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**The Subsector  
Methodology:**

**A Field Orientation  
for CARE/Egypt  
January 20 to  
February 7, 1992**

*Working Paper No. 29*

# **GEMINI**

**GROWTH and EQUITY through MICROENTERPRISE INVESTMENTS and INSTITUTIONS**  
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**DEVELOPMENT ALTERNATIVES, INC. • Michigan State University • ACCION International •  
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**The Subsector Methodology:**  
**A Field Orientation for CARE/Egypt**  
**January 20 to February 7, 1992**

**by**

**William Grant, Trainer for the GEMINI Project**

**With the Participation of the Staff of CARE/Egypt**

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## **PART ONE**

### **BACKGROUND AND OVERVIEW OF THE TRAINING EXERCISE**

#### **BACKGROUND**

In July 1991, CARE/Egypt requested the Growth and Equity Through Microenterprise Investments and Institutions (GEMINI) Project to support its Community Initiated Development (CID) Program, which is an action research project. CARE wanted help with an assessment of the rural economic network and system in a selected governorate in Upper Egypt. CARE's main interest was to develop ways to design effective and efficient project interventions in support of current economic development programming.

The CID program operates in four governorates in Upper Egypt, and concentrates on developing local capacity to manage and monitor revolving loan funds within local Community Development Associations (CDAs). The project has developed effective credit systems, with most CDAs achieving high repayment rates (95 percent). However, analysis of the loan portfolio revealed that most loans were for service or retail activities; that most loans were used to strengthen existing enterprises, and only rarely used to expand enterprises; and that the rate of loan requests was diminishing.

There was concern that the increased economic activity was working within a static market, which often only leads to a finer division of the existing market. CARE staff sought to address this constraint by seeking new interventions that would expand the number of value added activities being undertaken and lead to overall economic growth. The CARE staff's request to GEMINI to provide support in carrying out three subsector studies was a logical response to this desire to identify cost-effective activities that would lead to economic expansion, because of GEMINI's work and interest in the subsector methodology as a means to facilitate economic growth.

With an original target date of January 1992 for implementing the exercise, the GEMINI staff member assigned to lead the exercise contacted the CARE staff in November to refine the exercise. Because CARE/Egypt's goal was to develop its capacity to apply the methodology, the primary focus of the exercise was shifted from the studies themselves to training, with a focus on learning by doing through a mixture of classroom exercises followed by fieldwork to apply the theory.

#### **THE TRAINING EXERCISE**

##### **Participants**

The training exercise was carried out from January 21 to February 4, 1992 in Sohag Governorate with 15 CARE staff and one GEMINI trainer. The 15 participants represented a broad range of CARE staff: four CARE Egypt core staff (management) from Cairo, the Regional Small Economic Activities Development (SEAD) Advisor from Nairobi, and nine field officers from four governorates, including two assistant project coordinators. The team was ably complemented by the presence of one consultant



hired by CARE to assist the study team.<sup>1</sup> In addition, the logistics coordinator participated in all of the class sessions and the analysis (see list of participants in Annex A).

### **Training Exercise**

The training consisted of a combination of classroom exercises and field work. Annex B provides the outline and schedule of the entire training exercise. At the end of the two days of formal class work, four subsectors were selected for the field portion of the exercise: building materials, dairy products, furniture manufacture, and fresh and processed vegetables.

The subsectors were selected based on available data from 1986 employment figures; preliminary indications of potentially dynamic subsectors (natural resource base, local demand, and export potential); and CARE priorities for targeting poorer, rural-based population and activities where women play an important role. A dearth of local information on total employment and sales at the time of the subsector selection made this analysis more subjective than objective.<sup>2</sup>

Each group was led by, or contained, a member of the core management staff from Cairo, and one of the groups was led by the Regional SEAD Advisor. The trainer and the consultant served as rovers, moving among the teams each day to provide guidance in the analysis or assistance in the research.

The field work lasted 10 days, four afternoons of which were devoted to classroom discussions, exercises, and presentations of the preliminary maps. The field work was divided into two major portions: introduction to the subsectors and drawing the preliminary maps, and preparing the overlays and analysis. The analysis was assisted by a breakdown and extrapolation of consumption figures, calculation of the marginal propensity to consume (MPC) by terciles, and other available statistical data such as population by district, which was calculated by the trainer (see Annex C for relevant tables). The consumption data is now 10 years old and it appears that the figures from last year's consumption survey may now be available, which will greatly improve the accuracy of the estimates done by the groups.

On the last day, each group presented its finalized map, the overlays, the analysis of the dynamics of the subsector, and, finally, its findings on opportunities for intervention and points where leverage could be achieved. In Cairo, the trainer and management staff presented the methodology and key findings to an audience of the U.S. Agency for International Development and Egyptian nongovernmental organization (NGO) staff.

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<sup>1</sup> The anthropologist missed the formal training portion, which introduced the methodology and its underlying assumptions, but participated in the field work.

<sup>2</sup> Initially, the fourth subsector selected was carpet weaving, but after preliminary interviews indicated that this was a dying subsector with only a few participants left, it was replaced with metal working. Interviews with key participants revealed that metal workers were a diverse group, concentrating on providing a wide range of services but producing few specific products. This made it a weak example for the purposes of the subsector exercise. As a result, the furniture subsector was selected.

### **Trainer's Assessment of Participant Benefits from the Workshop**

A major value of subsector analysis lies more in its potential as a tool for programming than as a tool for carrying out an implementation plan. People involved in programming tend to see the value of the analysis and grasp the methodology more completely than others. This factor was reflected in the field work. In the trainer's estimation, the participants from CARE's management staff grasped the major concepts and were able to carry the analysis through to the most useful stage: concrete recommendations for intervention based on the analysis.

The field officers grasped the concepts underpinning the methodology at differing levels, and subsequently were able to carry the analysis through to varying levels. The greatest benefit to the field officers was the exposure they gained from dealing directly with businessmen, trying to understand the systems within which they operated, and seeing how businesses fit within the overall scheme of things. However, in most cases, the ability of the field officers to fully appreciate the analytic phase and the programming benefits from the exercise was limited.

This finding has implications for how CARE should use the tool in the future. It is hoped that all of the staff will retain the new perspectives that they have been exposed to and also maintain their awakened interest in looking into what makes businesses tick. It is also hoped that the field officers will introduce many of the underlying questions that the subsector methodology addresses, such as competition, links to suppliers, and market analysis, into their day-to-day work with the CDAs and the CID loan program and into their interaction with participants in the program. However, the tool, if used properly, is fairly intensive in both time and manpower, and the Cairo office should be the clearinghouse for future subsector studies.

### **CARE Staff Assessment of the Workshop**

The staff found the mixture of classroom exercises and field work to be a very effective training technique, and the content was sufficient to enable them to carry out the four model analyses. Recommendations from the CARE staff for future workshops of this kind concentrated on:

- Developing additional tools for teaching financial analysis; and
- Greater participation by the trainees in the calculation of marginal propensities to consume (which in this exercise was done entirely by the trainer).

Originally, CARE/Egypt wanted to learn the way to do subsector analysis and apply it to the CID program to determine key enterprises that would be suitable for lending activities of the CDA revolving loan funds. Given the time it takes to do a reasonable subsector analysis and the nature of the tool, CARE staff have decided that it is not appropriate for that purpose. It is, however, felt to be a very good tool for program design, which is what they intend to use it for.

### **Major Constraints Encountered during the Exercise**

Data collection for subsector analyses is always difficult in a short period, but it proved to be particularly difficult in Sohag given the level of security and the lack of synthesized statistics in government services. Despite clearance from the Security Office and the Secretary General's office,

including letters from the Secretary General to various ministries, staff was frequently denied access to the information.

It is important to note some of the limitations of the subsector methodology that were raised during the exercise:

- It focuses on existing activities, so that one misses the as-yet-undeveloped industries; and
- It is not well adapted to service industries, where there are very few linkages.

Subsector analysis is still an evolving technique that searches for leverage and cost-effective interventions. To achieve this, it concentrates on activities where there are already lots of existing enterprises. It does not address areas where there may be potential for the creation of an entirely new set of activities, because this is rarely cost-effective in the short run. However, if a programmer has the time and resources to identify and develop a new industry, then other techniques should be used. The subsector methodology does, however, provide good insight into the possibilities for development of new lines of production within an existing subsector and indicates trends for the future.

The short time frame of the workshop did not allow for a true, full subsector analysis to be carried out. The anthropologist on the team hoped for greater collaboration with local participants in analyzing the subsectors. This is critical for testing the findings of the subsector analyses: they must be discussed with the operators to see if they agree or disagree. When time allows, as it should in a longer study, knowledgeable subsector actors have proved to be the best sources of feedback throughout the process. The key informants should be recontacted and presented with the findings of the studies to get their opinions and insights for ways of improving it.

### **IMMEDIATE APPLICATION OF SUBSECTOR STUDY FINDINGS FOR CARE**

The analyses provided some important findings on the driving forces in each of the four subsectors and raised some important questions about what activities are currently in process. These findings lead to some concrete recommendations for activities that the Community Initiated Development Program can undertake. The subsector analyses are presented in detail in Part Two; highlights of the way the results of the studies can be applied to a rural development project are presented below.

#### **Dairy Subsector**

The analysis clearly points out that the single most profitable discrete activity is for women to produce cheese and ghee (they are done complementarily). This is nearly three times more profitable per kilogram of buffalo milk (the constraining factor) than simply selling the milk directly to consumers.

Implications for the project are to determine how to use this information at the village level to induce the women to procure milk for making cheese and ghee, or to get them to switch from selling the milk to consuming it in cheese and ghee production. Because there are more than 75,000 small producers, this could have a large impact at the village level, particularly in the short term. The CDAs are appropriate points for sensitization of villagers to this activity.

Longer-range activities might concentrate on trying to capture some value from goat's milk, which is currently not used at all, but for which markets exist in Cairo and in other countries.

### **Building Materials**

The dominant building material used in the Sohag Governorate is burnt clay brick. Technically this is illegal, but it is used in 90 percent of all construction and is manufactured by hundreds of small producers. The analysis showed that the government ban on clay brick has not stopped the production of the bricks, which was its intent, but has added to the cost of the bricks primarily through introducing additional middlemen. The implication for the project is that government policy dominates this field and, until it is changed, no action should be undertaken in this area.

An important finding for tile production is the apparent increasing demand for them in the rural areas, and the supply constraint at the period of peak demand, just after the cotton and sugarcane harvests. The supply constraint is particularly acute for producers using manual presses. This constraint could be overcome by supplying them with working capital credit to allow them to build up their inventory for the period right after the harvest when the farmers have the liquidity to purchase the tiles. CDAs should be aware of this constraint and be able to support their local artisans.

### **Vegetables**

**Fresh vegetable production.** The major opportunities for the project in this area include alleviating the cash flow constraints for farmers, which would allow them to store their onions and potatoes until seasons when they would bring a higher price. This fits well with CARE's ongoing activities, since one element of the CID project is to work with agroforestry and vegetable production.

**Processed vegetables.** Major recommendations include finding ways to improve the quality of onions, and providing marketing information on products such as turnips. As with fresh vegetables, these are sound activities for CARE's agroforestry and vegetable activity.

To compete with pickles imported from Cairo, local pickle makers need to improve their quality, primarily through improving sanitary conditions within the pickling workshops. Given the concentration of the pickle workshops in urban areas and their relatively sparse number, CARE can work with them directly.

### **Furniture Production**

The furniture analysis highlights the importance of Daumiat components in local manufacture, the gradual development of a less integrated production operation (more subcontracting), and the increasing importance of the retailing function as marketing becomes a more important component of the process. One point for a leveraged intervention for CARE would be to work with the mechanical workshops to produce local alternatives to the components imported from Daumiat. A second point of leverage is to work with existing CDAs and furniture cooperatives to improve the marketing possibilities for the producers.

Before pursuing these opportunities, CARE must confirm the applicability of these preliminary recommendations through a series of discrete actions outside of the Sohag region:

**Furniture.** Visit Daumiat to clarify the source and technology being used in the manufacture of the Daumiat furniture and the Oima that is exported to Sohag;

**Vegetables.** Verify onion prices through the year in Rod El Farag, and investigate the question of increased turnip production in Sohag;

**Dairy Products.** Further explore the market for fresh ghee in Cairo (prices and demand), the market for goat and sheep's milk (possibly in Libya), and look into ways to increase milk productivity of water buffalo; and

**Tiles and Bricks.** Review the range of technology available for tile making, both manual and simple hydraulic (a dealer might be able to provide the best specs on these). Investigate more fully the technology changes that are needed (or possible or under research) in Taffle that might make it a viable alternative for small producers in Sohag.

Note, all technology work should be done in conjunction with market actors to ensure that it is adapted to the market.

Contact should probably be made with the Chemonics project with the PBDAC to compare their findings with our own in vegetables and in dairy products, as a rapid means of verification of the validity of some of the findings.

## **FUTURE USE**

### **Immediate Follow-up**

Immediate follow-up steps to be implemented by CARE include distributing the workshop report and subsector analyses and carrying out additional subsector analyses:

- CARE/Egypt will distribute the workshop report and the four subsector analyses to several organizations; this may generate requests from these organizations to learn the methodology. CARE/Egypt will be open to providing basic training to other NGOs; and
- The CARE mission feels confident that it now has a basic knowledge of the tool and wants to improve its expertise and use it better through applying it on financial services and then on family planning subsectors. These are new adaptations of the methodology, particularly the study of family planning. The use of the tool to study the financial services will be based on the recommendation of the trainer.

This study will provide analysis of credit made by lending institutions, formal and informal, to medium, micro, and small enterprise in Aswan, Qena, Sohag, and Fayoum Governorates. The purpose of this study is to indicate opportunities for ongoing and new programs managed by CARE. Specific objectives of the study are to (1) define types of markets for credit and their sizes; (2) identify channels supplying credit and providing support services (business management advice and technical skills training), and identify both formal and informal institutions involved in credit and the amount of their involvement; (3) identify sources of capital provided to channels, by donor agencies and savings; and (4) assess types of relationships among these institutions in the four governorates.

### **Additional Follow-up Recommended by Trainer**

The four analyses were completed in only 10 days, including four afternoons of class time; some additional work remains to be done to reap fuller benefits from the studies. At the final presentations, a series of questions and recommendations were made to each of the groups that merit further research and analysis.

In additions, CARE should renew the consumption data — obtain a set of the 1990/91 household budget consumption figures and update the calculations done by the trainer for each of the subsectors in Sohag, including the MPCs. It should also update the four subsector studies with the new consumption data and revise the estimates that were based on that data (total market size and often number of firms in the subsector). This will allow the studies to reflect reality more accurately, instead of having them based on the extrapolated numbers that were used in the field.

At the same time these numbers can be calculated for the other three governorates in which the CID program is working and possibly for other governorates where CARE is considering working in the future. The brief investment of time right now will provide CARE with a valuable resource for all further studies.

### **CONCLUSION**

This training exercise provided an excellent opportunity for the GEMINI project to interact with a leading institution involved in medium- and small-scale enterprise (MSE) development. Many lessons were learned by both GEMINI and CARE, the participating institution, and concrete products were developed. Among the major benefits from the workshop are:

- Transmission of new methodological developments to CARE/Egypt, an implementing institution in the field, which improves a local resource base;
- Preparation of four subsector analyses for use by CARE field staff;
- Provision of the GEMINI project with important feedback on the usefulness of the tool to field operators and its optimal applications at the field level; and
- Provision of GEMINI staff with another opportunity to field test the training under new conditions. By training personnel with a broad range of experience and educational backgrounds, the trainers learned a great deal about the optimal methods being used to transmit the information.

**PART TWO**  
**SUBSECTOR ANALYSES**

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**SUBSECTOR ANALYSIS**  
**BUILDING MATERIALS (BRICKS AND TILES) IN**  
**SOHAG GOVERNORATE**

by

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The building industry in Sohag was slowed down by the Gulf War, which reduced remittances from Kuwait and Iraq. It is estimated that the household consumption of building materials was 153.76 million Egyptian pounds in 1991, LE 114.67 million of which was consumed in rural areas and LE 39.09 million in urban areas.

The governorate's annual budget averages LE 20 million. Most of the government construction work is undertaken by large contractors, with limited subcontracting to small contractors.

This study concentrates on the production of critical building materials by private enterprises to be sold to the building industry. The materials include floor tiles, cement blocks, cement bricks, clay bricks, and Taffle bricks. It does not include the large contractors who produce their own materials and use it in their own construction works.

This subsector was selected for its importance in the employment industry and the large number of participants in the rural areas.

## **MARKETS**

There are three markets for the building materials.

- Market 1. The owner-builders who buy building materials to construct, extend, or repair their own houses under their own supervision.
- Market 2. Small contractors who buy the materials to meet needs of the contracts they have gotten from individuals or institutions.
- Market 3. Large contractors who get most of their work from the government, and buy some of their materials from material producers to meet the needs of their private contracts. Most of these contractors produce their own materials on their large building sites and hence this market is shrinking.

For bricks and blocks, the size of the three markets is estimated to total LE 11.98 million, divided as follows:

Market 1: LE 9.65 million in 1991.

Market 2: LE 1.64 million in 1991.

Market 3: LE 0.69 million in 1991.

For the tiles, the size of the three markets is estimated to be LE 7.35 million divided as follows:

Market 1: LE 4.87 millions.

Market 2: LE 1.55 millions.

Market 3: LE 0.93 millions.

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Most of the population in Sohag (about 80 percent) live in rural areas that are served mostly by market 1 and in a small part by market 2.

### ALTERNATIVE SUPPLY CHANNELS

The channels were divided into groups, those providing blocks and ricks and those providing tiles.

#### Blocks and Bricks

There are six supply channels each with its participants for the blocks and bricks.

Channel 1. Traditional (Balladi) brick producers located mostly in the rural areas. These producers get their clay and hay from their own agricultural land or from clay traders. They buy *mazoot* from local market. After production, which is done mainly with temporarily hired labor or by the family members, they sell their products directly or through clay brick traders to markets 1 and 2. (Average of 2-3 employees.)

Channel 2. Modern (*masri*) clay brick producers who produce a more refined brick of the standard size, which is slightly bigger than the Balladi brick; this channel gets its materials from the same sources as channel 1, and uses the clay traders largely to sell their product. (Average of 3 employees per enterprise.)

Channel 3. The Taffle brick producers who produce the standard size brick using Taffle soil instead of clay. There is currently only one Taffle brick factory in Sohag, which was started in October 1991, with 25 employees.

Channel 4. Small cement brick producers who produce bricks manually. These producers are found mainly in the urban centers. They get cement from local traders who are found in each urban and suburban shopping center. They get their sand and gravel from the quarries that deliver it to the site. These producers sell their bricks directly to the small contractors in rural and urban areas who have government building contracts. Government is the main user of these bricks. (Average of 2 employees per enterprise.)

Channel 5. Small mechanized cement brick and block producers who use a limited number of machines. They produce more blocks than bricks, because demand for bricks is more limited than that for blocks. They get their supplies of raw materials from the same sources as channel 4. They sell their products mainly to contractors working on government building contracts. (Average of 5 employees per enterprise.)

