a facility within the GIE to provide basic logistic functions for the industries located in the GIE and for the foreign trade of Gaza. The original proposal was to provide a common bonded warehouse and a container yard. The former would allow for deferral of payments of duty on cargo shipped into the GIE during the period prior to the establishment of a Free trade zone. The latter would allow for consolidation of GIE export cargo and deconsolidation of its import cargo.

During the course of the study, it became apparent that this facility should provide a broader range of logistics services for the imports and exports of both the GIE and the economy. The objective would be to reduce the inefficiencies and high transport costs which give Gaza a competitive disadvantage in trade. The original concept of a bonded warehouse and container storage yard was incorporated into a general logistics facility (GLF). The services to be provided by this facility include:

1. Marshaling of truck convoys carrying export cargo to Israeli seaports and airports,
2. Receiving truck convoys carrying bonded import cargo from Israeli seaports,
3. Security inspections for export cargoes and customs inspections for import cargoes,
4. Bonded storage for imports to provide both a delay in paying duties and transit storage prior to clearance,
5. Deconsolidation and storage for LCL import containers,
6. Storage and consolidation for export container cargoes from the GIE,
7. A container depot for storage and repositioning of empties,
8. A center for shipping lines, traders and third-party logistics providers, and
9. A node for trade communications including EDI network.

The role of this facility will evolve over time as artificial impediments to free trade are removed. These impediments include:

1. cumbersome and costly cargo inspection procedures,
2. regulations designed to limit competition in transport, cargo clearance and other logistic services and
3. costly and inefficient duty collection procedures.

As items 1 and 2 are resolved, the GLF would evolve into a Dry Port where shipping lines could issue bills of lading and receive/delivery cargo.

The Gaza seaport will change the function of the GLF significantly. On the one hand, the role of the GLF will be enhanced as it provides the services of a Container Freight Station to supplement the limited storage of the seaport. At the same time, it will lose core business as foreign trade is diverted from the seaports and airports in Israel to those in Gaza.

Demand for GLF Services

The foreign trade of Gaza is primarily exports of fish and agricultural products and imports of building materials, grain, food products and consumer goods. Much of the export trade is handled through Israeli traders who are able to provide both the port harvest processing and the international marketing. Palestinian producers have had difficulties in ensuring quality control and delivery schedules due largely to the difficult logistics of moving cargo between Gaza and the airports and seaports in Israel. They are also constrained by their size and limited access to trade finance.

The import trade is more direct with many of Palestinian consignees arranging shipments directly with the manufacturer, often on a FOB basis. Imports are generally of higher value and can more easily absorb the costs resulting from inefficient logistics. Israeli traders are also involved in this trade but generally as wholesalers of goods imported for both the Israel and Gaza markets.

