

PD-ABH-578

IN 85862

INTERIM ASSESSMENT

COMMERCIAL AGRICULTURAL PRODUCTION AND MARKETING PROJECT

Contract No. 645-0510-C-00-3008-00

Prepared in association with:

The United States Agency for International Development

and

**The Ministry of Agriculture and Cooperatives
Mbabane, Swaziland**

Prepared by:

**RONCO Consulting Corporation
2301 M Street, N.W., Suite 400
Washington, D.C. 20037**

June 1993

EXECUTIVE SUMMARY

The CAPM project was designed to establish an environment that will stimulate increases in small scale commercial agricultural production, other agribusinesses, and domestic and export marketing. Phase I, initiated in mid-1989, emphasized analysis of constraints, program options, opportunities, and policies. The considerable data and analyses generated the first two years by the implementing contractor, plus an interim assessment by REDSO/ESA, indicated that the primary focus of continuing project implementation should be oriented more toward direct interventions in private sector development - providing technical assistance in field production and marketing of small farm produce, fresh vegetables. A Project Paper Amendment (PPA) in September 1991 authorized the redirection.

Swazi farmers are in the enviable position of having good markets for fresh produce both locally and regionally, especially during the winter season, and the climate and physical resources form the basis for a comparative advantage in selected horticulture crops. The redesigned CAPM was aimed at mitigating constraints to capitalize on that potential.

The basic concept was that the project would help create a vertically integrated production and marketing system to link small, potentially commercial farmers with the favorable markets. The project was to be market-led. A key element in the system was to be approximately four Swazi produce marketing firms that would be assisted and encouraged by CAPM to work with small farmers in the production of selected crops and in assembling, packing, and marketing the produce.

Once markets for specific crops were identified, CAPM technical assistance would develop core groups of farmers to meet production needs and commercial standards. Once the core groups were trained, it was assumed that the marketing firms could maintain production with these groups with a small field staff and that, through time, additional farmers would be attracted into the system because of the favorable income potential.

The shift in emphasis in the redirected CAPM project to put the main focus on private sector development was well advised. Most aspects of CAPM are on track. As one farmer suggested, "CAPM is opening the eyes of the people; it is demonstrating that crops other than maize are possible for small farmers, and potentially profitable."

At the same time, some aspects of the project have not worked as planned. Whereas four firms had been identified during the redesign stage that appeared to meet the criteria as potential marketing firms, and three such firms became CAPM collaborators, only one (plus a small, highly specialized firm) remains in business, and that one hesitates to commit resources to provide technical guidance to farmers. A high percentage of the business of all the firms has been based on imported produce from RSA: the firms have had a strong trade rather than a marketing orientation. The expatriate technical assistance team has been occupied with assisting production and postharvest, which are important, and trying to keep the firms afloat, while falling short in developing the firms into marketing entities.

Another factor that has caused shortfalls in meeting output targets is that the assumptions made by the implementing contractor regarding yields, production, prices, and net incomes, on which the feasibility of the redirected project was based, have turned out to have been overly optimistic. For instance, three crops per year were assumed on the same cultivated land; experience indicates that the average under favorable conditions is no more than two crops per year.

Assumed yields were higher than has turned out to be the case for some crops. For instance, the technical analysis carried out by the project implementing contractor for the PPA projected yields for summer and winter tomatoes at 20 and 30 tons per hectare, respectively, and for summer and winter process tomatoes at 45 and 60 tons, while project staff now expect all tomato production to average 20 tons per hectare. Assumed prices for some produce, winter season sweet peppers for the local market, for example, were three to five times as high as realized prices.

Net profits for participating small farmers were projected to be E12,788 during the first year (1992) and to achieve an average of E13,932 by the fourth year. Largely due to the overly optimistic assumptions that had been made regarding yields, production, and prices, the realized net profits, while difficult to determine precisely, are less than half of the projected amounts.

Farmers as a client group have been drawn from irrigated schemes, individual Swazi Nation Land (SNL), and Title Deed Land (TDL) owners. Each group has had some distinctive characteristics and constraints. Farmers on irrigated schemes, including the 32 percent who are women, have small amounts of land, no transportation or communication systems, and little additional land available on which to increase production. In the area where CAPM is currently working, 58 percent of scheme farmers participate in the project. Individual SNL and TDL farmers have large holdings, and the latter often are fully commercialized with farm machinery and transport and communication systems. Although the number of CAPM participants in these categories are few, they provide volume and stability to the project. Technical assistance has been concentrated on narrowing the focus to specific crops and solving the technical production problems of all farmers.

Currently, 28 percent of the 138 participating CAPM farmers are women, virtually all being members of schemes; none of the SNL and only 3 percent of the TDL farmers are women. All farmers perceived the advantage of CAPM as being assistance with marketing; technical assistance with production and the concept of programmed production are greatly appreciated by all farmers. Individual SNL farmers have increased irrigation and access to loans due to CAPM. Both they and TDL farmers have increased their hired labor to assist with harvesting and grading, whereas scheme farmers have relied more on family labor for these activities.

CAPM farmers use a number of channels to sell both CAPM and non-CAPM crops, and are more attuned to a trading rather than to a marketing philosophy. Scheme and non-scheme SNL farmers sell informally to hawkers and traders as well as to CAPM-directed markets. Only the TDL farmers use more formal market channels that go beyond the farm gate, such as contracts, in addition to these informal ones.

A monitoring and evaluation system has been set up in terms of the formats for collecting data on farmers (disaggregated by gender) and firms. However, the data are still being collected and analyzed and there is relatively little data that have been summarized and analyzed (other than figures for the PIR). A data system has been set up to monitor the programmed production which has proved useful to the field assistants and farmers, but its impact (in terms of total production potential) is not yet being evaluated. On the marketing side, there is a new system to keep track of farmers' sales to CAPM markets which should assist in sorting out payments to farmers, on the one hand, and in collecting data on product sales, on the other.

A lot has been learned that will be useful in modifying the effort in order to achieve the objectives of the project:

- o A number of small farmers can, indeed, produce market-quality vegetables, given some guidance and assistance.
- o It is difficult and time-consuming to develop traders into marketers, and not all efforts will succeed.
- o The produce trading firms that have become CAPM marketing firms hesitate to make a strong commitment to work with small farmers; it is easier to source from RSA; to make the project sustainable, a supplemental effort may be needed.
- o For any marketing firm, a major cost and constraint will be the collection or assembly of produce from rural collection points.
- o The participation of women is not due to a strategy; the project relies on the existing client groups of women farmers who are found only in the irrigation schemes. Additional strategies to involve women should be sought in any further extension of the project.
- o It is easier to monitor production than to evaluate project outputs.

It appears that Philani, the remaining CAPM-assisted firm, is growing steadily in management capability and has the potential of making a sustained contribution to the goal and purpose of CAPM. It remains to be seen, even if the firm continues to grow financially and managerially, whether it will assume in any substantial way the technical assistance function for small farmers that was anticipated in the PPA. Some other mechanism may need to be developed to carry out that function if the project is extended.

Four options regarding the future of the CAPM project have been considered by the assessment team:

1. Allow the Project to Terminate as Presently Scheduled

With this option, the lessons learned could be elaborated so that they could be taken into account in future activities, either in Swaziland or in similar situations in other countries. While much has been learned during implementation of the redirected CAPM, the fact that marketing firms have not become fully vertically integrated - that is, they have not provided the technical assistance to small farmers that was envisioned - indicates that the degree of sustainability and growth that was projected will not likely happen. This option is rejected by the assessment team in favor of an option described below which would build on what has been learned and which, with modest additional resources could achieve the sustainability and growth needed for a good payoff for the additional investment.

2. Extend the Project, but Maintain the Status Quo

With this option, CAPM would continue to work with Philani, would seek other similar firms to work with, and would concentrate on getting them to commit to the vertical integration concept and provide the necessary technical assistance to small farmers. The assessment team rejects this option because: (a) experience so far indicates that these "trading" firms, which depend largely on imported produce, are more comfortable remaining as trading firms than in working with Swaziland's small farmers to the mutual advantage of the firms and the farmers.

3. Form Farmers' Production and Marketing Organizations

This option would entail helping form organizations of small farmers who grow horticultural crops and helping them develop into fully vertically integrated entities that would be capable of producing quality vegetables; programming the production to assure a steady supply for the market; collect, sort, and pack the produce; and market the produce to the advantage of the organization's members. This model is used successfully in some countries - usually in more developed countries. This option was rejected by the assessment team because it would require an intense level of intervention for each of a number of organizations, for four to five years, to make them sustainable.

4. Set Up a New Marketing Firm Dedicated to Small Farmers

This option would entail establishing a new marketing firm, with assistance from the Swazi Business Growth Trust, that would have a relationship with small farmers, through nascent farmer organizations, and for which the firm and the farmers would have a mutuality of interest. It would be in the firm's interest to be in the camp of the farmers, and in the farmers' interest to be in the camp of the firm. This option would close the loop in the vertically integrated system and, therefore, bring CAPM closer to the original design concept. CAPM would continue to work with and provide modest support to CAPM-related agribusiness firms. CAPM would also continue to encourage Philani to work more with small farmers. The assessment team recommends this option which, with an extension of the project through the winter season of 1996, at a somewhat reduced level of effort, would assure sustainability and growth. A more detailed outline of the suggested mechanism is in Section VI.

One variation of this option would be to try to persuade Philani to add a Marketing Division to that company that would be dedicated to working with small farmers in much the same manner as the new marketing firm.

Table of Contents

	Page
Executive Summary	i
Table of Contents	vi
I. The Setting	1
II. Overview of the CAPM Project	2
III. Progress Toward Achieving Output Targets, Goal and Purpose	4
A. Output Targets	4
B. Goal and Purpose	21
C. Assumptions	23
IV. Economic and Financial Aspects of Implementation To Date	24
A. Costs and Returns to Small Farmers	24
B. Financial Aspects of Swazi Marketing Firms	25
C. Other Agribusiness Firms	27
D. Impact on the Swazi Economy	28
V . Social and Gender Aspects of Implementation To Date	28
A. Analysis of Current CAPM Data on Farmers and WID Analysis	28
B. A Focused Rapid Rural Assessment of CAPM Farmers	39
C. Recommended Ways to Strengthen Potential Positive Aspects and Ameliorate Potential Negative Aspects	44
VI. A Recommended Adjustment to the Approach	48
A. Objective	49
B. Methodology	49
VII. Assessment of CAPM Monitoring System	52
A. Background to Current Situation	52
B. Regarding Social and Economic Data	53
C. Regarding Production and Marketing Data	54
D. Summary and Recommended Changes	56
Annexes	
Annex A: Cost and Returns Tables	A-1
Annex B: Philani: Case Study of a Swazi Produce Marketing Firm.	B-1
Annex C: Methodology for the Focused Rapid Rural Appraisal.	C-1

I. The Setting

A. Favorable Market and Production Potential

Swaziland is unique among developing countries in that a large, near-by export market exists, in the Republic of South Africa (RSA), for fresh fruits and vegetables, especially during the winter. That market is large enough that it would be impossible for Swazi small farmers to produce enough to flood the market in that season. Also, in the RSA market, Swaziland enjoys a winter season production advantage in frost-sensitive crops such as tomato and peppers. Where Swazi growers can match yields and have equal or lower production costs, they should be able to compete in RSA markets even during high-supply seasons.

A substantial amount of produce is brought into Swaziland from RSA. A potential benefit to Swazi farmers is that low-cost back-haul possibilities to South African markets exist.

Currently, a market for fresh produce exists in Mozambique, although much of it may be satisfied with indigenous production once the country returns to a more normal situation.

Swaziland has varied topography, suitable soils and climate, and substantial supplies of water for irrigation, which create a favorable production potential for selected fruits and vegetables that are in demand in local and regional markets.

B. Constraints to Achieving the Potential

While Swaziland's physical resources and climate give it a comparative advantage in the production of certain fresh fruits and vegetables, constraints exist. The soils are generally acidic, and soil amendments are not commonly used. Irrigation is not widely developed. Occasional frosts and hail constitute weather risks. Diseases and insects are hazards in production.

Some social and institutional constraints also exist. The ratio of extension workers to farmers is about 1 to 500, which results in not as many farmers receiving technical guidance as is desirable. The land tenure system, for small farmers in particular, is based mostly on the Swazi Nation Land system, in which the land belongs to the community and not to individual farmers. The commercial sector is in its infancy and, particularly among small farmers, is not yet well understood. Inadequate marketing and technical advice to small farmers remains a constraint.

Inadequate infrastructure -- such as rural roads and communication facilities -- is a major constraint, especially for small scale farmers.