Channel 6. Medium-sized mechanized producers of both cement bricks and blocks with more machines and therefore with a much larger production rate than channel 5. Like channel 5, they produce more blocks than bricks and sell to the same market. They also get some limited contracts to produce blocks for larger contractors who produce most of their materials. They have access to cement from government supply centers since they can order more than 5 metric tons at a time. (Average of 5 employees per enterprise.)

## **Floor Tiles**

There are three channels that provide the tiles.

1. The manual tile producers who produce mainly colored and plain tiles using hand-driven compressing machines. They get cement and sand from local suppliers and quarries respectively. They produce relatively small amounts of mosaic tiles. They sell all their products to the owner builders in their area. (Average of 3 employees per enterprise.)

2. The tile producers who use electric machines to compress the tiles. They produce colored and plain tiles like channel 1 but at a high rate. Some of them produce mosaic tiles. They sell their products to owner builders and small contractors. (Average of 5 employees per enterprise.)

3. The tile producers with more electric machines, including a grinder that smoothens the mosaic tiles. The presence of the grinder enables these producers to enter into the more profitable mosaic tile market in a more significant way than channel 2. Due to their higher production rate, they have access to cement from the government supply centers. They sell most of their products to the large contractors. They also sell to the small contractors and individual builders. (Average of 10 employees per enterprise.)

## **DRIVING FORCES**

Although population growth is high in Egypt and demand for housing is increasing, the current depression in the economy following the Gulf War and the high level of unemployment in the rural areas have depressed the building materials market. Therefore, the overall building materials market in Sohag is not growing at the moment. However, since the technology needed to enter the production of the materials is relatively low, many people have started businesses in this sector, which has led to excess capacity.

## **Block and Bricks**

Demand for clay bricks is high in both rural and urban areas. The law prohibiting excavation, transportation, and baking of clay from agricultural land and the baking of clay into building bricks served to encourage many people to start cement-based production of blocks and bricks. However, ineffective execution of the law has led to continued use of the clay bricks, still available but at a higher price due to the reduced number of producers and difficulties in getting the bricks to the market. It has also created a niche market for clay and clay brick traders who have started black markets, making a lot of money per year.

The cement-based production of the bricks did not get the market they hoped for and could have gotten if the law was executed effectively. Their market is predominantly made up of government building contracts normally won by large contractors. The large contractors, however, are producing most of the cement blocks and bricks for their own use, reducing the market for the cement block and brick producers. In Sohag, the introduction of a Taffle brick factory, started four months ago, may introduce competition for both the clay and cement brick producers.

The cement block and brick producers are constrained by the domination of the market by the clay bricks, which are preferred for their lighter weight, better weather conditioning, and familiarity with the users. The ineffective execution of the law on clay bricks is responsible for this constraint.

Technological constraint may exist due to the limited technical expertise in Taffle production and the high level of investment required that may hold back the development of this legally acceptable alternative production of bricks and blocks.

### **Tile Production**

Use of tiles has become a common practice in the rural as well as urban housing. Demand for mosaic tiles is growing. It is also more profitable than production of plain and colored tiles. There are many small producers who have been operating for a long time at low levels of production but having most of the rural market to themselves. Introduction of power supply in the villages has made it possible to use machines and hence raised the level of competition in the market. Introduction of machines has promoted greater use of the mosaic tiles that require the more expensive grinders. Although mosaic tiles are mostly found in the urban areas, they are currently being introduced in the rural areas. Most government construction uses mosaico tiles and the medium to large producers therefore concentrate on production of mosaic tiles.

The constraints in the tile production affect more the small manual producers, who may not have three-phase electrical power supply and therefore cannot move to the next channel where production requires electric machinery.

The tile market peaks immediately after the cotton and/or sugar cane harvests and also in summer when the remittance from Arab countries comes in with people on summer holidays. Lack of capital prevents the manual tile producers from producing on inventory to take advantage of the peak seasons, when their production capacity becomes a constraint.

## **OPPORTUNITIES**

### **Blocks and Bricks Production**

The block and brick manufacturers currently using clay illegally could expand their enterprises if they could use taffle instead of clay, for they would be able to produce openly. However, this will require some technological interventions to ascertain that taffle bricks can be produced with less equipment than that currently used at the only factory there is in the governorate.

The supply channels based on the cement would have a better chance if the law was better administered. This will need government legal intervention.

### **Tiles Production**

To address the need for capital to produce an inventory to meet the market demand at peak periods, a credit program making loans available to produce in advance of the peak periods would be effective.

Many tile producers would benefit from loans to purchase equipment needed to make mosaic tiles, for they are more profitable, and the barrier to entry for many producers is lack of investment capital. The producers in the 2nd channel could easily enhance their income by purchasing grinders to enable them to produce the more profitable mosaico tiles, but lack of financial resources may be a constraint. As an alternative, they could be helped to explore possibilities of producing cheaper grinders locally. This will require some technological intervention, which must eventually be market driven.

The producers of tiles with grinders and mosaic as well as colored and plain tiles have concentrated on the urban and government construction markets. They have not entered the rural market although they have not been producing to their optimum capacity. They could improve their enterprises by doing better marketing, which suggests a training intervention.

## **LEVERAGE INTERVENTIONS**

### **Blocks and Bricks**

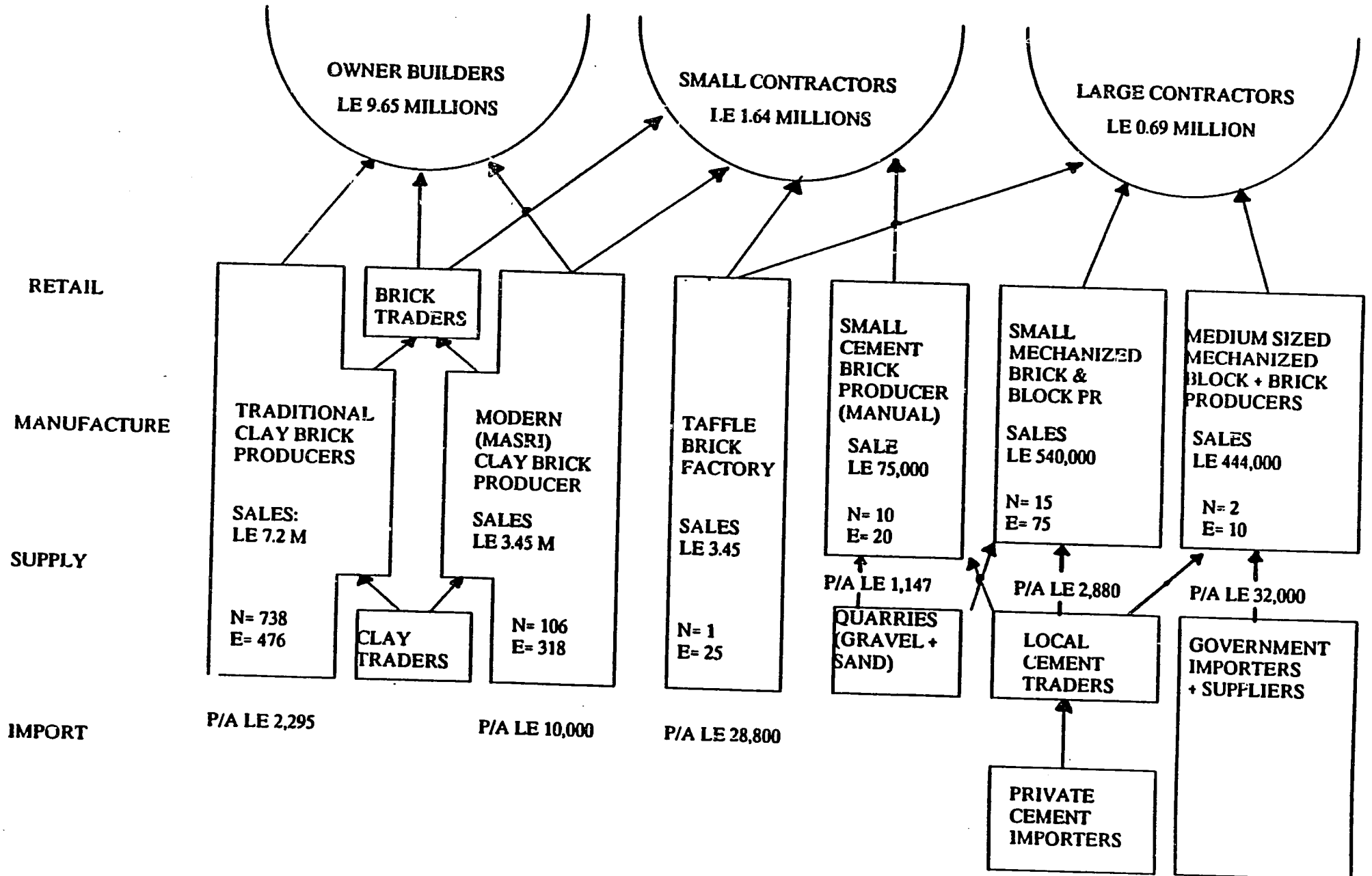
The most important market for blocks and bricks is in the rural areas and it is dominated by clay bricks. Government attention to execution of the law on clay bricks is a very important intervention for this sector. It has introduced economic inefficiency and bottlenecks represented by the black market traders of both clay and clay bricks.

Research institutions could work on simplifying the taffle production to attract more participants from the clay-based producers of bricks.

### **Tiles**

The tile producers who need credit are mostly in the rural areas where CARE and other agencies operate. This makes it possible for the agencies to follow up these findings and establish the actual needs and work with the enterprises to promote better understanding of their situation and their ability to exploit existing potentials.

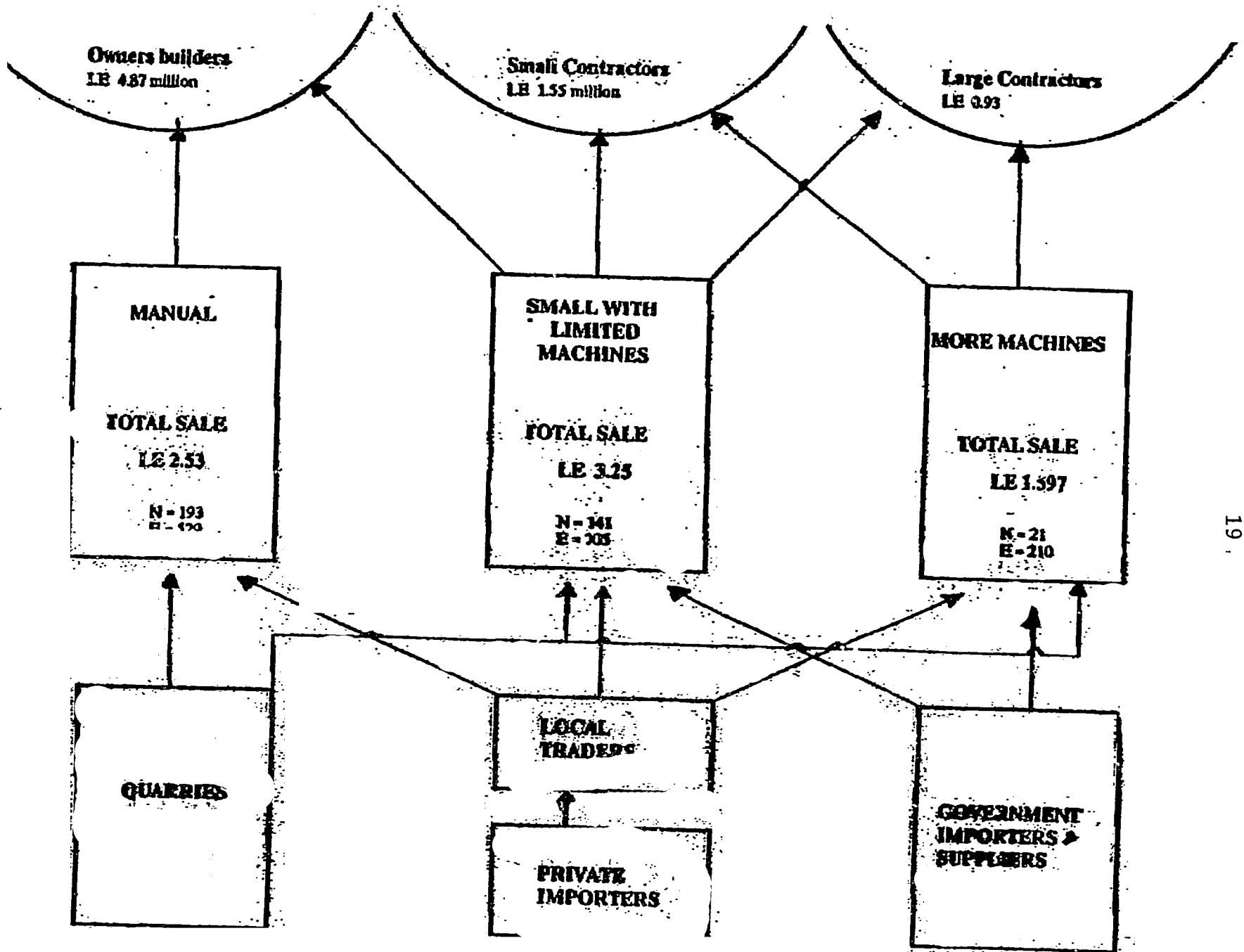
BRICKS & BLOCKS SUBSECTOR MAP



MANUFACTURE

SUPPLY

IMPORT



**SUBSECTOR ANALYSIS**

**DAIRY PRODUCTS IN**  
**SOHAG GOVERNORATE**

**Prepared By:**

**Adel Ghazaly**  
**Basem Maher**  
**Ray Collins**  
**Samir El Sabagh**

**CARE Egypt**  
**February 1992**

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Dairy products represent 4.5 percent of average household expenses of LE 2,901 per year in Sohag Governorate. Total dairy consumption in the subsector is LE 191,860,417. As rural household income increases the marginal propensity to consume increases from 3.89 percent to 4.25 percent. In addition to local consumption, exports valued at LE 633,600 are currently being made. Most of the dairy production in Sohag is performed by women at the household level (75,550).

## MARKETS

The domestic market is divided between rural and urban households. As 78.05 percent of the Sohag population lives in the rural areas, this market is the largest in number of consumers. The rural market is defined as those families who do not raise cows or buffaloes and, therefore, purchase their dairy products through commercial channels. The rural market for dairy products is 105,219 tons per year, of which 38,079 tons are whole milk. The value of this market is estimated as LE 119,624,817 per year, and is comprised primarily of milk, butter, and cheese.

The urban market for dairy products is estimated at 30,648 tons per year, of which 13,680 tons are whole milk. The urban market is slightly more sophisticated and includes a demand for dairy products not found in the rural markets such as yogurt, canned milk, and ice cream, which are imported into the district. The value of this market is approximately LE 72,235,600 per year.

A small domestic export market exists (from Sohag to neighboring districts) for approximately 960 tons of whole milk to large national dairies outside of the subsector's boundaries. The value of this market is approximately LE 633,600 per year.

## SUPPLY CHANNELS

The Subsector map has four channels for the supply of dairy products. Small household-level producers, who supply primarily to the rural areas, two large producers (large farms: one producing 200 kilograms of buffalo milk per day, the other, with 800 animals, which produces 6,500 kilograms of cow milk per day), which supply the urban areas and export to consumers outside the governorate, and to cheese factories. These cheese manufacturers are differentiated from household cheese makers because they use processing techniques and ingredients that produce a cheese different from cheese made in the home.

### Small Household Producers

Approximately 75,550 small farmers produce 141,800 tons of milk annually. The average family produces 5.4 kilograms of milk daily, primarily from buffaloes, 50 percent of which is consumed at the household level and the other half is either sold as whole milk or used to make ghee (clarified butter) and cheese. Women provide most of the labor in the production of dairy products at the household level and achieve a daily return to labor of LE 1.10 for each kilogram of milk processed.

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### **Cheese Factories**

Some of the cheese found in the urban markets is produced by about 36 small cheese factories. These factories manufacture a white cheese (from whole milk) that is richer and has more flavor than the traditional cheese made in the home from skim milk. Approximately 24,000 kilograms of cheese are produced by these factories each year from 4,800 tons of milk. Cheese factories make a daily return to labor of LE 0.20 for each kilogram of milk processed.

### **Large Producers**

A portion of the urban market for milk and other dairy products is supplied by two large farms. One farm, with approximately 90 buffalo (50 of whom are producing at any one time) supplies 200 kilograms of whole milk each day to the urban market. The other large producer is a dairy farm (with 800 head of cattle) which produces 6,500 kilograms of whole milk each day. Two thousand kilograms of this milk is disbursed to the urban market, 500 kilograms is consumed at the farm, and the balance of 4,000 kilograms is exported to a commercial dairy outside the governorate.

### **National Commercial Dairies**

The fourth channel within the subsector is made up of national dairies which exist outside of the subsector boundary but which sell dairy products to urban markets within Sohag Governorate. (One of these national dairies receives four tons of milk per day from the large cow milk producer in Sohag: Diabat Farm). National dairies supply the bulk of the 30,648 tons of dairy products consumed in the urban market each year.

## **DRIVING FORCES**

The channel that is growing most rapidly is the National Commercial Dairies channel. Milk consumption in Sohag Governorate is increasing by 1.8 percent per year. The commercial dairies are providing the dairy products to the urban markets to meet this increased demand.

Both small and large producers, however, are feeling the effect of the GOE removal of the subsidy on cattle feed. The subsidy removal (in 1991) resulted in an immediate 100 percent increase in the cost of cattle feed over the past year. As a consequence, production in the small milk producer channel is likely to decline as poor farmers find it increasingly difficult to feed their animals. Less food for the livestock leads to decreased milk production.

Decreased production at the household level will effect the rural market, as one-fourth of the milk produced by small farmers is directed to this market (small producers provide only a small portion of the milk consumed in the urban market: 1,200 tons of an estimated 13,680 tons). One reasonable scenario suggests that as production declines producer households will satisfy their needs first, leaving an increasingly diminishing surplus to be supplied to the rural market, either directly or through sales to milk collectors.

## **MARKET NICHES**

Two distinct market niches exist in this subsector: milk collecting and cheese collecting. These activities are often performed by nonproducers who purchase from small household producers and sell directly to the urban market.

Milk collectors earn LE 0.40 per kilogram of milk handled as compared to cheese collectors who earn LE 0.20 per kilogram of milk handled.

The activity with the greatest return to labor in channel one is the processing of milk into ghee (butter) and cheese. This activity produces a return of LE 1.10 per kilogram of milk processed.

## **OPPORTUNITIES**

In studying this subsector the following opportunities were noted:

A study of the return on each kilo of milk sold or processed revealed that the highest returns (LE 1.10) are to small producers who process their milk into ghee and cheese, and sell the production. Small producers are often short of cash and are forced to sell their products at less than optimal terms. For example, small producers sell 27,000 tons of milk each year at an average price of LE 1.40 per kilogram (the production cost of one kilogram of milk is LE 1.06), which yields a return of LE 0.34 per kilogram. Those small producers who process their milk into ghee and cheese realize an additional return of LE 0.76 per kilogram of milk. Therefore, increased processing of milk at the household level will contribute substantially to increases in household income.

