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WEST BANK LOGISTICS STUDY

TRADE FACILITATION PROJECT

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ACRONYMS

3PL	Third-Party Logistics Services
IT	Information Technology
JICA	Japan International Cooperation Agency
PSC	Palestinian Shippers Council
RFID	Radio Frequency Identification
SPSS	Statistical Package Social Sciences
TFP	Trade Facilitation Project
UNCTAD	United Nations Commission for Trade and Development
USAID	United States Agency for International Development

1. INTRODUCTION AND SCOPE OF WORK

The West Bank and Gaza Trade Facilitation Project (TFP) engaged a logistics management consultant to carry out the following scope of work over nine days from December 12 to 23, 2008:

- Determine local demand for logistics center services
- Determine the feasibility of creating logistics centers
- Identify trade facilitation issues
- Identify Palestinian and Israeli companies interested in creating a logistics center

Specifically, the consultant carried out the following:

- Conducted meetings with Alpha International, the local company tasked with surveying West Bank and Jordan Valley companies; clarified results and agreed on the basic graphic presentation of the findings
- Prepared and submitted a PowerPoint presentation of the survey findings
- Prepared and delivered a draft survey report analyzing logistics, warehousing, transport, and trade facilitation issues
- Recommended survey dissemination to specific organizations
- Made recommendations for next steps to develop warehousing and logistics management skills and logistics centers
- Described risks and opportunities

2. STUDY METHODOLOGY

During the mission, the consultant and a local expert met with West Bank and Jordan Valley transport and trading companies and other organizations (listed in the table below) to get information about their ability and willingness to develop transport and warehousing operations.

	Name	Type of Organization and Activity
1	Wassel Group	West Bank transport and warehousing company
2	The Jordan River Bridge	Israeli company owning land at several crossing points
3	National Beverage Company	West Bank bottler for Coca-Cola and distributor of drinks trying to use logistics best practices
4	Unipal General Trading Company	West Bank distributor for Philip Morris, Proctor & Gamble, Kraft, Kebler, Siniora, and Heinz, and trying to use logistics best practices
5	Masrouji Co. Ltd.	West Bank warehousing and transport company for pharmaceuticals trying to use logistics best practices
6	Palestinian Agribusiness Partnership Activity (PAPA)	USAID-funded agricultural technical assistance project in the West Bank
7	AL BARQ	West Bank transport company
8	Palestinian Shippers' Council	Palestinian lobby group
9	Alpha International	West Bank research and survey company
10	Ankara Forum	Turkish group of investing companies interested in developing an industrial park
11	Sinokrot Global Group Palestine Garden Company	Palestinian company with a Jordan Valley packing shed for fresh vegetables
12	Turkish Ambassador to Israel	One of the main Ankara Forum focal points
13	Japan International Cooperation Agency (JICA)	Japanese donor organization that carried out a feasibility study and plans to build an agro-park in the Jordan Valley
14	PALTRADE	Palestinian information-gathering and research association publishing transport and other reports

The meetings with JICA, the Ankara Forum, and the Turkish Ambassador to Israel focused on their agro-park and industrial park initiatives.

The consultant visited some of the crossings to get information about crossing land ownership and identify where logistic center or crossing center investors might come from. The consultant did not have an opportunity under this assignment to visit Jordanian transport and freight forwarding companies with logistics interests or Allenby Bridge crossing interests.

During the mission, the consultant met with Alpha International in Ramallah to clarify and discuss survey results and agree on the graphic presentation method for findings. These were finalized by TFP and submitted to USAID separately.

3. WEST BANK SURVEY FINDINGS

3.1. Survey Method

Alpha International carried out a West Bank survey using a sampling of 406 companies. The companies were selected from the Palestinian Authority's Ministry of Finance list of active import and export companies that used crossing points during June 2008 and paid customs duties and fees. Data collectors interviewed company financial managers, and data collection was carried out from November 4 to 18, 2008. Ten percent of the collected data was double-entered to ensure data entry quality. Data was transferred into the Statistical Package Social Sciences (SPSS) program using the Stat-Transfare program to ensure data transformation and accuracy.