II. Overview of the CAPM Project

Phase I of the CAPM Project, initiated in mid-1989, aimed at establishing a climate conducive for commercialization of Swazi small-scale agriculture. It emphasized analysis of constraints, program options, opportunities, and policies. The considerable data and analyses generated the first two years by the implementing contractor, plus an interim assessment by REDSO/ESA, indicated that the primary focus of continuing project implementation should be oriented more toward direct interventions in private sector development -- providing technical assistance in field production and marketing of small farm agriculture. Following is a chronology of the main analyses that were carried out in the redesign process:

- o January 1990: Robert Olson (Chemonics), Commercialization of Agricultural Production and Marketing in Swaziland [Outlines strategies for stimulating commercialization of the agriculture sector]
- o August 1990: Conrad Fritsch (Chemonics), Small Holder Crop Commercialization in Swaziland: A Strategy for Program Development
- o October 1990: USAID Concept Paper: Swaziland Produce Marketing Project
- o November 1990: (REDSO/ESA), Interim Assessment and Realignment Report
- o (Chemonics): CAPM Project Output Review
- o (Chemonics): CAPM Redirection: A Discussion Paper [It states that this piece "overtakes the Interim Assessment"]
- o March 1991: Candace Conrad & Robert Olson (Chemonics), Proposed Components of Project Paper Supplement [Contains Project Status; Amended Project Description; Revised Implementation Plan; and Summary of Technical Analysis, Administrative/Institutional Analyses, Social Soundness Analysis, and Economic Analysis]
- o April 1991: Mike Boyd-Clark, Mark Wood, & Bart Sensenig (Chemonics), Concept Paper and Analysis: Redirection and Extension [Contains the data on which Internal Rates of Return (IRR) were calculated for the redirected CAPM, and the appendix tables referred to in the PPA Annex F: Financial Analysis of Vertically Integrated Marketing Ventures]

Based on this set of reports and analyses, a Project Paper Amendment was developed and approved by USAID in September 1991 which increased the Life of Project (LOP) funding and extended the project's completion date by eight months, to February 28, 1994.

The goal and purpose of the project remained unchanged:

Goal: To increase the agricultural sector's contribution to the national economy of Swaziland.

Purpose: To establish an environment that will stimulate increases in small-scale commercial agricultural production, other agribusinesses, and domestic and export marketing.

The basic concept was that the project would help create a vertically integrated production and marketing system to link small, potentially commercial farmers with the favorable markets. The project was to be market-led. A key element in the system was to be about four Swazi produce marketing firms that would be assisted and encouraged by CAPM to work with small farmers in the production of selected crops and in assembling, packing, and marketing the produce. Once markets for specific crops were identified, CAPM technical assistance would develop core groups of farmers to meet production needs and commercial standards. Once the core groups were trained, it was assumed that the marketing firms could maintain production with these groups with a small field staff and that, through time, additional farmers would be attracted into the system because of the favorable income potential.

Based on the assessment and redirection, Phase II of the CAPM Project was started in late 1991. The major output to be achieved at the end of Phase II was the establishment of sustainable, vertically integrated fresh produce companies facilitating small farm production and marketing.

Activities aimed at achieving the output include:

- o intensive training of farmers and market personnel, so that the system will be sustained after the project ends;
- o development of individual business plans for small marketing companies;
- o identification of key horticultural crops for domestic and export marketing through production and marketing trials;
- o alleviation of constraints to the establishment of the vertically integrated marketing chain, such as supply, transport, grading and packing; and
- o close monitoring of the impact of the project.

RONCO Consulting Corporation has been asked to do an interim assessment of progress and impact to date of Phase II of the CAPM project and to recommend changes, if warranted, to assure achievement of the project's goal and purpose. The following pages constitute the interim assessment.

III. Progress Toward Achieving Output Targets, Goal and Purpose

A. Output Targets

Activities that were postulated as being required to achieve the output targets of the CAPM Project were developed from three basic pillars of private sector agricultural development:

- o Sustainable growth in production and incomes of small farmers and in the agricultural sector in general.
- o Sustainable growth in marketing activities and capabilities.
- o Increase and growth in activities which stimulate or support agricultural production and marketing.

Project outputs were expected to result from certain programmed activities. In turn, the activities defined were the inputs or stimuli thought to be needed, from the field to the consumer, to ensure that the project goal and purpose would be realized.

This section: (a) restates each project output as contained in the PPA; (b) provides our assumption as to the supposed rationale for the output; and (c) gives the assessment team's judgment as to the validity of the output target and the extent to which it is being achieved.

Output 1. Viable opportunities identified for expanded or new private sector activities that stimulate increased commercial agricultural production.

Supposed Rationale: These private sector activities are not only necessary to stimulate increased commercial agricultural production, they are required to provide the mechanisms to ensure an efficiently operating production and marketing system. The supply of inputs for production, transportation, the introduction of new technology and other secondary activities created by the needs of the production and marketing sectors form part of the system and, in turn, become an important part of a viable service sector.

The benefits to the national economy from these new "non-agricultural" activities are two-fold: they stimulate and support agricultural development and they foster growth in other sectors.

The primary measurement of the achievement of this output is whether or not the activities of the project have ensured that all the "opportunities," the focused agribusinesses needed to support the redirected project, have been identified and actions taken to integrate these activities into the agricultural system. This would include the CAPM-assisted marketing firms, which are discussed in detail in the following sections.

Assessment: As of March 31, 1993, the project reported the following activities related to the first output:

a. Support to seedling nurseries.

This is an activity which supports a basic production need for the project. It is necessary that the project put some effort into working with nurseries to ensure an adequate supply of quality planting material for the programmed plantings.

The project has given financial and production advice to Malkerns Nursery and CAPM farmers have sourced from the nursery most of the seedlings required for the 1992-93 summer season and the 1993 winter season. In the Siphofaneni area, a CAPM farmer started a nursery during the 1992-93 summer to provide seedlings for CAPM farmers in the area. CAPM helped the owner plan the nursery and obtain the planting trays. The nursery has produced about 40,000 seedlings.

It is important that CAPM technical assistance direct some level of effort toward assisting these nurseries improve their businesses and bring them into the program to the extent that they understand the need for high quality plants produced from proven varieties.

Related to nursery production are the field variety trials. A successful production and marketing project is based on production of high-yielding varieties with characteristics acceptable to the market.

The involvement of the Malkerns Nursery in the project to date, and the monitoring of its production operations by the project, have been effective in ensuring the availability of required planting material. The level of effort should be continued with all the nurseries to the extent possible.

b. NeoPac of Swaziland

The most costly item in the postharvest and marketing budget is carton. The cost to package a kilogram of tomatoes is more than the cost to produce it. This is a cost which can very often be reduced. The limitations on price reduction depend on the characteristics of the product and the market. Carton design must be such that it protects the product and satisfies the market.

The project has worked closely with NeoPac in the design of carton and graphics to protect and promote exported production. This activity should be continued, perhaps with a Packaging Specialist as short-term technical assistance with the objective of reducing the cost of this item.

c. Transportation

A major constraint in the marketing system is the lack of adequate transportation. The seasonality of production and lack of adequate vehicles combine to make the resolution of this problem difficult. Project staff have been assisting a local trucking firm establish sufficient extra-project business for his trucking service so they can provide transport when needed by small farmers.

The options to having an independent trucker or truckers do local and/or regional hauling are to develop this activity (i.e., purchase, operate and maintain vehicles) in the firms or in the small farmers' associations or schemes. Neither of these options appears to be presently viable, although both may be considered as longer range possibilities.

Presently, the cooperation of NAMBoard in the project alleviates the transportation problem by making transportation available at rates which are more competitive than local commercial rates. It is also very much of a convenience to use NAMBoard trucks since they operate out of Swazi Fresh Produce Market (SFPM) and logistical arrangements are easily made.

NAMBoard trucks are used to deliver supplies to, and bring packed product from, the farmers. A transportation problem which is being addressed is the problem of collecting the produce from farmers to bring to the collection center or, in the case of Northern RDA, to the packing shed.

Collection transport is costly at the beginning and end of the season when volumes are low. Alternatives for collection transportation need to be evaluated. Currently, the collection transportation cost for tomatoes in the Northern RDA is set at E0.0234/kg for volumes of 5,000 kg/week up to 65,000 kg/week. At some volume level, this may be correct but it is self-deceiving to assume the cost per kg to be constant, or to use an average, if that is what has been done.

d. Farm Suppliers

The project has worked with various farm supply organizations to make certain that inputs are available when needed. This is very important since the unavailability of needed inputs during critical points in the season can be very detrimental to the success of production.

An additional consideration for the project is to work closely with the supply firms to develop agreement on which products will be used for production improvement or pest control. In some cases trials may be useful in cooperation with the supply firms and manufacturers of products.

Very important in this area is the need to provide to farmers only those products that have been approved for use by the project and the governments of the respective markets. This requires cooperation and monitoring by the project's production and marketing staff as a stated project activity. Although it is

not wise to depend on farm supply firms for too much technical assistance, because a firm's priority is to sell products, linkages developed with firms can supplement technical assistance.

Continual trials of new varieties, techniques, and technology are necessary for farmers to remain competitive. In many cases, costs incurred in trials can be shared by supply firms that need to prove their product to sell it. Opportunities for establishing cooperative trials between farmers and supply firms should be sought as an objective of the project.

The project has developed those activities necessary to support the production and marketing of small farmers' produce. As the production and marketing system becomes more sophisticated, the number of related activities or service industries will increase.

Output 2. At least four companies will use technical guidance in response to new opportunities, facilitating production and marketing of small farm produce with combined sales of E2.5 million by the end of the first year following the effective date of redirection and extension, E3.8 million after the second year, and E4.4 million by the project end.

Supposed Rationale: This output activity is defined by the End of Project Status (EOPS) as "Four or more market led, self-sustaining vertically integrated companies marketing horticultural and specialty crops produced by small scale growers, providing technical assistance for production and post-harvest activities in response to market signals, and accessing domestic, regional and other export markets."

The responsibility for the provision of technical assistance for the marketing of specific crops must be assumed by some entity. Because it is necessary that firms have both a forward and backward linkage to the markets and farmers, the project has focused on the need to create viable firms with the technical capabilities that would be mutually beneficial to the firm and farmers.

The sales values set down as goals were thought to be reasonable increases to be expected from the creation of firms.

Assessment: The purpose of the project is the "establishment of an environment that will stimulate increases in small scale commercial agricultural production, other agribusinesses, and domestic and export marketing activity." Implicit in this statement is that the project will do this in a manner that will ensure growth and sustainability.

Two components must be developed simultaneously -- production and marketing -- for the project to meet its objectives. Marketing and market development without a good production base are virtually impossible. The intent of CAPM apparently was to develop the production base for sales into identified markets. Project designers should have given more attention to **marketing**, not just selling.

The potential for development of horticultural crops was evident and the market, especially the winter market in the region, has sufficient demand to provide good returns to farmers. Some type of organization is necessary to link farmers to the market.

With few exceptions in other countries, small scale farmer owned and managed businesses engaged in production and marketing have been unsuccessful. There is very little reason to indicate that Swazi small scale farmers would be successful in this complex business.

In a new production and marketing project such as CAPM, the volumes of quality product available in the first season are normally quite small. The interest of the market for small volumes is not very great and often the volume does not create sufficient revenues to cover marketing costs.

Ideally, small-farmer production would be marketed by an established production and marketing firm which would be unaffected by small volumes if supplies were regular. Technical assistance, especially in production timing, varieties, and postharvest handling would likely be available to farmers.

In Swaziland, such a firm does not exist. A logical option to the lack of a production and marketing firm would be to develop such a firm from an exiting firm or firms in the agribusiness field. In Swaziland, such firms were identified and interest was sufficient to warrant development of these firms into marketing firms.

The firms selected had mainly backward linkages to the regional markets from which they sourced produce. Sourcing activities in Swaziland of horticultural products was minimal and technical assistance to small farmers did not exist.

The five firms selected as CAPM participants all had varying levels of expertise and interest, but did meet the criteria set out by the project for participation. With experience, the project team has tightened the criteria for participation of a firm in the project.

It is reported that one firm with which the project worked was liquidated due to mishandling or misappropriation of funds in matters unrelated to project activities. Another firm was lost to the project because the supporting firm in South Africa was liquidated.

This points out a drawback to working with established firms with business interests that may not be directly related to the project. There are limits to the control or influence the project has over activities or decisions affecting the firm. When a technical assistance project has developed and/or funded a firm, it usually retains a decision-making ability with regard to the activities of the firm. Working with existing firms may result in decisions being made which may not be in the direct interest of the project, or which may be detrimental to the project.

Not having control to some degree over the activities of the firm also makes allocation of resources other than technical assistance risky. How the resources are used may well depend on the priorities of the firm which may have little to do with the priorities of the project.

In light of what has occurred with the development of the CAPM-assisted firms, two questions arise:

- a. Was the concept of developing a marketing firm from an existing firm valid?
- b. With how many firms should the project have chosen to work?

The concept of working with an existing firm is valid: find someone in the business and work with them. A weakness of the concept is due mainly to the lack of a stable firm with sufficient financial resources and a close enough involvement in the production and marketing activities in which the necessary expertise could be developed.

Another limiting factor to the development of the marketing firms is that a firm is not being developed to market a volume of product which already exists, but which is expected to exist at some point in the future. For a firm not already in this business the costs and risks of establishment are high considering the dependence on uncertain small farmer production. Uncertainty on behalf of the firms seems warranted, especially considering that the winter production of 1993 will not meet the projected volumes.

This brings us the second question. Two or more firms are required to assure competition. To justify more than two firms, it is essential to demonstrate that there will be sufficient volumes available to support the activities of the firms.

One firm may be sufficient if the firm's survival is dependent upon a percentage of returns from sales as the incentive to obtain the best price available.