The amount of milk produced by buffalo in Sohag is 50 percent less than the standards established for Baladi Buffalo. The primary reason for this reduced production is the quality and quantity of fodder available, particularly during the summer months. The removal of the animal feed subsidy by the GOE affected, to a larger extent, the small producers. This policy change resulted in animals being fed poorer quality fodder, which decreased the production of milk. Therefore, opportunities exist for the identification of inexpensive sources of animal feed to increase milk production.

## **INTERVENTIONS**

To assist small milk producers to maximize their profit the following interventions are recommended:

- To encourage small farmers to process all of their surplus milk (beyond household needs) into cheese and ghee. The financial returns on processed dairy products are much greater than the sale of the raw milk.
- Introduce improved traditional cheese production methods, which could include adding sufficient oil to the skim milk used in making traditional cheese to restore the fat content to 3-4 percent, (and thereby improve the quality, which will in turn increase the selling price

and the returns to the producer) and/or pursuing a modified commercial cheese production process for the same effect.

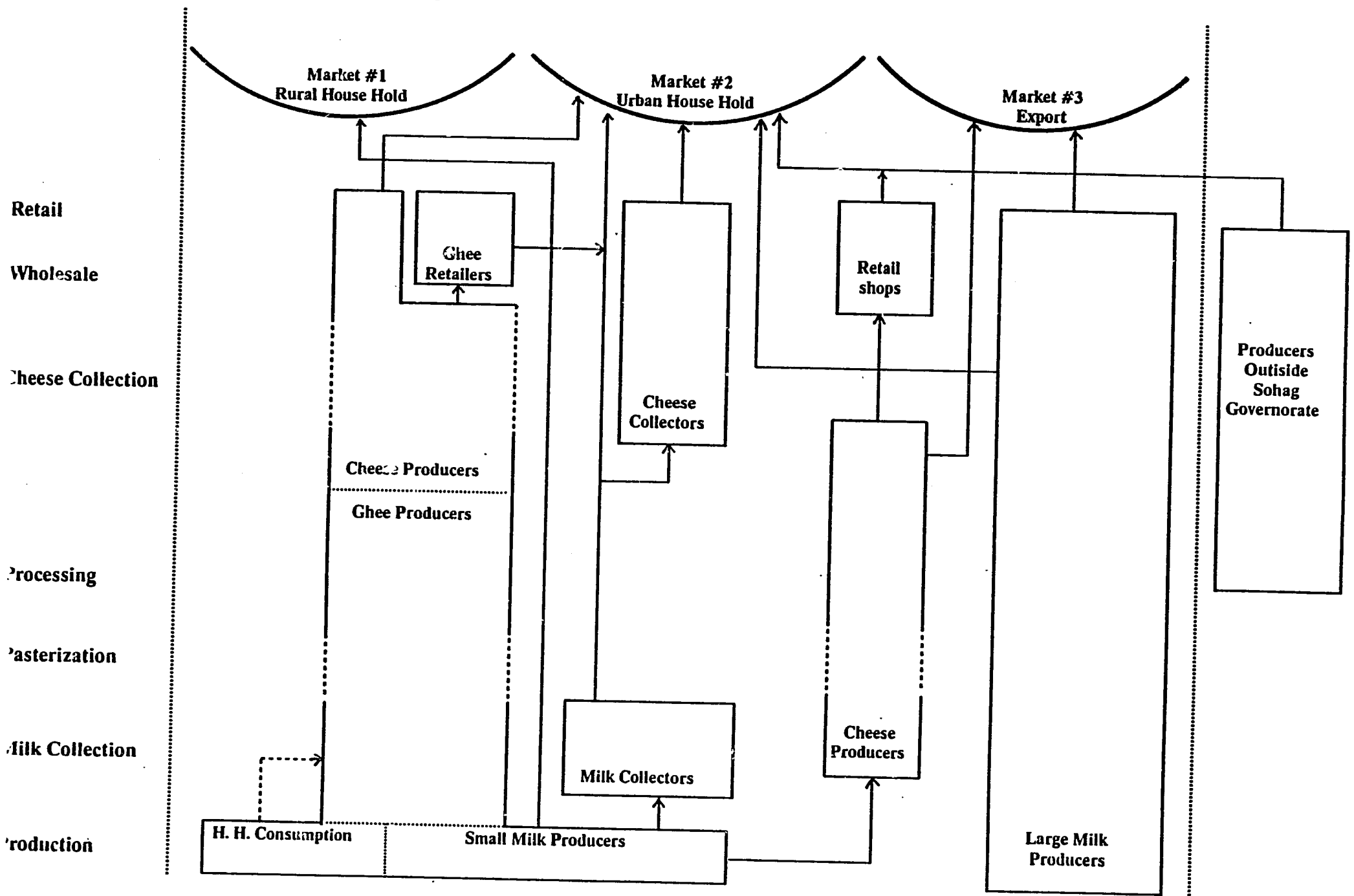
- Provide credit to small farmers to enable them to feed their livestock better and thereby increase the production of milk. This increased production would then be processed into ghee and cheese. This activity would significantly increase the financial returns to the small farmers.
- Examine possibilities of producing a better quality of nontraditional feed and examine and develop techniques to store clover produced during the winter season for use in the summer.
- As long as whole milk is available for sale, rural women should be encouraged to purchase and process it into ghee and cheese.

### **POINTS OF LEVERAGE**

We were not able to identify any significant leverage points among the actors in this subsector. Milk production takes place in a large number of households, and the flow of dairy products to the various markets is in the hands of a large number of individuals. Thus, no system nodes are created where large volumes of product pass through the hands of only a few actors. The participants in the subsector with the greatest potential for influence are the approximately 75,000 small milk producers.

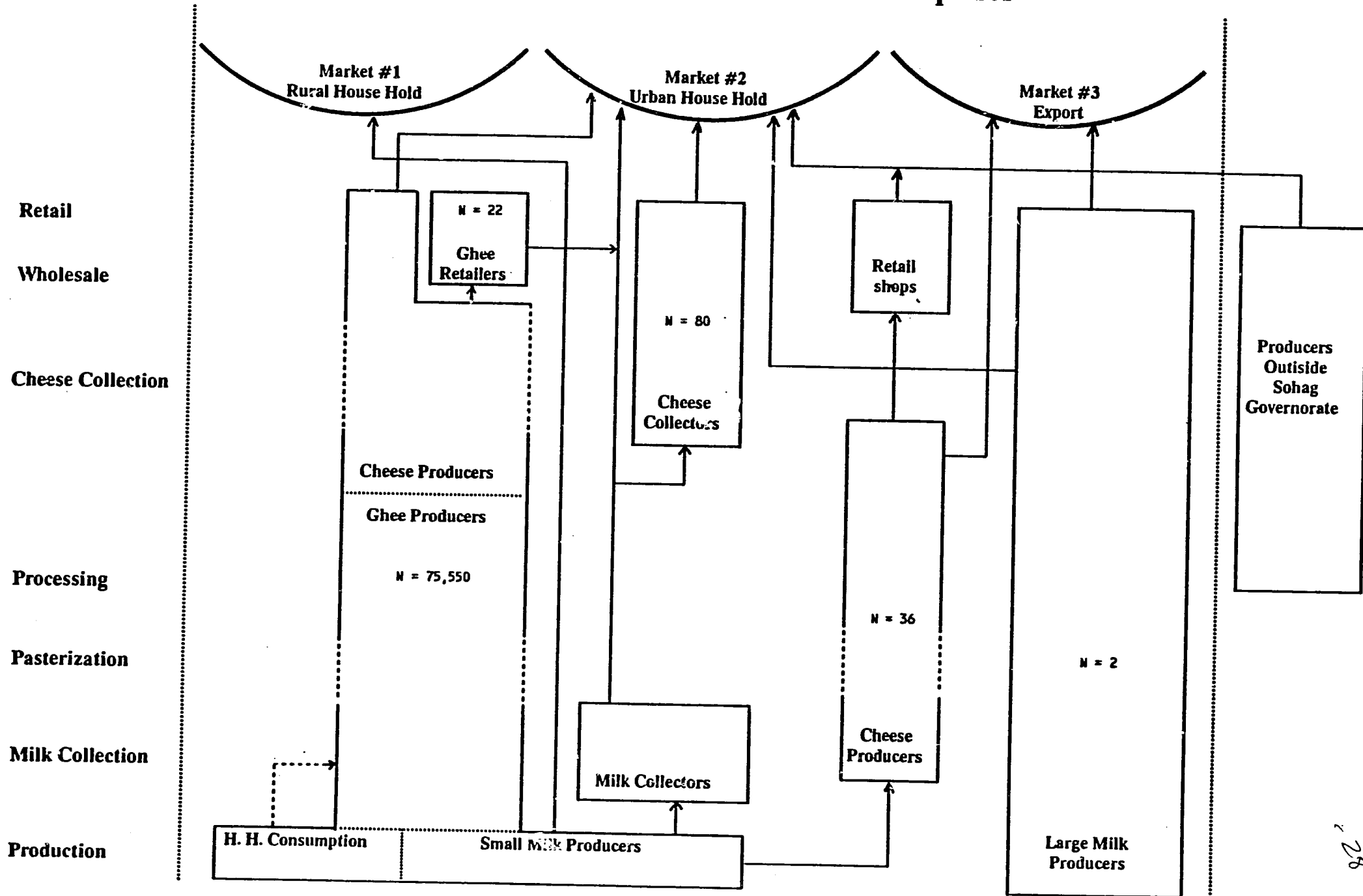
Therefore, we recommend that CARE/Egypt use its existing field staff and Community Development Associations as the "change agents" for assisting small milk producers in implementing these recommendations.

# Dairy Production Subsector Analysis



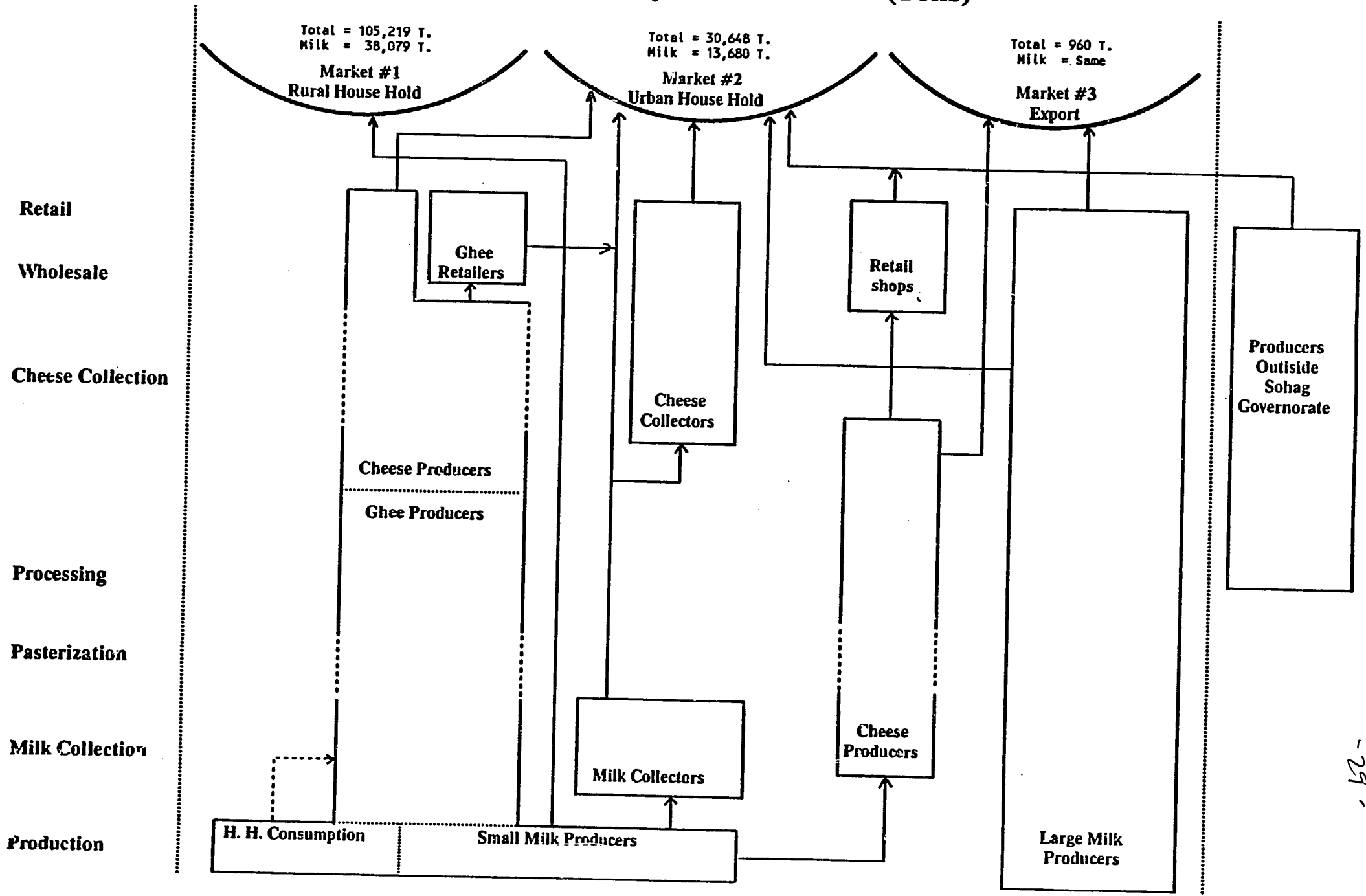
# Dairy Production Subsector Analysis

## Overlay for Number of Enterprises



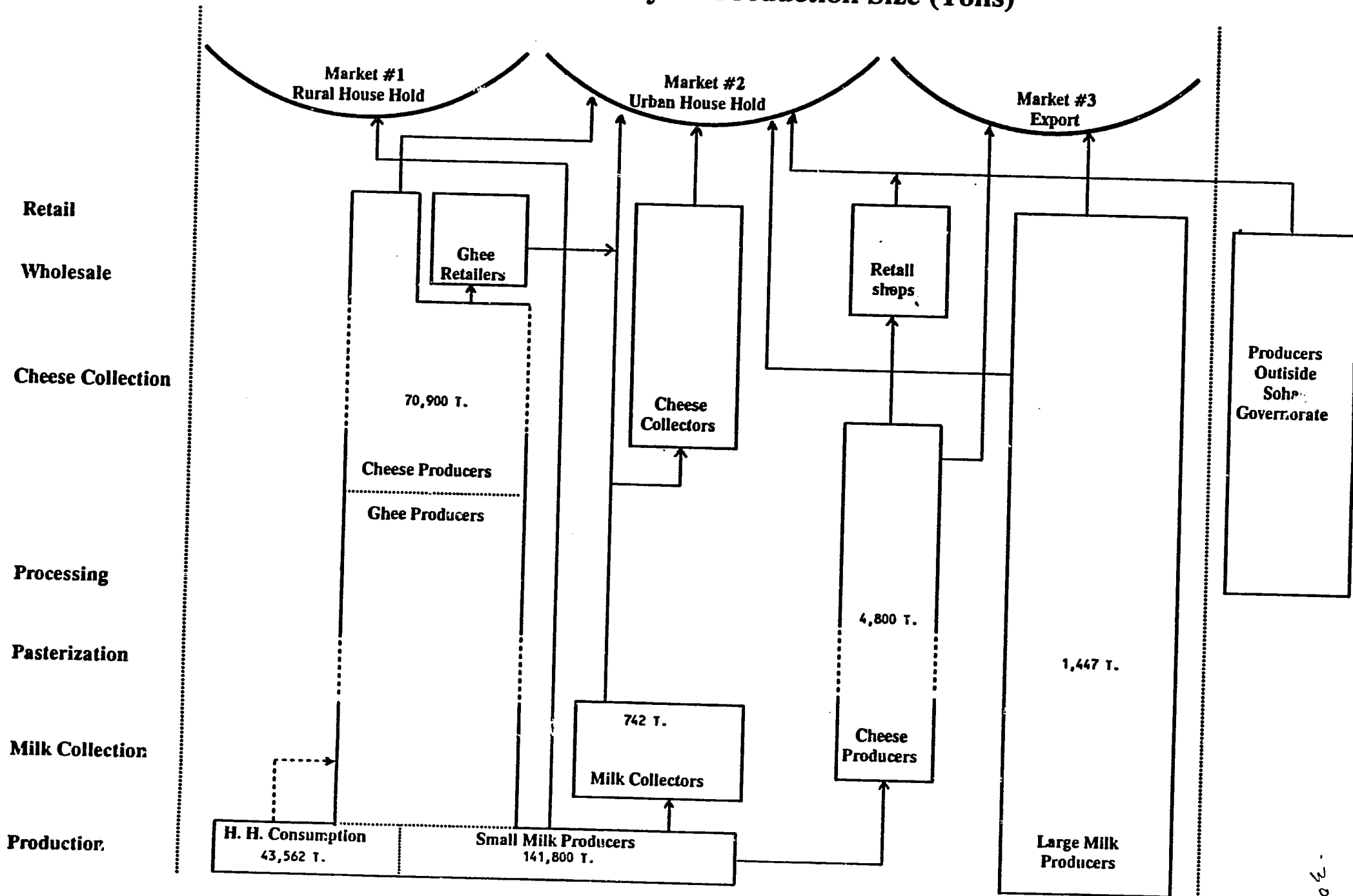
# Dairy Production Subsector Analysis

# Overlay for Market Size (Tons)



# Dairy Production Subsector Analysis

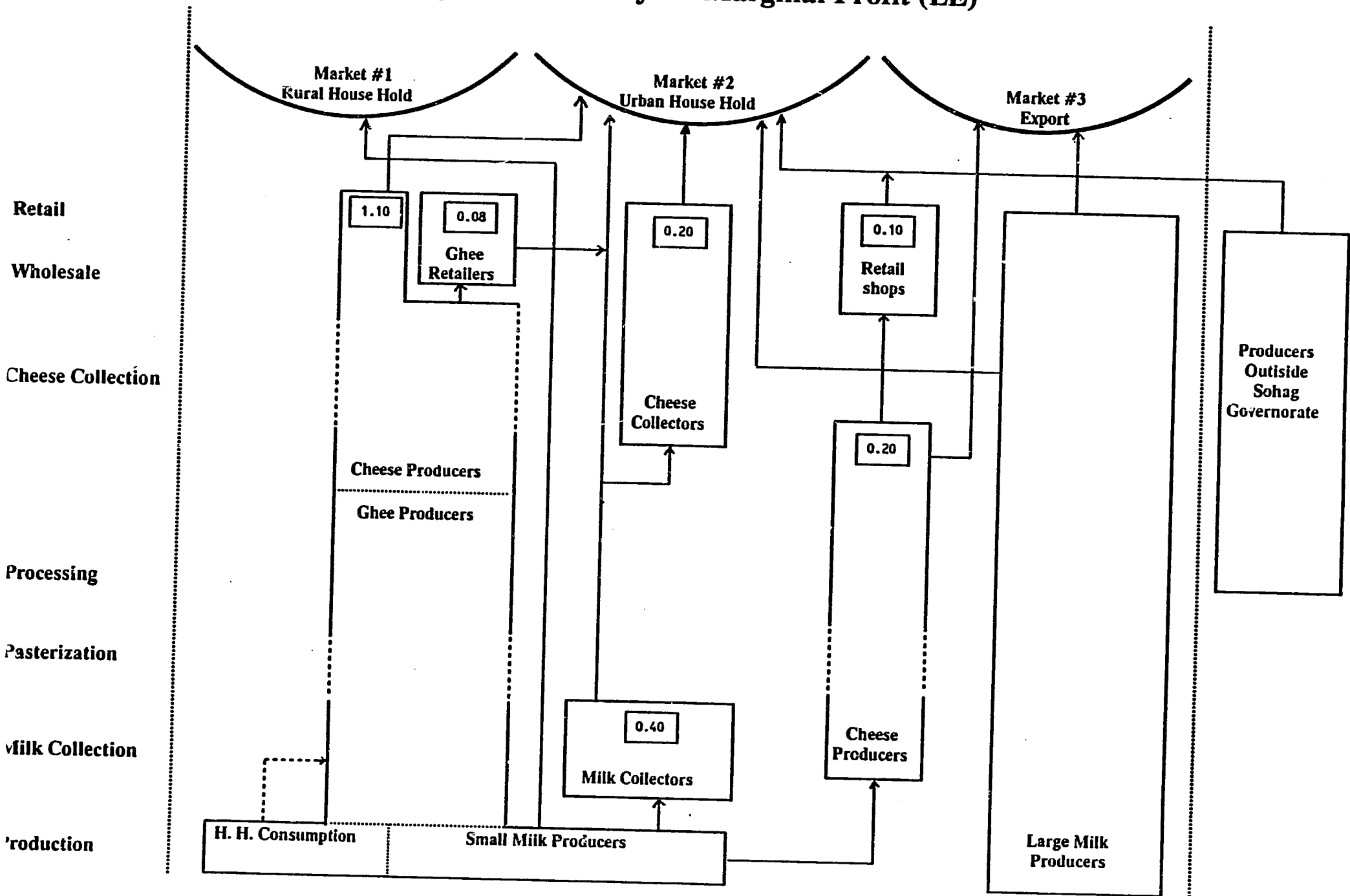
## Overlay for Production Size (Tons)