West Bank Survey Question Objectives

The survey questions were designed to gain information on the following:

- *Industry sector*—Some industry sectors may be more prepared to consider using logistics centers than others. For example, pharmaceutical, dry food, and cosmetics companies may want to use logistics centers managed by a logistics company as these types of companies understand the need for 'Class A' warehousing with temperature-controlled environments and inventory security.
- *Export*—Information about container usage, using own company trucks or using trucks from a contracted transport company, and current range of value-added services.

3.2. Findings

Respondents were from 10 towns in the West Bank, with the majority from Hebron, Ramallah, Bethlehem, and Nablus. Raw materials, domestic appliances, and food items were the three main industry sectors. Only 17 percent of the sampled companies exported, and they mainly exported food such as fruit and vegetables, construction materials, and furniture. Eighty percent of exporting companies used the Jordan Allenby Bridge crossing, while about 29 percent used the Ashdod seaport. Most West Bank exporters got their consignments from the factory to the export exit point in 14.3 days on average.

Containers. Very few containerized shipments leave the West Bank; most are attributed to imports. Logistics best practice is to use containers for transport loads if security, pilferage, and spoilage are supply chain issues. Container loads ideally should have electronic seals if crossing administrations want to ensure security. Ideally, crossing staff should have IT equipment to read shipment data held in the electronic seal. They can then compare seal information with the shipment contents. However, untrained crossing staff might prefer

Logistics Centers provide a range of value-added services, such as goods receiving, storage, collection and delivery transport, palletizing, order picking, import clearing, export consolidation, and computerized inventory management in one location. Instead of each company arranging their own storage, trans-port, import clearing, and export delivery, the cost of managing the

inspecting open trucks because it is easier to see goods in an open truck compared with tightly packed goods in a closed container. Physical inspection best practice is approximately 5 percent of shipments.

Transport time. Compared with 14.3 days for West Bank international exports, Israel exports take an average 5.7 days to get to destination from factory. This might be high considering the short transport distances.

Contracting transport. Most West Bank companies use hired transport from a transport company instead of using their own trucks, so many are used to contracting out part of the supply chain function. However, the contracted trucking and warehousing companies do not provide much added value service, although they are able to offer added value such as warehousing, palletizing, and shrink wrapping. No transport company was providing inventory management and order picking services.

Routes. The most common route to Israel is from Hebron using the Tarqumia crossing. Other important routes include Ramallah to the Betounia crossing and Bethlehem using the Tarqumia and Al Nafaq crossings. The largest traveling distances to crossings were from Bethlehem and Hebron at 60 and 57 kilometers respectively.

Main problems experienced. The three main problems experienced by exporters to Israel in order of importance were reported as follows: (1) difficulty getting the "offset invoice," (2) transferring goods from one truck to another truck, and (3) security checks delaying transport. Trade facilitation solutions might include a faster method for issuing the "offset invoice," for example, using electronic information exchange method and mechanized load transshipping. Security checks might be faster using electronic means of comparing truck, driver, and goods information upon arrival.

Other ways to speed security checks include truck registration checks using a number plate scanner that sends signals to a police, Ministry of Transport, or other relevant data bank; a driver's license scanner that sends signals to police and/or security data bank; and goods manifest scanned into a trade information data bank. If a truck carries goods not consistent with previous crossing trips, this should raise a security alert. However, if crossing administrations do not have IT risk management methods, crossing staff do not know what trucks to expect and do not have the means to check trucks, drivers, and goods other than a basic visual inspection. Customs and crossing best practice includes comparing advance information and previous patterns with information to hand upon truck arrival. Ideally, the duties of crossing point staff should not be limited to physical goods inspection.