In addition to the high overhead cost normally incurred by a marketing firm, these firms need to carry a staff of technical advisors. Through the provision of technical assistance, the firms will contribute to the growth and sustainability of the business and the production sector. The costs of this technical assistance must be repaid through gross receipts from sales.

In addition to questions of volumes of produce to support the firm, there is also the level of technical assistance available from the project to develop a firm's activities. The level of effort currently expended on Philani Fruits and Vegetables (Pty) Ltd. might be duplicated by the present TA team, but would not likely be effective for more than two firms.

Although this is a marketing project, there were no objectives built into the project to measure or indicate increased marketing skills or market development.

Trips have been made to the markets by the long-term consultants, and results of one trip with the owner of Philani were reported verbally. Except for information on prices, there have been no results or information published or recorded by the project about the functioning of the Reef and Durban markets, no list of contacts, nor any profiles of various RSA marketing firms.

Marketing and market development go well beyond selling a product in the marketplace in terms of skills which need to be developed. Project efforts have largely been directed toward helping Philani remain viable by improving skills and activities related to trading rather than marketing. Philani needs to become a **marketer** of produce. While technical and management skills being taught are necessary for marketing, marketing skills development needs to be a priority.

Attrition for various reasons could have been expected as a normal occurrence as the project worked with these firms. As it happened, Philani remains as the only firm and the question remains as to whether this or any firm will meet the criterion of providing growth and sustainability through provision of technical assistance to small farmers, or should it be necessary? At some point in time, the farmers should be able to grow their crops with minimal technical assistance. With only one technical advisor programmed for each firm (from Philani and other Business Plans) at least until 1998, there must have been an assumption that this "field agent" and available GOS extension service technicians would adequately supplement farmers' ability to produce sufficient volumes of quality crops after the project terminates.

This assumption is at least implicit, but no criteria have been stated to quantify or qualify this capability or lack of it. The general opinion of the project implementors and the Assessment Team is that three more seasons of TA to the farmers would be required to instill the necessary skills for sustainability and growth.

It seems all too likely that Philani will choose to be a supplier-trader of produce rather than a marketer and provider of technical assistance to small farmers. It is easier for Philani to source the RSA to supply markets at the present time than to take on a task which requires great cost and effort for a future return that may appear tenuous. This likelihood is made evident in the Philani Business Plan which demonstrates that only 21 percent of the annual income from sales (6 percent summer and 15 percent winter) are from CAPM producers. Considering the level of effort and cost to the firm to source this produce, it is understandable how easier sourcing than from CAPM farmers might occur.

The original idea for the firm developed in the 1991 PPA was to establish a firm and a sufficient product base to support it. The estimates for production were erroneous, but the concept -- the firm needed the farmer and the farmer needed the firm, a mutual dependence -- has so far not been realized by the technical assistance team in the development of the firms.

It would be preferable, for ensuring sustainability, to have the farmers producing for a firm which depended heavily on their production.

Output 3. Production programs implemented: 65 farmers by the first year, 100 farmers by the second year and 135 farmers by the end of the project.

Supposed Rationale: These numbers were considered to be an optimum number for demonstration and spread effect of technical assistance. Although not a large number of farmers, it does allow for production of marketable volumes of produce.

Assessment: The numbers of farmers participating in the project should ultimately be determined by:

- a. the production base in terms of potential volume of production considered necessary for efficient marketing activities; and
- b. the number of farmers with which the TA team can reasonably be expected to interact, given the level of expertise of farmers entering the program.

Production volume is critical to sustaining a marketing firm and requires a certain minimal level to interest the market. Costs of marketing and the anticipated cost of having to provide technical assistance to small farmers make it imperative that production levels are adequate within three years.

In the 1991 PPA, the number of farmers determined to be necessary (65 in year 1, 100 in year 2, and 135 in year 3) was based on the volume of production of the farmers from three production cycles a year. The volume projected would support a firm.

The projection included twelve crops to be grown. The idea that three crop cycles a year were possible by an individual farmer on one piece of land is erroneous. The microclimates of Swaziland permit most horticultural crops to be grown somewhere in the country at any time, but not on one piece of land. The number of crops projected would have stretched the technical assistance available from CAPM and the GOS very thinly.

Since the project was modified to work with existing marketing firms, the volume of produce to be grown by the targeted farmers represents a much smaller portion of the firm's total produce sales. In the case of Philani, this is 21 percent, according to the Business Plan. A change in the number of farmers in the CAPM project of 10 percent (15, more or less, on a base of 135) would cause a 2 percent change, accordingly, in the returns to sales for the firm.

The volumes are significant to the firm and the number of farmers seems to be a number which can adequately be handled by the TA team. However, results of production in 1993 have shown that projected volumes should be adjusted to more realistic levels as suggested by the CAPM team.

A potential limitation on production is that, of the 138 farmers who are participating in the 1993 winter season, 84 are new farmers whose yields cannot be expected to be as high as those with some project assistance experience. The loss of farmers in the 1992 season was due largely to the drought. The need to work with farmers who have irrigation was considered a priority, and new farmers were selected based on this and other criteria, such as proximity to other participating farmers, interest in the project, etc. Some attrition can be expected from the current participants and it is expected that these will be replaced and a solid base of farmers will develop.

Assuming the need for a certain level of production, the question should be: Is the priority the volume of produce (and therefore the marketing firm which is the principal client) or the development of small farmers? Of course, neither can survive commercially without the other, but small farmers are the focus of the project.

How many farmers the project TA personnel can effectively work with over the life of the project depends on several factors, including proximity of farmers to one another, level of organization (to bring together for training), access to water, interest in being a commercial farmer, etc. The TA team has learned through experience which farmers should make up the client base.

It is assumed that there will be a "spread" or demonstration effect as project farmers are seen by others as having benefitted by their participation. This will allow for expansion of the client base and achieve the desired result of increased participation in the economy and increased contribution to the economy.

This still leaves the question of how many farmers for what volume. The answer hinges on the size of land holdings cultivated by the farmers, or what constitutes the size of farms.

Farmers in the project are very small, at least in terms of the amount of land each represents of the total production programmed. In the North, the original plan for winter 1993 in tomatoes was made up of 81 farmers with an average of a little over 1.5 hectares each of programmed production. Unless these same farmers have additional land which can be brought into production, substantial increases in total hectareage brought into production will require a substantial number of farmers.

If a viable firm is required to sustain growth, and if this viability depends on a certain volume, it may be necessary to bring some larger farms into the program even if the level of effort with them is not as great as with small farmers. This would help develop the "critical mass" mentioned in the 1991 PPA.

Working with larger farmers to achieve the capability of marketing small farmers' production seems to be justifiable so long as the project remains focussed on small farmers.

How large the larger farmers would be would most likely depend on what farmers were available and interested. If the production is more easily obtained from two farmers with 20 hectares each than from four farmers with 10 hectares each, the decision should be based on what best suits the objective regardless of the size of individual land holdings.

The number of farmers targeted has been achieved, although with considerably less production than was planned, and the number of participating farmers appears to be manageable by the TA team.

Experience in farmer selection has improved and most of the current farmers can be expected to improve their yields per hectare as a means of increasing production volumes.

Output 4. Domestic commercial sales of fresh produce by small-scale farmers assisted by CAPM increased to 1,500 MT by the first year, 2,300 MT by the second year, and 3,000 MT by the end of project, an increase from pre-project redirection of 225 MT.

Supposed Rationale: The relationship of this output to output number 3 is an increase in production through new hectareage rather than an increase in production per hectare.

Assessment: As previously noted, the revision of the project, based on the unachievable volumes of production that would result from three crops a year, has caused these outputs to bear no relation to the needs of the firms. This output needs to be redefined on the basis of what would be needed or expected from small farmers.

The number of small farmers, being limited by available CAPM and GOS technical assistance, is not likely to change much, but the volumes they produce can be influenced.

A better measure for an output objective would be the increase in volume per hectare, depending on the crop grown. Since production rates vary from crop to crop, total volume is not a realistic target. (For example, 9 tonnes of sweet corn per hectare is a good yield, 20 tonnes of tomatoes is a good yield; the crop mix has a great effect on total tonnage.)

The summer season is more difficult than winter for realizing increases in marketed volumes. In the winter, regional market demand exceeds supply and activities of the project have correctly been aimed at this market.

In summer, local production and the lower cost production from RSA, which some say is "dumped" on the Swazi market, limit the volumes that can be marketed by CAPM small farmers who may not have become efficient enough to compete with the currently marketed produce. The summer market should be thought of as a market to be entered more cautiously than the winter market. Careful analysis of imported summer horticultural products should provide one or two target crops that can be effectively competed against in the local market if project resources are directed

toward efficient production of the crops.

Unless demand is determined to be greater than expected supplies of a locally produced item, the project should be careful not to create an unstable market condition of over-supply. Attempting to circumvent vendors by direct sales does not really improve the market situation for consumers and would probably create backlashes unfavorable to the project.

Some encouragement should be given to firms assisted by the project to produce more for the local market, assuming that product prices can be competitive. Philani's Business Plan contemplates a volume of 90 tonnes for domestic sales and 214 tonnes for regional sales. Considering that domestic sales are basically summer production and that regional sales are mainly winter production, this means that about 60 percent of the farmers will not produce for the project in the summer.

The local summer market is more difficult to penetrate than the winter local or regional market. A goal should be increased penetration of the local market in the summer. The Philani and other Business Plans do not do this in a significant way. A firm needs to be developed which can provide enough annual income to farmers from their winter crop or make serious efforts at obtaining an increasing share of the summer market.

An additional consideration for the project is the need for client farmers to rotate out of the winter crops during the summer or to leave some lands fallow.

Output 5. Regional export sales of fresh produce grown by small-scale farmers increased to 900 MT by end of the first year, 2,500 MT by the second year and 3,000 MT by the end of the project, an increase from pre-project redirection estimate of 225 MT.

Supposed Rationale: Considering that the first year of export production will be low due to inexperience, particularly in producing the volume of quality produce necessary, the figure of 900 MT to be exported is understandable as a proportion of the original production estimates, but needs to be reduced for the project revision based on its origin in three crops per year initially assumed

The project revision should include a measure of the increase in sales, regional and domestic. Basically, the goal is to increase production and, therefore, sales. The amount of tonnage to be sold in either market should reflect volumes produced by increasing yield per hectare.

Assessment: As in domestic sales, the output volumes projected for regional sales were not achieved, due to climatic conditions and constraints subsequently identified for project action. The revision of the project needs to consider the potential volumes of sales in terms of what has been learned about the ability to produce. A suggestion has been made by the CAPM team to reduce the tonnage goal. The proposal for a revision will take this into consideration.

With more than half the farmers being new to the winter production in 1993, more effort has had to be directed toward initiating new production than in increasing yields of more experienced farmers.

The objective of the project is to create sustainable growth in the agricultural sector. On the production side (as opposed to marketing) this output measures achievement attained toward the objective of growth; sustainability is measured by increased marketing capability.

Overcoming or learning to manage the constraints and problems of export marketing is normally more difficult than producing the volumes required. It is important that sufficient volumes are produced to enable a marketing plan to be implemented and make a marketing program efficient. The objective should be to demonstrate to farmers what can be gained while eliminating or reducing constraints to production and marketing. Marketing is a new concept to most farmers in the project.

It is better to market a few crops with less volume than projected, and do it well, than to produce large volumes and handle them poorly. The volume that can be produced and handled efficiently and well is dependent upon the size of the TA team and the constraints which have to be overcome.

The projected volumes and the crop selection for winter 1993 seem to be manageable. There are constraints which still exist (transport, especially) but these also seem to be under reasonable control. Most importantly, for sustainability, the farmers are becoming knowledgeable about managing problems involved in marketing produce.

The assessment team feels that while volumes are being increased, a more efficient enterprise can be developed to market these volumes and ensure the sustainability of the marketing firm and growth of the agricultural sector.

Output 6. 20 experimental shipments of specialty crops to overseas markets totaling approximately 20 MT originating from the target group of farmers by the end of the project, up from none currently.

Supposed Rationale: It is important to penetrate as many markets as possible with as diverse a line of fresh produce items as possible. This creates production and marketing alternatives which permit efficient allocation of resources for optimum returns.

Assessment: The shipments of experimental specialty crops under CAPM were more a production trial than the marketing trial that the description of the output infers. The overseas market already exists and the marketing is handled by a third party; the produce is not shipped directly to the market by the producers.

The value of this output is not necessarily measured in terms of tonnage produced and marketed, but rather as a concept of how to use existing production and marketing programs to the benefit of small farmers.

In this case the specialty vegetables were grown by a farmer who has several hectares of land. He is not a small-scale farmer by Swazi standards. Some of his production is supplemented by neighboring farmers who produce under his guidance. This participation should be encouraged by CAPM.

In this instance, the market demand may not be large enough to increase substantially the number of farmers who can be brought into specialized production. This does demonstrate that, if a market can be developed by a "large" farmer, this can be used as a mechanism for bringing small farmers into the marketing system. Creating or developing sustainability and growth for small farmers is accomplished by taking farmers who only sell produce to the marketing system and making them an active part of the marketing system. A worthwhile project objective would be to seek additional opportunities of specialty markets or linkages with larger farmers.