# Dairy Production Subsector Analysis

# Overlay for Marginal Profit (LE)



**SUBSECTOR ANALYSIS:**  
**FURNITURE IN**  
**SOHAG GOVERNORATE**

**Prepared by**

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**February 1992**

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Furniture sales reached a level of approximately LE 39.5 million in Sohag Governorate in 1991, representing almost 2 percent of the average household budget. Rural households are projected to have made LE 28.2 million (or 71 percent) of all furniture expenditures. However, a large quantity of those purchases occurred in population centers where rural people travel to buy their more expensive sets of furniture.

The dynamics of the furniture sector are rapidly changing in response to two key factors: (a) bad economic times compounded by a sharp drop of income to the area due to the gulf war; and (b) the presence of Daumiat furniture and furniture component producers in the various furniture production channels throughout Sohag.

## MARKETS

The majority of furniture purchases made by Sohag families are at the time of marriage of the founding couple; marriage cannot take place unless the long-term furniture requirements of a couple have been met. The types and qualities of furniture purchased are a function of household type, family ability to pay, and whether the household is rural or urban. Furniture, other than the rural balladi furniture, is usually purchased by room, such as bedroom sets, sitting room sets, and dining room sets. The three general markets for furniture that we discovered through our study in Sohag are local balladi furniture, low- to medium-priced furniture sets, and medium- to high-priced furniture sets.

### Local Balladi Furniture Market

The word "balladi" means local. It refers to the very simple, unfinished traditional furniture that is made from soft white wood or from remnant wood. Poorer rural households often do not furnish rooms with sets of furniture. Bedroom furnishings may be as little as a bed and a wardrobe. Rather than a sitting room, the household may purchase one or two wooden couches or *dikkas*. Lower income, or more traditional urban families furnish full apartments, but tend to use a different form of wooden couch, the *canaba*. Dining rooms are apt to be absent from rural households, where the *tableya*, or low table, is traditionally used for both meal preparation and meals themselves, and urban households outside the westernized middle class have until recently used this table as well. The traditional pattern is to order these balladi furniture pieces from local woodworkers, rather than to buy them readymade.

### Low- to Medium-Priced Furniture Sets

Middle and upper class households in both urban and rural areas have traditionally ordered their furniture to be made by furniture makers, themselves supervising the construction process. Such a household seeks to own a salon, a living room, a dining room, and a bedroom, in some cases with the addition of a kitchen with a table, chairs, and wooden cabinets.

### Medium- to High-Priced Furniture

This niche market is dominated by very reputable furniture makers who produce a low volume of high-quality furniture each year for those households whose taste and income demand such products.

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## **SUPPLY CHANNELS**

Any schematic representation of the production channels in this sector will tend to oversimplify the situation. However, five basic production channels can be distinguished:

### **The Balladi Furniture Market**

These producers, mostly located in rural areas, use mostly local wood and secondhand wood to produce the *dikka*, the *tableya*, and sometimes other wooden items. Their sales are local, and their equipment mostly hand tools.

### **Hand Tool Workshops**

These shops produce Western furniture for the low- and medium-cost markets. The production process is mechanized, just as in mechanized workshops, but the mechanized steps are performed in other shops, either by rental of time on the machinery in question or via subcontracting. Trim is usually purchased from traders in Daumiat products. Upholstery and finishing are contracted to specialist shops or individuals. Production is on order, mostly to the consumer but some to furniture stores. Because a large store owner may also act as a wholesaler, some such furniture travels into neighboring governorates.

### **Gallery Retailers**

Some gallery retailers purchase fully finished furniture, with emphasis on salons from Daumiat, and on-sell them to up-market consumers. Others cut their costs by purchasing unfinished furniture, either on order from local workshops or from Daumiat, and completing the process of finishing (primarily upholstery and painting/polishing) via subcontracting to local craftsmen.

### **Mechanical Workshops**

Mechanical workshops produce furniture according to essentially the same process as the hand tool shops, except that some or all of the machinery is owned by the shop itself. Such shops may also need to contract out specialized machining, and they also subcontract upholstery and finishing.

### **High-quality Workshops**

The aristocracy of the subsector consists of a small group of carpenters who produce signed pieces. Their work is done strictly on order, and customers are as far away as Cairo. These carpenters concentrate on bedrooms and dining rooms; probably most of their clients purchase readymade Daumiat salons. The use of Daumiat trim is least here, and there is much less compromising of wood quality to increase affordability or profit.

Shifts in consumer purchasing patterns are mirrored by shifts in production patterns. One such is the widespread use of components, trim, and unfinished pieces manufactured in Daumiat. These items began to appear in the Sohag market about 10 years ago, but their use has intensified greatly over the past three years; most of the urban furniture now being produced includes parts from Daumiat.

Mechanization increased during the 1980s, when furniture sales were at their peak and capital from labor migration made it possible for many carpenters to mechanize.

With decline in overall purchasing power, carpentry workshops seem to have diversified their manufacturing strategies. For example, many mechanical workshops now rent time or subcontract steps in the production process, such as turning of table legs. Some shops specialize in these activities, while others continue to be mainly producers and only secondarily subcontractors. Some furniture carpenters are also taking on door and window jobs, which is normally a separate activity.

Carpentry shops and affiliated craftsmen seeking to maintain their market shares have both added and subtracted functions in the process. Some have specialized in specific items like dining room tables and wardrobes, and have bought chairs in unfinished form from Daumiat to complete the rooms. One mechanized carpentry shop in Girga now restricts its activity to subcontracting for others. Upholsterers who would normally take orders from households or carpentry workshops may stock a few unfinished chairs in order to be able to work directly for the consumer. Wood quality has decreased.

## DRIVING FORCES

Probably the main driving force in the furniture production subsector today is the depressed state of the national economy. Some of the adaptations to this situation are likely to have long-term implications for development of the subsector, and other forces at work are also shifting production patterns, albeit somewhat disguised under present conditions.

### Demand

Important changes are taking place in consumer furniture purchasing practices over the recent past. These are due to several factors:

1. **Growing preference for Western-style furniture.** The metal or wooden dining table is replacing the *tableya* in both urban and rural households, and furniture styles are Westernizing in the rural areas.
2. **Poor economic circumstances.** Decreased purchasing power in the majority of households has lowered expectations of quality in furnishings and may also have lowered expectations of quantity to be acquired at marriage, along with degree of decoration and complexity of construction. A used furniture market also appears to be emerging.
3. **Growing use of premade furniture.** Among the prosperous urban households, there is a trend toward purchasing readymade furniture made in Daumiat. Those at lower economic levels are more likely to purchase readymade furniture of various grades produced by local

carpenters, although this study has not established whether this practice is well established or growing.

### **Technological Change**

The major technological change in this subsector is the use of Daumiat components; furniture retailers are the main beneficiaries of this technology, which has allowed them to circumvent local carpenters in many cases. Whereas furniture makers were traditionally the furniture sellers, there is now emerging a furniture retailer whose primary skills are marketing rather than furniture making.

### **Profitability**

Per-piece or per-room profitability differs greatly from per-year profitability under depressed market conditions. The highest per-piece profit is in the luxury market; profit margins have decreased little or not at all during this period. Other carpentry workshops often bargain away part of their normal profit margins to sustain their places in the market. The galleries may have the lowest profit margin but the highest volume, and thus the highest return on investment.

### **Risk**

In principle, risk is highest for the mechanical workshop owners. This is because of both high fixed costs and much higher tax assessments related to machinery ownership, regardless of production level. In practice, the risk due to fixed costs exerts little influence on risk except for those making a transition from hand tool production to machine tool production on the basis of credit. During the late 1980s, as the market was about to slip dramatically, substantial numbers of carpenters in Sohag took bank loans to make this transition, and several carpenters had to sell their property to pay their debts, providing a dramatic example of risk to others, so it is unlikely that this experience will be duplicated in the short run.

### **Barriers to Entry**

The major barrier to entry into carpentry production is technical skill, followed by start-up costs. Balladi carpentry requires limited skill and little investment, but other carpentry workshops require both. Entry even as a hand tool producer can be expensive, due to the high costs of "key money" to rent a suitable workspace. For the galleries, commercial rather than technical skill is required. The high-quality furniture makers do not achieve entry per se into this market, but rather distinguish themselves by reputation over a period of years.

### **Large Firm Behavior**

Large firms are lacking in the furniture market in Sohag, though Daumiat's furniture manufacturing subsector affects Sohag producers as if it were a single large firm.

### **Input Supply**

Input supply is the same for carpentry workshops of all types, and inputs are freely available if expensive. Thus the major impact of input supply has been in terms of the availability of Daumiat furniture components and semi-finished furniture has allowed the galleries to compete effectively.

### **Policies**

Tax policy seems to act against mechanical workshops, in that assumptions of larger volume are used in tax assessments where machinery is present, whether or not this volume is being achieved. It favors retail over production shops in that production shops pay both production and sales tax.

## **OPPORTUNITIES AND CONSTRAINTS**

We have identified three general opportunity areas in the furniture subsector:

- To move Balladi furniture makers toward a growing market for rural households, which is the lower cost Arabic furniture market;
- To provide import substitutes to production channels by locally producing components to compete with imported components from Daumiat; and
- To move furniture makers to actively seek alternative ways to market their furniture products.

### **Rural Arab Market**

More than 70 percent of furniture expenditures in rural areas are made when rural people travel to urban areas to purchase sets of furniture. One reason for this is that traditional Balladi furniture makers generally have not diversified their skills and production range beyond the traditional (*dikka*, *tableya*, and *canaba*) Balladi furniture. Thus, the opportunity exists for Balladi furniture makers to gain a greater share of the rural Arabic market.

To appropriately assist Balladi furniture makers in their quest to gain Arabic furniture market share, further analysis is necessary to ascertain if there is a need for more skills, additional equipment, or both for most Balladi furniture makers. Also a basic question must be asked: do rural furniture makers have any desire to make Arabic or Western furniture?

### **Develop Alternatives to Daumiat Furniture**

The wood working skills and marketing strength of Daumiat furniture producers have had a profound effect on furniture production channels in Sohag. The availability of inexpensive assembled and unassembled furniture components from Daumiat affects Sohag furniture makers' ability to produce similar pieces at comparable cost and quality. An entirely new furniture production channel has emerged

using Daumiat components along with available skilled Sohag workers, which strongly competes with traditional Sohag furniture makers.

A logical opportunity here is to rally existing skills and equipment to locally produce components that are currently being transported in from Daumiat. Furniture makers are aware, however, that competing with Daumiat is no simple matter.

### **Seek Alternative Markets**

A large portion of furniture purchasing has traditionally been done by customers going to furniture makers to order the production of a set of furniture. Thus, furniture makers have not traditionally done very much active marketing of their products. Amid the existing economic slump, it is apparent that furniture makers are well advised to actively seek alternative markets, or at least alternative marketing strategies to sell a large enough volume of furniture to stay in business.

One alternative may be to more actively approach existing retailers or create new retail outlets. Another alternative may be to make it easier for customers to purchase furniture by providing installment buying opportunities. A third alternative may be to look for new markets altogether, such as governmental and institutional markets, or export markets.

*NOTE: A final opportunity which has not been addressed here is to assist entrepreneurs to take advantage of the present situation in a way similar to those presently managing the gallery retail shops. Individuals with business sense and start-up capital may be able to coordinate the use of available skilled labor and inexpensive furniture components to meet the growing demands for readymade inexpensive furniture sets.*

## **LEVERAGED INTERVENTIONS**

The subsector map does not indicate a system node that would logically serve to move Balladi furniture makers into the Arabic market. Two other leverage points that may be considered are CDAs, and trade schools and training centers.

- CDAs with carpentry workshops may serve as training resources. Through CDAs, apprenticeships may be set up, either at the CDA workshop or in a neighboring population center.
- There are 10 technical schools and training institutes in Sohag. Rural students may be identified at these institutes to encourage them to set up or expand rural furniture-making enterprises by offering additional training, business advice, and financing if necessary.

Once skills exist to produce Arabic furniture through Balladi furniture makers, linkage may be made between component traders and rural areas.

There may also be an opportunity to produce components at CDA workshops for distribution to Balladi furniture workshops.



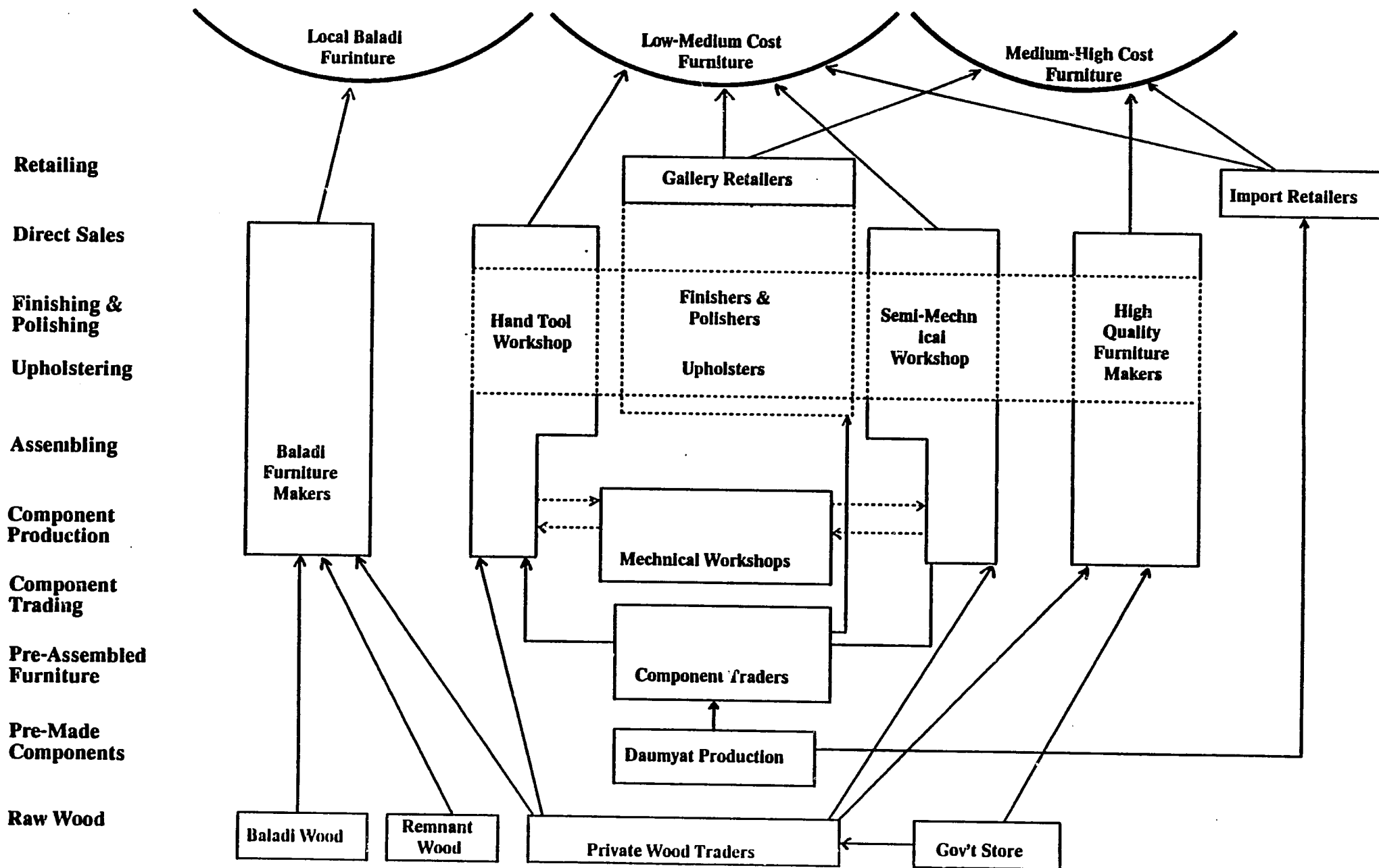
One point of leverage for import substitution may be the mechanical workshops, which have a high gearing ratio to furniture makers. Machine workshops could be organized to specialize in production of different component parts. If quality and regularity of output can be maintained, local furniture makers could access component inputs without transportation costs and without component trader mark-ups. An assessment would have to be made to determine if training, machinery, or both are needed to promote local component production.

Government policy may have an influence on the likelihood of getting machine workshops to produce furniture components. As it stands, production enterprises are severely taxed on their capacity to produce. If transferring from being a service enterprise into a service/production enterprise is seen to take on more tax burden than potential profit, the policy may have to change to encourage local component production.