Crossing point problems. When asked about all crossing point problems, exporters again listed difficulty getting the "offset invoice," transferring goods, and security checks causing delays as the top three, respectively. Other problems include crossing procedures and crossing closures, some of which might get alleviated with better and faster information communication.

Import. Of those surveyed, 63 percent import from abroad. The most common import is electrical appliances, followed by food, clothes, furniture and construction materials. The most common international gateway for import is Turkey, followed by the People's Republic of China. Other imports originate in Italy, Germany, the United States, France, and India. Most imports come through Ashdod seaport, followed (in order of frequency) by Haifa seaport, Ben Gurion Airport, and the Jordan Allenby Road Bridge. Imports take an average of 42.5 days to reach destination.

Eighty percent of the sampled companies trade with Israel, importing electrical appliances, construction materials, food, and textiles, and mainly use the Tarqumia, Tulkarm/Sha'ar Ephraim, and Betounia crossing points. In one month, 108 container loads were brought into the West Bank, compared with only 28 containers leaving during the same month. Most companies used hired trucks from transport companies to bring shipments into the West Bank, taking on average four days to complete procedures and transport. Most goods are transshipped at the main crossing points of Tarqumia (while detouring to Hebron and Bethlehem) and Betounia for Ramallah, Tulkarm/Sha'ar Ephraim-Artah for Nablus, and Al Nafaq for Bethlehem. Hebron and Bethlehem locations had the longest recorded distances at 111 and 76 kilometers, respectively, with 79 kilometers for Ramallah and 71 for Nablus.

The three main importing problems for companies trading with Israel include: (1) security checks causing delays, (2) transshipping goods from one truck to another, and (3) crossing closures. Nearly half of the sampled respondents had no major second tier of problems, while nearly three-quarters of respondents had no third tier of problems. Respondents recorded their main import crossing problems as follows:

- Security checks causing delays
- Transshipping goods from one truck to another
- Long crossing waiting times
- Crossing closures
- Seaport delays

About 85 percent of West Bank traders do not send goods to Gaza, and 95 percent of those that do use their own small warehousing.

Time arranging shipment. West Bank traders spent on average three hours arranging each shipment transport, which is high compared with logistics best practice. Contracting trucking to a third-party service provider should take less than three hours. The third-party transport service provider seems to have problems giving transport services. Additionally, 10 percent of traders spend more than 15 hours arranging shipment transport, which would be unacceptable for companies in Europe. Moreover, if spending a lot of time arranging shipment transport was not already wasting staff time, 58 percent of traders pay someone to arrange transport and track shipments, resulting in yet another unnecessary financial burden on small and medium enterprises that have only one to two employees. Only 18 percent of companies had more than three employees.

Most companies spend on average three hours tracking each shipment, which is too much time. Some companies spend between 5 to 10 hours tracking shipments, while a few spend more than 15 hours, which is not acceptable in a logistics supply chain.

3.3. Analysis of Findings

West Bank trading companies with small staff numbers spend a lot of time arranging hired shipment transport and then spend a lot of time tracking each shipment, so it was not surprising when nearly 58 percent responded that they would like to use one logistics company for all their transport, tracking, and warehousing needs. However, 41 percent were not committed to the idea of using one logistics company. The survey found that companies wish to lower their costs and make their work easier, but this does not mean that they would definitely contract with a new logistics service provider. Any new logistics service provider needs to convince traders to sign contracts, which might not be easy in an area not accustomed to independent logistics service providers.

Marketing logistics service concepts to West Bank traders might be easier compared with getting traders to commit their trust to a logistics company. Of those companies that indicated that they would not commit to a logistics company, about 56 percent mentioned they can manage logistics functions alone. This is not surprising because small companies have low monthly shipment numbers.