Marketing trials to Europe without the intervention of a third party who is already established in the market is seen to be beyond the capabilities of this project. Export to Europe (or any overseas market) requires that a relationship be developed with a firm or firms in that market. Market development, finding a market which you can satisfy or trust and with which you can work to develop new production is difficult. This requires someone who can spend time in the market to convince someone that their product has competitive advantages over others. Once the market has been ascertained, it must be supplied. Presently, this means sending produce to South Africa to be forwarded on to the market. Unless someone in South Africa has a financial interest in forwarding the product, the results can be disastrous. Many projects have failed that were based on being able to produce and ship a product to an overseas market.

Output 7. 16 personnel (general managers, operations managers, technical advisors, and production facilitators) trained in company management, marketing, production, farm management, post-harvest technology and field operations.

Supposed Rationale: This objective would provide for trained personnel (one of each category) for each of four firms. If the firms are to be vertically integrated into the production-marketing system and provide the required technical assistance, this is a critical objective.

Assessment: The objective of this output is to develop the capacity within each firm to handle effectively all the activities required of a vertically integrated firm.

The training programs have been implemented as planned, as best as can be determined. The informal training received on a day-to-day problem solving basis is at least as important as the planned training sessions. Philani, the only remaining firm, and Entikini continue to receive technical assistance in the form of on-the-job training.

No production or postharvest specialist is part of the Philani organization, nor is it likely to be. Philani is a marketing cum trading firm, not a vertically integrated firm. It appears unlikely that anyone will be trained to work for Philani in either of these technical positions before the end of the project, although the owner apparently agreed, when the Business Plan was being developed, to hire technical specialists.

Training should continue on a "need" basis as performed presently by the TA team and the IESC volunteer, to create stability and capability in Philani.

Output 8. 135 farmers and 15 extension workers and field assistants trained in horticulture and specialty crop production and post-harvest training with an emphasis on export quality, quantity and dependability standards.

Supposed Rationale: With export production planned for year one, it is necessary that training and field assistance-as-training be given to ensure suitable production. It is important that both the marketing firms and farmers do reasonably well the first season to ensure continuity of the program of small farmers' increased production and development of marketing firms with increased incomes to both sectors.

Assessment: This output target has been exceeded in terms of number of farmers, extensionists, and field assistants who participated in training exercises. However, this should not be interpreted to imply that farmers have been trained to the level of competence needed for sustainability, which is the desired output. Training is of two types, formal and informal. The formal training is normally carried out with groups, with a specific objective (e.g., how to manage pesticides, how to take soil samples, bookkeeping, etc.). Informal training occurs mainly during farm visits in one-on-one situations where individuals' problems are solved or new techniques are introduced (e.g., how to trellis, improvement of irrigation, how to fill out invoices, etc.).

The breakdown of hours of formal training for farmers and firms, as of March 31, 1993, is:

<u>Type of Personnel</u>	<u>Person-hours of Training</u>	<u>Subject Area</u>
Marketing firm staff	544	Marketing management techniques & technology
Marketing firm staff	200	Sales & client relations
Project farmers	2,212	Production & irrigation techniques
Project farmers & firm personnel	664	Crop selection, post-harvest handling, collection & transport
Project farmers information	16	Irrigation

In addition to formal training sessions, there were field days which various personnel attended:

<u>Type of Personnel</u>	<u>Person-Field Days of Training</u>	<u>Subject Area</u>
Marketing firm winter	5	Introduction to production/marketing program
Project farmers	12	Potato production
Project farmers	60	Irrigation course
Extension workers/field officers	17*	Production/marketing

* 17 attended an unspecified number of field days.

In addition, three informal training sessions were held for Field Assistants; these are planned to be carried out monthly.

Farmers receive one-on-one training by visits from project TAs at the rate of one-half to one hour per week per farmer, except for the Northern RDA farmers who receive somewhat less at times other than the harvest season.

The farmers have adopted new techniques, such as trellising and irrigation, and yields per hectare have increased. This can reasonably be assumed to be partly as a result of training programs.

Some training programs and field days are scheduled between the month of March and the end of project, but the winter season will, by its problematic nature, create many opportunities for informal or on-the-job training.

The training needs have been determined and will have been met by EOP; the effectiveness will mostly be measured by the sustainability and growth of this sector after the project ends.

A key to success in any revision of the project will be the ability of the CAPM team to have the flexibility necessary to provide needed training. Most training needs can be contemplated, but not all. Likewise, some training efforts may not be needed or may be more intense than originally considered. The end result is the development of competent farmers and business people.

Output 9. 38 domestic and regional horticultural production and marketing trials completed by the end of the project.

Supposed Rationale: As in output number 6, diversification into new crops and markets requires trials. These trials should be designed to match the capabilities of production with the needs of the market as well as determine the limitations of producers and the market.

Marketing trials by their nature imply a certain amount of loss and the project must, at times, absorb costs and losses which firms and farmers cannot afford.

Assessment: This output is actually three outputs with distinct rationales for implementation:

- o Domestic and regional marketing trials to determine feasibility of obtaining a share of the market(s) by producing and marketing crops not previously produced for the market(s);
- o Trials to determine the best varieties of crops selected for marketing; and
- o Production and marketing trials of specialty crops for overseas markets. This latter output is a repeat of Output 6 and should have been combined with that output.

This output, as stated, is incomplete. The objective implicit in this output is the determination of what crops can feasibly be produced and marketed in each of the markets. Crops which demonstrate feasibility form the basis for the programs with farmers and firms.

If these trials are to form the basis for the business plans as stated in Output 10, the trial should not be the end result. The end result should be production and market analyses and profiles which provide the data necessary to form a business plan. The pilots and trials are the means of developing these data.

Variety trials are a separate activity related to the market analyses in that, once a crop is considered feasible for production for the market, the variety(s) with the best production and marketing characteristics must be determined.

The establishment of a production and marketing program for overseas markets is a project in itself. The 1991 PPA did not consider that there would be an immediate entry of the project into this area. However, several awards fees were developed based on this activity. The trials needed to be carried out although there was not technical assistance built into the project to handle the range of activities related to trial shipments.

Under the revised project, it is probable that a level of effort will be directed toward finding opportunities for overseas export. This will probably be, as with a prominent Malkerns farmer, the opportunity to supply an existing marketing program. The project should be more directed at taking advantage of existing opportunities, as they arise through marketing activities, than to consider developing new European markets.

Output 10 All participating marketing firms, at least four, have long range business plans (growing out of and relating to the commercialization of CAPM trials and pilot programs), record keeping abilities, and training in management of vertically integrated marketing firms.

Supposed Rationale: The project envisions developing vertically integrated firms from presently existing marketing firms and from local entrepreneurs. While the latter will need to see a business plan to be attracted to the endeavor, both will need plans to guide them, monitor progress, make necessary decisions and adjustments, obtain financing and provide a basis for cost-benefit analyses of new or ongoing activities.

Assessment: Development of a business plan for an existing firm is very difficult unless the firm is fully open about the financial situation of their existing business. It is possible to show that a firm can be supported by the CAPM project activity and other marketing activities through a marketing plan. A marketing plan must be acceptable and mesh well with the firm's existing business. If there are conflicts, other sources of income, other related activities, these must all make up part of the business plan.

These business plans reflect what can be accomplished through the financial organization proposed. This stands alone and is designed for a firm with no other financial interests. If other financial interests exist, they must be taken into consideration.

One item in the Philani budget that is questionable is the total (July-December 1993, as an example) of 304 "tons other farmers." Given the constraints of accumulating the produce of CAPM farmers, this item seems difficult to achieve.

The Small Business Growth Trust (SBGT) has assisted one CAPM candidate with a business plan. The business plan and organization are an area in which the project must be assured of an economically sound package. The business skills and the technical skills of the SBGT and CAPM both need to be employed to ensure a sound business venture. This cooperative effort should be a part of any revised project.

B. Goal and Purpose

The goal of the project is "to increase the agricultural sector's contribution to the national economy of Swaziland." The extent of achievement would be measured by the Objectively Verifiable Indicators:

- o Increase in exports of horticultural and specialty crops from Swaziland;
- o Decrease in imports of horticultural and specialty crops to Swaziland; and
- o Increased incomes of targeted group of farmers.

The project purpose, which is to contribute to achievement of the goal, is the "establishment of an environment that will stimulate increases in small-scale commercial production, other agribusinesses, and domestic and export marketing activity."

The End of Project Status (EOPS) is indicated to be:

1. Four or more market led, self-sustaining vertically integrated Swazi companies marketing horticultural and specialty crops produced by small scale growers, providing technical assistance for production and post-harvest activities in response to market signals, and accessing domestic, regional and other markets.
2. At least 135 small farmers trained and producing in quantities sufficient for efficient post-harvest handling and marketing, and meeting the quality and timeliness requirements of targeted markets.
3. Cash incomes of participating farmers increased from a current E3,000 or less per year to up to E14,000 as a result of improved product quality, production timing, higher yields, multiple cropping where feasible, crop programming in response to market demand, and other project related factors.
4. Improved understanding by both the private sector and the GOS of the policy environment and support systems that stimulate commercial agriculture in Swaziland.
5. Improved UNISWA/Luyengo capability to prepare its students in commercial agriculture and for agribusiness employment, and conduct commercially oriented management, technical and skills training. (This EOPS is to be evaluated at CAPM PACD.)

The goal and purpose are clear.

Following is a discussion that relates to the first EOPS: Four or more market led, self-sustaining vertically integrated Swazi companies

Marketing firms which deal with small farmers in developing regions are usually existing marketing companies which want to source off-season production. They normally have a marketing organization and sales program and, at times, a production base of their own which they are seeking to supplement. The marketing firms may receive farmers' produce at their shed or may collect it already packed from the small farmers' sheds. The small farmers have often been organized by a third party (a USAID project, a church group, or a government program) to produce and pack for export.

The marketing firm normally sells on commission. This is not the same, however, as consignment in which the marketer would sell to a third-party wholesaler. The marketer has an established clientele for almost all his product. Some farmers' groups have attempted to sell on consignment and most have failed or turned to a marketing firm active in the region.

What needs to be stressed in any revision is that a firm must be first and foremost a marketing firm, as this is the mechanism shown to work for small farmers. How much technical assistance needs to be built in depends on the level of competence of the participating farmers.

The firms selected for the CAPM project have neither a production base nor (very much) marketing experience. The firms were traders in the produce business and it may have been considered feasible to make marketers of them since they had a background and experience in dealing with produce. They did not have the necessary capability to assemble and market the small farmers' produce. Developing this capability was an objective of the project.

The amended CAPM project was to assist in both these areas for two years, during which time the firm was to become economically stable and be able to continue to provide the technical assistance to small farmers to continue expanding production. This requires having to find qualified firms or organizations which have, or are able to obtain, technical capability and which can also develop a marketing business.

The four CAPM firms were apparently selected because of their involvement in the produce business. These were traders -- they bought and sold, but did not market. **Marketing** produce requires skills that build on the ability to buy and sell, and some traders can be developed into marketers, but it takes time.

To develop trading firms into businesses that have a vested interest in developing agricultural production is also extremely difficult. Unless a business person is, or was, in agricultural production, it is very unlikely that he or she will want to become involved in it. Technical assistance can be hired and

provided, but the level and amount required contribute an amount to overhead that is difficult to recover from sales.

For these reasons, the assessment team concludes that it may not be advisable to base sustainability of the CAPM Project too heavily on inexperienced and undercapitalized produce trading firms.

C. Assumptions

The following assumptions are basic to the project:

"The profit motivated private Swazi firms will readily take to commercial agriculture vertical integration and secure financing to expand their operations, increasing Swaziland horticultural crop production and marketing."

"Farmers on irrigation schemes and their chiefs are interested in commercial agriculture and will effectively use TA and training."

"Farmers are socially and economically prepared to develop their farms."

The assumptions are interdependent. Farmers and marketers depend on each other for mutual benefits. Although limited in their ability due to weather and disease hazards, many farmers have shown sufficient interest to indicate that the assumptions regarding them are realistic. Firms have not responded adequately to the vertical integration concept, for reasons described above; the assumption regarding Swazi firms may not be realistic. The firms selected are produce traders who will have to make a considerable investment and effort to develop into the type of firm envisioned. Much of this investment and effort is directed toward activities that are necessary to market small farmers' produce. In the Philani, and other business plans, the produce of CAPM farmers is never intended to be more than 50 percent of the total marketed in the regional market and never more than 12 percent of the domestic market. Up to now, there has been resistance to placing a technical person on the staff as required and also to signing the Memorandum of Understanding.

There is an inherent risk in dependence on small farmers' production. It is also very much simpler to concentrate on the produce trading activities currently carried out and to expand on these.

A commitment to vertical integration by the marketing firm is needed. A good business person will make this commitment if it is economically rational to do so, considering other options. Another way of stating this is: Is the firm "hungry enough" to see this as good business?

IV. Economic and Financial Aspects of Implementation To Date

This section summarizes some of the more important economic and financial aspects of implementation of the redirected CAPM to date, in four categories: (a) small farmers, (b) produce marketing firms, (c) other agribusiness firms, and (d) the Swazi economy. Due recognition is given to the fact that the redirected project has experienced only one winter season, which was severely limited by the drought, and one summer season and is just now into the second winter season.