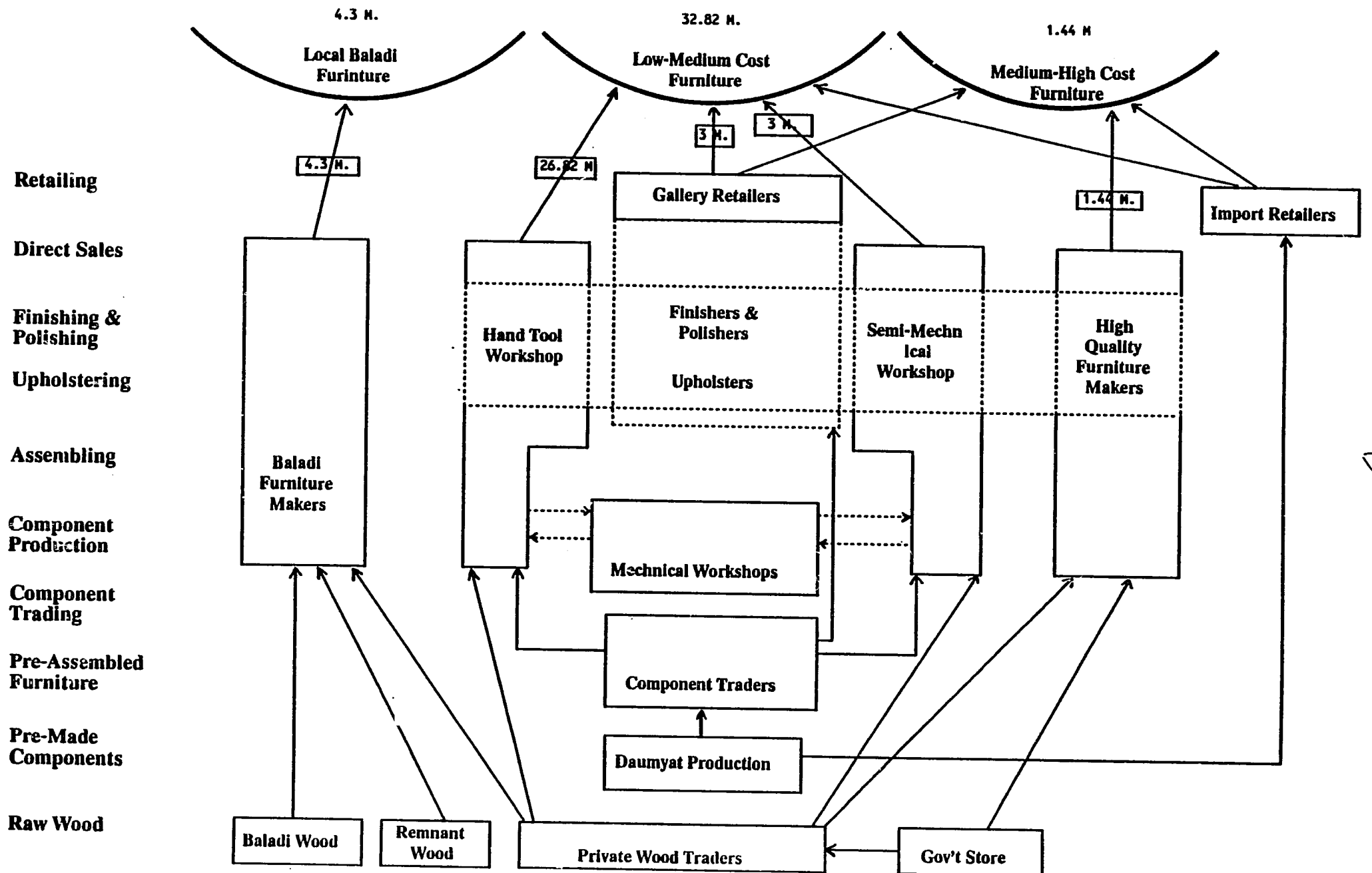
Alternative marketing strategies are to:

- Work through MSA via CDAs or ENGOs to set up galleries to market furniture. Look into potential for offering furniture on installment to open the market to people who cannot afford to pay in full immediately.
- Look into marketing through government stores such as Omar Effendi and Sednaoui. Approach buying committees for those stores to offer regular products to be sold at their outlets.
- Use leverage from the furniture makers' cooperative to bid on government and institutional contracts to offer furniture to schools, offices, hotels, and so forth. It is known that training institutions generally are awarded these contracts. Appropriate officials must be approached to ensure that these bids will be open to the cooperative.
- Use leverage from the cooperative to seek out wholesaling and retailing opportunities outside of the Sohag Governorate.

# Furniture Production Subsector Analysis

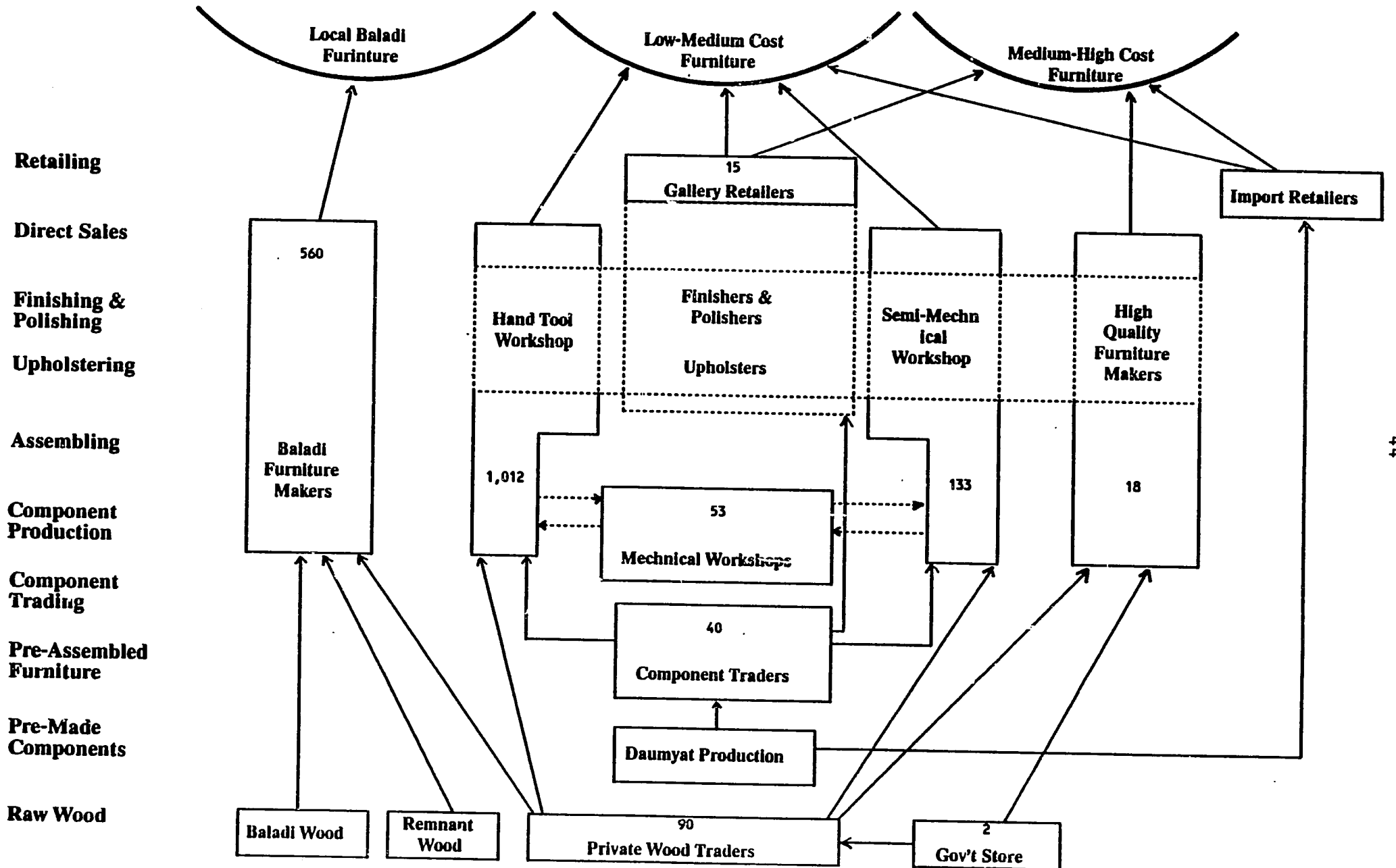


# Furniture Production Subsector Analysis Overlay for Value of Sales (Million LE)



97a

# Furniture Production Subsector Analysis Overlay for Number of Enterprises



**SUBSECTOR ANALYSIS:**  
**FRESH AND PROCESSED VEGETABLES IN**  
**SOHAG GOVERNORATE**

**Prepared By:**

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**CARE Egypt**  
**February 1992**

Approximately 14,000 farmers produce vegetables, mainly tomatoes, potatoes, and onions, in Sohag Governorate. In 1991, these farmers produced an estimated 60,000 metric tons, 40,000 tons, and 35,000 tons of these three crops, respectively.

The market for truck vegetables, especially fresh marketing, is controlled by a relatively small group of wholesalers operating in Sohag town and each of the district headquarters. These approximately 60 large merchants purchase and distribute local production during peak seasons and import and distribute vegetables to meet local demand during the off seasons.

One of three government-owned onion drying factories is located in Sohag. This factory alone processed 30,000 metric tons of onions in 1991, mainly for export. In addition to the onion drying factory, other significant vegetable processing occurring in Sohag is through small pickle workshops, seasonal drying of molakhiya at the household level, and seasonal pickling for Ramadan at the household level.

To facilitate better understanding of the truck vegetable subsector in Sohag, the analysis was separated into two parts, focusing on the fresh market and the processed market.

## **MARKETS**

### **Fresh Market**

The fresh market analysis focused on the three main crops, tomatoes, potatoes, and onions. Two major markets for purchased fresh vegetables were identified, the local market in Sohag Governorate and the export market outside of the governorate but still in Egypt. A large amount of vegetables are produced by households for their own consumption.

The export market outside Sohag is mainly in Rod el Farag, the wholesale market in Cairo; but some relationships extend to wholesalers in each of the other governorates. Late in the analysis, it was learned that some onions were exported last year to Libya, but this seemed to be an unusual occurrence resulting from last year's market confusion, which will be explained in more detail below.

Approximately 22 percent of the Sohag population is urban based. This group represents a significant portion of the local demand for fresh vegetables. Most rural based households produce vegetables for home consumption even if they do not produce vegetables commercially. However, in the off seasons, these same rural households purchase a significant amount of fresh vegetables from the fresh market. Finally, given the nature of population distribution in Egypt, in which the population lives in a narrow band of land along the Nile, many travelers going to other governorates pass through Sohag. Although the consumption of vegetables through restaurants is not enormous, it is also not insignificant.

Some differences were noted between urban and rural marketing patterns in the local markets. For example, the role of farmers in supplying fresh vegetables to the local market is more important in the rural areas. Partly as a result, the prices in the rural areas tend to be slightly lower at the retail level in the peak seasons and slightly higher during the off seasons. An expanded analysis may want to explore these differences in more depth.

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## **Processed**

The analysis of processed vegetables concentrated on dried onions, pickles, and to a much lesser extent dried molakhiya. In addition to the local market and the export market outside of Sohag Governorate but in Egypt, the international export market for dried onions as well as a niche market for dried onions consisting of government institutions was considered. Unlike the system for selling fresh vegetables that extends to the wholesale market in Cairo, the market outside of Sohag, except for dried onions, extends only as far as the major urban centers just beyond the borders of Sohag.

The market for both dried molakhiya and commercially produced pickles has grown slowly over the last 10 years. For example, 10 years ago, few, if any, dry goods retailers displayed dried molakhiya. Now, nearly all have this product among their wares. Similarly, one pickle workshop was working in the governorate 10 years ago, and now there are approximately 25. Much of this growth can be attributed to the expanding population.

The product of the dried onion factory is not consumed locally. Nearly all of it is being sold on the international market with the poorer quality product being distributed to the Egyptian military and to prisons.

## **SUPPLY CHANNELS**

### **Fresh Market**

In the fresh market, three main supply channels were identified. One of these feeds only the local market. The second supplies both the local market and the market outside of the governorate and the third delivers only to the external market.

The first channel is composed of the production of small farmers, of which there are roughly 10,000. A significant portion of this production is sold by farmers directly in the market, particularly on market days in the rural areas. A second actor in this channel is a relatively small group of what have been termed "urban donkey carts." These are persons living near urban centers who are not farmers but who own donkey carts. They purchase small amounts of vegetables from farmers and offer these to the wholesaler. If the price offered by the wholesaler is not satisfactory, they take the cart load to the market themselves and sell it. In the governorate as a whole approximately 5 to 10 percent of fresh vegetables for the local market is sold through this channel.

The second channel is oriented around the 60 wholesale merchants. These persons receive vegetables from five different sources: contract farmers, large farmers, rural traders, and the donkey carts, and through importing from Rod el Farag and other governorates. Their major supplier is contract farmers. These are generally relatively large farmers who want to avoid some of the market risk for their significant investment by contracting directly with the wholesaler to sell to them at a significantly lower price than that obtained by the wholesale merchants. Once the contract is made relatively late in the season, however, the wholesaler assumes some of the costs for completing the production. Large farmers who sell at the market price after harvest also deliver a substantial amount of vegetables to the wholesaler, often on a commission basis. The wholesaler does not actually purchase the large farmer's crop, but rather sells the product for a commission, usually 5 percent. There are approximately 3,500 to 4,000 large and contract farmers.

In the second channel, the supply of vegetables to wholesalers from rural traders is also significant. These are persons with small trucks who collect produce from several small farmers and transport it to the wholesaler who buys or sometimes sells on commission for the trader. The amount supplied by the donkey carts to wholesalers is relatively insignificant. The most important product imported by wholesalers is tomatoes, the most perishable of the main crops. During the peak tomato season, wholesalers export a substantial amount of the production and import a significant amount during the off season to meet local demand.

In the second channel, wholesalers supply fresh vegetables for the local market through vegetable shops and street vendors. The former are officially registered, geographically established businesses that usually sell fruit and vegetables. Rough estimates indicate that there are about 225 vegetable shops in the governorate. Street vendors are the mobile, informal retailers of vegetables, usually selling off of carts or on the street. Rough estimates suggest that there are 700 full-time street vendors. Street vendors sell less, generally, per vendor, than vegetable shops. However, because there are more of them, the volume of produce passing through street vendors is quite large, approximately two-thirds of all fresh vegetables being supplied to the local market.

The third supply channel begins with large farmer production, which passes to the market outside Sohag through a separate set of wholesalers who are based outside of Sohag but are significant competitors in the Sohag market for fresh vegetables. These external wholesalers buy directly from large farmers as well as from the local wholesalers. The national fresh vegetable wholesale market in Rod El Farag has the reputation for being dominated by large merchants originally from Sohag. It would not be unexpected that these merchants have familial or other relations with large farmers in the governorate as well as with the Sohag wholesale merchants.

### **Processed**

Three channels were also identified in the system for processing and marketing dried onions, pickles, and dried molakhiya. The first channel is composed of household-based processors of pickles and molakhiya for the local market. These are seasonal activities, one tied to peak supply and another to peak demand. Molakhiya is dried during the peak molakhiya production period. The fasting month of Ramadan is when the demand for pickles peaks and many households, while preparing pickles for their own consumption, prepare extra to take advantage of this niche market.

This first channel also contains dry goods wholesalers who acquire and occasionally export dried molakhiya to neighboring governorates. Groceries retail both pickles and molakhiya. The analysis was conducted during the off season for both drying molakhiya and household pickling, so figures for the number of enterprises and the quantity produced were not obtained.

The second channel focuses on the processing of turnips, carrots, cauliflower, onions, and green pepper into pickles through small pickle workshops. These workshops usually employ less than 10 persons and use fairly simple technology involving plastic or wooden drums. The estimated production from these workshops of which there are about 25 in the governorate is 550 tons per year. The pickles are either marketed directly by the workshop or through groceries. Most of the product is sold in the local market. Very small amounts are sold outside the governorate to urban centers just outside the border. The workshops obtain supplies of raw vegetables through the wholesalers, directly from large farmers, or from the Rod el Farag wholesale market. Because turnips are the major ingredient for pickles and relatively few turnips are grown in Sohag, the pickle workshops procure most of their raw materials,



as much as 70 percent, from the Cairo wholesale market. They do, however, purchase small raw onions that have been rejected from the onion factory.

The third channel consists of the onion factory, which obtains its supplies now from contract farmers mainly in Geheina District and from other governorates, particularly Fayoum. Like the contract farmers who supply wholesalers, these onion contract farmers are typically fairly large producers who appreciate the security of a purchase contract even though the price may be reduced.

Up until two years ago, the agricultural cooperatives were mandated by law to collect onions from producers for the factory. Last year, the factory contracted with a large number of farmers directly, but apparently reneged on some contracts. The stated reason was poor quality or reduced international demand. But, in fact, other reasons might be the factory's inability to transport and manage the procurement of onions in place of the cooperatives. As a result, a large amount of onions became available at a relatively low price last year and an external wholesaler purchased them presumably for export to Libya. This year, the onion factory has again made contracts but apparently only in Geheina District. The exporter to Libya has apparently not yet made any contacts to replicate last year's experience. Farmers, particularly those outside of Geheina, are concerned about where they are going to market their onions this year.

The onion factory produces 2,400 tons of dried onions annually from 30,000 tons of fresh onions. It only works for 8 to 9 months per year, however. The high quality product is exported and the low-quality product is shipped to the military and the prisons.

## **DRIVING FORCES**

### **Fresh Market**

In the fresh market, the main driving force is the wholesalers. The channel they directly control is growing the most rapidly as they assume more and more control over production through contract farmers and over transportation through their own networks of collectors. In addition, market demand continues to grow as the population grows. This demand will continue to surpass local supply, and wholesalers who import from other wholesale markets are in the best position to meet this demand.

Because agriculture in Egypt is a year-round activity, many farmers must have cash from the sales of one crop to finance the early stages of production of the next crop. This cash requirement forces some farmers to enter into contractual arrangements at lower than market prices so that they can be assured that they will have cash when they need it.

The government fixes prices at two levels. Weekly the price paid by retailers to the wholesalers as well as the retail price for the main vegetables is announced. The prices are currently above production costs and have the main impact of limiting the rate of growth of control of the wholesalers. The prices set are very closely tied to produce flow in the national wholesale market in Rod El Farag in Cairo. Although the wholesalers of Sohag control the Sohag markets, Rod El Farag strongly influences the national markets for fresh vegetables.

The first channel is declining as the second channel assumes more control over the market.

The third channel containing large producers is growing slowly, mainly as a result of bringing new land on the fringes into production.

### **Processed**

In the processed market, the first two channels are growing slowly, while the third seems to be stable. Because the analysis did not examine the first channel in much detail, it is difficult to identify the driving forces. Part of the growth can be attributed to slight increases in demand for both pickles and molakhiya. The pickle market that is being accessed by the Ramadan picklers is a niche market with little potential for expansion. Growth in this channel is offset by the impact of the pickle workshops as they assume a greater market share.