A new logistics service provider might be interested in the following value-added services needed by those companies responding positively to using a logistics service provider:

- Transport and reducing crossing times and problems
- Import
- Export
- Palletizing
- Breaking bulk
- Warehousing

- Shrink wrapping
- Accurate invoicing
- Packaging
- Order picking
- Inventory management
- Chilled reefer transport

This is a relatively unsophisticated list of logistics needs. Order picking and inventory management are not the West Bank traders' most important needs, while transport for importing and exporting and reducing crossing times and problems are. Crossing procedure experience seems to be an important issue when choosing a local transport company. No amount of new pallet racking and "bells and whistles" computerized inventory management will solve crossing delays. Expensive radio frequency identification (RFID) tagging and scanning methods might reduce tracking times. RFID methods give significant amounts of shipment information that can be exchanged with customs and logistics providers. RFID methods might help improve supply chain security if administrations along a supply chain route want to improve supply chain security.

However, before administrations and trading associations start preparing logistics and supply chain solutions, they should consider that the majority of respondents replied that they did not understand the concept of logistics centers even though they answered that they believed a logistics center could reduce their storage and transport costs and save time. Trading associations such as the Palestinian Shippers Council might consider that there is an opportunity to prepare and disseminate logistics center and supply chain information to West Bank traders and transport companies.

If an investor wants to enter the market of providing logistics services using a new logistics center, the investor might want to consider the following, in order of importance:

- Saving client time arranging transport and tracking import and export shipments
- Reducing client current costs by benchmarking a client's transport and tracking costs and comparing them at a later date with the new service costs
- Reducing client efforts in making import and export shipment transport arrangements
- Proving to prospective clients that they have specialized knowledge and skills
- Proving they have an organization able to provide reliable and predictable logistics services. A new logistics service provider might gain market advantage if it is able to provide a scheduled service. For example, some importers might value getting reliable and consistent information about their consignments. If warehouse inventories get reduced from three to two months, importers will save money.

A new investor might need an IT tracking and recording method enabled to communicate tracking information to clients. A new IT tracking method might need Web-based technology that allows clients to view real-time shipment tracking information. The Web-based technology infrastructure and software system might become part of a supply chain management practice.

4. RECOMMENDATIONS AND NEXT STEPS

Small West Bank companies making small monthly import and export shipments using small West Bank transport companies need small-scale and low-cost solutions if existing transport companies are to reduce staff time tracking shipments. Small-scale IT solutions that computerize shipment tracking and provide clients online access to shipment status information might help. The solution package might include computer hardware, off-the-shelf shipment tracking software, system and wiring installation, user training, and a systems maintenance agreement with a local West Bank computer services company.

No West Bank transport company visited was prepared to consider investing in new premises, buying new trucks, or installing new warehouse storage systems and forklift trucks. It seems unlikely that a West Bank transport company might be interested in an initiative to install pallet racking and use a forklift truck because the companies have small warehouses and none of the warehouses have high ceilings.

No small West Bank transport company has computerized warehouse management systems. A few West Bank trading companies have computerized inventory management systems, but they do not allow management to lower inventories because crossing delays lead to uncertainty causing the companies to hold three to six months' stock. Implementing inventory management initiatives will not lead to reduced company safety stock and possible cost reductions to West Bank consumers while crossing delays continue.

One West Bank company that has several food product distribution rights believes it has enough critical mass to build a new distribution warehouse. The warehouse might have a six pallet storage height, reach trucks for loading and unloading pallet bays, computerized inventory management, warehousing management software, and the spare capacity to offer some West Bank companies third-party logistics services (3PL). The company considers getting trained warehousing staff as one of its largest challenges. Turning a problem into an opportunity might help this company solve the warehouse staff problem. The project might create an in-house warehouse staff training program with a train-the-trainer component so some staff are able to give training in a local institution. The company might welcome help with a business plan and a feasibility study for the 3PL part of the warehouse infrastructure. The business plan might include a marketing plan identifying which West Bank companies might consider switching to using a 3PL service provider, as well as calculate costs and revenues and plot cash flow, budgets, and profits.