A. Costs and Returns to Small Farmers

The PPA states:

It is estimated that the individual participating farm family will benefit with a net income of up to E 14,000 per annum . . . By the end of the CAPM project (2/94), some 135 farmers are expected to be participating, of which 30 percent are estimated to be women.

In the words of one farmer, "CAPM is opening the eyes of the people; it is demonstrating that crops other than maize are possible for small farmers, and potentially profitable." Some of the best small scale farmers, with adequate and well-managed irrigations systems, are doing reasonably well and are enthusiastic about CAPM. Some have dropped out of the program for various reasons, at least for the time being, while new ones are coming in. On balance, approximately 138 farmers are participating in the 1993 winter season, and 27.5 percent are women.

The project feasibility was based on 12 vegetable crops. Beginning in early 1993, the focus of CAPM activities was narrowed to three geographic areas and four crops: (1) tomatoes, (2) processing (Nema 1400) tomatoes, (3) sweet peppers, and (4) sweet corn. The assessment team endorses the more narrow focus. This section discusses the financial implications to date for the primary target group: small farmers.

Table 1 gives a summary of estimated costs and returns per metric ton (MT) to the four target crops under assumptions of average management by CAPM small farmers who, by definition, are commercially oriented. Using these figures as a measure, to achieve E 14,000 net returns, a farmer would need to produce 46 MT of tomato, or 17 MT of sweet pepper, or 5 MT of sweet corn, or 43 MT of process tomato, or some combination of these. Using typical yield figures, this implies roughly 2.3 hectares (ha) per year of tomato, or 1.1 ha of sweet pepper, or 0.7 ha of sweet corn, or 2.1 ha of Nema-1400 tomato, or some combination. The E 14,000, while possible for a number of farmers, appears not to be within easy reach of the bulk of the primary target group -- small farmers.

**Table 1.
Farmer Costs and Returns for Selected Vegetables**

	Tomato	Sweet Pepper	Sweet Corn	Nema-1400 Tomato
	-----Emalangeni-----			
Farmer Production Cost/MT	235	199	333	177
Collection Transport/MT	23	50	50	38
Local Transport/MT	52	70	70	
Regional Transport/MT	75	150		
Packing/MT		252	375	
Box	330			
Grading	5			
Overhead	27			
Sales Price/lug	7			
Sales Price/MT	1,167	1,705	4,122	600
Sales Commission (10%)	117	171	412	60
Farmer Returns/MT	303	814	2,882	326

Source: Abstracted from CAPM data contained in the tables attached as Annex A and from discussions with the CAPM team.

B. Financial Aspects of Swazi Marketing Firms

The Swazi Fresh Produce Market (SFPM) of NAMBoard was set up to accommodate four market agencies, or firms, on the Market floor. There has been a rapid turnover of agents on the Market floor since operations began in mid-1987. In early 1993, the four agents trading on the Market floor, and the years in which they began trading, were:

Swazi Fresh (Pty) Ltd.	1989
Philani Fruits & Vegetables (Pty) Ltd.	1990
Swaziland Super Fruits & Vegetables (Pty) Ltd.	1991
Crop King	1992

The first three were collaborators in the CAPM Project. (Crop King is owned by Rendals of RSA; their main interest is in selling their South African potatoes. CAPM was not designed to work directly with NAMBoard; it turned out that most of the marketing firms that could be identified for CAPM to work with were those already established with NAMBoard.) CAPM was also working with a fourth firm, Swazi Fruit and Vegetable Distributors, which was not on the NAMBoard floor. By early June 1993, Swazi Fresh, Swazi Super, and Swazi Fruit and Vegetable had all gone out of business. Swazi Fresh, a fully Swazi-owned company, was reportedly deeply in debt to a South African firm which went into liquidation. Swazi Super, owned 60 percent by South Africans, suffered a somewhat similar fate, and Swazi Fruit and Vegetable was reported to have had serious financial problems. This left only Philani and a quite small firm,

Entikini, which was not trading on the Market floor, as CAPM marketing firms.

An IFAD consultant indicated that the rapid turnover at the Market has been due to "inexperienced or undercapitalized" agents, or both. This points out part of the difficulty CAPM has had in identifying and working with marketing firms and helping them develop into vertically integrated agencies.

During the redesign process, the technical assistance contractor had interviewed two prospects for CAPM-assisted marketing firms (Swazi Fresh and a woman who expressed interest but ultimately did not become a marketing firm); both indicated at the time that they were interested in the vertical integration concept, including providing technical assistance to small farmers in collaboration with CAPM.

Annex B is a brief Case Study of the Philani firm. Section III of this report, Progress Toward Achieving Output Targets, gives some insight into the reasons for the difficulty in developing local trading firms into vertically integrated agencies.

Suffice it to say here that due to fairly intensive technical assistance from CAPM, supplemented by an IESC volunteer, it appears that Philani is growing steadily in its management capability and has the potential of making a significant contribution to the goal and purpose of CAPM. At the same time, it remains to be seen, even if it continues to grow financially and managerially, whether the firm will take on in any substantial way the technical assistance function for small farmers that was hoped for in the PPA. Nor does it seem likely that yet another Swazi trading cum marketing firm can be developed to carry out this important role within a reasonable time frame. Some other mechanism may need to be developed to carry out that function.

Nevertheless, Philani is providing a much-needed service for Swazi small farmers who produce crops required in its trading operations, including the vegetable crops which are the current focus of CAPM. Except for the very small amount of produce handled by Entikini, Philani is the only CAPM-assisted firm currently buying, or taking on consignment, the produce grown by CAPM farmers. Philani has a slowly but steadily growing business with the local OK and SPAR supermarket chains, and is taking much of the sweet peppers and sweet corn being harvested by CAPM farmers during the winter 1993 season. In addition, Philani is operating the new packing shed in the North, which is packing winter tomatoes, and is marketing the product.

Some marketing firms have not paid, or are behind in payments, to farmers. A number of farmers have dropped out of the program for that reason. The main cause of this problem lies with the two marketing firms that have gone out of business, and left accounts outstanding, although all firms have a few claims against them. Another problem is that differences exist in what some farmers claim to have delivered to market and what the firm has records for having received. In total, it is estimated that 15 farmers have payments outstanding and due to them.

C. Other Agribusiness Firms

1. Malkerns Nursery

A relatively large farmer in Malkerns, in discussions with CAPM advisors, saw an opportunity to invest in a nursery to supply seedlings to CAPM farmers and tobacco planters. CAPM advisors helped him develop the financials for a business plan in April 1992, and have worked closely with him in programming the seedling needs for CAPM small farmers. He did tobacco seedlings for only one season. The Malkerns Nursery's business with CAPM represents about 25 percent of its total business.

The Malkerns Nursery provided in excess of 300,000 seedlings for the 1992-93 summer season, and is providing an estimated 500,000 for the 1993 winter season. Prior to the start-up of this nursery, most CAPM farmers (except those in the North, who have traditionally produced their own seedlings) procured seedlings from South Africa. Prices of seedlings at the Malkerns Nursery are about on a par with those of South Africa; the main advantages to Swazi small farmers are a reduction in transport cost, getting seedlings that are more "fresh," and getting seedlings of a variety and on a schedule that is consistent with the CAPM production and marketing program.

Fifteen laborers are employed in the operation, mostly women. The capital investment for the nursery was approximately E150,000. It is quite viable financially, as an expansion program is underway.

2. Nursery in the Siphofaneni Area

This nursery was started during the 1992-93 summer by a CAPM farmer in the Siphofaneni area. CAPM helped him plan the nursery and obtain the planting trays. He has produced about 40,000 seedlings for both sale and his own use.

3. Swazi-made Packing Materials

NeoPac, a local subsidiary of a very large South African company, is a strong supporter of the CAPM project and has collaborated with CAPM in designing and manufacturing produce boxes with logos identifying the product as Swazi.

4. Trucking Company

A Labour Operations Manager with Swazi Can owns a small trucking company and, at least partly due to CAPM, is considering adding some trucks to his fleet, including a refrigerated truck. CAPM has helped arrange for him to provide a rental truck for the tomato pack in the northern RDA during the 1993 winter season.

5. Agricultural Input Suppliers

A number of local farm supply companies have a keen interest in seeing the CAPM project succeed: the CCU (cooperative); Swazi Agricultural Supply; ADAS; and Farm Chemicals.

D. Impact on the Swazi Economy

Due to the relatively short history of Phase II of CAPM, and taking into consideration the effect of the major drought, it is virtually impossible to calculate meaningful figures on the impact to date on the economy. However, some anecdotal evidence can be cited that indicates a positive impact. With its export strategy, CAPM has helped increase the quantity and add value to exports of tomatoes, mainly from the Hhohho region, to Durban; helped increase exports of CAPM's target vegetables to Mozambique; and helped reduce imports of vegetables. Also, the nurseries are providing seedlings that formerly were imported from South Africa.

V. Social and Gender Aspects of Implementation To Date

"Makoti uma asofika uba muhle"

"When a bride is recently arrived, she behaves properly"
(Female commercial scheme farmer's assessment of CAPM)

"CAPM is my breadwinner"

(Male individual Swazi Nation Land farmer)

"Because of CAPM, the Minister himself has walked on these lands"

(Male individual Swazi Nation Land farmer)

The section focuses on assessing the impact of the CAPM project on farmers. First, some data from the project are analyzed in terms of participation by gender for a number of variables. Then, the results of a rapid rural appraisal in which the farmers themselves assessed CAPM is given. Finally, recommendations are presented that will assist in the redirection of the project extension.

A. Analysis of Current CAPM Data on Farmers and WID Analysis

The PPA estimates that by the end of CAPM, 30 percent of the participating farmers will be women, although there are no strategies in the PPA for targeting women specifically. How does this relate to the number of women in the various farming areas? Almost all sources on women in Swaziland point to the paucity of quantified data on women, and especially on women in agriculture; some sources mention the greater numbers of women compared with men in the rural areas (1.8 to 1), and note women's extensive work in agriculture. Recent estimates give figures of 21 percent and 25 percent as the percentage of women headed households; some authors caution that the concept of the household is less meaningful than that of the homestead, where often a senior male would be the head, even if other men have migrated and their wives are living in the homestead.

The Social Soundness Analysis for the PPA considered data from schemes, other SNL farmers, and the Vuvulane Sugar Farms. Title Deed Land (TDL) farmers were not mentioned. Only data for males were given; those for females must be calculated by the reader. These calculations showed that women constituted 10 percent to 29

percent of homestead heads, that irrigation plots were usually allocated to elderly males, but that women constituted an average of 51 percent of the farm workers, and they "may perform an even larger share of the actual vegetable cultivation."

There was some idea that vegetable production was traditionally women's occupation, but that men have taken it over as it became commercialized and now have the advantage. Also, the report noted that it was "difficult to be sure what proportion of small-scale irrigators are women, since they must utilize their husband's name in order to obtain access to Swazi Nation Land." However, in any case, women did manage the plots.

The project monitors data on farmers (production and marketing) and has some formats on the marketing firms. Data formats were developed both by project staff over the course of their work and by a consultant who set up the monitoring and evaluation systems to assist with the preparation of the PIR (Baird 1992). An analysis of the efficacy of the collection/evaluation systems is given below in the section on Monitoring and Evaluation.

For this social assessment, data on hand were examined, and it was found that most were in the form of reporting formats (such as the farmer and marketing firm profiles) and lists (farmers lists by area and programmed production lists of planting schedules, estimated harvest dates, and yields). In order to obtain the data presented here, print-outs of gender disaggregated data on profile and production variables were solicited. However the analysis was prepared by the assessment team; the project has little or no summary data on hand, but can generate lists of farmers for the variables.

Both the baseline and current data on some variables for some of the farmers are incomplete or not yet captured on dBase III Plus. Partly this has been the case because field assistants have been busy adding new farmers as a result of the drought, as well as assisting with production and marketing activities. However, the data management specialist took the opportunity of this assessment to both input data and to print out summary lists.

The forms prepared by Baird to assist the project in preparation for the PIR are being utilized (see Section VII on Monitoring and Evaluation for a discussion of each form), but the data collected on them have not been summarized much. Measured data on farmers' income in the baseline and currently as a result of CAPM are not available. However, estimates (based on actual hectarage and estimated price received for each CAPM crop) could provide general notions of the maximum income that might be derived from sales. There are no actual total production figures for these hectarages, because farmers may have consumed some product, sold product to non-CAPM markets/hawkers, and paid laborers with product.

The project currently has a total of 138 farmers (based on lists generated at the beginning of the winter production season, March 1993). (It should be noted that during the season, farmers may have been added or dropped.) The data are divided into scheme, individual non-scheme Swazi Nation Land (SNL), and title deed

land (TDL) farmers as discussed in Section C below. Table 2a shows that 27.5 percent of current total CAPM participants are women.

Women constitute 29.9 percent of scheme farmers in the north and 66.6 percent in the central scheme area, whereas the individual SNL and TDL category has only 10 percent women in central and 0 percent in the southeast areas. (Previously, there were some women scheme farmers in the southeast, but the scheme was dropped from CAPM for this season.) Considering the data by scheme and non-scheme farmers, 33.9 percent of scheme farmers are women, but only 3.4 percent (1 TDL farmer) of non-scheme farmers is a woman.

