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# AN ASSESSMENT OF SEVERAL REGIONAL INVESTMENT PROPOSALS IN JORDAN

Final Report

February 12, 2009

This publication was produced for review by the United States Agency for International Development. It was prepared by Gary Kilmer – DAI.

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Final Report

USAID JORDAN ECONOMIC DEVELOPMENT PROGRAM

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BEARINGPOINT, INC.

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*The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.*

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## **FOREWORD**

The nature and scope of this consultancy, which took place between January 24 and Feb 12, 2009, shifted and expanded considerably as it went forward. The original TOR is attached for reference. I conducted field visits and met with the appropriate counterparts. This enabled me to gain a complete enough understanding of the situations involved to offer concrete responses to the questions posed and suggest areas where further work may be required.

The original TOR focused on packaging issues related to three products: herbs, jameed and lemon juice. The report will cover these issues as well as others that were requested throughout the assignment including an assessment of the feasibility study that has been carried out for the construction of a new fresh vegetable grading facility in Ghor El-Safi and the suggestion of development strategies in several areas. I have presented each of the topics as a discrete section in order to facilitate sharing them individually.

## EXECUTIVE SUMMARY

The six project proposals covered in this report include the following:

- Kinanah Women Association Dried Herb Project
- Jameed Production and Packaging in Karak
- Lemon Juice Processing in the Jordan Valley
- Citrus Value Chain Development
- Ghour Safi Grading and Packing Facility Feasibility Study and Development Strategy
- Central Market Box Project

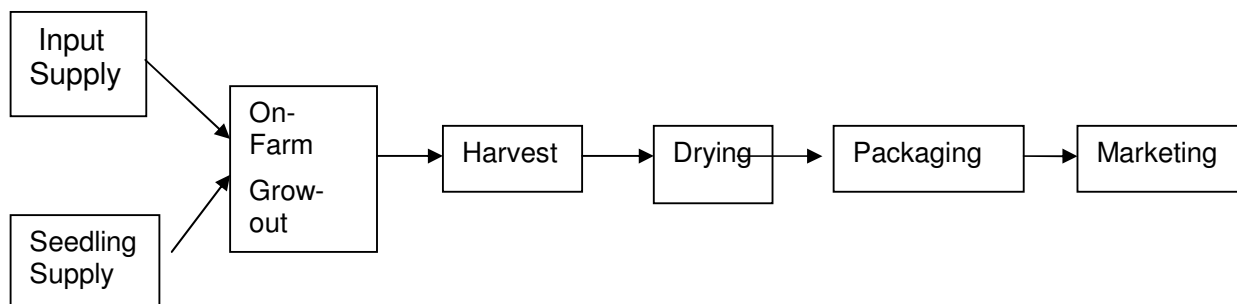
In each case I have adopted a value chain approach to considering the proposed investments including, where appropriate potential packaging parameters, grant opportunities and follow-on short term technical assistance assignments. I hope that the conclusions and recommendations are clear in each case.

## KINANAH WOMEN ASSOCIATION DRIED HERB PROJECT

A grant has already been approved to the Kinanah Women Association to support the production and marketing of 50 small (1 dunum) plots of culinary thyme by association members. Training activities have been carried out. Drip irrigation equipment has been purchased, disbursed and installed. Fields have been prepared for planting and seedlings are ready to be planted. Unfortunately, no comprehensive business plan has been prepared (or at least not in English) and the brief parts that were translated were more in the nature of a feasibility study than a business plan. No firm post-harvest, processing, packaging or marketing plans are in place.

I visited the location on Jan 27 to meet with the association leader and one of the member-farmers. I also met twice with Mr. Muhammed Awamleh, agriculture consultant to the project. The only documentation available in English was the grant proposal and related grant documents. A basic assessment of the market was conducted by supermarket visits and review of a report on the Balaysan Company (Association of Women Agriculture Engineers).

The dried herbs value chain within which this project resides is a fairly simple one, as follows. Each step is discussed below.



**Input Supply:** Major inputs such as fertilizers, pesticides and plastic mulch can be readily procured locally. Packaging material can also be designed and purchased from specialized local suppliers once the design process is completed.

**Seedling Supply:** Mr. Mohammad Awamleh, who is also the consultant to the project, is providing the seedlings for distribution among the members. He is an experienced produce or such products.

**On-Farm Grow-out:** On farm grow-out will be carried out by the 50 women participants in the program with training and oversight from Dr. Awamleh. There has been some resistance to modern horticulture practices suggested by Dr. Awamleh (e.g double row planting, the use of plastic mulch and effective use of drip irrigation systems) but he is convinced that the majority of the participants are prepared to follow advice and do what needs to be done to achieve a profitable harvest.

**Harvest:** Harvesting will be done by hand by the women themselves with help from family members. Thyme is a crop that can be harvested several times during a single season making harvesting a significant user of labor.

**Drying:** No firm arrangements appear to have been made for the drying of the crop. Like many fresh herbs, thyme can be dried in the open air, in which case the women can do it at home, or moved to the association center and dried in a closed environment –

preferably with a solar drier. I suggest that some tests be done with simple solar drier technologies to determine the extent to which drying time can be shortened and bio-safety improved by moving the product inside. Either a room type drier or a tunnel dryer could be used for this type of product. I could provide conceptual sketches of both types of drier if that would be helpful. Many designs are available on the internet. I was not able to investigate the experience with the use of solar driers in Jordan during my visit.

**Packaging:** After reviewing current packing practices in the retail market I suggest that the association work with a very simple and inexpensive heat-sealed plastic bag with an attractive crack and peel label for its retail marketing – a 500 gm bag for the basic consumer package and a 10-15 kg plastic bag for the spice shops, restaurants and other institutional users. The original grant to the association include JD 2,000 for “product development and marketing” to be matched by JD 2,000 in association funds. This combined amount should be enough to contract for the design assistance required for the label design as well as the acquisition of simple heat sealing equipment and initial supplies of packaging materials. I will include a brief TOR for the branding and label design assignment at the end of this section.

**Marketing:** The objective of the association has been to produce and market dried thyme for the kitchen and in tea bags. The general lack of thyme tea on the store shelves suggests that it is either not very popular or, more likely, that people use their kitchen thyme to make tea at home as a less expensive alternative to tea bags. Undocumented price information I was given suggests that, unsurprisingly, small farmer profitability will be greatly enhanced if she can sell her thyme freshly harvested, with no drying or packing at all. It is not likely that the fresh market will be able to absorb all of the fresh thyme available though the extent of fresh market demand and effective marketing strategies for it remain to be evaluated. Any surplus, after fresh thyme prices fall to breakeven level, can be dried and packaged for the retail market. I suggest deferring the tea bag idea until the other products are fully developed.

The pricing data available indicates a price of JD 1-1.5/kg for fresh thyme, JD 4-7 for dried thyme leaves and JD 13/kg for thyme tea bags. Other information suggests a conversion ratio of 6-8 kg of fresh thyme for 1kg of dried thyme depending on the season (variable water content). I assume this is before cleaning and includes branches and other woody material, the removal of which would further reduce the conversion ratio to a conservative estimate of 8Kg of fresh thyme for 1Kg of dried leaves. This would mean that a price of JD 5.00 for dried thyme leaves would justify a price of only just over JD 0.60/per kg without accounting for drying, packaging, marketing and distribution costs. Those additional deductions could bring the price to farmers for fresh thyme to be dried down in to the range of JD 0.40/kg, roughly 30% of the price for thyme sold fresh. I am neither accepting nor denying the validity of these numbers but a variance of this magnitude certainly should be verified and thoroughly understood before a comprehensive marketing plan is developed. I have seen no indication of this being the case.