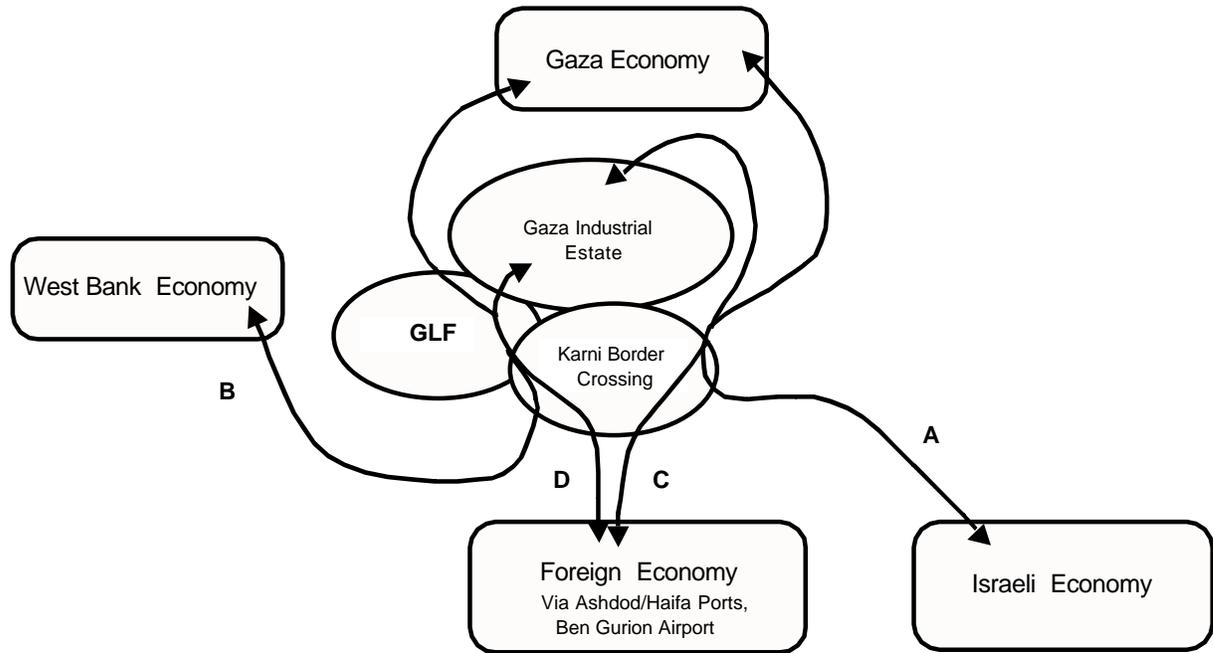
The volume of traffic crossing the border was difficult to determine because historical commodity data was not available and the statistics on truck movements did not distinguish the size or type of truck. The information on Karni crossing indicates a weekly volume of about 1000 truckloads of which 70% are shipments to and from Israel and the rest are to and from the West Bank (Annex B). Imports and exports were moved in convoy via Erez Crossing up until March. The statistics on border crossings imply that the volume through Erez was about 400 truckloads of outbound cargo per week and 2400 truckloads of inbound cargo. It is unclear what proportion of these are import and export cargo. The trade figures and interview data suggest that most of the outbound loads carry export cargo but only 30%-40% of the inbound loads are imports.

The medium-term prospects for the growth in foreign trade are not good. A low rate of growth is expected based on the past trends for both Gaza and for Israel. Negligible growth is projected over the next two years given the current economic downturn and the difficult political situation. This will be followed by a growth rate of 4%-7% in the medium term. While the activities of the GIE will add to this growth, it represents a relatively small percentage of overall trade.

The GLF is intended to provide services for imports and exports. Its primary market would be cargo moving in bond between Gaza and either Ashdod or Ben Gurion. In the future, it would also provide services to cargo transferred through Gaza seaport for both Gaza and West Bank and also to transit cargoes moving via Gaza through Jordan or Egypt to the Persian Gulf.

The major flows of traffic across the border are shown in Figure 1. These are described below. The first, A, would not use the GLF. The second and third, B and C, could use the GLF to simplify customs inspection and processing. The last one, D, would almost always use it.

Figure 1: Cargo Flows with Introduction of GLF



- A. Goods produced in Israel and consumed in Gaza or produced in Gaza and consumed in Israel. Their local O/D would be either the GIE or the domestic economy. Shipments are moved direct between the warehouse of the shipper and the warehouse of the consignee. There are no duties or taxes collected at the border. Inspection and cross-border movement would continue to be performed at Karni crossing.
- B. Goods moved between West Bank and Gaza that are consolidated or deconsolidated at the GLF. The convoy would be organized there
- C. Goods imported either directly or via an Israeli trader that are inspected by security and stored at the bonded warehouses in Israel. This cargo is cleared in Israel and moved by convoy to the GIE or the domestic economy. The GLF would be used for customs clearance and deconsolidation. Goods exported from Gaza to foreign destinations either directly or through Israeli traders that are inspected at Karni crossing and then transported to the Israeli seaport or airport. The GLF would be used for consolidation and for organizing the convoy
- D. Goods imported directly from foreign countries and moved in bond from the Israeli ports or airport that enter the GLF for storage and deconsolidation. These are transported to the GIE or the domestic economy after paying duty and VAT to the PNA. Exports produced in the GIE or the domestic economy that are consolidated at the GLF before being shipped to an Israeli seaport or airport.

With the introduction of the seaport and the upgrading of the airport's freight-handling facilities, new flows will be introduced as shown in Figure 2. The first, E, would not make use of the GLF. The second and third, F and G, would use the GIF for storage. The last, H would use the GLF to marshal convoys and perhaps for consolidation and storage.