Table 2b shows that CAPM farmers account for 109 of 187 farmers (58.3 percent) in the scheme areas where CAPM is working; 31.6 percent of them are women. If those women are considered as a percentage of all women scheme farmers, then 62.7 percent of these women scheme farmers are in CAPM, compared to 56.3 percent of the men scheme farmers. Comparable figures for individual SNL and TDL farmers are being researched. However, the social soundness analysis for the PPA gives a figure of 877 households (with women constituting at least half, if not more, of the residents and farm workers) for individually owned, irrigated land; hence, the 29 CAPM farmers who make up both individual SNL and TDL CAPM farmers are but a small fraction (3.3 percent).

Table 2c disaggregates the number and percent of men and women in all the current schemes that CAPM is working. Women constitute an average of 31.6 percent of all scheme farmers from a high of 47.1 percent in Mavulandlela, one of the areas where the rapid rural appraisal was carried out (see below), to 0 percent in Mgubudla. Since CAPM will require greater volume of product, more scheme and non-scheme farmers will undoubtedly be brought into the project.

Sensitivity to the issue of increasing the number of women in general (as well as in relation to their proportional numbers), and strategies for doing so should be addressed by the project. Additional investigations are necessary to determine the actual deterrents; the literature abounds with cultural constraints, yet women do constitute 31.6 percent of scheme participants. Also, actual deterrents need to be studied to ascertain if there are limitations for women to further agricultural intensification in terms of obtaining credit, increasing hectareage, improving irrigation, and remedying labour shortages.

Table 3 shows participation in training events (courses, field days, marketing meetings) by gender of farmer and extension agent for all events in all areas. A total of 833 farmers attended all sessions, but this figure includes farmers attending multiple times. Women farmers constituted 38.1 percent of attendees and 33.3 percent of the 48 extension workers who attended (again the same agents could attend more than one event). Although there are currently no women participants in the southeast area, women as wives and as visitors from other areas attended. In all, a total of 285 farmers (182 men and 103 women) have participated in one or more CAPM training activities.

TABLE 2a Farmers Participating in CAPM by Area and Type of Farmer, as of the start of the Winter Production Season, March 1993

		Men		Women		Total	
		N	%	N	%	N	%
<u>Area</u>							
North	(7 schemes)	68	70.1	29	29.9	97	100
Central	(1 scheme)	4	33.3	8	66.6	12	100
	(individual SNL/TDL)	9	90	1	10	10	100
Southeast	(individual SNL/TDL)	19	100	0	0	19	100
TOTAL		100	72.5	38	27.5	138	100
8 Schemes		72	66.1	37	33.9	109	100
Individual SNL/TDL		28	96.6	1	3.4	29	100

TABLE 2b Number and Percent of Scheme Farmers Participating in CAPM, as of the start of the Winter Production Season, March 1993

Total CAPM and non-CAPM Farmers for 8 Schemes	128	68.4	59	31.6	187	100
% of CAPM Farmers in 8 Schemes	72	56.3	37	62.7	109	58.3

TABLE 2c Number and Percent of Total Scheme Farmers
(in areas where CAPM is working)
as of the start of the Winter Production Season, March 1993

	Men		Women		Total	
	N	%	N	%	N	%
<u>North (7 schemes)</u>						
Sikhumiweni	13	72.2	5	27.8	18	100
Mkhovo	20	66.7	10	33.3	30	100
Mvembili	17	68.0	8	32.0	25	100
Mavulandlela	9	53.9	8	47.1	17	100
Mashobeni	34	65.4	18	34.6	52	100
Mgubudla	10	100.0	0	0	10	100
Vusweni	13	92.9	1	7.1	14	100
<u>Central (1 scheme)</u>						
Embekelweni	12	57.1	9	42.9	21	100
TOTAL (8 schemes)	128	68.4	59	31.6	187	100

Table 3 : Training Events to Date - June 1993

DATE	REGION	TOPIC	FARMERS			EXTENSION SERVICE		
			MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
4/14/93	CENTRAL	DISEASES/PESTS/CHEMICAL APPLICATION (5 hours)						
2/16/92	CENTRAL	DISEASE AND INSECT CONTROL (4.5 hours)	10		22	32	0	0
2/30/93	CENTRAL	PEPPER AND SWEETCORN PRODUCTION (5 hours)	11		11	22	0	0
2/12/92	CENTRAL	CAPM FIELD DAY - SEEDLINGS, FERTILISER, GRADING, PRICING, QUALITY (4 hours)	4		8	12	0	0
1/11/93	CENTRAL	DISCUSSION OF WINTER '93 PROGRAMME - PRODUCTION, MARKETING, DRIP IRRIGATION (2 hours)	38		16	54	12	3
1/11/92	CENTRAL	INTRODUCTION TO SUMMER SEASON - PRODUCTION AND MARKETING (2 hours)	9		5	14	0	0
9/11/92	NORTH	GRADING/PACKING TOMATOES (3.25 hours)	3		8	11	1	0
9/11/93	NORTH	INTRODUCING PACKHOUSE CONCEPT (2.5 hours)	18		8	26	0	0
5/12/93	NORTH	MARKETING IN THE WINTER 1993 SEASON - PLAN FOR PACKHOUSE (3 hours)	40		60	100	3	2
2/10/93	NORTH	PLAN FOR WINTER 1993 - PRODUCTION AND MARKETING (4 hours)	24		16	40	1	1
19/1/93	NORTH	TOMATO PRODUCTION & MANAGEMENT (3.75 hours)	32		16	48	1	4
18/1/92	NORTH	GRADING, SORTING AND MARKETING (3.5 hours)	43		37	80	1	0
15/11/92	NORTH	PEST MANAGEMENT & CONTROL (3.25 hours)	24		14	38	2	2
13/10/93	NORTH	COMMON DISEASES IN TOMATOES (2.75 hours)	46		19	65	3	3
9/10/92	NORTH EAST	PRUNING (1 hour)	36		38	74	2	1
3/10/93	NORTH EAST	MARKETING MEETING (2.5 hours)	4		0	4	0	0
2/10/93	NORTH EAST	PLAN FOR WINTER 1993 - PRODUCTION AND MARKETING (1.5 hours)	16		0	16	1	0
18/10/92	NORTH EAST	POTATO PRODUCTION HARVESTING AND HANDLING (2 hours)	6		0	6	0	0
17/10/92	NORTH EAST	MARKETING COMPANY INTRODUCTION (2.5 hours)	6		6	12	0	0
16/10/92	NORTH EAST	RECORD KEEPING	19		1	20	0	0
14/10/92	NORTH EAST	TRELLISING (1.5 hours)	3		0	3	0	0
11/10/93	NORTH EAST	MARKETING MEETING (1.5 hours)	2		0	2	0	0
7/11/92	SOUTH EAST	FIELD DAY - CAPM CONCEPT (1 hour)	11		0	11	3	0
5/11/93	SOUTH EAST	PATHOLOGY SEMINAR (3.25 hours)	6		0	6	0	0
2/11/93	SOUTH EAST	MARKETING MEETING (2.5 hours)	14		0	14	1	0
1/11/93	SOUTH EAST	PRODUCTION FIELD DAY - FERTILISER, SPACING, FUNGICIDE AND PESTICIDE (4 hours)	20		1	21	0	0
2/11/92	SOUTH EAST	TOMATO TRELLISING AND PACKING (1.5 hours)	23		0	23	1	0
1/11/93	SOUTH EAST	PEST AND DISEASE CONTROL (5 hours)	16		4	20	0	0
1/11/92	SOUTH EAST	PEST AND DISEASE MANAGEMENT (4.5 hours)	12		5	17	0	0
1/11/92	SOUTH EAST	DISEASE AND INSECT CONTROL (4.5 hours)	8		22	30	0	0
			12		0	12	0	0
			516	317	833	32	16	48
PERCENT			61.9 %	38.1 %		66.6 %	33.3 %	

33

In order to participate in CAPM, farmers must have irrigation. (The Social Soundness Analysis for the PPA used 1990 estimates of 1,472 irrigated ha. farmed by 1,757 households as its base.) Scheme farmers already have furrow irrigation (drip irrigation is currently being installed at Embekelweni scheme in central area using Government of Swaziland funds). However, non-scheme SNL and TDL farmers have used CAPM to assist them in obtaining loans to increase the amount of their land under irrigation or to upgrade their systems. Excluding the current Embekelweni scheme upgrade, Table 4 shows that 10.9 percent of the total farmers in the CAPM project have added or upgraded their systems (this relates to Output Subtarget 3.1C, Indicator 1 (also PIR Output E.5)).

Non-scheme SNL and TDL farmers have taken advantage of CAPM to do so, in central (50 percent) and southeast (47.4 percent) areas. It should be noted, however, that farmers do not use all of their irrigated land for CAPM production either because they allow some to be in fallow, or because they are cultivating other non-CAPM crops. As an example of this difference, data for 59 scheme farmers in the north show that they have a total of 46 ha of irrigated land available, but only use 24.5 ha for CAPM vegetables, thereby putting only 53 percent of their land in production for the current season.

Calculated in Table 5 is the number and percentage of farmers who hired labour and obtained credit because of CAPM (Subtarget 3.1A, Indicator 1; also PIR Output E.4) CAPM data show that 23.2 percent of farmers hired labour, with the largest percentage being in the southeast (52.6 percent) and central areas among non-scheme SNL and TDL farmers. A total of 130 persons were hired by 32 CAPM farmers. Scheme farmers only hired 1 or 2 compared with individual SNL farmers who hired 2 to 5 and TDL farmers who hired 5 to 15 laborers.

Table 6 shows that the farmers who obtained credit were almost exclusively in the southeast where 52.6 percent of the farmers obtained bank loans (this explains their irrigation additions and upgrades as well as their mention of this type of assistance from CAPM during the rapid rural appraisal (see Section C)).

For purposes of this assessment, an indication of income changes between the baseline and current situation was calculated for tomatoes based on estimated yields. It should be noted that there is still one more planting expected for most tomato farmers currently, and hence, the final average incomes will be higher than given in the table. Table 7 provides the average incomes for scheme, non-scheme SNL and TDL farmers by gender. In the baseline, the yields for scheme farmers are 12 MT and for non-scheme SNL and TDL farmers are 15 MT. These increase to 18 MT and 20 MT, respectively, as a result of CAPM. Incomes for male scheme farmers in the baseline are E1780 and currently E1733. The females have increased from E676 to E869.

It remains to be seen if this gender difference is real or an artifact of incomplete data. This table should be recalculated at the end of the current production season. Individual SNL farmers' incomes have increased from E3030 to E4848, which will

TABLE 4 Farmers Adding or Ungrading Irrigation Systems as a Result of CAPM by Area and Type of Farmer, as of the Start of the Winter Production Season, March 1993

		Men	Women	Total	
		N	N	N	% of total farmers in the category
<hr/>					
<u>Area</u>					
North	(non-scheme)	1		1	
Central	(individual SNL/TDL)	4	1	5	50.0
Southeast	(individual SNL/TDL)	9		9	47.4
<hr/>					
TOTAL		14	1	15	10.9
Northeast	(Vuvulane scheme in 1992)	1		1	??

TABLE 5 Farmers Hiring Labour as of the Start of the Winter Production Season, March 1993

		Men	Women	Total	
		N	N	N	% of total farmers in the category
<u>Area</u>					
North	(7 schemes)	14	2	16	16.5
Central	(1 scheme (individual SNL/TDL))	0	2	2	16.7
		3	1	4	40.0
Southeast	(individual SNL/TDL)	10	0	10	52.6
<hr/>					
TOTAL		27	5	32	23.2

TABLE 6 Farmers Obtaining Credit as a Result of CAPM as of the Start of the Winter Production Season, March 1993

		Men	Women	Total	
		N	N	N	% of total farmers category
<u>Area</u>					
Northeast	(Vuvulane scheme, 1992)	1		1	??
Southeast	(individual SNL/TDL)	10		10	52.6
<hr/>					
TOTAL		11		11	??

Table 7: Baseline and Current Hectarage, Yields and Income for Fresh Market and Nema 1400 Tomatoes by Type of Farmer

	BASELINE		CURRENT*	
	Scheme: Fresh Market Men = 28 Women = 15		Scheme: Fresh Market Men = 79* Women = 32*	
Total Ha	13.7	2.8	25.1	5.1
Est. Yield/Ha	12 MT	12 MT	18 MT	18 MT
Total Yield	164.4 MT	33.5 MT	451.8 MT	91.8 MT
Total Income	E 49,813	E 10,144	E 136,895	E 27,815
Average Income	E 1,780	E 676	E 1,733	E 869
	Non-Scheme: Fresh Market Men = 3 Women = 0		Non-Scheme: Nema 1400 Men = 20* Women = 0	
Total Ha	2.0		16.5	
Est. Yield/Ha	15 MT		20 MT	
Total Yield	30.0 MT		320.0 MT	
Total Income	E 9,090		E 96,960	
Average Income	E 3,030		E 4,848	
	TDL: Fresh Market Men = 1 Women = 1		TDL: Nema 1400 Men = 1* Women = 1	
Total Ha	0.25	0.8	2.0	Not
Est. Yield/Ha	15 MT	15 MT	20 MT	Growing
Total Yield	3.8 MT	12.0 MT	40.0 MT	Tomatoes
Total Income	E 1,136	E 3,636	E 12,120	
Average Income	E 1,136	E 3,636	E 12,120	

* There is yet another planting for most of these farmers

probably be higher and a significant difference. The data for the one male TDL farmer are interesting as it is the same farmer in the baseline (.25 ha and E1136) and currently (2 ha and E 12,120). His hectarage increased eight times while his income increased by 10 and a half times.