It has been suggested that the association develop dried thyme marketing linkages with different local partners – including the Baylasan Association, which is already doing a similar business. It has also been proposed to establish development marketing arrangements with several other traders, supermarket chains and exporters. I suggest that in the first year marketing emphasis be placed on the sale of fresh thyme in bulk to permit the farmers to focus as much as possible on production rather than marketing. If it is possible to sell fresh product in bulk to a processor like the Balaysan group, it could be ideal. The price structure referred to above suggests, however, that the price paid to farmers for fresh thyme for drying would have to be much lower than the price that can be paid by households or restaurants/institutions that will use it directly in food preparation. Unfortunately, it was not possible to arrange for a meeting with Balaysan to explore joint marketing possibilities.

Beginning with the least sophisticated products in the most traditional markets will provide a bit of time for the association to develop and test a more comprehensive and sophisticated processing and marketing system, which is likely to require more time and money than the promoters currently foresee.

Marketing priority #1	Direct sale of fresh thyme in bulk
Marketing priority #2	Sale of dried thyme leaves in bulk
Marketing priority #3	Sale of dried thyme in retail packs

#### Packaging/ Branding TOR:

The grant to the Kinanah Association included JD 2,000 for “developing marketing and promotional material” with another JD 2,000 to be provided by the association itself for “packaging materials and samples to be used in the packaging process.” I believe this should be sufficient for the design of appropriate packaging and labeling.

I suggest that the contract be made by the association with the selected service provider under SABEQ oversight in the form of a fixed price contract for a finished product using language like the following:

**Objective:** The selected contractor will provide a design specialist and a branding specialist to assist the Kinanah Woman Association with the design of an effective label that is scalable for use on clear plastic bag packaging of various sizes. The branding specialist will be expected to meet with the association members and consumers in a focus group setting to determine the messages that are most likely to attract retail buyers to Kinanah’s dried thyme product and then to prepare at least 5 label concepts for presentation to the association. After the selection of one of these five, the contractor will proceed with the final design of the label including graphics, promotional text, information required by Jordanian labeling laws and a bar code. The contractor will then provide up to three revisions of this design without additional charge.

**Deliverable:** The contractor will deliver a print-ready design of a selected label for the Kinanah Women Association including the following elements at a minimum:

- all graphics and promotional text reflecting the positive marketing values of the product in a way that will be easily extended to other products in the same general line as they are develop.
- graphics and printing suitable for scaling to fit various size packaging
- true color specifications
- all text or other material required to conform to Jordanian packaging laws
- bar code

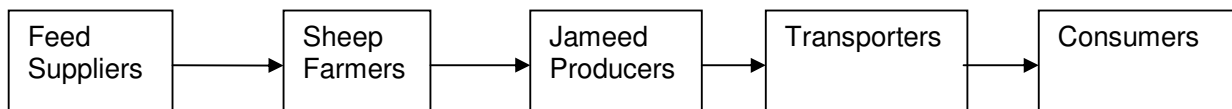


## JAMEED IN AL-KARAK:

Jameed is a traditional yogurt-like product produced from sheep milk and typically manufactured in the form of dry “stones” averaging around 500 gm each. It is a basic ingredient in the Jordanian national dish, mansaf, and an important element of local culture. Jameed from Karak is generally recognized to be the standard of the industry.

The history, structure and current status of the jameed industry in Karak Governorate are spelled out quite well in the “Jameed Subsector Analysis and Product Development” study prepared for SABEQ by Reem Goussous of Al Jadira consulting firm in December of 2008. The analysis and recommendations that follow are based on that report supported by a visit to producers in Karak on January 28<sup>th</sup>, interviews with packaging providers, supermarket visits in Amman and follow up interviews with Ms Goussous.

Value Chain: Ms. Goussous included a comprehensive mapping of the subsector on page 6 of her report. It may also be useful to consider the sector from the current supply chain perspective and then examine critical issues associated with each link in the chain.



**Feed Suppliers:** The shortage of grain and green fodder for sheep in the region is undoubtedly the single biggest constraint on increased sheep milk production in Karak this year. Feed prices are very high due to the severe drought in the region. Sheep are not able to thrive on grazing alone. The government had previously provided a “fodder” subsidy to assist sheep farmers in the region. This was stopped in 2008 at the same time feed prices were increasingly naturally providing extra negative leverage on the ability of farmers to procure what they need to feed their flocks and resulting in the sharp drop in the sheep population noted below.

**Sheep Farmers:** High feed prices and the additional stress placed on the arid natural grazing area by the extended drought resulted in a 36% decline in the total Karak sheep flock between 2007 and 2008. The effect of this decrease on the availability of milk for processing is assumed to be less than this, however, as most sheep farmers, especially the larger ones, put more emphasis on the sale of meat than milk and many do not have ready access to a market for their milk. Many do not even bother to milk their sheep, allowing the lambs a longer nursing period than may actually be necessary. The effect on the growth of lambs caused by early weaning should be evaluated carefully to insure that whatever costs there are in terms of decreased lamb productivity are more than compensated for by the sale of milk.

**Large-scale sheep producers in Karak** (525 with more than 100 sheep) are not even properly equipped for proper milk handling and delivery to a jameed producer. Training is likely to be required before they are able to produce milk of high enough quality to be safe for use in jameed production. They will require both an incentive to begin providing milk for processing and increased technical capacity to do it safely. This need does not seem to have been considered in the planning and evaluation of this project.

**Jameed Producers:** An estimated 70% (100 tons) of total jameed production in Karak Governorate is produced by women working at home. They either use milk from their own sheep or whatever they can purchase from family and friends nearby. Unfortunately, their

ability to fully commercialize their production is restricted by their inability to comply with minimal food safety standards, their lack of proper production equipment and their rather erratic production pattern due to a limited milk supply and lack of working capital.

Three of the four semi-modern production facilities in the region are currently inactive. All were funded largely by outside donors and handed over to local coops or farmer associations that have failed to manage them effectively. Only the one in the town of Abel owned by the Karak Sheepbreeders Association and operated by Eng. Za'al Kawalit on a lease basis is fully operational and it is operating at only about 50% of capacity due to the lack of an effective milk collection system. I understand that one of the other units, a smaller one in Shafa Al-Khair, has operated successfully in the past but was inactive last year because it was unable to collect milk. I did not visit this site.

The vast majority of jameed is marketed through family networks or personal contacts. People in Amman place their annual order for jameed with their favorite supplier months in advance to insure that they receive it in time for its use in the preparation of traditional festive dishes. The traditional nature of this product makes its demand relatively insensitive to changes in price. Very little genuine Karak jameed is available in retail stores in Amman and is not likely to be until production increases substantially. There is some availability of lower quality products in liquid and ground form, mostly imported from Turkey or Syria, but true jameed gourmets look down on these products as not fit for use on their special occasions.

The Abel operation appears to have the capacity to lead the way in the commercialization of the industry, given the proper assistance to increase production by running a regular milk collection route during the production season and developing an effective branding and packaging program to facilitate the placement of increased production in supermarkets.