Other logistics training might get carried out by training the trainers in one or several West Bank institutions that might give students and employees the opportunity to get internationally recognized transport and logistics qualifications. The Palestinian Shippers Council (PSC) used a United Nations Commission for Trade and Development (UNCTAD) assistance program to create the council, and one of PSC's future objectives is to offer logistics training. PSC management wants to create sustainable training programs. Sustainability might get created by several bodies acting together—for

example, the PSC with one or more education and vocational education and training institutions. Palestinian transport and logistics staff should have the same training opportunity as staff in other countries' logistics companies.

Building a new logistics center poses a lot of challenges not easy to resolve when there are no private companies prepared to invest in new logistics centers in the West Bank or at the crossings. The Ankara Forum initiative might offer an opportunity to create a small logistics center, but there are as yet no resolutions to the initiatives' challenges. The JICA agro-park planned for the Jordan Valley might help agricultural companies, but no companies expressed interest in renting land with road access and all utility services.

Below are recommended next steps for improving logistics.

4.1. Shipment Tracking Method

- Identify one West Bank transport company willing to act as a pilot project
- Prepare tracking method feasibility study
- Prepare tracking method marketing plan listing benefits and costs
- Identify West Bank computer company willing and skilled to carry out pilot project
- Identify tracking method computer hardware and software, which might include GPS
- Carry out pilot project
- Identify project rollout ability and identify other potential users
- Identify alternative pilot project with the PSC

4.2. Logistics Center and Supply Chain Information Dissemination Program

- Prepare logistics center and supply chain management information leaflet, handing it to identified companies that have West Bank and Jordan Valley transport, warehousing, and related supply chain interests
- Prepare Web-based logistics center and supply chain management information
- Prepare and carry out a logistics and supply chain management workshop for main parties dealing with transport, warehousing, and related logistics functions. The objective is to communicate logistics and supply chain management functions and give an awareness of how logistics and supply chain management are performed in other countries.

4.3. Logistics Training

- Identify logistics skills training gaps and needs by interviewing transport and warehousing companies in the West Bank
- Identify a logistics training partner, such as the PSC, private companies, and West Bank universities and training colleges
- Prepare a training feasibility study identifying sustainable transport and logistics training programs, train-the-trainer programs, and training location(s). The study might include a small pilot training program that could get rolled out when the pilot project achieves its objectives.

- Identify types of training, such as certificate, diploma, distance learning, and employer-related training programs.
- Identify international transport and logistics institutes willing to create sustainable training and education programs leading to internationally recognized qualifications

4.4 Warehouse Management Pilot Training Program

- Identify one West Bank transport and warehousing company, such as Unipal Trading, that might agree to have an in-house warehouse management training program
- Include warehouse management training of trainers in the program
- Consider using international warehouse management experts skilled in training new and existing staff in warehouse management methods, computerized warehouse management, health and safety, and other warehouse management skills for managers, supervisors, warehouse operatives, and forklift drivers

4.5 Third-Party Logistics Feasibility Study

- Agree with Unipal Trading on a joint third-party logistics feasibility study
- Identify future new warehouse space Unipal considers suitable for third-party logistics and how this might impact on Unipal's own account logistics
- Carry out marketing survey on selected West Bank transport and trading companies that might consider contracting third-party logistics
- Agree to third-party logistics working group, which might include an international third-party logistics and warehousing expert
- Agree to the feasibility study work plan
- Agree to information confidentiality rules
- Carry out the third-party logistics feasibility study

ANNEX I. LOGISTICS CENTERS

Logistics Definition

The USA Council of Logistics Management defines logistics as "the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements." To this definition, the consultant adds "*complying with contractual obligations and at a profit.*"

A logistics center is part of a supply chain where client goods are received and dispatched. It helps clients reduce supply chain costs by sharing building, equipment, vehicle, staffing, and other resource costs between several clients. A logistics center collects goods on time, delivers on time, and gives value-added services, all at an agreed cost with clients and profitable for the center owner.