Projects can be assessed in terms of three variables for the inclusion of gender and women: (1) the potential for projects to incorporate women and gender; (2) the extent to which women and gender issues are explicitly mentioned in the project's documentation; and (3) the extent to which women are participants and project personnel (Spring 1993). Obviously, women farmers are a significant part of this project's client group, because of the incorporation of irrigation schemes organized by other projects; the one other non-scheme farmer said she was specifically recruited because she is a women; she also is a member of the CAPM Working Group.

There is, however, little in the project documentation on women or strategies for their recruitment. Women have also been involved in the market firms as owners, wives of owners, and workers, but these data have not yet been quantified. Of the current firms, the wife of the owner of Philani assists with the business and the owner of Entikini is a woman.

A strategy that targets women farmers could help develop the small farmer commercial sector in three ways: (a) distribution and equity; (b) production labor; and (c) welfare and nutrition.

First, it can be argued that it is easier to obtain product in greater volume from large farmers than from small ones. Yet, in order to develop the majority of the population, small farmers should not be bypassed, because it is more difficult to work with them or because questions of scale often predetermine lesser yields. Analogously, it may be easier to deal with male farmers than with female ones, but again the majority of the rural population would be discounted. Second, it is necessary to add women farmers to commercial farming because women already are doing commercial production on schemes in their own right and as wives of scheme and non-scheme farmers; in general, there are more women than men doing agriculture. If women participants or wives of registrants are not fully trained and participating in production and marketing techniques, crop production and quality are undermined. Third, from the point of view of the overall welfare of the country, a nutrition study carried out by the MOAC noted that children of SNL farmers had more stunting than those on individual tenure and that mother's education and income levels were correlated with children's nutrition. Mothers with higher incomes had fewer malnourished children. Commercial vegetable production impacts positively on women's incomes.

Therefore, from the point of view of the commercial sector itself, the development of women's production skills and entrepreneurship is critical in terms of keeping the production coming from smallholder irrigation schemes. In other places, women's conscientious work in farming has also been capitalized on in terms of seed and seedling selection and production, packing and grading, and record keeping.

In terms of the project staff, there are two local hire expatriate staff who are women, plus women clerical staff (these are usually excluded in assessing WID concerns). No long term technical staff member is a woman, and only one consultant was a woman whose report was problematic. One of six field assistants (FAs) is a woman; she was the only female applicant, and she was qualified for the position. A few Swazi have remarked that having additional women as part of the technical assistance personnel would be appreciated.

B. A Focused Rapid Rural Assessment of CAPM Farmers

A Rapid Rural Assessment (RRA) of a sample of farmers participating in CAPM was carried out specifically to assess the impact of the CAPM project on the farmers (see Annex C for the methodology and data tables) The RRA was a brief, but focused exercise to learn about the farmers' methods and needs and to allow them to assess the impact of CAPM on their farming systems.

Although the data were collected from the three areas that CAPM is currently working in, and recognition was given to distinctions of crops grown, the systems that were discerned from the RRA are based on types of farmers (group scheme versus individual) and their type of land holdings. This method allowed irrigation scheme farmers in the north and central areas to be grouped together, as were individual Swazi Nation Land (SNL) holders in central and southeast areas and title deed land (TDL) holders in central and southeast areas. Therefore, this analysis groups farmers in schemes, individual SNL and TDL. (If the Vuvulane scheme is used again, the scheme category would have to be sub-divided.)

1. The Rapid Rural Appraisal Sample

a. Group Irrigation Scheme Farmers

Group irrigation scheme farmers growing fresh market and Nema-1400 tomatoes, sweet corn, and green peppers were interviewed in three of 9 schemes--in the north at Mkhovo and Mavulandlela and in the central area at Embekelweni (n=12, 5 male and 7 female; this is a sample of 11 percent). Scheme farmers have limited amounts of irrigated land and little room for expansion or rotation. Diseases/insects on tomatoes are limiting factors in production as a consequence. These farmers have small hectarages, but are commercially oriented because of over 20 years of project enterprises and experiences--e.g., through IFAD projects and Republic of China extension assistance. Sales from primarily tomatoes and other vegetables provide the major income source for the farmers in the north, while off-farm/non-farm income sources are larger in the central area.

b. Individual Farmers on Swazi Nation Land

Individual farmers on irrigated Swazi Nation land (SNL), (n=5, all male; this is a sample of 26.3 percent) grow tomatoes (fresh market and Nema 1400), sweet corn, and green peppers as a result of CAPM. These are located in Malkerns in the central area and in Siphofaneni in the southeast area (two of several areas where

CAPM is working). All CAPM farmers in this category are men.

c. Individual Farmers on Title Deed Land

Individual farmers who own irrigated title deed land (TDL) (n=4, 3 male, 1 female; this is a sample of 50 percent), grow tomatoes (fresh market and Nema 1400), sweet corn, and green peppers. They are located in the Malkerns and Sidvokodvo in the central area and in Siphofaneni in the southeast area. All are men except for one women in Sidvokodvo.

2. Findings

a. Reasons for Joining CAPM

All farmers joined the project because of marketing considerations primarily. For scheme farmers technical assistance was a second priority, while non-scheme SNL farmers were also enticed by their loans being facilitated.

**b. Participation in CAPM Services
(Training, Credit, Technical Assistance)**

Virtually all scheme farmers have taken all the courses given in their area (see Table 3), while only a fraction list another project service (credit--two farmers). There were no gender differences. All farmers were invited to training events and SNL and TDL farmers have had some training, although less than scheme farmers, but they also mention the receipt of seedlings and credit as services received. The woman TDL farmer is hoping that CAPM can facilitate a loan for her and she particularly appreciates the technical advice of the FA, although at times she does not follow CAPM's technical recommendations.

3. Other Services Wanted from CAPM

Both scheme and non-scheme SNL farmers want support for their farmers' associations; this was the first and second reasons respectively. The type of support they imagine relates to transportation to attend meetings, assistance with drafting the constitution, and facilitation of substantive matters such as marketing. SNL and TDL farmers' first response, however, was a request for more technical assistance (for diseases and pests, water management, production, and marketing).

4. Changes in Production as a Result of CAPM

Scheme farmers mentioned more changes than non-scheme SNL farmers who have more changes than TDL farmers. Fifty percent or more of scheme farmers mention the programming of crops, changes in inputs, shift to new crops as the 1st, 2nd, and 3rd most important changes followed by changes in cultural practices (particularly plant spacing) and the receipt of higher yields. Non-scheme SNL farmers mention changes in grading practices, the shift to new crops, more inputs and cultivating larger areas in descending order. TDL farmers note only the shift to new crops and improved technical assistance.

5. Changes in Labour as a Result of CAPM

Both the non-scheme SNL and TDL farmers have had to hire more labour, especially for harvesting and grading as a result of CAPM, whereas the great majority of scheme farmers have had no increase (only two farmers increased their hired labour) mostly use their own and some family labour. There is a particular system in Embekelweni of groups of four farmers planting and harvesting each person's field in turn.

Some farmers have definite preferences towards hiring men rather than women while for other farmers, it is the opposite in terms of permanent laborers. In general, most hire both sexes, but there is a tendency for women to be hired for harvesting. Scheme farmers tend to pay in kind (mostly produce not taken by marketers), while non-scheme SNL and TDL farmers mostly pay in cash.

6. Programmed Production

Scheme farmers appreciate the programmed production and see its results. However, they do not think they can do programmed production on their own and have doubts as to whether or not a farmers' association or organization could coordinate this aspect. They see any management by peers as problematic.

7. Market Channels and Strategies

Scheme farmers have difficulty distinguishing NAMBoard and CAPM marketing services; some farmers are likewise confused about CAPM firms and FAs as market channels. However, a single discussion with the farmer is not enough to elicit this information carefully enough. All farmers use a number of marketing channels (NAMBoard, CAPM and hawkers and vendors are used by all farmers). However, only scheme farmers also sell to Indian traders. Only some of the SNL, but all the TDL farmers have their own vans, while none of the scheme farmers do. A few scheme and TDL farmers also had contracts with supermarkets.

Farmers strategize to supply all sources with product. They balance off price, immediate versus delayed payments, and whether or not all or part of the product is taken. CAPM is presently the second choice with some scheme farmers, who prefer the Indian traders who take everything for a lower price, while other scheme farmers prefer hawkers who pay immediately and the farmer is able to set the price. In this case, the hawkers only take part of the product, and the farmer does not have to grade the product.

8. Advantages of CAPM

Scheme farmers perceived marketing access and assistance as the overwhelming advantage of CAPM with production support and programmed production being mentioned to a much lesser degree. Credit was relatively unimportant with some farmers noting that they were happy that the project did not require them to take credit, so there were no inputs to repay. These farmers have long term experience on schemes to produce vegetables and other crops, however, many cannot distinguish between CAPM, and previous programs with services of IFAD and Chinese funded

projects. A number of farmers mentioned that it was too soon to tell and that CAPM was still on its best behavior (as reflected in the quote from the woman tomato farmer).

Drought and other weather conditions, have undermined some of CAPM's efficacy. It should be noted that those farmers who do understand all the services available, seem to obtain more services and have better results. No gender differences were observed, except that married women in the scheme in the central area are not interested in getting credit because their husbands' non-farm income is used to purchase inputs. This is not the case of scheme farmers in the north. Some women there appreciate getting credit in their own names (since at first credit was only given to the husband).

By contrast, the SNL farmers view both marketing and technical assistance as being important. They mention that CAPM knows more marketing channels, including South Africa, which they do not have access to, but the seedlings, training and encouragement from CAPM is highly valued. For some, the assistance of CAPM in getting credit loans is the major advantage. Two farmers mentioned that the time to receive bank loans was greatly decreased because of CAPM's assistance compared to their previous experience. An added benefit is in terms of a new visibility of these farmers; it was noted that the MOAC now knows about these farmers because of CAPM ("the Minister himself has walked on these lands").

TDL farmers also value the production assistance and assistance in obtaining seedlings given by CAPM, as they do not have extension agent advice; two have had loans facilitated. For some, the vegetable crops are new ones and they are enjoying the regular field visits from CAPM's field assistants. Still others are skeptical and say it is too early to tell if CAPM will produce the results they expect.

9. Constraints and problems with CAPM

All farmers see both marketing and production problems that may not be solved by CAPM. In terms of market problems and constraints, scheme and non-scheme SNL farmers are concerned about delayed payments, grading, and not understanding marketing firms. Scheme farmers are worried about not being able to market all of their product and receiving low returns, while non-scheme SNL farmers note the lack of competition for the same crop in terms of CAPM and that it is too soon to tell if there will be problems. This latter statement is echoed by the TDL farmers, who are also worried about market glut, price fluctuations, and delayed payments.

Farmers perceive production problems as secondary, although all farmers worried about diseases and pests. Scheme farmers have less land to rotate crops and to put in fallow, and diseases on tomatoes are increasing. Scheme farmers are particularly concerned about the costs of inputs and seeds, their lack of knowledge, access to inputs and the rotation, whereas SNL farmers are concerned about spacing and yields, with one remarking that he does not like programmed production as it is too restrictive.

The only problem mentioned by a TDL farmer has to do with hopes that CAPM will assist with a loan. Scheme farmers also mention transport and credit as constraints, and non-scheme SNL farmers mention credit and CAPM staff turn over as being problems.

An examination of the crops in their fields revealed that there are production problems for some farmers. In particular, some scheme and non-scheme SNL farmers have poor spacing and one TDL farmer used pesticides incorrectly.

10. Constraints External to CAPM

Both scheme and SNL farmers cite unreliable markets and vendors in terms of their non-CAPM crops. Scheme farmers are also constrained by the lack of farm machinery (they have to hire tractor services and share machinery such as the rotovator that breaks down) while SNL and TDL farmers are more concerned about water and irrigation systems, but they have their own farm machinery. In fact, the irrigation system in the schemes is communally worked on, upgraded by CAPM and other projects, while SNL and TDL farmers, who have a great deal more land than scheme farmers are always strategizing financially as to how to bring more land under irrigation, or to upgrade from furrow to sprinkler or drip systems. Both scheme and SNL farmers see diseases and pests as constraints, while TDL view transport for their non-CAPM crops as a constraint.

11. Farmers' Associations

Scheme farmers are accustomed to farmer associations, although there have been problems with task management and handling of funds. Previously, credit was given to the scheme association and defaults resulted due to poor production by some members. As a consequence, the association owned vehicle and tractor were taken to repay the loan.

Scheme farmers in the north are enthusiastic about the packhouse and have great hopes that it will provide "complete" market facilities and additional marketing options. However, they have concerns about transport of product from the other schemes to Mkhovu where the packhouse is located. They also think that there must be extensive training and support to the management system to sustain the packhouse.