Transporters: Jameed is generally transported by a family member of the producer to household customers in Amman. It would be easy to suggest that consolidating the distribution function could result in a cost savings but this should be analyzed carefully before trying to change it. It may be that producers are reluctant to share the customer list with anyone else or that the delivery function itself is part of the social transaction that accompanies the financial one.

Consumers: Jameed is a product of high traditional significance in Jordan. Many consumers have established relationship with preferred suppliers (often family members) months in advance for their year's supply of jameed. The effect of this traditional marketing pattern, coupled with an overall shortage of jameed in the market means that very little is sold through commercial market chains. As the popularity of large supermarkets continues to grow and the availability of jameed increases on their shelves, I expect that the traditional pattern will begin to break down naturally. The value of greater convenience (and confidence that the product will be obtainable when it is wanted) will eventually overtake the intangible cultural value people gain from the purchase systems now used. As this occurs, the importance of packaging for food safety and branding/promotion purposes will grow.

I have seen similar cases with other products (e.g. honey in Armenia) where a network marketing system of this type actually represented an informal transfer income from relatively better off family members in the city to their less prosperous relatives in the countryside. The strength of this more social transaction made it very difficult to modernize the honey sector.

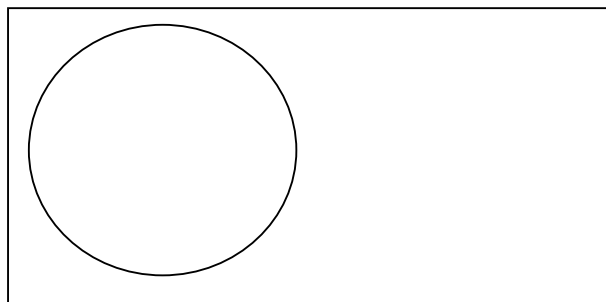
## RECOMMENDED DEVELOPMENT STRATEGY:

I recommend that three specific actions be considered by SABEQ as ways of promoting this value chain.

1. Provide a cost share grant for the purchase of a refrigerated vehicle and related testing equipment and milk cans to support the establishment of a milk collection system to support the plant in Abel. Ideally, this grant would go directly to Eng. Kawalit who is leasing the production facility now from the Karak Sheepbreeders Association. If that is not possible, then the grant can be made to the Association itself, which will then lease it to Eng Kawalit. The total value of the grant is estimated to be JD 36,000. The cost of, and need for, all of the items should be verified before any grant is concluded. I would generally suggest a grant of no more than 25% of this amount with the balance to be paid from a combination of the entrepreneur's own funds and bank loans that might be facilitated by a good business plan for which most of the necessary data already exists. I understand that SABEQ has its own grant parameters but I would strongly urge that the grantee's share of the cost be significant enough to make him examine the list of items and costs with a critical eye.

The rationale for this grant is that it will enable the Abel facility to increase its production by expanding the area from which it can purchase milk thus serving as a model for the other three now inactive plants around the governorate.

2. After the first grant is accomplished and production increases are beginning to appear clearly, I suggest a second grant to Eng. Kawalit (or the association) for the development of a retail packaging concept and acquisition of the required equipment. Major priorities in the design of the packaging should be that it be inexpensive, food safe (consistent with packaging standards), sturdy and attractive with branding emphasizing the role of jameed in traditional Jordanian values. The package design drafted below would meet the criteria I suggest. The base of the package would be a cardboard sheet approximately the same size as  $\frac{1}{2}$  sheet of A4 paper with the corners rounded to avoid crimping/damage in shipping and handling. The material used for this base should be stiff enough to resist bending in the vacuum packing process. At least the area under the stone itself must be of a certified food safe material. This might be accomplished either by making the whole piece of that material or by inserting a sheet of food safe plastic or foil under the stone itself on the left end of the diagram. All text and graphics (including the bar code) should be placed on the right end of the base. The back of the base (underside) can be left blank to minimize printing costs. The whole package would then be vacuum packed in a food safe clear plastic material.



The design process itself (package design and graphics) should be contracted to a qualified local design firm with knowledge of Jordanian packaging and labeling standards and legal requirements. This work would be paid from the grant (cost share) and contracted by the grantee with supervision from SABEQ. Prior to doing this, I suggest that a focus group be organized among Amman consumers to develop effective branding concepts/values to be taken into consideration by the designer. These will most likely center on the traditional value of jameed from Karak and the role of jameed in the Jordanian culture. The focus group might be organized as a training exercise for one of the local consulting firms or managed less expensively (and more quickly) inside the SABEQ "house". This part of the grant should be no more than JD 2,000 and I would suggest a 50:50 cost share with the grantee as way on insuring its value to him, and application by him, once completed. I suggest that the product marking include an indication of the average size of the "stones" as being approximately 500 gm and that the marketing be done on a unit basis rather than by weight, which is always difficult with a pre-packaged product.

A second part of this grant (or perhaps a planned third in a series of grants) would cover a part of the cost of required packaging equipment and start up supplies. I was not able to identify any manufacturer of vacuum packing equipment in Jordan but it should be readily available in the region. It is not possible to make a budget for this aspect of the project until the design is completed but I would expect it to not exceed JD 10-12,000.

3. The third element of the program would be to enable household producers to increase their production of jameed and thus their incomes. I suggest that this objective be pursued through a "standardized" loan/grant package developed with, and approved in advance by, one or more local lending institutions. This design remains to be accomplished but it is believed that the primary constraint on the production of these household producers is their ability to buy more milk. What they require to do this is working capital and perhaps a few pieces of simple equipment to manage their increased volume. My rough estimate is that these packages should not total more than JD1,000 each. SABEQ might agree to make a grant of a certain percentage (50%?) of the total amount and help in negotiating the loan package. This could naturally only cover a limited number of producers (20-30) after which the program would be sustainable with the producers working directly with banks. The objective of the grant portion is to demonstrate the viability of the program to producers spread throughout the region and to the participating lenders.

A fourth step to be taken up after the first three are underway would encourage a move in the direction of consolidating the marketing function on a voluntary basis as surplus jameed begins to appear. Eng. Kawalit can be helped to develop his own set of quality standards for household producers from which he would purchase jameed for entry into his marketing channels under his own label. These standards would involve hygiene as well as product quality (appearance, shape, standard size, salt content, etc.). I believe that this program can be of significant value both to Eng Kawalit and the producers in the marketing of "surplus" jameed or as the supermarkets over take the traditional market channel in popularity. There is no need to try to "force" the household producers into this program. It is better to simply document it (in writing) and make it available to them with all of the requirements and payment terms clearly presented to enable them to make good marketing decisions according to their own needs.

The investment in this program can be leveraged by the possibility of its being replicated, with or without SABEQ assistance, in the other three production areas of the governorate. Nothing about it should be difficult to replicate once the track record is established.

The single greatest risk in this program is that it is premised largely on the assumption that, even as the total sheep count in the region declines, there is still a large volume of milk available that is not being commercialized due to lack of access to a ready market for it. The actual investments farmers would have to take to begin supply hygienic milk has not been evaluated as the opportunity cost of weaning lambs early has not either. I would personally not launch this program without a greater, fact based, understanding of these issues.