The current customs and security procedures enforced by Israel is a serious impediment to effective trade. The GLF is intended to circumvent the more troublesome procedures. This will require the cooperation of the Israeli Authorities. At present cargoes imported through Israeli ports are subjected to a security inspection at the port or a designated bonded warehouse. There they must pay both VAT and customs duty. The government of Israel transfers these payments¹ to the PNA once the cargo is brought into Gaza. The GIE companies can apply for a refund once the cargo is brought into the country and the necessary paperwork is processed by the PNA.

In moving the relatively short distance from the port of Ashdod to Gaza, the cargo are subjected to an inspection at the Kari Crossing and random security checks enroute. An obvious simplification would be to allow for the direct movement of the cargo in bond from Ashdod to Gaza without paying duties or VAT and, if possible, without security inspections. There are a number of precedences for this procedure in the Middle East and elsewhere in the world, but it will require some time before all of these changes can be introduced. The success of the GLF will depend primarily on the deferral of VAT and duties until the cargo arrives in Israel as this will allow the facility to compete effectively with the bonded warehouses around Ashdod. Without this simplification, the GLF will have little to offer importers

Exports are not subjected to duties or VAT payments but must pass through a security inspection which causes losses and damage to cargo and delays in transport. It also requires paying for two truck movements rather than one. There would be an obvious benefit, if this inspection could be conducted at the GLF as part of the cargo-loading operation. Once inspected the truck would be sealed and subsequently moved by convoy to the Israeli port for loading onto the ship. Without this provision, the GLF will be limited to providing a warehouse for GIE export cargo.

Facility Design

The principal components of the GLF are:

1. A parking area/container storage yard to provide space for marshaling convoys, parking trucks and containers waiting to load or unload cargo and the storage of empty containers
2. A freight station to consolidate/deconsolidate of container cargo
3. A bonded warehouse located within the freight station to store of high-value goods
4. A multi-storey office building for customs, security, terminal administration and third party logistics providers
5. Three gates to control the movement of cargo between GLF and the Karni Border Crossing, the GEI and the road into Gaza city.
6. A fiber-optics networks with an EDI system to coordinate the activities of the GEI, Border Crossing and GLF and, in the future, the regional seaports and airports.

¹Less a transaction fee

The initial layout would provide space primarily for trucks and trailers. Over time, as the cross border truck movements are simplified and container traffic grows, the facility will be used more as a Container Freight Station and dry port. The parking area will gradually be converted into a container storage yard. Layouts for these two configurations are discussed in Annex C.

The estimated cost for the infrastructure is \$2 million. The major cost components are shown in Table 1. These estimates were based on unit costs and single line drawings. Both the design and cost of the facility must be reviewed and revised during preliminary engineering. The detailed layout would be developed with attention given to the evolution of the facility from a truck operation to a container operation. It is assumed that the infrastructure would be financed through the government with the cost recovered through rental of the facility. The terminal operator would provide the cargo-handling equipment

Table 1 Infrastructure Cost (US\$ 000s)

Item	Cost
Warehouse with loading bay	920
Resurfacing	300
Office Building, equipped	70
Guard House, Gates,	75
Communications	100
Weighing Station	100
Fencing	36
Utilities, Communications Systems	50
Lighting	30
Removal of Existing Structures	50
Landscaping, Traffic Control	30

The initial annual operating cost for the GIF is expected to be \$1.1 million. The facility would require an initial staff of about 94 including security for a 16 hour per day, 7day per week operation (See Annex D for a breakdown). The primary equipment would be 3 ton forklifts for transferring cargo to and from storage and for inspecting the contents of trucks and containers. The initial fleet of 10 forklifts would be provided but this would increase to 12-16 as the GLF approached normal operating capacity. Heavy-duty forklifts would be procured as required to handle grounded containers.