In the second channel, the primary limiting factor to growth is the supply of raw vegetables. Only 63 feddans of turnips, the primary ingredient for pickles, were planted in Sohag Governorate in 1991. This production was acquired by the picklers; however, the vast bulk of the raw turnips for pickles were procured from Rod El Farag. Production costs for pickles are high as a result. Nevertheless, the channel seems to be growing slowly, most probably due to the demand reflected in a growing population.

Another constraint to growth that was voiced by a few pickle workshop managers was the higher price of labor compared to Cairo. Consequently, this combined with the importing of turnips drives production costs for Sohag pickles higher and forces the retail price up to or over the price of Cairo pickles, even with transport costs added.

Regarding the third channel, there are several barriers to entry restricting growth of this channel. The capital investment needed in drying equipment and the fact that the market is far removed are two constraints. Also, because the factory is government owned, some inputs, such as energy, are highly subsidized. Although further analysis is needed for confirmation, it is likely that the drying of onions may not be profitable except for certain wealthy individuals with access to the international market.

## **OPPORTUNITIES AND CONSTRAINTS**

### **Fresh Market**

In the fresh market, several opportunities emerged from the analysis. These include alleviating cash flow constraints for farmers, encouraging storage of onions and potatoes, provision of marketing information for onions and other crops, and improving onion quality through addressing the problem of white rot.

As mentioned, farming is a year-round occupation in Egypt. Although crops will differ, farmers cultivate crops continuously. When a crop is sold, farmers, especially those with limited resources, must have some of the capital invested in the harvested crop available for reinvestment in the new crop. Consequently, farmers must sell at least some and, for small farmers, most of their crop at the market price when the crop is harvested. If capital is made available to farmers through loans so that they do not need to sell their crops at harvest time, they are less constrained to sell immediately and can take advantage of higher prices later in the year.

Storage of onions and potatoes for sale later when the price is high is a second opportunity for expanding incomes in the fresh market vegetable system. The price range for onions and potatoes suggested that storage of these products might be profitable for small farmers. For example, last year, many farmers sold their crop shortly after harvest for LE 200 per ton. Five months later, the price reached as high as LE 1,000 as supplies declined. In general, farmers selling their produce at harvest obtain around LE 365 per feddan of onions. Wholesalers who purchase onions and store them for sale later obtain profits of as much as LE 1,860 for the equivalent of one feddan of onions. A farmer storing his produce and selling when the price is high could obtain as much as LE 2,225 per feddan, over six times the return if he sells at harvest. The constraint, of course, is the need for cash.

A third opportunity to improve incomes within the fresh vegetable marketing system in Sohag is to make farmers aware of the different marketing options available for them. Farmers face a significant amount of risk, especially in the onion market, from not knowing clearly the options available to them now that the previous systems for selling onions to the drying factory have been disrupted. Also, some farmers might wish to plant turnips if they knew how much pickle factories were paying for turnips from Rod el Farag.

Finally, many farmers noted the existence of white rot in onions which severely affect the quality of onions. Information on and materials related to the control of white rot would improve crop quality and obtain higher prices for farmers.

Each of these opportunities needs further analysis.

### **Processed**

In the processed vegetable marketing system, three opportunities were identified, two of which have already been described above. Improving onion quality and providing marketing information regarding crops like turnips would help increase incomes in the processed vegetable marketing systems. Last year, several onion contracts were broken by the onion factory with the stated reason that the quality was low. The third opportunity would be to improve the quality of pickles being made by local workshops. It was observed that sanitary conditions are not adequately maintained and, consequently, the pickles have an unusual taste and appearance. If the quality can be improved, Sohag pickles have a better chance of competing with the imported Cairo pickles. More analysis is necessary, however, to confirm that quality improvement will lead to significant increases in incomes.

## **LEVERAGED INTERVENTIONS**

### **Fresh Market**

In the fresh market, several leverage points were identified. Producers of the three major crops are relatively geographically clustered. Of tomatoes, for example, over 55 percent are produced in the two districts of Dar El Salaam and Manshaat, which are neighboring districts on either bank of the Nile. Over 50 percent of onions are produced in the two neighboring districts of Geheina and Tahta, and about 55 percent of all potatoes are produced in Manshaat district.

There are two system nodes in the fresh market system at which gearing ratios are high. One of these is with wholesalers — 60 wholesalers are dealing with large farmers, contract farmers, rural traders, donkey cart owners, street vendors, vegetable shops, and external wholesalers. The other system node is with rural traders who are working with small farmers.

Finally, a number of different external institutions provide an additional leverage point. These are agricultural cooperatives, community development associations, CARE's CID program, and CARE's agroforestry project.

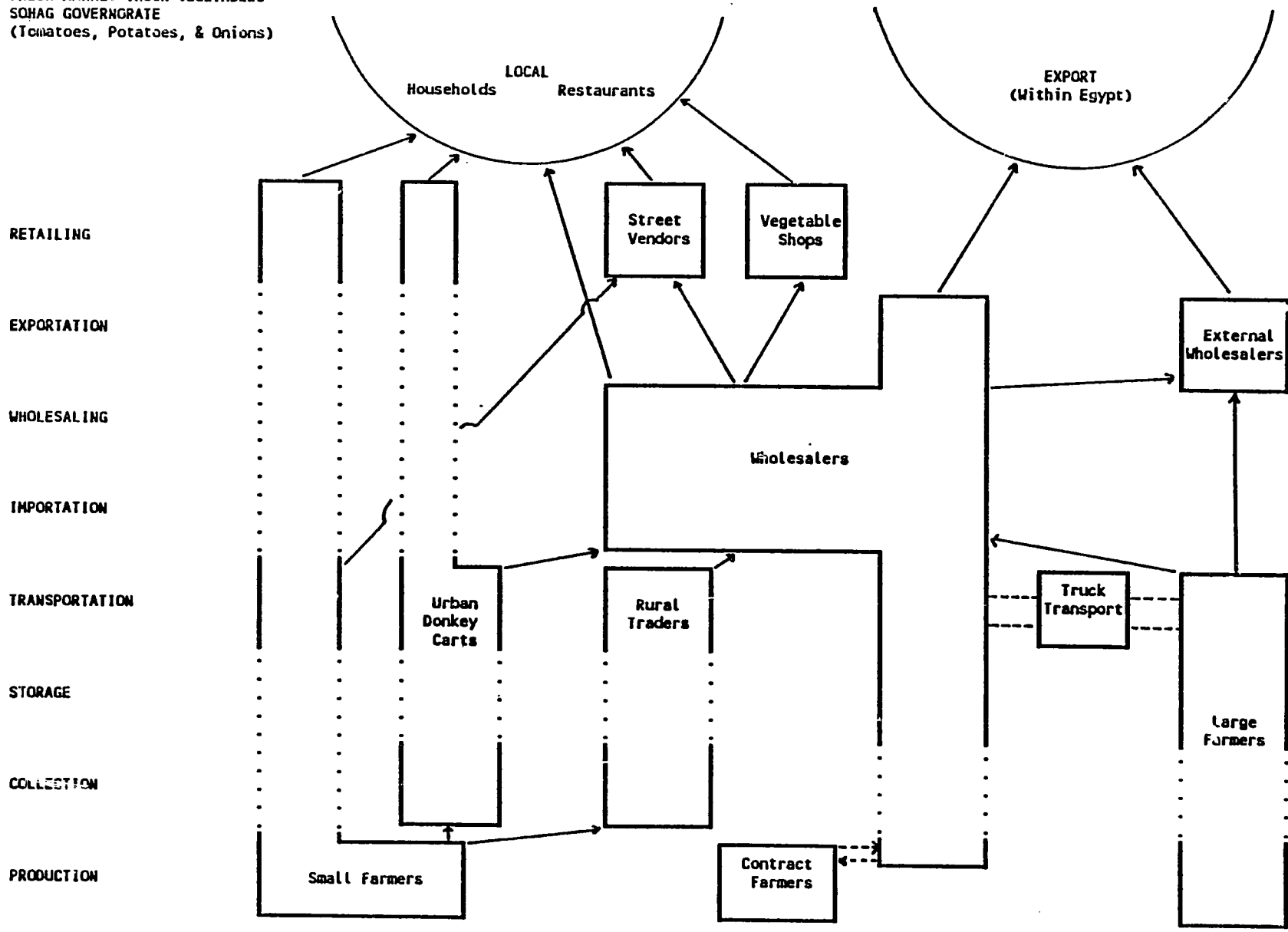
Of the four opportunities identified for the fresh market, the geographic clustering of producers and the existence of agricultural cooperatives and CARE's agroforestry project might be used to address the opportunities to promote storage of onion and potato and to provide marketing information for farmers. The problem of white rot in onions is, in fact, already being addressed by the agricultural cooperatives. CARE's CID program might be able to provide production or inventory loans to farmers to alleviate cash flow constraints especially for very small farmers.

### **Processed**

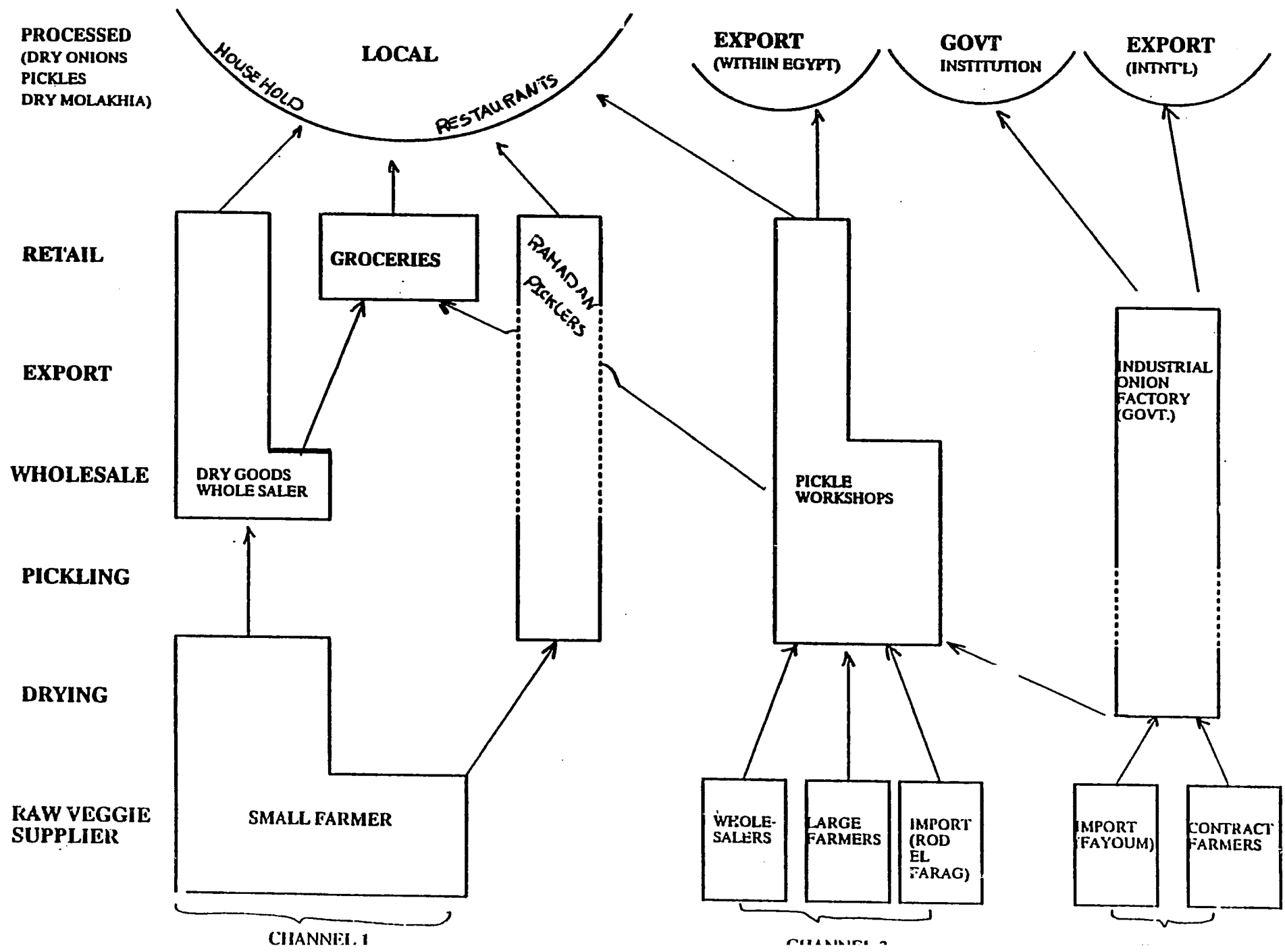
In the processed market, pickle workshops are not only a system node but they are also clustered geographically in the sense that they are all located in the major urban centers. The onion factory also provides a system node since it is one institution working with a comparatively large number of contract farmers. External institutions such as agricultural cooperatives and CARE's programs also provide a leverage point, mostly for suppliers of raw vegetables. There appear to be no external institutions like these, however, working at other levels of the system, for example, with pickle workshops or groceries.

As mentioned above, agricultural cooperatives and CARE's agroforestry project might serve as leverage points for providing marketing information, particularly for turnip producers, and technical support in addressing the problem of white rot in onions. For improving pickle quality, because pickle workshops are small in number and located in district headquarters, support for improving quality could be provided directly to them. However, it is difficult to identify any intervention with them that would have major impact on the vegetable subsector given their small size and number.

FRESH MARKET TRUCK VEGETABLES  
 SQHAG GOVERNORATE  
 (Tomatoes, Potatoes, & Onions)

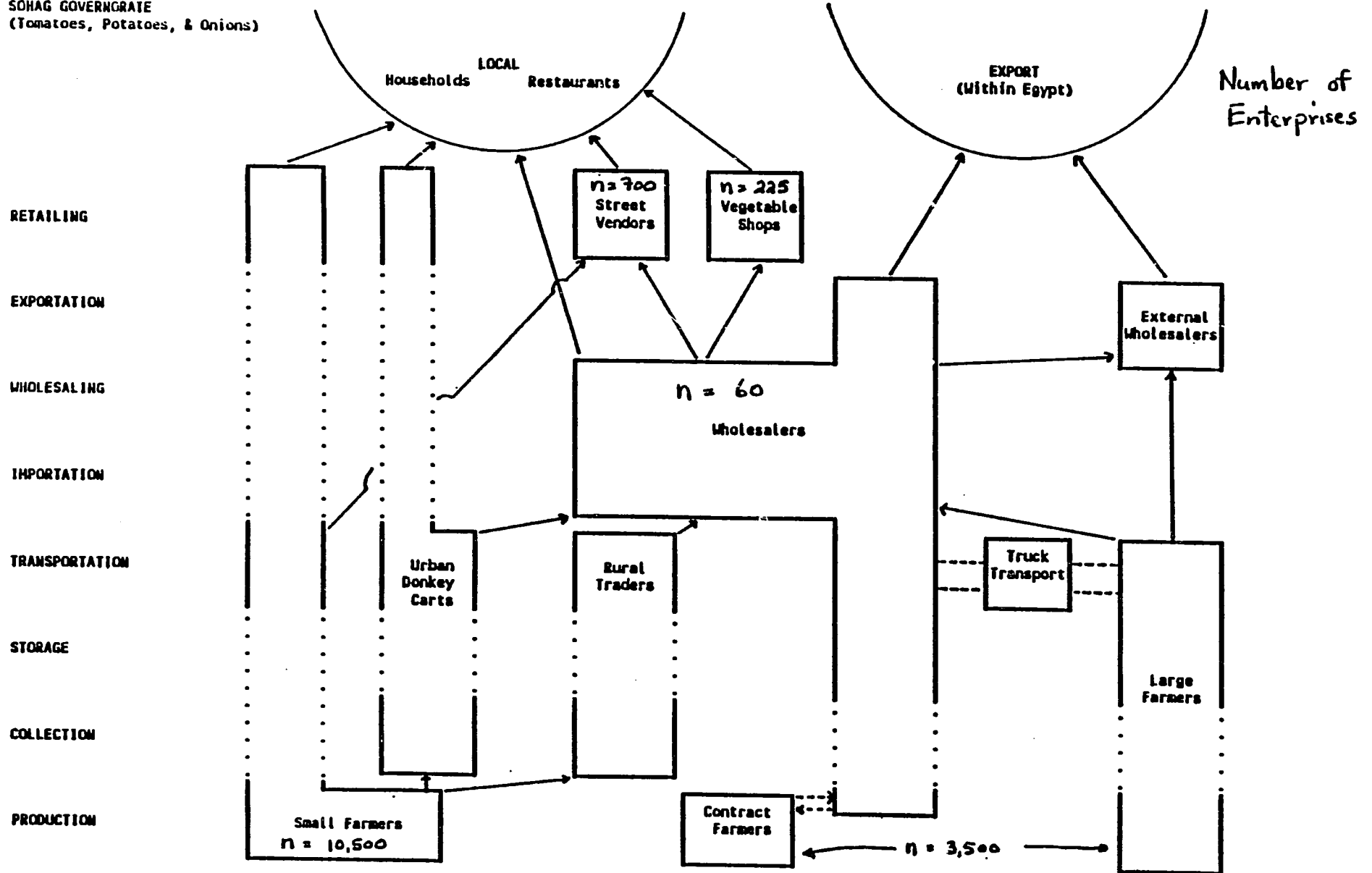


OPTION A Production and Immediate Sale One Feddan of Onion	OPTION B Purchase and Storage One Feddan Equivalent of Onion	OPTION C Production and Storage One Feddan of Onion
<b>SALES</b>	<b>SALES</b>	<b>SALES</b>
11 Tons per Feddan	11 Tons Purchased	11 Tons Produced
Price = LE 200 per Ton	25% Losses	25% Losses
<b>TOTAL REVENUE</b> 2,200	Price = LE 600 per Ton	Price = LE 600 per Ton
	<b>TOTAL REVENUE</b> 4,950	<b>TOTAL REVENUE</b> 4,950
<b>COSTS</b>	<b>COSTS</b>	<b>COSTS</b>
Land Rent 400	Onion Purchase 2,200	Production Costs 1,835
Land Preparation 120	Land Rent 200	Storage Costs 888
Seed 600	Straw 67.5	<b>TOTAL COSTS</b> 2,723
Chemicals 135	Packing 90	
Fertilizers 200	Sacks 127.5	
Weeding 120	Turning Labor 180	
Irrigation 160	Transportation 40	
Harvest Labor 100	Cost of Capital 183	
<b>TOTAL COSTS</b> 1,835	<b>TOTAL COSTS</b> 3,088	
<b>NET PROFIT (LE)</b> 365	<b>NET PROFIT (LE)</b> 1,862	<b>NET PROFIT (LE)</b> 2,227



# OVERLAY

FRESH MARKET TRUCK VEGETABLES  
SOHAG GOVERNORATE  
(Tomatoes, Potatoes, & Onions)





FRESH MARKET TRUCK VEGETABLES  
SOHAG GOVERNORATE  
(Tomatoes, Potatoes, & Onions)