**Packaging/branding TOR:**

I suggest that a contract be made by the grantee (Eng. Kawalit) with the selected service provider under SABEQ oversight in the form of a fixed price contract for a finished product using language like the following:

**Objective:** The selected contractor will provide a design specialist and a branding specialist to assist Eng. Kawalit (and the Karak Sheepbreeders Assoc.?) with the design and development of an effective packaging and branding strategy designed to facilitate entry of the product into urban markets. The branding specialist will be expected to meet with the grantee and consumers in a focus group setting to determine the messages that are most likely to attract retail buyers to the product and then to prepare at least 5 packaging/branding/labeling concepts for presentation to the grantee. After the selection of one of these five, the contractor will proceed with the final design of the selected combination including graphics, promotional text, information required by Jordanian labeling laws and a bar code. The contractor will then provide up to three revisions of this design without additional charge.

**Deliverable:** The contractor will deliver a print-ready design of a selected packaging and labeling material label for the grantee's products including the following elements at a minimum:

- a comprehensive packaging concept including specification of all materials, which must be appropriate for use with food products
- all graphics and promotional text reflecting the positive marketing values of the product as determined from analysis of focus group results.
- true color specifications
- all text or other material required to conform to Jordanian packaging laws
- bar code

## **LEMON JUICE PRODUCTION IN THE JORDAN VALLEY:**

Status: Visited group requesting a SABEQ grant along with Rana al Turk on Jan 27<sup>th</sup>. No documentation was provided and I saw no evidence that this group is capable of establishing and operating a sustainable enterprise in the proposed sector. Lemon juice is basically a commodity traded in volume by efficient large scale producers. Most products found in the supermarkets, presumably acceptable for use in Jordanian kitchens, are reconstituted from concentrate and include other flavorings, stabilizers and preservatives. It may well be possible to develop a high-end pure fresh juice product for this market or to supply urban juice bars and restaurants with fresh lemon juice but the cost and complexity of developing this activity is probably beyond the capacity of this group.

### **RECOMMENDATION:**

Before proceeding with the proposed activity I suggest that a brief feasibility study be conducted focusing on the following specific elements and questions at a minimum:

1. A concise description of the business model – how will money be made? Who are the participants? What is the form of their legal entity and is it consistent with the operation of a for-profit business? What has been the purpose of the group and what have they done to address that purpose? They reportedly operated such a business in the past with the support of Habitat NGO and the “Green” entity (now collapsed) that did their marketing but I could see no vestiges of that experience.
2. What is the source of lemons that would be processed? Under what conditions are they available, during what times and at what prices? Are the group members also fruit suppliers? Would fruit be purchased locally or would the group have to collect them from farther away? We were told that they would purchase surplus lemons at the peak of harvest season. This requires some serious data collection and analysis with regard to the volume of lemons available, the length of time at which they may be considered to be “in surplus” and the prices that would make it worth the while of farmers to harvest and deliver them.
3. What indications are there of a profitable market for this product? Bulk or retail packaging? What real experience did the group have in working with Habitat and the “Green” entity that did their marketing?
4. What is the production process to be used? What equipment is required? At what cost? Available where? Is pasteurization required for food safety or to stabilize the product? Refrigeration? Flash freezing?
5. At least a rough production cost projection is required including packaging and distribution to making even a very preliminary assessment of the viability of the enterprise. I suggest assuming the use of a 300 ml glass bottle for high-end consumer packaging with 24 bottles in a carton and a common 3-5 liter plastic bottle for bulk packaging packed four in a box and possibly flash frozen for off-season sales.
6. What will be the rough cost of transforming the projected production site (already being renovated) into a production facility compliant with Jordanian food safety regulations?

7. How does the group propose to finance and manage the operation and market its products?
8. Meet with Mr. Omar Halibi (Roofess Juices) or other potential partners to seek creative and mutually beneficial partnerships (distribution through an established market chain, use of cooling/storage facilities on a fee basis, etc.)

If the results of this study are positive (no more than 6-7 person days should be required to complete it), then it will be necessary to proceed with a full business plan based on the template for new business establishments developed by SCORE (Senior Corps of Retired Executives). That would be the point to answer the branding and packaging questions in detail as proposed for the Kinanah dried herb project and the Karak jameed project.

## **CITRUS VALUE CHAIN DEVELOPMENT:**

Investigation of the proposed lemon juice project, discussed above, led to a broader consideration of the citrus value chain in general. No written material was available on the sector but tentative observations and recommendations can be presented on the basis of field observations and interviews, all of which need to be confirmed with more in-depth research before any investment commitments are made.

### **Observations:**

The citrus value chain appears to be a major agriculture sector in the Jordan Valley but I was not able to locate any comprehensive profile of the sector dealing with its scope, participants, production practices and constraints. Having answers to these questions is critical to determining the development potential of the sector and designing a comprehensive develop strategy for it.

SABEQ has supported one citrus farmer association with small grants to demonstrate improved irrigation practices. While it is too early to determine conclusively that the irrigation systems will result in increased fruit yield and quality, participating farmers explained that they have already noticed improved tree vitality since the new system was introduced. Other farmers are now asking them how they might participate in the program as well.

The MIRRA company, irrigation specialists who have advised SABEQ and farmers in the design of the grant-supported irrigation system, appear to be knowledgeable and respected by farmers. I cannot evaluate how far their knowledge extends into other citrus production practices.

Mr. Omar Halibi (Roofess Juices) appears to be a successful citrus grower and processor in the Jordan Valley. His processing plant is clean and relatively low-tech producing pure fresh juices only, flash freezing some for export and off-season sales. He is eager to develop new products but it doesn't seem that he has fully exploited what he is doing already in terms of marketing and his products are at the high end of market potential price-wise. He would like to work with SABEQ in a way that would encourage the amount of fruit he buys from growers.

There appears to be little regard for the government agriculture research organization (NCARE). Farmers seem to feel that they are on their own as far as technical assistance or extension services are concerned.

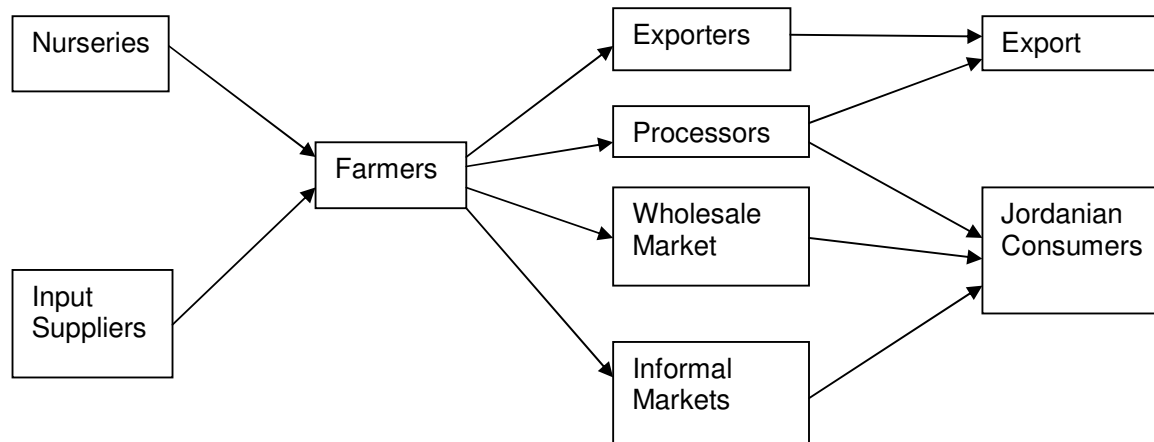
The domestic citrus market appears to be quite unsophisticated. Fruit is picked and packed (with some rudimentary sizing and grading in the field) directly in 5 kg. polystyrene boxes for the most part. The boxes are then moved directly to the market in small trucks with no cold chain facilities visible. Some of it clearly passes through the wholesale market in Amman as required by law but I suspect a lot of the fruit, especially during the peak harvest season, moves directly to roadside produce stands that feature citrus, tomatoes and a small variety of other produce in smaller quantities. Mr. Halibi relies primarily on his own orchards and those of family members for the fruit he processes. He would have the capacity to increase production considerably if he purchased more from other neighboring farms. The reason for him limiting his operation as he does is not clear.