The facility was designed without x-ray equipment. It is unclear where this equipment would be located, at the GLF or Karni Crossing. The GLF is designed with extra truck loading bays to inspect cargo. The operator would ensure the cargo was handled with considerably greater care than at Karni Crossing. Assuming a charge of \$12.50 for inspection and a throughput of 60 thousand vehicles, the revenue would be \$750 thousand, enough to justify 1-2 scanners. However the savings from the substitution would be only 2/3 of the costs for forklifts and equipment operators, or about \$135 thousand per year. By itself, this is not sufficient to justify the investment. When the savings from less damage to the cargo is added, then at least one machine would be justified.¹ This assumes that these security inspections will continue for the foreseeable future. Since the inspection fee was designed to cover part of the GLF overheads, the cost recovery for the scanners would require an increase of the inspection fee.

Feasibility

There have been a number of proposals for a similar Storage facility. A inland container terminal was proposed for the Israeli side of the Erez Crossing, however, this proposal had two serious problems. First, it was intended to serve the convoys travelling through Erez and these have now been transferred to Karni Crossing. Second, the terminal was to be financed primarily through cargo clearance fees, which are relatively high. It would have not provided a significant improvement in logistics or a reduction in transport costs. In fact, by locating on the Israeli side, it would have promoted the use of the more expensive Israeli transport services. A terminal was also proposed for the Israeli side of Karni Crossing but this appears to have been dropped.

Finally, a proposal to establish a facility very similar to the GLF was put forward by a leading freight forwarder. This was an informal proposal that was never acted upon. This proposal is useful because its business plan focused on providing international logistics services for large multinational companies that which would locate in GIE. This is a critical element if the GIE is to attract large foreign manufactures that require reliable logistics for shipments throughout the world. Furthermore, if Gaza trade is to expand and serve more upscale markets, then it will have to rely on more integrated supply chains to provide faster, more reliable deliveries.

The difficulty in implementing this proposal will be to attract large, international, third party logistics providers who are willing to set up in a multi-purpose facility with a relatively small volume of traffic. They would have difficulty capturing business from the Gaza traders who have already established personalized supply chains that are reasonably efficient and, more important, under the direct control of the trader.

The financial feasibility of constructing and operating the GLF was evaluated by assuming that a private operator would incur all operating expenses including maintenance of the facility and would collect fees for all the services provided. The operator would then pay a royalty based on gross revenue to the provider of the infrastructure.

¹ To this would be added the savings from reduced cargo damage which for non-agricultural goods would be only about ½% but this would be at least \$0.5 million.

A schedule of charges was prepared based on preliminary estimates of operating costs and charges in comparable facilities. These are summarized in Table 2.

Table 2: Proposed Tariff for GLF Services

Tariff Item	Rate	Charging Unit
Yard Storage		
Containers	\$1	TEU per day
Trucks	\$2	Per day
Warehouse storage	\$13	Square meter per month
Entry charge	\$10	Per vehicle or container
Stuffing/Unstuffing Containers	\$20	Per TEU
Unload and loading Trucks to/from Storage	\$20	Up to 10 tons
	\$35	Above 10 tons
Security Inspection	\$12.5	Per TEU or up to 10 tons
	\$25	Over 10> of Cargo

Because of the uncertainties concerning future traffic, a number of scenarios were used to test the robustness of the financial performance. The future traffic levels were too unreliable to attempt an analysis of the unleveraged cash flow over for the period of concession.. Instead a simple measure of return on investment over the first three years was used to determine if the investment was viable. The contribution of the different activities to the revenues as indicated in Figure 3. The distribution is reasonably well balanced between revenues from Vehicle entry and inspection fees, stuffing/unstuffing and cargo storage.

For most of scenarios, the return on investment during the initial years ranged from 32%-55% for royalties of 25% to 35% of gross revenues (see Annex D). The results of the analysis revealed a strong relationship between profitability and the volume of traffic. Most of the costs of the GLF are fixed and a change in volume of $\pm 20\%$ can change the outcome from infeasible to highly profitable. Under these circumstances, the operator will scale his investment in equipment, and, to a lesser extent, his staffing in order to minimize the downside risk. Traffic-related variables such as percentage of trucks/containers that use consolidation and storage and average dwell time for cargo in the warehouse did not have a big impact. examined, the project appears feasible in financial terms.