OVERLAY

Consumption		
Total	Home-Grown	Purchased
o = 30,000	o = 18,000	o = 12,000
p = 60,000	p = 25,000	p = 35,000
t = 85,000	t = 32,000	t = 53,000

Quantity (MT, 1971)

o = Onions  
p = Potatoes  
t = Tomatoes

RETAILING

EXPORTATION

WHOLESALE

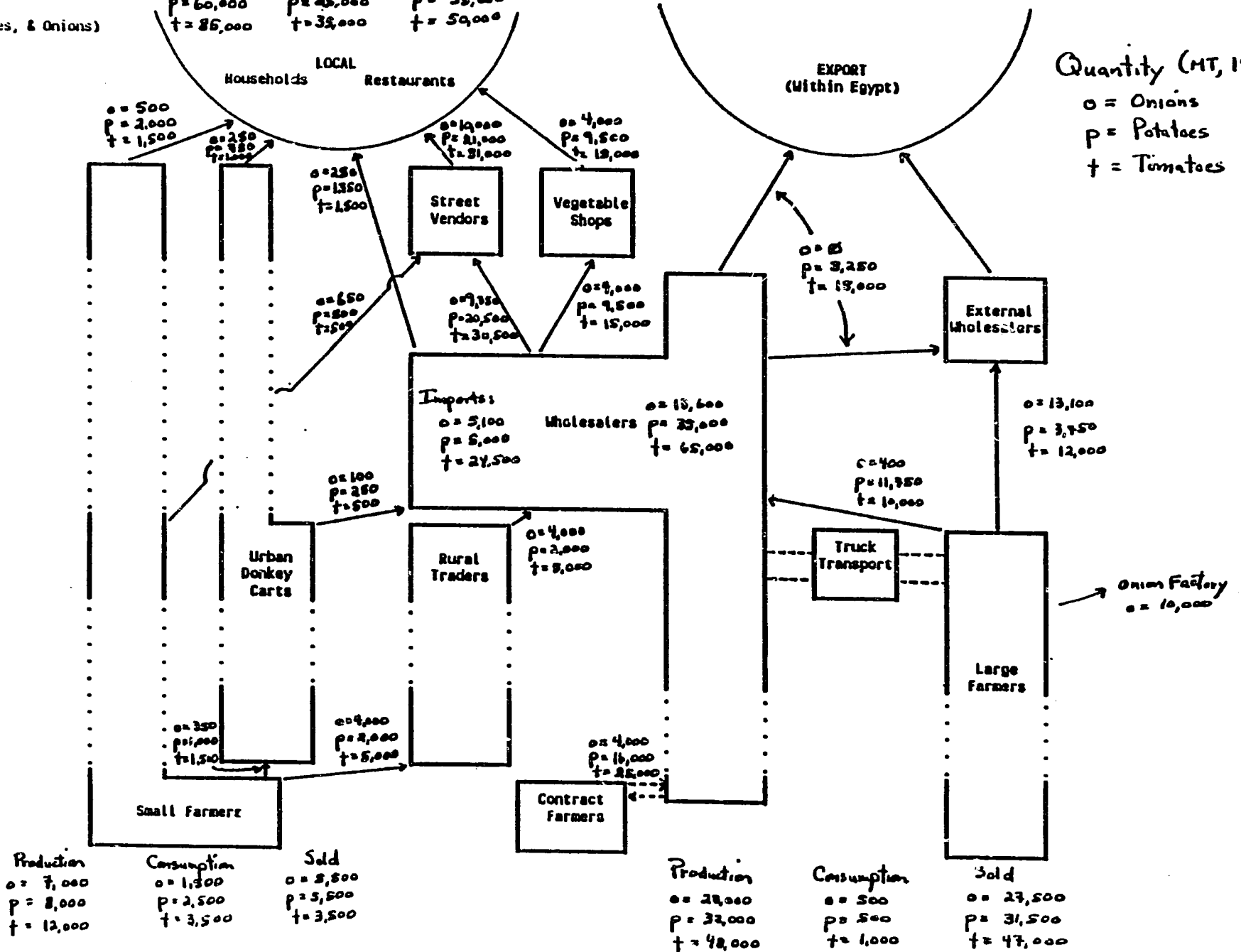
IMPORTATION

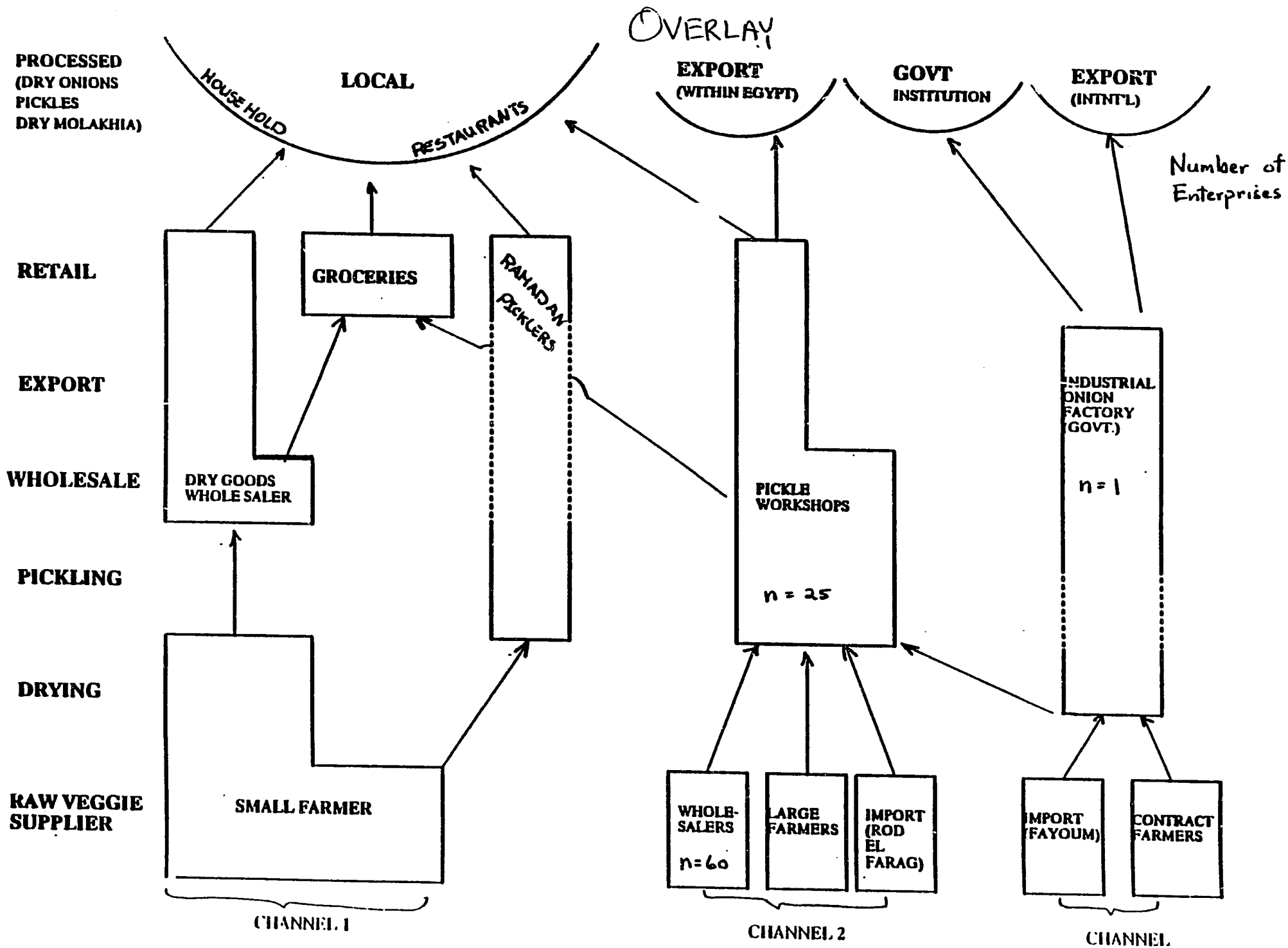
TRANSPORTATION

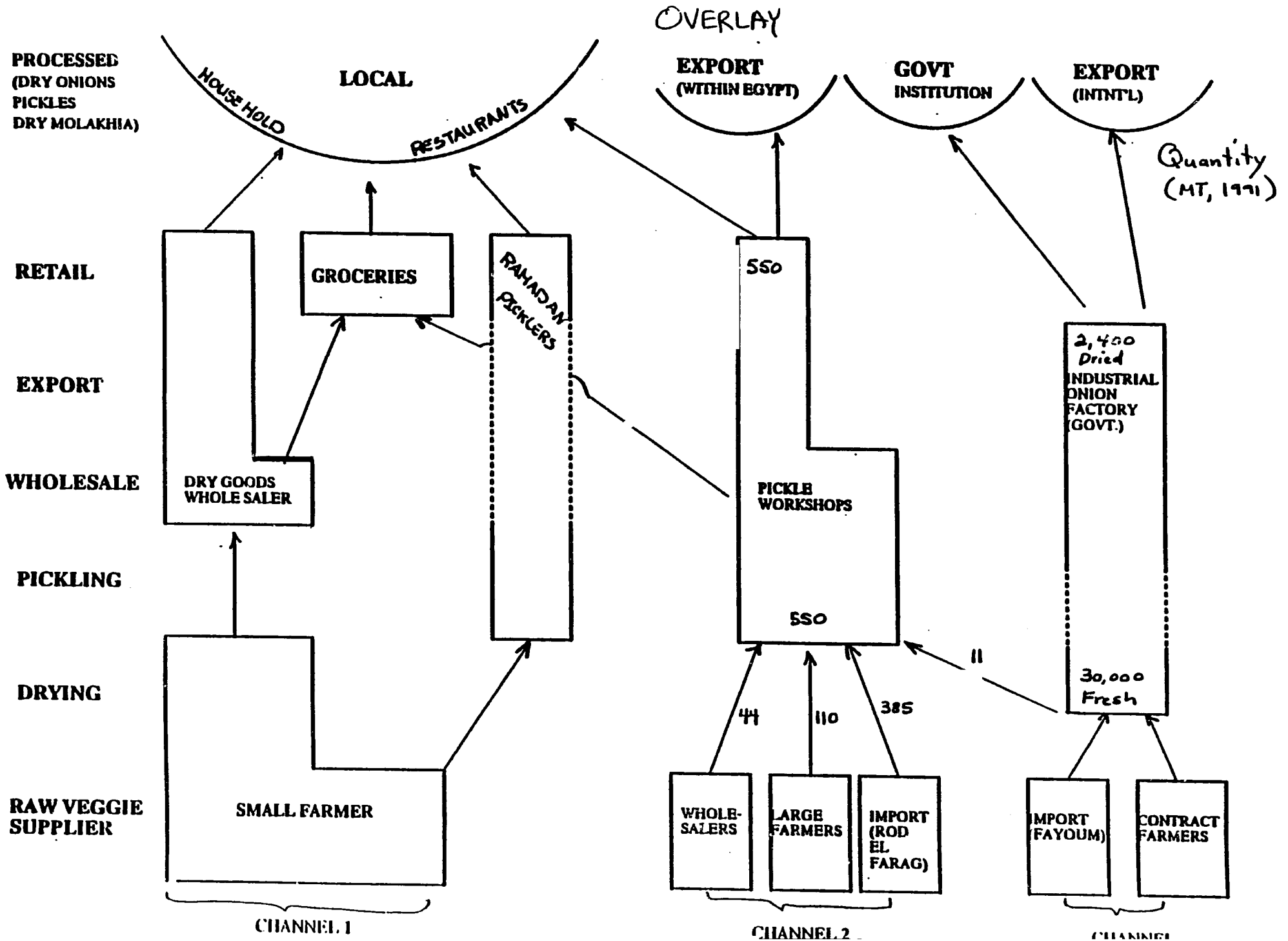
STORAGE

COLLECTION

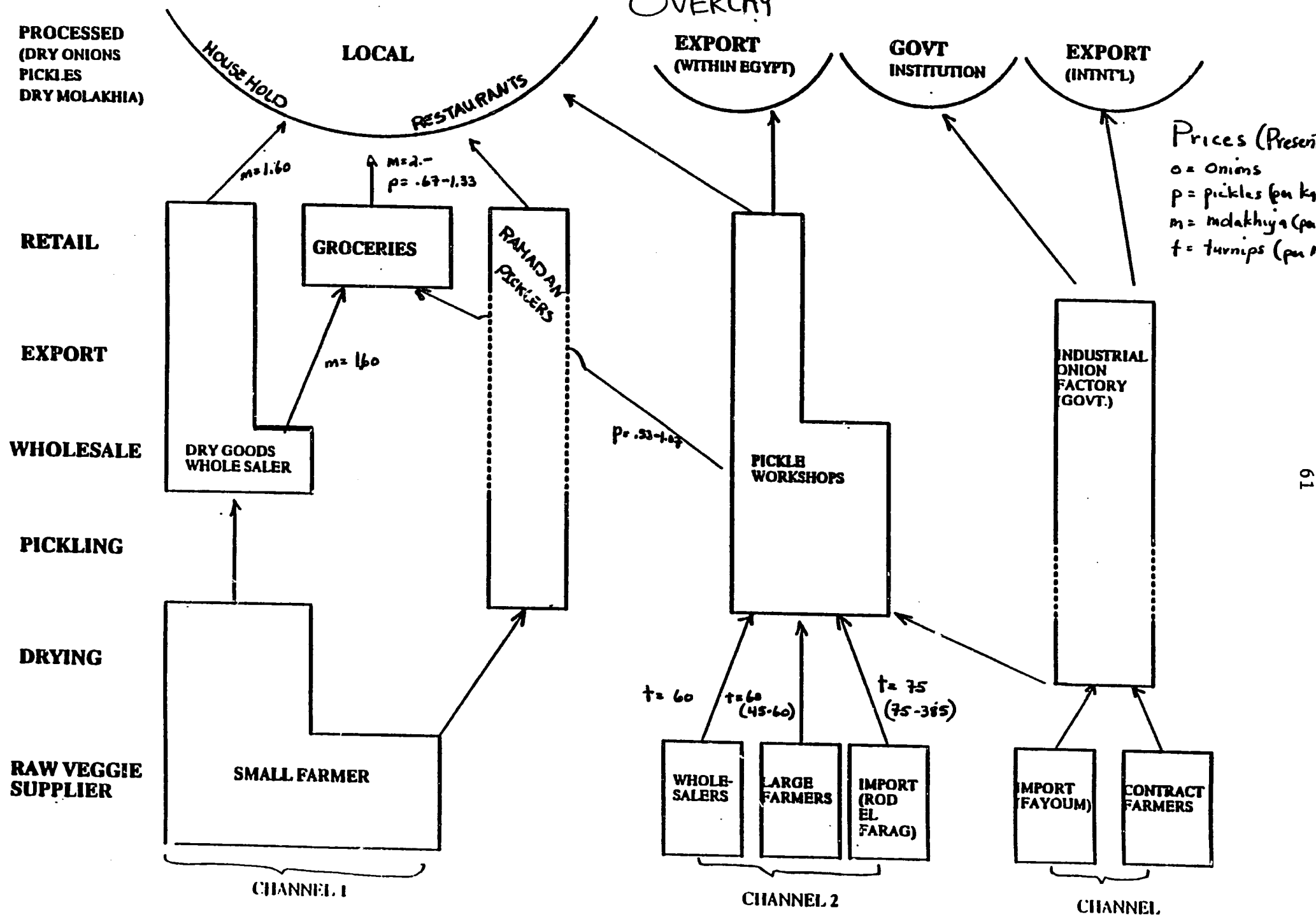
PRODUCTION







**OVERLAY**



**ANNEX A**  
**PARTICIPANTS IN**  
**SUBSECTOR TRAINING**

## **PARTICIPANTS LIST**

**Subsector Analysis Training  
January 21 - February 4, 1992**

### **External Consultants**

**William J. Grant** Enterprise Development Specialist, GEMINI Project  
**Linda Oldham** Anthropologist & Small Enterprise Consultant  
**Ray Collins** East Africa Regional Technical Advisor for SEAD, CARE

### **CARE Egypt**

**Mike DeVries** Assistant Country Director  
**Geoffrey Chege** Assistant Country Director  
**Dan Coster** CID Program Manager  
**Samir El Sabagh** Program Development & Monitoring Officer  
**Nabila Azmy** Assistant Project Coordinator, Fayoum Field Office  
**Basem Maher** Assistant Project Coordinator, Sohag Field Office  
**Ahmed Abdel Karim** Field Officer, Fayoum Field Office  
**Nancy Edward** Field Officer, Sohag Field Office  
**Mamdouh Fouad** Field Officer, Aswan Field Office  
**Adel Ghazaly** Field Officer, Qena Field Office  
**Ahmed Anass** Field Officer, Aswan Field Office  
**Hossam Aziz** Field Officer, Sohag Field Office  
**Mohamed Farid** Agroforestry Field Officer, Fayoum Field Office  
**Khalid El Sayed** Management Assistant - DECENT

**ANNEX B**  
**TRAINING PROGRAM**

## OUTLINE OF TRAINING PROGRAM

for CARE EGYPT, January 20- February 6

**January 20:** Supervisory Team Meeting in Cairo, review of available Data and the plan and objectives for the Exercise. In the afternoon, travel to Sohag.

**Participants:** Mike Devries (Deputy Director), Ray Collins (Regional SEAD Officer), Dan Coster (CID project Manager), Geoffrey Chege (Training Officer), Samir Al-Sabagh (Program Office).

**January 21:** First full day of Training

### 1. Why the Subsector Approach

Brief review of experience with Micro and Small Enterprise assistance: Training, Finance, Technical Assistance.

Fundamental fact is that: Small = Small and Micro = Very Small.

Programs focused on direct assistance to MSEs. (use Steve's example of the parachuted consultant). No matter how much success with one small enterprise, the overall economic impact is still small: High cost, small impact.  $C = i$ . The objective is to find a way to assist many small enterprises at a time: lower cost, greater impact:  $c = I$ .

The search for new tools -> (1) cost effective and (2) sustainable (= profitable).

There are three major elements (concepts) behind these tools:

1. Leverage - assist many firms with one action;
2. Market led assistance - help exploit market opportunities;
3. Commercial Assistance - should seek to create commercially viable support institutions defined by clients desire to pay for services.

These different elements lead us to **SUBSECTOR ANALYSIS**

Systems Approach: small firms work within larger production and distribution system.

Small -> Medium -> Large all compete and collaborate within the same subsector. They supply them with inputs; They market their products.



**Present the concept of the MAP: summarizes the relationships between MSEs and other actors in the system.**

**Remember that indirect measures may have the greatest impact on the system.**

**What is a subsector? Economic definition, but qualify it to be defined around a specific set of related products.**

**Four key concepts in the Subsector Approach:**

1. Verticality
2. Competition
3. Coordination
4. Leverage.

**Present the rest of the training exercise to them: timing,**

**Use slide showing the nine steps of Subsector Analysis. Tell them that we are going to come back to step one, but will work through the entire mapping and analysis process first.**

**What is a MAP? It is a schematic diagram which traces the flows and highlights the points of coordination within the system.**

**PRESENT SLIDES of simple subsector maps: Botswana and Thailand.**

**Elements:**

1. Markets
2. Participants
3. Functions
4. Technologies

**Channels are made up of participants, differentiated by technologies and coordination.**

**Remember, goods may flow to the market through different channels.**

While Subsector analysis looks like Science (and we present it as such), it is equally ART, which lies particularly in the way one defines markets and in the distinguishing channels.