### **VALUE CHAIN:**

The information available is not sufficient to support a comprehensive value chain analysis. Major elements of the value chain are readily apparent, however, and provide a framework for considering the strengths and weaknesses of the industry. A brief consideration of each



of these elements will highlight where more information is needed and where useful interventions may be planned to improve the profitability of the sector.



**Nurseries:** Nurseries are a critical element of the overall citrus sector. Farmers I met told me that they were running their own nurseries. It is generally preferable to purchase seedlings root stock or scions from professional nurseries that specialize in the propagation of high quality seedlings of pure varieties. One farmer told me that his strains were now so mixed that he was producing naval oranges with seeds – not a desirable characteristic. Deeper investigation of this area might identify the need for critical assistance to one or more nurseries that could improve the productivity of the entire sector.

**Input Supplies:** I was told in several interviews that the supply of agriculture inputs (fertilizers and chemicals) is a problem in terms of price and the availability of specifically appropriate products. Both problems might be addressed by assisting producer groups (cooperatives or associations) establish their own capability to identify the items they need and purchase them in bulk at lower prices either from domestic suppliers or in overseas markets. Generic NPK 20:20:20 is not an optimal substitute for fields that require a different mix to balance out nutrients already in the soil. Such associations could also be assisted to undertake their own soil testing, bulk purchases, group marketing or other functions arising naturally from a successful beginning.

**Farmers:** Citrus appears to be the major income source for a significant number of Jordan Valley farmers and workers. The dimensions of those metrics should be available locally from the Ministry of Agriculture or the Bureau of Statistics along with information about total areas planted in different regions, total production, yields and exports. It is most likely that the basic external constraint on increasing their productivity is water but it is not clear that they are using production practices that are optimally suited to making the best possible use of the water that is available. A survey of production techniques being used by the 15 farmers that participated in the first grant program is currently underway. A brief visit from an expert in arid lands citrus production would be instrumental in evaluating current production practices, suggesting improved practices where appropriate and designing training programs to train citrus farmers in the use of those practices.

Virtually all of the farmers I met or observed were harvesting various types and sizes of citrus directly into +/- 5 kg. polystyrene boxes for shipment to the market. I assume that those boxes are recycled back to other farmers to be refilled with citrus or other products in a cycle that is repeated until the box is broken and sent to a land fill where it remains forever. I was later told, by the manager of the Amman Wholesale Market that these boxes actually

circulate through up to five times before they are discarded into a landfill. A citrus post-harvest handling expert could advise on modifications to this system that would be more cost effective and limit the disease spread risk of moving used boxes from farm to farm. An activity in this area might link to the proposed wholesale market box project or into new grading/packing facilities that are necessary to service this sector eventually.

**Processors:** There appears to be very limited processing capacity for citrus in Jordan at this time. The one fresh juice operation I visited, Roofess Juices, appears to be the largest, and he is by no means large. The fresh market appears to be able to absorb all the available fruit at this time and it is only the development of excess production, beyond what the fresh market can market at reasonable prices that the processing part of the value chain (usually in the form of juice concentration plants) will take off. Roofess Juices services only the very top of the market selling mostly to restaurants and making individual home deliveries. None is sold in local retail shops and a small amount is exported frozen to the Gulf.

**Wholesale Market:** Jordanian law requires that all citrus entering Greater Amman be marketed through the central wholesale market. As mentioned above, to the extent that citrus is moving into this market it would be useful to implement the field pack box distribution system to minimize bio-safety risks and reduce the use of polystyrene, which is not recyclable. The gradual shift of retail market, which is likely to be most prominent during the season when less fruit is available, will result in increasing requirements on farmers to meet grading, packing and cold chain requirements similar to what is required in the export market. In a visit to the market it was evident that there is a rather efficient program for redistribution of boxes that move through the market with the buyers returning empty boxes to the brokers/agents they deal with when they come to make their next purchase.

**Informal Market:** We also saw large amounts of citrus being marketed at temporary or semi-permanent road side markets and permanent urban greengrocer shops. It is not clear what portion of these are obtaining their fruit via the wholesale market and what part are avoiding the costs associated with this market by either selling fruit from their own farms or purchasing directly from farmers.

## **RECOMMENDATIONS:**

1. I believe it is worthwhile to undertake a strategically designed program of integrated activities aimed at developing the citrus value chain as follows with emphasis being placed on identifying and addressing elements of the chain (bottlenecks) that are causing it to underperform its potential.
2. Prepare a comprehensive sector profile (value chain analysis) that can help SABEQ and others better understand the structure and dynamics of the sector. This would probably require a 4 week STTA from an agriculture economist with experience in value chain analysis of agricultural crops (not necessarily citrus though that would be useful) and a two week visit from a qualified arid lands citrus production expert. Both consultants should work alongside local professionals to whom knowledge can be usefully transferred.
3. Follow-up the apparently successful irrigation system grants project with a larger one involving a higher percentage cost share payment from the farmers and the provision of technical advice related to the use of the irrigation systems. Target a different area in order to maximize the demonstration effect of the grants.
4. Design a standardized loan package, drawing on the results of the pilot programs to facilitate farmers' application for bank financing for development of the drip irrigation systems now being supported by grants.

5. Offer branding, marketing and managerial assistance to citrus processors to increase production and their purchases of fruit from small-scale farmers.
6. Assist interested citrus farmer associations to develop their capacity to act collectively in the areas of purchasing, marketing, processing or others in which they wish to invest.
7. Provide technical production advice and material to farmers as well as to NCARE, RSS and anyone else interested in improving citrus production.

## **STTA TERMS OF REFERENCE:**

### ***Value Chain Expert:***

Level of Effort: 20 work days plus travel days.

Objective: To provide an objective and practical analysis of the citrus value chain in Jordan from an agriculture economics perspective and recommend interventions for development.

Methodology: Work in close, daily cooperation with a Jordanian counterpart to collect and analyze appropriate statistical data and information from other sources of secondary information. Visit relevant government bodies and other entities and other value chain participants including farmers, market intermediaries, processors, pack houses, nurseries, input suppliers and others to gather first hand information about operations of the value chain.

Deliverable: 1. A practical analysis of the citrus value chain in Jordan including details of production areas, number of farmers, area under citrus, total production, domestic and export marketing chains, agro-processors, etc.

2. Identification of points in the value chain where inefficiencies or market blockages are constraining full development and suggestion of the types of intervention that might be considered to address those points.

Qualifications: 1. A Masters Degree or higher qualification in agriculture economics or a related field with at least 5 years of field experience and expertise in practical value chain analysis.

2. Experience with tree crops in general or citrus in particular would be a plus as would previous experience in the region and Arabic language capability.

### ***Arid Lands Citrus Production Expert:***

Level of Effort: 15 work days plus travel days (concurrent with the Value Chain Expert if Possible).