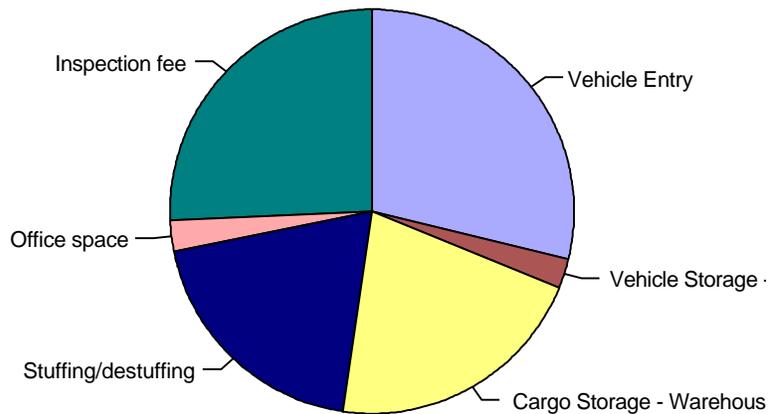


Figure 3 : Distribution of Revenue by Source

Organization of GLF

Since the facility appears to be profitable, albeit with significant market risk, it is appropriate to bid out the facility with the government providing most of the fixed capital and the private operator providing the mobile assets. As such, there is little need for a BOT or BOO agreement. A simple capital lease and operating agreement would be satisfactory. The lease should be 10 years to allow for building market share. The lessor would be the statutory body responsible for the GIE. Although the roles of the GIE and GLF operating companies are complementary, it would not be appropriate to have the former act as the landlord. Ultimately they will compete for land in the GIE. A neutral body must rule on this and related issues.

Assuming that the contract provides protection for the terminal operator against competition from within the GIE, it is appropriate to exercise some level of economic regulation. In this situation, it is sufficient to provide an indexed price cap to protect against excessive discrimination in prices and to have an independent regulatory body monitor the operations to ensure proper safety and environmental controls.

The contractual relationship between the operator and the landlord should be designed with two features to encourage competitive behavior. The first is that some of the activities may be performed by third parties. In particular, the customs clearance and other third party logistics. The second is that a contestable environment be created by using competitive bidding and by providing user feedback with the provision that the contract can be cancelled for unacceptable behavior. Other elements of the contract are discussed in Annex F.

The GLF operator would be locally incorporated but should have foreign participants who are knowledgeable about container terminal and bonded warehouse operations. It would be possible to pre-qualify only third party logistics providers but it would then be difficult to attract other logistics ensure providers to compete with the GLF operator.

The private operator would have access to commercial financing. The financials of the terminal appear to be strong enough to support such borrowing. Since most of the operator's capital investment is for equipment, supplier credits should be readily available.

Action Plan

In order to move ahead on the development of the GLF, a number of steps should be undertaken. First, discussions should begin with customs on the opportunities and conditions for simplifying cross-border procedures. Once their willingness to address this issue has been determined, the detailed design of the facility and preparation of the bid documents should begin. As part of this effort, a market study should be conducted to:

1. obtain more detailed statistics on traffic flows so as to provide a better estimate of the size of facilities needed to handle the projected traffic and cargo flows,
2. analyze current logistics costs so as to determine a preliminary set of tariffs for the different services (alternatively, the bidders can be asked to do this in their bids or as a part of their commercial activities).
3. identify potential operators of the facility to confirm interest² and as an alternative to doing a pre-qualification or as a pre-cursor to sending out requests for expression of interest. This would also give some insights as to the type of operation they would be likely to undertake

The market study would involve discussions with: customs, and security at Karni/Eres Crossing for item 1; shippers and consignees for item 2, logistics providers and the GIE for item 3.

A market-driven design is necessary because the site is relatively small and the space allocation must meet the specific needs of the operator. Also provision must be made for conversion from a truck-based operation to a container-based operation. Once the engineering plans have been prepared, the bidding should not require more than 4 months and the contacting and actual construction only 12 months. In any case, the bid documents should be issued prior to the start of construction so that the winning bidder can participate in final decisions regarding design.

² While the analysis indicates that the project is financially attractive, it was not possible to determine if there was broad interest. It is likely that interested parties will see different parts of this that are attractive and other parts that are either not interesting or not within their specialty. Normally, the bidding process will provide this information but it would be useful to have a heads up on this during the design phase. For example, suppose no-one wants to deal with cargo inspection and Israeli security or only Israeli traders are willing to do so; what then?.