While the goods are stored or transiting, a center may provide value-added services such as the following:

- Tracking
- Warehousing
- Inventory management
- Customs bonding
- Break bulk and palletizing
- Order picking
- Added processing or amalgamating with parts made in another country of origin
- Sorting and packaging
- Shrink wrapping
- Tracking and tracing
- Invoicing

Logistic center buildings are designed to include pallet racking and accommodate forklifts and reach trucks. Logistics centers use modern IT hardware, warehousing, and materials handling software to help managers, supervisors, materials handling equipment operators, and order pickers accurately manage and meet contractual obligations with their clients.

A logistics center can range from the simple to the sophisticated.

Simple Logistics Center

- Uses pallets and forklifts under one roof in an old factory or vegetable processing shed
- Management relies on proven paper methods instead of IT
- Has several years of logistics experience and an excellent understanding of client needs

Sophisticated Logistics Center ('Class A' Warehousing)

- Includes air conditioning, IT inventory management, and automated reach trucks to store pallets into racking systems between 6 and 12 racks high
- Has automated carriers running on special rails in the warehouse floor to carry pallets to and from trucks
- Floor constructed to handle heavy loading weights
- Trucks are emptied into warehouses using motorized rollers on the container floor in about one minute, maximizing the number of truck trips each day
- Identifying pallet content technology includes bar coding, using bar code readers linked to center IT inventory management methods and radio frequency identification using tags and tag readers

Different logistic center models satisfy different client needs—for example, chilled pharmaceutical as well as chilled and frozen food air conditioning because of large temperature variations. Seaports, railway terminals, and crossing points need multimodal handling equipment.

There is a fundamental difference between inventory holding centers and centers that do not hold inventory. Centers holding inventory are called transshipment centers while non-inventory centers are called cross-docking centers. The cross-docking center is increasingly used by companies wanting to reduce logistics costs and improve product-to-market time. Some logistics centers are also called hubs, terminals, warehouses, or packinghouses.

Logistics center management must find methods to reduce operating costs in order to maintain profitability while maintaining agreed client service levels.

ANNEX II. DRAFT LOGISTICS SKILLS CONCEPT FOR THE WEST BANK

Current Status

Several West Bank companies need skilled warehousing, transport, and logistics staff and managers to manage existing supply chains. A few West Bank companies in the future plan to build new logistics centers, which would need skilled warehousing, transport, and logistics staff and managers. The West Bank does not have warehousing, transport, and logistics courses of any type.

Two good resources for logistics courses are the City & Guilds and the Chartered Institute of Logistics and Transport accredited in the United Kingdom. They offer either full- or part-time courses. Many vocational education and training colleges deliver City & Guild logistics skills courses. The Chartered Institute of Logistics and Transport delivers certificate and diploma courses. Students and staff finishing courses receive accredited logistics qualifications that are recognized worldwide.

Concept

The Palestinian Shippers Council (PSC) takes the lead organizing a Logistics Skills Working Group.

Logistics Skills Working Group membership might include the PSC, Masrouji Co. Ltd., National Beverage Company (Coca-Cola bottlers), Unipal (distributors for Proctor & Gamble, Philip Morris, and Heinz), Birzeit University, and other companies to be determined. The working group must be industry-led.

Working Group objectives might include the following:

- Create and deliver courses for company staff
- Create and deliver certification courses in a vocational education and training college
- Create and deliver courses in a university
- Measure Palestinian education institution ability to create and deliver logistics certification and diploma courses
- Study how logistics courses delivered at a vocational education and training college(s) and university(s) get accredited in the West Bank
- Study how the Palestinian Ministry of Education can approve logistics courses in the national education syllabus
- Estimate number of employees, supervisors, managers, and directors wanting training
- Estimate student, employee or company ability to pay for courses, and the size of the market
- Estimate the numbers of students who might be interested in taking transport and logistics certification and diploma courses