Objective: Assess production technologies being used by citrus producers in Jordan and suggest improved improved production practices for demonstration or direct transfer to farmers.

Methodology: Targeted field visits to production centers throughout Jordan to meet farmers and observe current production practices on site. Visits to citrus experts at NCARE, RSS or other relevant government institutions or private organizations to assess agriculture research, demonstration and extension capacity.

Deliverables:

1. A report outlining current citrus production practices in Jordan, identifying improved production techniques for application in Jordan and assessing local agriculture research, demonstrating and extension capacities.
2. Identification or development of appropriate material to facilitate transfer of improved technologies to Jordanian farmers.
3. Plan and lead a one-day workshop for Jordanian farmers and others (Ministry of Agriculture, NCARE, RSS, universities, consulting firms, etc.) to summarize findings and present recommendations with material appropriate for translation and replication.

Qualifications: An advanced degree in arid lands agriculture production with practical research or production experience in the citrus sector. Previous experience in the region would be useful.

## GRADING FACILITY FEASIBILITY STUDY AND DEVELOPMENT STRATEGY

As an addition to my original SOW, I was asked to review and critique the feasibility study dated January 25<sup>th</sup> for the Ghour Safi Grading Facility and suggest a strategy for development of that project. I also visited the area, and the proposed project site, on Jan 28<sup>th</sup> and met with the group from Al Jidara consulting firm that prepared the feasibility study on Feb 2nd.

My observations from the site visit are as follows:

- The Ghour Safi area is a significant center for the production of tomatoes and other vegetables. Tomato harvest was ongoing with trucks being loaded for (apparently) the domestic market and export to Syria. Field packing with no grading or sizing appears to be the norm in most cases and with no cold chain being used. Rough wooden (5kg?) crates being used for field packing are not appropriate and are undoubtedly causing damage to the produce during shipment.
- The site that has been offered by the municipality for development as a grading facility appears to be well-located, with all the required infrastructure in place, other than a sewage (septic) system, and appropriate for renovation at a reasonable cost. The site is offered essentially free of charge on condition that it be used by an association rather than an individual. Details of this “right of usage” need to be documented carefully and include specific reference to renovations and equipment placed on the site by the developer.
- Logic suggests that there is a commercial “need” for a facility such as the one proposed though support for the idea needs to be developed in terms of a combination of real market demand in a growing export market or the increasing demand for higher quality graded and cooled produce in the domestic market – at a higher price.
- The proper use of a simple grading/packing facility would also provide a necessary “break” in the supply chain between farmers and consumers. Produce can be packed in hard plastic 15kg field crates and moved to the grading facility where it is sorted, graded and (if necessary, cleaned) before being repacked into packaging specified by buyers. Field crates should be cleaned (sterilized) and, if possible returned to the farms from which they came. A simple system like this not only helps to control the spread of plant disease and pathogens but also provides a basis for eventual traceability as required for Global Gap and other certification.
- The facility should be owned and operated by an individual or, preferably, a group with a direct financial interest in its successful operation, both in terms of investment risk and in terms of maximizing product value throughout the value chain. In this case the site would not be available to an individual for the reasons mentioned above.
- The successful operation of an operation like this should also stimulate increasing production of higher value products for export, reducing the reliance on tomatoes as the major cash crop in the area. Its operation, with careful planning, should serve as a consolidated marketing center to which exporters will come in search of production to fill

their orders. The center is also a natural conduit for the provision of technical and market information to local farmers and thus the focal point of a horticulture “cluster” in the operating area.

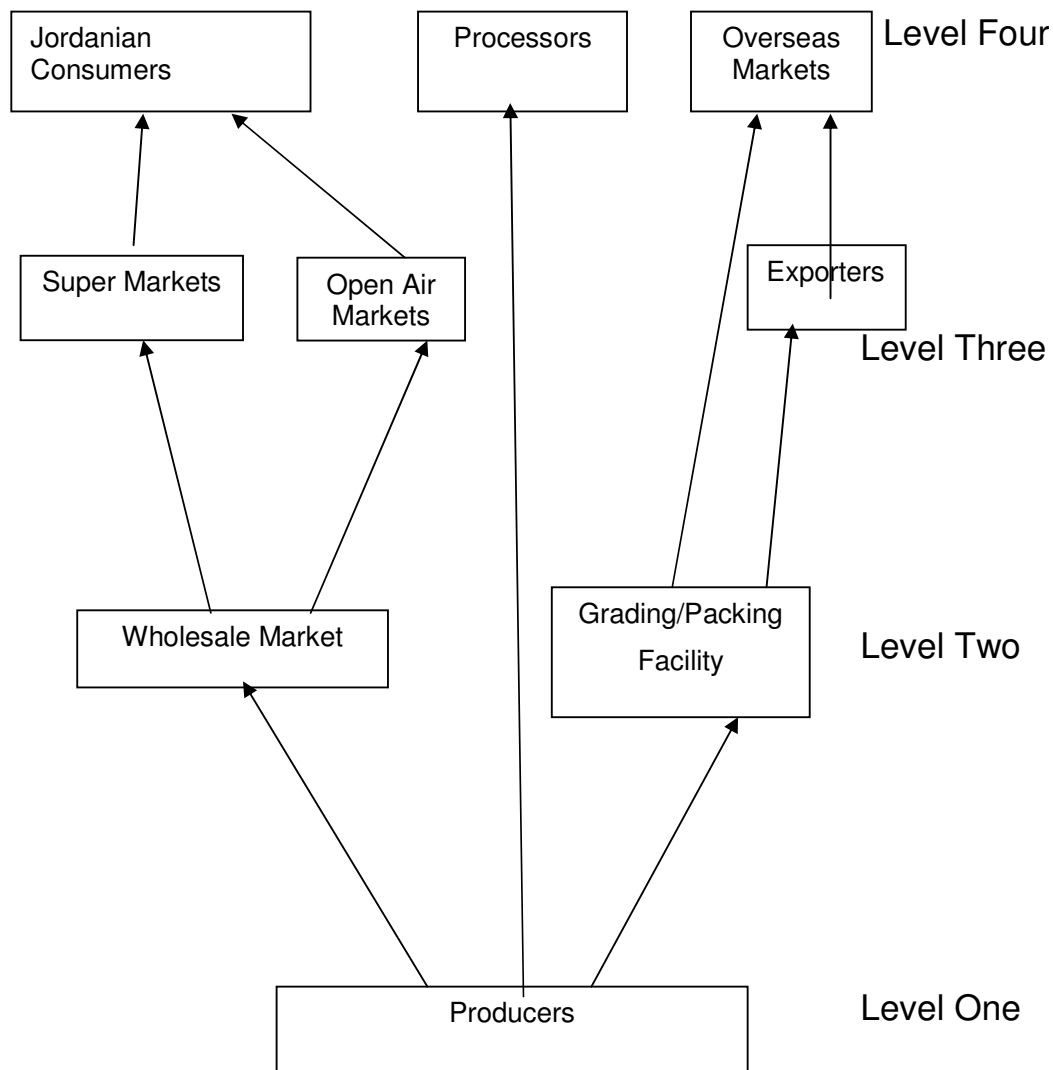
A rather crude supply chain for fresh vegetables, including the grading/packing facility, is presented on the following page. The functions to be accomplished at various levels are explained below along with some key questions:

### **LEVEL ONE:**

This is the producer level where the participants are responsible for growing the targeted crops. They will make their planting decisions based on market incentives, either producing against firm contracts for the purchase of the produce at harvest or, more commonly, minimizing their perceived risk by planting what they think buyers are most likely going to want to buy from them at harvest time. In the case of Ghour Safi, the predominant crop is tomatoes but I would expect this to begin to change as the grading and packing facility goes into operation making it more possible to handle higher value fruits and vegetables appropriately and safely.