Off of the map, but equally important is the institutional and regulatory environment in which the subsector functions.

**BREAK**

Present the technique for listing the markets, functions, technologies, and participants. Show demonstration maps and review the differences in the markets, how the functions are defined and differentiated, describe the participants, and explain the technologies.

Then show how the channels are determined. This is one of most difficult points.

Examples used: Botswana Beer Brewing and Thai Silk.

Exercise 1. Get them to present the four elements from a subsector which is common in their country. (We used the skins and hides from Mali as an example). Demonstrate the use of the Worksheet no. 3.a as you explain the functioning of the subsector. Give them specific guidance, break into groups of 4 and have them map the subsector, using worksheet no. 3.b. After 45 minutes, bring them back in and have them present the subsector (another 15 minutes).

1:30

Break for lunch.

3:00-4:30

Class: Mapping continued, with the exercise of agricultural machinery from Mali. Laid out the functions and participants with them. Discussed the technologies with them using worksheet no. 3.a, and then had them draw and present the maps from their groups.

4:30-5:00

Break

5:00-7:00

Presentations and discussion of the maps continued, Reviewed the selection criteria for choosing subsectors. Preliminary discussion of subsectors to be reviewed, brought out a preliminary list of interesting subsectors.

That night got quantified info from Samir on employment and enterprises.

**DAY TWO**

**Wednesday, January 22**

**8:30-10:00**

**Training:** reviewed material from day before. Discussion of leverage and for identifying the different points of leverage through the gearing ratios and system nodes. Used examples from Thai silk and Botswana to demonstrate the gearing ratios.

**Exercise.** Use example of the number of firms in the Mali case to have them identify the system nodes and determine which might be the best points of leverage to use as interventions..

**10:00-12:00**

**Meeting with Secretary General**

**Lunch**

**2:30-4:00**

**Class:** continued discussion of the search for opportunities and leverage from the examples in Thailand, Botswana, and Mali.

**4:00-4:30**

**Break**

**4:30-5:30**

**Class,** review of information to be collected during the first phase of interviewing: What do you do, who do you buy from, and who do you sell to.

**5:30-7:00**

**Selection of the subsectors to be studied**

**DAY THREE**

**Thursday, January 23**

**Preliminary fieldwork, decision to drop rug weaving, and then metal working, settle on furniture manufacture.**

**Friday**

**Off**

**Saturday, January 25**

**fieldwork**

**Sunday, January 26**

**morning**

**fieldwork**

**afternoon**

**Class - Steps 4 - 6**

**3:00-4:30**

1. **Review the objectives of the exercise: what are we trying to achieve, go from  $C = i$  to  $c = I$ .**
2. **Get them to present the four main concepts.**
3. **Show them where we are in the process of nine steps and cover the questions of what we are doing and why we are doing it.**
4. **Review of the institutional and regulatory environment for the four subsectors:**

**Elicit examples from the four different subsectors of institutions and regulations which have an impact on their subsector.**

**4:30-5:00**

**Break**

**5:00-6:30**

**Present the different kinds of quantitative analysis which can be done and how we use overlays to depict this. Gave examples from Thai silk, Mali, and Botswana Beer Brewing to demonstrate the different kinds of overlays which they might be interested in pursuing in the following days of research.**

1. **Enterprise Budgets: review the different factors which go into an enterprise budget. Express the difficulty of creating budgets, but that we should seek standard items, most commonly produced, and gather information on that for each channel to allow for comparisons of profitability or productivity across channels.**

**Present the formula and then have them do the exercise.**

**Exercise: each group calculates a budget for a standardized product in their subsector and then presents it to the other groups for questions and comments.**

**Monday, January 27**

**morning**                      **fieldwork**

**afternoon**                      **Class — Steps 7-9**

1. Have them review the objective of the exercise, they state that  $c = I$ .

**Review the four major concepts to remember when doing subsector analysis: Verticality, competition, coordination, and LEVERAGE.**

2. Re-present the 9 steps (use overhead no. 1), bringing them up to step 7: Dynamics. Get them to present the usual suspects and elaborate on each one.
3. Search for opportunities from the analysis, where do we start? Opportunities usually derive from identified constraints. Use the overhead showing the flow diagram to follow the analysis of the usual suspects into the identification of opportunities for intervention.
  - a. Get them to list a series of constraints which they had encountered in their research thus far.
  - b. Try to identify possible opportunities for intervention which respond to those constraints.
4. Review the concept of Leverage, and get them to present the major sources of leverage.
  - a. Go back to opportunities which have been presented in 3.b. and see if there are any possible points for leveraged intervention. Specify that it is not necessary for all points of leverage equate to an opportunity and that not all opportunities are necessarily leveraged

**Tuesday, January 28**

**morning:**                      **fieldwork**

**afternoon:**                      **Presentation of the subsector maps by the four groups.**

**Wednesday, Jan. 29:** **field work**

**Thursday, Jan. 30**      **fieldwork**

**Friday**                      **OFF**

**Saturday, February 1**

**morning: fieldwork**

**afternoon: Classwork, review of the tools and process of analysis.**

1. Reviewed "the usual suspects" (Step 7).
2. Discussed the Factors for Growth:
  - a. Domestic Demand (look at the functions - income, marginal propensities to consume, population, substitutes, marketing, reducing cost through technological change).
  - b. Export Markets (comparative advantage)
  - c. Bottlenecks: distortion from Tariffs, foreign exchange rates, regulatory environment, parastatals.
3. Tools for analysis and guiding us in the search for Opportunities.
  - a. Presented example of price differentials in the market for onions and tomatoes in Mali between high and low seasons.
  - b. Exercise on returns to labor, example from Niger on Mat Weaving. Presented the map (overhead) and discussed the process. Distributed the numbers and the four groups calculated the returns to labor. After the presentation of the numbers, some discussion of the implications of some of the numbers, particularly the heavy percentage of the market tax to the total sales of the specialized mat weaver. This was a valuable exercise.
4. Points of Leverage. Had them review the three main sources of leverage, describing examples of each one and trying to put them on the spot for the meaning and usefulness of each of the points of leverage.
5. Review of the Assets which CARE brings to the process and which might guide CARE employees in the search for appropriate interventions: CID project, Agro-forestry for extension, and access to villages through CDAs.

**ANNEX C**  
**STATISTICAL TABLES**

Statistics Table One

Item	Sohag per family	Adjusted Sohag	Budget Share	Est. Share of Add'l			
				Inc. Spent (ALL EGYPT)	TOTAL '82 CONSUMPTI (LE000,00	Adjust '82** Consump. (LE000,000)	TOTAL '91 CONSUMP. (LE000,000)
Total expenses on food and beverage	570.88	713.59	58.46%	236.97	296.21	1357.18	1696.47
Vegetables; fresh, canned, and dried	52.03	65.04	5.33%	21.60	27.00	123.69	154.62
Milk and milk products	39.42	49.27	4.04%	16.36	20.45	93.71	117.14
Meat and chickens	162.86	203.58	16.68%	67.60	84.50	387.18	483.97
Eggs	17.62	22.02	1.80%	7.31	9.14	41.89	52.36
Total clothing and foot wear	100.89	125.11	10.33%	41.88	52.35	230.85	299.81
Total expenses on housing and energy	103.65	129.56	10.61%	43.02	53.78	246.41	308.01
Expenses on housing	64.68	80.84	6.62%	26.85	33.56	153.76	192.20
Total expenses on furniture and house service	28.56	35.70	2.93%	11.86	14.82	67.91	84.88
Furniture	16.63	20.78	1.70%	6.90	8.63	39.53	49.41
Total medical care	12.92	16.15	1.32%	5.36	6.70	30.71	38.39
Total transportation and communication	23.84	29.80	2.44%	9.90	12.37	56.67	70.84
Total expenses on education	7.68	9.60	0.79%	3.19	3.99	18.26	22.83
Total expenses on recreation	6.96	8.70	0.71%	2.89	3.61	16.54	20.67
Total expenses on restaurants and coffee shops	24.10	30.13	2.47%	10.00	12.51	57.30	71.63
Total expenses on others	27.92	34.91	2.86%	11.59	14.49	66.39	82.98
Alcohol and Tobacco	69.09	86.36	7.07%	28.68	35.85	164.24	205.30
Total expenses	976.48	1,220.61	100%	405.33	506.67	2321.45	2901.82
PERCENTAGE OF NATIONAL AVERAGE		79.20%					

Population in 1986  
 Rural      Urban  
 -----  
 1,909,897    537,136  
 78.05%    21.95%    percentage

Many experts believe that the Consumption Budget done in 1981/82 was about 25% below real figures, as reflected in the national accounts, so both are represented here.

Source: Calculated from 1981/82 Household Consumption Survey and UNICEF Report, 1986

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Statistics Table Two

Item	Estimated Total Annual Expenses in Rural Sohag Areas		Budget Share	Est. Share of Add'l Inc. Spent (ALL EGYPT)	TOTAL '82 CONSUMPTI (LE000,00	Adjust '82** Consump. (LE000,000)	TOTAL '91 CONSUMP. (LE000,000)	Adjust CONSUMP. (LE000,000)
	Sohag per family	Adjusted Sohag						
Total expenses on food and beverage	566.20	707.75	59.09%	52.77%	183.44	229.30	1050.59	1313.00
Vegetables; fresh, canned, and dried	50.80	63.50	5.30%	5.28%	16.46	20.57	94.26	117.00
Milk and milk products	37.20	46.50	3.88%	4.11%	12.05	15.07	69.03	86.00
Meat and chickens	164.20	205.25	17.14%	11.38%	53.20	66.50	304.68	380.00
Eggs	17.40	21.75	1.82%	1.25%	5.64	7.05	32.29	40.00
Total clothing and foot wear	100.80	126.00	10.52%	12.50%	32.66	40.82	187.04	233.00
Total expenses on housing and energy	98.60	123.25	10.29%	9.52%	31.94	39.93	182.95	228.00
Expenses on housing	61.80	77.25	6.45%	7.15%	20.02	25.03	114.67	143.00
Total expenses on furniture and house service	25.60	32.00	2.67%	4.96%	8.29	10.37	47.50	59.00
Furniture	15.20	19.00	1.59%	3.40%	4.92	6.16	28.20	35.00
Total medical care	11.80	14.75	1.23%	2.15%	3.82	4.78	21.90	27.00
Total transportation and communication	22.50	28.13	2.35%	4.23%	7.29	9.11	41.75	52.00
Total expenses on education	5.40	6.75	0.56%	1.04%	1.75	2.19	10.02	12.00
Total expenses on recreation	7.00	8.75	0.73%	1.97%	2.27	2.83	12.99	16.00
Total expenses on restaurants and coffee shops	25.20	31.50	2.63%	2.64%	8.16	10.21	46.76	58.00
Total expenses on others	25.40	31.75	2.65%	1.64%	8.23	10.29	47.13	58.00
Smoking & Alcohols	69.70	87.13	7.27%	6.57%	22.58	28.23	129.33	161.00
<b>Total expenses</b>	<b>958.20</b>	<b>1,197.75</b>	<b>1.00</b>	<b>1.00</b>	<b>310.44</b>	<b>388.05</b>	<b>1,777.96</b>	<b>2,222.40</b>

Source: Calculated from 1981/82 Household Consumption Survey and UNICEF Report, 1986

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Statistics Table Three

Item	Sohag per family	Adjusted Sohag	Budget Share	Est. Share of Add'l Inc. Spent				
				TOTAL '82 CONSUMPTI (LE000,00	Adjust '82** Consump. (LE000,000)	TOTAL '91 CONSUMP. (LE000,000)	Adjust '91** CONSUMP. (LE000,000)	(ALL EGYPT)
Total expenses on food and beverage	587.50	734.38	56.41%	41.48%	53.53	66.91	306.58	383.23
Vegetables; fresh, canned, and dried	56.40	70.50	5.42%	3.83%	5.14	6.42	29.43	36.79
Milk and milk products	47.30	59.13	4.54%	4.92%	4.31	5.39	24.68	30.85
Meat and chickens	153.10	197.63	15.18%	10.48%	14.41	18.01	82.50	103.13
Eggs	18.40	23.00	1.77%	1.58%	1.68	2.10	9.60	12.00
Total clothing and foot wear	101.20	126.50	9.72%	11.12%	9.22	11.53	52.81	66.01
Total expenses on housing and energy	121.60	152.00	11.68%	7.92%	11.08	13.85	63.46	79.32
Expenses on housing	74.90	93.63	7.19%	5.85%	6.82	8.53	39.09	48.86
Total expenses on furniture and house service	39.10	48.88	3.75%	7.78%	3.56	4.45	20.40	25.51
Furniture	21.70	27.13	2.08%	4.69%	1.98	2.47	11.32	14.15
Total medical care	16.90	21.13	1.62%	3.35%	1.54	1.92	8.82	11.02
Total transportation and communication	28.60	35.75	2.75%	8.03%	2.61	3.26	14.92	18.66
Total expenses on education	15.80	19.75	1.52%	2.71%	1.44	1.80	8.25	10.31
Total expenses on recreation	6.80	8.50	0.65%	2.63%	0.62	0.77	3.55	4.44
Total expenses on restaurants and coffee shops	20.20	25.25	1.94%	3.35%	1.84	2.30	10.54	13.18
Total expenses on others	36.90	46.13	3.54%	6.45%	3.36	4.20	19.26	24.07
King & Alcohols	66.90	83.63	6.42%	5.17%	6.10	7.62	34.91	43.64
Total expenses	1,041.50	1,301.88	1.00	1.00	94.90	118.62	543.50	679.37

Source: Calculated from 1981/82 Household Consumption Survey and UNICEF Report, 1986

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Table Four  
Marginal propensity to consume in the rural areas by tercile  
calculated from Table NO 2-2 page 350

Item	1st third <200-799	MPC L-M	2nd third 800-1199	MPC M-H	3rd third 1200-10,000+	MPC General
Total expenses on food and beverage	329.24	57.34%	576.51	49.90%	918.34	52.77%
Vegetables; fresh, canned, and dried	34.86	5.68%	59.34	5.03%	93.81	5.28%
Milk and milk products	15.29	3.89%	32.05	4.25%	61.19	4.11%
Meat and chickens	85.80	11.72%	136.34	11.16%	212.81	11.38%
Eggs	7.70	1.27%	13.19	1.24%	21.69	1.25%
Total clothing and foot wear	47.00	14.57%	109.81	11.21%	186.58	12.50%
Total expenses on housing and energy	65.45	8.91%	103.87	9.91%	171.76	9.52%
Expenses on housing	43.19	7.30%	74.65	7.05%	122.97	7.15%
Total expenses on furniture and house service	14.01	2.74%	25.81	6.36%	69.36	4.96%
Furniture	7.73	1.46%	14.04	4.62%	45.68	3.40%
Total medical care	8.52	1.44%	14.73	2.60%	32.53	2.15%
Total transportation and communication	7.63	2.81%	19.77	5.12%	54.83	4.23%
Total expenses on education	2.28	0.98%	6.52	1.07%	13.89	1.04%
Total expenses on recreation	1.02	0.81%	4.51	2.71%	23.07	1.97%
Total expenses on restaurants and coffee shops	4.02	2.70%	15.64	2.61%	33.54	2.64%
Total expenses on others	1.17	0.40%	2.88	2.42%	19.44	1.64%
Smoking & Alcohols	24.53	7.31%	56.03	6.10%	97.82	6.57%
Total expenses	504.87	100%	936.1	100%	1621.2	100%
actual percentage of the tercile	33.96%		32.22%		33.82%	

Source: Calculated from 1981/82 Household Consumption Survey and UNICEF Report, 1986

Table Five  
Marginal propensity to consume in urban areas  
for all families from table 2-2, p.65

Item	1st third <200-799	MPC L-M	2nd third 800-1199	MPC M-H	3rd third 1200-10,000+	MPC General
Total expenses on food and beverage	388.74	48.70%	648.41	38.18%	1094.20	41.48%
Vegetables; fresh, canned, and dried	47.26	5.82%	78.29	2.93%	112.47	3.83%
Milk and milk products	28.53	5.11%	55.80	4.83%	112.14	4.92%
Meat and chickens	89.95	11.10%	149.12	10.20%	268.27	10.48%
Eggs	10.66	1.61%	19.25	1.56%	37.52	1.58%
Total clothing and foot wear	59.91	13.94%	134.27	9.83%	249.06	11.12%
Total expenses on housing and energy	86.79	9.09%	135.24	7.39%	221.58	7.92%
Expenses on housing	52.35	5.64%	82.40	5.94%	151.78	5.85%
Total expenses on furniture and house service	18.91	4.02%	40.32	9.50%	151.30	7.78%
Furniture	9.12	2.43%	22.07	5.73%	88.95	4.69%
Total medical care	13.62	2.50%	26.95	3.73%	70.54	3.35%
Total transportation and communication	13.19	4.08%	34.97	9.83%	149.74	8.03%
Total expenses on education	5.25	1.91%	15.46	3.08%	51.36	2.71%
Total expenses on recreation	2.56	0.96%	7.69	3.29%	47.32	2.63%
Total expenses on restaurants and coffee shops	15.63	4.06%	37.28	3.02%	72.57	3.35%
Total expenses on others	15.20	3.80%	35.44	7.67%	124.94	6.45%
Smoking & Alcohols	35.23	6.94%	72.24	4.37%	123.23	5.17%
Total expenses	655.03	100%	1188.28	100%	2355.84	100%

Source: Calculated from 1981/82 Household Consumption Survey and UNICEF Report, 1986

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Table Six

Split of Urban and Rural Population in Sohag  
following 1986 Census

District	Urban	Percent	Rural	Percent	Total	Percent
Sohag 1	92,533		251,808		344,341	
Sohag 2	40,116	24.70%	0	13.18%	40,116	15.71%
Achmim	70,494	13.12%	122,902	6.44%	193,396	7.90%
Balyana	33,309	6.20%	215,572	11.29%	248,881	10.17%
Maragha	23,708	4.41%	181,611	9.51%	205,319	8.39%
Menshah	37,446	6.97%	216,893	11.36%	254,339	10.39%
Dar Es Salaam	15,820	2.95%	174,839	9.15%	190,659	7.79%
Girga	70,689	13.16%	189,315	9.91%	260,004	10.62%
Geheina	34,050	6.34%	99,068	5.19%	133,118	5.44%
Saqulta	13,690	2.55%	90,275	4.73%	103,965	4.25%
Tema	46,824	8.72%	177,659	9.30%	224,483	9.17%
Tahta	58,457	10.88%	189,955	9.95%	248,412	10.15%
Totals	537,136	100%	1,909,897	100%	2,447,033	100%

Source: Sohag Statistics, 1986

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