Producers are also generally responsible for harvest and field packing of product for shipment either to the pack house or the end market. Producers may either harvest into reusable hard plastic crates holding 15 kg. or more each or, more likely in Ghour Safi now, into smaller crude wooden or polystyrene boxes that go directly into the retail market. Ideally, the former system will be used with either of the level two participants (wholesale market or grading and packing facility) providing sanitized field packing crates to producers on a fee basis. It is more common for ownership of the field crates to be associated with the either of these intermediaries than with the producers themselves.

## GHOUR SAFI FRESH VEGETABLE SUPPLY CHAIN



Most often ownership of (and responsibility for) the produce will transfer at the farm gate though there may be some cases where a buyer will contract for an entire crop and send his/her own crew in to do the harvest. In still other cases, the producer may take responsibility for sending his crop to the wholesale market to be sold there at auction. This is probably the most frequently used pattern in Jordan at this time. Farmers should not be encouraged to send their crops to the grading/packing facility on spec (without a buyer) as this will increase their risk of loss if a buyer is not found quickly. Wholesale markets are organized to clear all inventory from stock on a daily basis and prices will rise and fall to insure that this happens. Most pack houses, as operational rather than marketing businesses are not likely to be set up for this.

The law requires that all fresh produce entering Greater Amman be marketed through the central wholesale market and sold at auction. A commission of 5% is paid to the sales agent and an additional 4% is paid to the market itself. This is not required in other cities. I expect that there are numerous cases in the domestic market where wholesale or retail traders bypass the market (with its uncertain prices and certain fees) and move produce directly from

farms to roadside stands or smaller markets. We did see the market system in action including a Safeway warehouse where they bring produce purchased in the market for repacking and dispatch to their retail stores. In some cases (e.g. potatoes) they are able to contract with farmers directly and bring the produce straight into the warehouse in the market without passing through a broker. They still pay the market a negotiated annual fee for this privilege and services provided by the market. There may also be cases where processors purchase fresh products directly from farmers but I have not become aware of any vegetable processors of significant scale in Jordan.

## **LEVEL TWO:**

At this level we find the various wholesale markets and the grading/packing facilities.

Grading/packing facilities will often be owned by producers (either individually or collectively) to provide specific post-harvest handling services including grading, sizing, packing, cleaning, loading and (if necessary) storage on a fee basis unless they work with only the owner/operator's produce. The most common trade pattern is for exporters (or domestic buyers) to purchase produce from farmers for delivery to the grading/packing facility where the desired services are performed at the expense of the exporter who would then remove it at his own expense. In other cases, the exporter may order directly from a producer but make the terms FOB grading/packing facility for specified grades. In this pattern, the grower runs the risk of having product not conforming to the exporters specified standards not sold. The producer then needs to take other steps to be sure that all of his produce is sold somehow.

The long-term objective should be to encourage domestic supermarkets to also look to the pack houses for fresh produce to take advantage of the standard products and higher value products that result from the grading, pre-cooling and repackaging process. I would not base the success of the venture on this market at this time as it appears that the majority of the retail market in Jordan is still carried out through unrefrigerated facilities. There are regulatory issues to be resolved as domestic trade patterns evolve in response to the growing popularity of supermarkets and the introduction of cold chain facilities.

It is generally most efficient for the grading/packing facility to provide field crates to the farmers sending it produce charging either the farmer or the buyer/exporter for their use and insuring that they are all cleaned and sterilized before returning to the field. A proposal has also been made to run such a scheme through the Amman wholesale market.

Export packaging is generally specified by the exporters customer so we should expect the exporter to provide the type of packaging he needs or provide sufficient advance notice to enable the pack house to procure this material on his behalf. Such boxes are generally branded for the individual exporter so it is not possible for the pack house to maintain a large stock of standardized boxes for export. This strategy may work for the local market, however. The packaging (carton box) manufacturers visited appear to be capable of producing boxes of the required design and quality if order sizes are sufficient to justify the initial investment.

Ideally, grading/packing facilities would have a market link directly with processors or the local market for the sale of product not conforming to the exporters demand ("B" or "C" grade). This does not appear to be a likely case in Jordan for the foreseeable future, however, so farmers and exporters must realize that this lower grade produce that is currently going into the boxes with the higher grades will now be separated and require a separate buyer.

The Amman Wholesale Market, mentioned earlier, is a large facility moving a reported average of 3,000 tons of a wide range of produce per day. Farmers bring their produce, consign it to specific agents/brokers who sell it on their behalf retaining a 5% commission for their services. The producers and agents/brokers each pay a 2% ad valorem fee to the



market based on their sales. There are no refrigeration units in the market so the introduction of products requiring a strict cold chain is problematic.

### **LEVEL THREE:**

This is the point at which local consumer and export demand is consolidated and satisfied. At the present time, most fresh produce appears to be sold through the various open air markets and vegetable shops. Supermarkets are growing in popularity, however, and I noticed some very good fresh produce displays in one and rather more limited presentations of a few key products in others. It appears that the trend towards increasing the general concentration of consumer food shopping is underway. It would be good to have some data on this shift to confirm the pace at which it is taking place. This shift to supermarket shopping in general, including fresh produce, is likely to result in a decrease in open air markets and an increase in the demand for higher quality produce that has been properly managed through a grading and packing facility. Supermarkets may either provide their own packages for various types of produce or accept a standardized box provided by the supplier through the grading/packing facility. They are likely to demand that produce be delivered to their cold stores though this should be verified in Jordan. Any produce that is pre-cooled in a grading/packing facility should be delivered in a refrigerated truck as well to maintain the cold chain.

Exporters are most often market intermediaries who may or may not actually take ownership of the product. Their general responsibility is to solicit orders from overseas buyers and insure that all arrangements are made for their fulfillment. The range of transaction types that they might work through is large but they will generally include contracting with farmers for produce to be delivered to the grading/packing facility, for the arrangement of services with the facility and the provision of appropriate packaging as well as for the removal of the product from the facility for delivery overseas. In some cases, it might be possible to contract directly with a large overseas buyer such as ASDA or TESCO in which case the facility might serve the agency function for a fee. I expect that these are more situations to be sought after than a near term possibility in Jordan.

### **LEVEL FOUR:**

The major focus of concern at this level is to stay current with market trends, which requires intensive communications and information gathering through trade journals, international data bases and participation in international trade shows.

### **RECOMMENDATIONS:**

I recommend that a more concise and focused feasibility study be developed as a means of providing potential investors (including SABEQ/USAID) with a reasonable basis for deciding whether to proceed with the investment or not. This feasibility study would include the following elements, some of which are already included in the draft document already prepared by Al Jidara and some of which will require that new material be developed.

1. The volume of macro-level production and market data in the current document can be reduced to a summary level with a focus on identifying any important trends in the domestic or export markets.
2. More information needs to be included about the Ghour Safi producers who would likely be members of the ownership/management association and/or suppliers of produce passing through the facility. Farm size, crops, yields, current marketing arrangements, production constraints, field pack systems, sources of packing

materials, etc. This data need not be the statistically significant result of a longitudinal survey. Interviews of selected informants should be sufficient.

3. The description of the physical facilities and equipment in the original draft is fine, as is the capital budget. Rather than presenting three equal options, I would recommend the development of Option Two (Semi-automated) with a briefer mention of the other alternatives, along with some of the rationale for that recommendation (e.g. increased flexibility for variable throughput levels).
4. The improvement of harvesting and field packing systems is not considered or described in the original document. It is necessary for someone to provide improved reusable field plastic crates and facilities for cleaning them at the grading facility before returning them to the field. This requires a brief description and a budget.
5. The real market demand for the services to be provided needs to be supported with evidence. Why do we think that exporters will take advantage of the facility to improve their fulfillment commitments? Are there deals not being made now because buyers are demanding graded, well-packed, cooled produce that cannot be supplied? If it is assumed that local demand for the improved (graded, packed, cooled) product will absorb a portion of the facilities throughput, what evidence is there to support the assumption. I assume that added costs will be passed through to consumers. It might also be assumed that use of the facilities will reduce waste in the downstream sections of the supply chain and thus reduce the net cost of produce. If this is so, the conclusion should be justified. Bear in mind that once product is cooled in the grading/packing facility it must remain cooled throughout the remainder of the value chain. The practical implications of this would appear to limit domestic market utilization of the facility will be limited to supplying supermarkets with the capacity to keep.
6. The final element, actually presented as an executive summary at the beginning, would be a brief statement (1-2 paragraphs) of the business model. What is being proposed to be done? How will it work? How will the money be made? Conciseness and clarity in this section will be very important in the overall presentation. People who are not basically convinced of a course in the first page or two are not likely to read to the end.

When this document is ready I suggest that it be presented to the sponsor group for discussion and decision. It can be presented along with the offer of technical and financial assistance from SABEQ conditioned on their formal organization being accomplished, if it has not already, and their contracting with a local consulting firm to complete the necessary detailed business plan on a cost share basis with SABEQ.

The business plan should include all of the elements of a good business plan as presented in the template developed by SCORE. Those elements are the following:

- Executive Summary
- General Company Description
- Description of Products and Services
- Marketing Plan
- Operational Plan
- Management and Organization Plan
- Start-up Expenses and Capitalization
- Financial Plan (including projected cash flow, income statements and balance sheets based on revenue and expense projections with clear assumptions).
- Appendices

Much of the information required is already available in the feasibility study but its accuracy and appropriateness need to be tested and confirmed. The objective of this document will be to guide the actual investment and implementation process of the project. To be realistic it should also include an analysis of risk factors – the things that could go wrong to prevent the project from meeting its objectives. The business plan can also be presented to bankers or outside investors to demonstrate the quality of the investment.

SABEQ can implement this program as part of an integrated strategy to increase the profitability of the horticulture industry in Jordan. Other elements might include support for:

1. Assessing and suggesting changes in the regulatory environment to encourage development of comprehensive cold chain facilities linked with a network of grading and packing facilities and restriction of the use of polystyrene packing boxes.
2. Development of the proposed packing crate project in the Amman wholesale market to encourage improved bio-safety practices and reduce the amount of produce damaged in shipment.
3. Technical assistance to farmers associations in the development and implementation of test plots for new high value crops and improved varieties (e.g. Roma tomatoes for drying) and improved production practices.
4. Identification of high potential international markets through direct contact, trade show participation and advertising.

## CENTRAL MARKET BOX PROJECT:

I reviewed the “Program Description of Grant Activity” related to this grant request at the request of Samer Samman and visited the Central Market of Greater Amman with him on Feb 11.

The proposed project would provide support for an important objective, which is the elimination of polystyrene boxes from the fresh produce market and the gradual introduction of more appropriate standardized boxes for specific products. The elimination of the polystyrene boxes can have a significant impact on the environment but reducing use of non-degradable material with a limited useful life. The polystyrene boxes are fragile but not degradable. Thus they remain in landfills essentially forever.

Adoption of the reusable, more durable and sterilizable polyurethane boxes will contribute in several ways:

1. The long useful life of the boxes enables the higher initial cost to be spread over more use cycles.
2. Cleaning the boxes in the market before sending them out again will have a significant bio-safety effect limiting the trading of disease pathogens among farms.
3. Broken boxes can be recycled into new boxes by local plastics manufacturers.

The proposal addresses the complexity of the management and control processes required to successfully operate the system. Forty-two days of consultant time to design the program seems excessive as it focuses heavily on documentation.

No provision for start-up capital (2.5 million boxes at est. JD 4.00 = JD 10 million, plus warehousing space and cleaning equipment). Probably need at least 25% of that to get started. There is no provision for the cost of box cleaning equipment.

Market tax increase of JD 0.01 per kg would generate JD 30,000 per day if throughput estimate of 3000 tons/day is accurate (needs verification). Operating a minimum 200 days per year would generate JD 6 million per year. Even JD 0.001/kg would generate JD 600,000 per year – more than enough to pay the operating costs of the program and replace boxes that are lost or broken in operations. These numbers require verification.

Looked at another way, and assuming an initial cost of JD 4.00 per box (my estimate). A usage charge of JD 0.1 per box when being removed from the market would recover the capital cost in only 40 cycles. At the assumed 12 days per cycle this would translate to 480 days, or 16 months. The expected life of each box is much longer than this leaving a portion of the fee available to cover operational costs and box replacement.

I suggest that this be developed as a private sustainable enterprise including operational cash flows, provisions for raising initial capital and incentives to growers to encourage use of the system.

## APPENDIX

### Terms of Reference

**First Mission Main Objective:** to work closely with agribusiness clients to prepare for the implementation of the below mentioned project activities and deliverables in year 3 work plan.

**Project Activity:**

Improve fresh fruits and vegetables products packaging designs through providing implementation assistance for selected NGOs to design their products' packaging.

**Project Deliverables:**

New Fresh Fruits and Vegetables Products Packaging Designs (2 products per three NGOs in the fields of; Herbs, Jameed, and lemon Juice).

To implement the above mentioned activity and deliverable, the mentor will conduct an assessment to define market and regulatory requirements for the above mentioned products in terms of (branding, package design, labeling...) and work closely with the clients and then the designers who will develop new package designs.

Below is a list of tasks that are needed at this stage to achieve the above mentioned objective:

Task #	Task Description	LOE	Planned Start Date	Planned End Date	Deliverables
1	Design an approach to provide the deliverables mentioned above including the following phases (Market needs, package designs and the grant application)	1	§	§	Documented Approach for implementing the above mentioned activity and deliverable
2	Meet with the prospective Clients, and conduct a preliminary market study to define their product mix, assess their product packaging and make recommendations related to (branding, packaging and labeling), to be a base for the Designers who will work on developing product	9			<ul style="list-style-type: none"><li>List of selected clients and products.</li><li>Market study findings and product packaging assessment and market strategy.</li></ul>
3	Develop a TOR(s) to implement and meet the set objectives (includes technical assistance to design new packages, branding, labeling... that meets regulatory	2			A TOR(s) to implement the specified technical assistance

Task #	Task Description	LOE	Planned Start Date	Planned End Date	Deliverables
	and market needs) and work on selection of qualified designers				
4	Work with selected clients to prepare their grant application for specific upgrading projects as developed through firm- level assistance (implementation for the developed design, develop design samples...)	3			3 Grants Applications meeting SABEQ's requirements
Total		15			

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