SNL farmers have less experience with associations and their organizations are more rudimentary and still developing. All remarked that few farmers attend meetings and that there is not much organization. TDL farmers are not organized into associations, although membership in a national, commodity-based association would fit their interests.

12. Summary

Scheme farmers see the advantages of CAPM in terms of helping them with marketing; production aspects are secondary, probably because they have received technical assistance from the previous projects and from government extension agents. Their expectation is that CAPM will function as a firm in terms of pick up and

payment (and this is somewhat true of the individual SNL farmers). All see problems with late payments and transport. A question is whether or not some farmers will sell at farm gate for lower rates to get quick cash payments and thereby undermine various marketing strategies that involve delayed payments, such as the packhouse. There is the strong notion that all marketers should be supplied and multiple outlets may still be necessary for CAPM farmers, especially since they also market other crops as well.

Scheme farmers perceive themselves as doing commercial enterprises, but their production is circumscribed in terms of expansion by the size of the scheme (a few farmers did increase their land for CAPM crops by renting an additional plot from others). It is possible that continued cultivation without much rotation will cause declining yields. It should be determined as to whether or not more farmers could participate in producing CAPM crops and if there are additional crops to rotate with tomatoes (that are not in the same family group such as peppers).

Scheme and some individual SNL farmers have a limited range of understanding about the functions, methods and purpose of CAPM. Some think it is a marketing firm. Others think it is there to help with transport. Training on the nature, organization, and scope of activities (of projects, programs, firms of CAPM) is necessary to clear up misconceptions.

Individual SNL and TDL farmers have a greater capacity for increasing production by increasing their hectareage under irrigated cultivation. These farmers mostly are independent of each other, and not linked into any network or association. TDL farmers could be linked up into a farmers' association. These farmers are attuned to the market, understand and feel market shifts and gluts, however, they do need technical production assistance. They are able to strategize to obtain better prices and do not have to sell at the farm gate. CAPM has less effect on them in terms of production advice and crops, because they are already cultivating many crops and large areas.

C. Recommended Ways to Strengthen Potential Positive Aspects and Ameliorate Potential Negative Aspects

The purpose of this section is to make recommendations to assist in the redirection of the project and to suggest alternative strategies. First, although the project has grouped farmers by area (north, central and southeast) and size of holding, (less than 0.5 ha., more than 2 ha., and more than 10 ha.), it may be better to use scheme versus individual SNL and TDL farmers in terms of categories and strategies; recommendations here are based on these distinctions. There is little difference between SNL and TDL farmers in the central and southeast areas, and for scheme farmers in the north and central areas in terms of their problems. The latter will differ in terms of marketing venues as discussed below.

1. Scheme Farmers-North

a. Training Sessions

Develop training sessions that carefully explain the types of projects and services that exist. Scheme farmers confuse the services of CAPM, extension, and previous and on-going IFAD and Chinese-funded projects. Hence, they may confuse information about the packhouse unless it is clearly explained.

Develop training sessions on record keeping and farm finances for the farmers. A simple system that the farmer himself/herself can use is needed.

b. Packhouse Management

The farmers' organization to operate the packhouse needs careful structuring and nurturing. Detailed management training is required on how to organize and operate such an organization. This training should include information on:

- o How to structure representation between the schemes and between men and women on the board and in committees or governing bodies. Women need to be represented, and unless there are strategies for including them, it is unlikely that many (or any) will be elected. It is suggested that the number of women be proportional to the number of women in the area, but that some mechanism should be created that assures that at least 30 percent of the membership of boards or governing bodies be women to reflect their CAPM participation numbers.

- o How to keep records of members' production and sale.

c. Transportation

Transportation networks between Mkhovo where the packhouse is located and other schemes need to be worked out in terms of meetings and product collections.

d. Communication

To facilitate collections and payments, the possibility of having telephones should be explored. There is already one telephone at Mkhovo in the shed across from the packhouse, but if it is feasible to have these lines, at least two of them per scheme should be installed. Project funds have been expended on irrigation rejuvenation, but now that schemes have been renovated, and a number of individual SNL farmers have gotten loans to increase and upgrade their systems, the project should consider expending some funds to build communication networks to facilitate marketing activities.

Since roads are often poor and individual farmers and schemes scattered from the packhouse and markets, collections and information about buyers must be facilitated by communication about product availability. (It is noted that all large, commercial farmers have telephones that facilitate their contact with market agents, buyers, and input suppliers.)

e. Marketing Channels

There should be extensive discussions with the farmers about supplying various sources from the packhouse and by individuals. Because the farmers see advantages and disadvantages of the different market channels, it is likely that some will continue to use a number of them, even after the packhouse is in operation (and no matter what they presently say and promise--the pattern is just too ingrained). A determination will have to be made in terms of how this is handled. It should also be determined as to whether or not the Indian traders would use the packhouse to source. (We heard that elsewhere, when these traders were asked to make a contract commitment, they refused and did not return.)

Would the trader still hire a scheme farmer as a sourcing agent, as he does at present, or would this then go to the packhouse in general? Would the packhouse obtain the commission? Would there be some resentment from the farmer presently receiving this commission? As the Indian traders usually pay less, but take all, would the packhouse have different prices for different vendors based on grades and volume?

2. Scheme Farmers-Central (Embekelweni)

a. On-Site Packhouse

The feasibility of having an on-site packhouse should be examined; however, the proximity to NAMBoard and the present packing facilities of Entikini must be considered as well.

b. Farmer Training

These farmers also need training sessions that carefully explain the types of projects and services that exist and sessions on record keeping and farm finances. A simple system that the farmer himself/herself can use is needed. Additional training in programmed production and various production techniques is also needed.

c. Communication

To facilitate collections and payments, telephones should be installed.

3. Individual SNL Farmers-Central and Southeast

a. SNL Farmers' Organization

These farmers need extensive assistance in forming their farmer organization in terms of its constitution and by-laws, and in terms of the practical operation and record keeping of its activities. These farmers are scattered, and only a few have transport. Whereas they can take a bus or other transport to attend a meeting, it is inconvenient and time-consuming, and it is one of the reasons why the organization is not yet underway. Some attention needs to be given to ameliorating this constraint. Farmers in central area are closer to markets (NAMBoard, Entikini, Philani), but a strategy for market utilization needs

to be examined after the organization is constituted.

b. Communication

One way to address the distance and bad roads problem is to have a communication system that links the farmers with the FAs, marketing firms, and with each other. The feasibility of telephones and or radio phones to do this is critical. The central collection zones (CCU sheds) might be the locations for telephones.

c. Farmer Training

Farmers need training on record keeping and farm finances, so they can keep their own records.

d. Women Farmers

Undoubtedly there are women farmers who individually farm SNL and perhaps more than the one female participant who has TDL. A strategy for including more women is important and needs to be formulated and implemented.

e. Production Training

Additional training in production (especially cultural practices and pest management) is needed .

f. Loan Assistance

CAPM's assistance with bank loans should continue in order to assist farmers with additional irrigation and systems upgrades. This aspect of the project needs to be carefully monitored for impacts.

4. TDL Farmers-Central and Southeast

These farmers could easily join the national chapter of the Swazi Vegetable Association, and/or have their own local chapter. However, it is not anticipated that this would accomplish much. These farmers have transport, telephones, and access to capital. They do appreciate CAPM's technical expertise and assistance, even though they have access to technical advice from diverse sources including input suppliers, written materials, and government extension. They help to supply markets and could help in bulk input purchases, if these could be handled in a timely fashion. However, intensive coordination would be required, since these farmers are unlikely to find linkages to each other or to non-scheme SNL or scheme farmers useful or appealing.

VI. A Recommended Adjustment to the Approach

Before deciding to recommend a slight adjustment to the approach in implementing CAPM, the assessment team considered the following options:

1. Allow the Project to Terminate as Presently Scheduled

With this option, the lessons learned could be elaborated so that they could be taken into account in future activities, either in Swaziland or in similar situations in other countries. While much has been learned during implementation of the redirected CAPM, the fact that marketing firms have not become fully vertically integrated - that is, they have not provided the technical assistance to small farmers that was envisioned - indicates that the degree of sustainability and growth that was projected will not likely happen. This option is rejected by the assessment team in favor of an option described below which would build on what has been learned and which, with modest additional resources could achieve the sustainability and growth needed for a good payoff for the additional investment.

2. Extend the Project, but Maintain the Status Quo

With this option, CAPM would continue to work with Philani, would seek other similar firms to work with, and would concentrate on getting them to commit to the vertical integration concept and provide the necessary technical assistance to small farmers. The assessment team rejects this option because: (a) experience so far indicates that these "trading" firms, which depend largely on imported produce, are more comfortable remaining as trading firms than in working with Swaziland's small farmers to the mutual advantage of the firms and the farmers.

3. Form Farmers' Production and Marketing Organizations

This option would entail helping form organizations of small farmers who grow horticultural crops and helping them develop into fully vertically integrated entities that would be capable of producing quality vegetables; programming the production to assure a steady supply for the market; collect, sort, and pack the produce; and market the produce to the advantage of the organization's members. This model is used successfully in some countries - usually in more developed countries. This option was rejected by the assessment team because it would require an intense level of intervention for each of a number of organizations, for four to five years, to make them sustainable.

4. Set Up a New Marketing Firm Dedicated to Small Farmers

This option would entail establishing a new marketing firm that would have a relationship with small farmers, through nascent farmer organizations, and for which the firm and the farmers would have a mutuality of interest. It would be in the firm's interest to be in the camp of the farmers, and in the farmers' interest to be in the camp of the firm. This option would close the loop in the vertically integrated system and, therefore, bring CAPM closer to the original design concept. CAPM would

continue to work with and provide modest support to CAPM-related agribusiness firms. CAPM would also continue to encourage Philani to work more with small farmers. One variation of this option would be to try in addition to persuade Philani to add a Marketing Division to their company that would be dedicated to working with small farmers in much the same manner as the new marketing firm. The assessment team recommends this option which, with an extension of the project through the winter season of 1996, at a somewhat reduced level of effort, would assure sustainability and growth. Following is a more detailed outline of the suggested mechanism.

A. Objective

The objective is to develop a self-sustaining marketing firm in which the firm and small-farmer clients would be mutually dependent, through which existing resources and knowledge can be directed to provide the technical and marketing assistance necessary to ensure the continued growth of small farmer production.

At the end of the project, a private marketing firm will be in place to coordinate, program and provide technical assistance for production and marketing of small farmer crops. Small scale vegetable growers will be brought together into organizations whose charters permit them to contract. Technical and logistical services will be provided to the farmers' organizations by contract between the firm and the organization. Marketing fees, based on the sale of the members' produce by the firm will be the primary source of income to sustain the firm.

B. Methodology

Ideally, the project would continue for another three winter seasons ('94, '95, '96) so that a strong production base, marketing firm, farmers' organizations, and market linkages could be developed.

The project would continue to provide technical assistance in winter production of peppers, tomatoes, and sweet corn. One or two other crops would be developed for summer production and technical assistance provided.

The firm would be formed soon after the project extension was approved. The owner-managers of the firm would make the firm's decisions. The technical assistance team's Chief of Party would have veto power over major decisions, during the life of the project, to be used only as a check on the firm's going astray from its objective.

With the assistance of the expatriate long-term technical assistance, the marketing firm would develop a capability of providing:

- o Production advice and assistance (cultivation techniques, programming, etc.)
- o Provision of some inputs (fertilizer, cartons, etc.)
- o Postharvest assistance (harvesting, collection, packaging)
- o Quality assurance
- o Marketing (market development and sales)
- o Assistance in related areas (dealing with banks, GOS, etc.)

Farmers' organizations would be developed to provide an entity through which the services of the marketing firm can be provided and reduce the need to deal directly with individual farmers, except on production and other individual technical matters.

Each farmers' organization would contain a Board of Directors or other governing body and would have a secretary/treasurer whom it might have to support financially. This would most likely be a local man or woman who would be a part-time employee.

The areas considered for developing the farmers' organizations are, in order of probable emphasis: (a) the present production areas in the Northern Rural Development Area; (b) Siphofaneni, and (c) the Central Region. This is based on the present level of organization and technical competence of the small farmers. It is considered to be most beneficial to concentrate initially on winter production and marketing and stabilizing the marketing firm and organizations, while gradually developing a summer production and marketing program.

To accomplish this, CAPM's expatriate long-term technical assistance would probably consist of:

- o Production Specialist
- o Marketing Specialist
- o Business Organization and Management Specialist

One of these would be Chief of Party.

The remainder of the support and technical staff would be a modification of the present staff.

In the development of the marketing firm, and perhaps the farmers' organizations, services of the Small Business Growth Trust (SBGT) would be sought. Possible services would be in developing the firm's business plan, finance plan, and assessment of payout, and in carrying out audits. Pending development of the business plan, it may be desirable for SBGT to provide some venture capital to the marketing firm, in the form of equity shares that could eventually be purchased by the firm's owner-managers.

The marketing firm's primary source of income after the termination of the project would be from fees charged against receipts from sales of produce. Additional income could be generated from provision of inputs as a value-added fee, from a program of summer production and sales, or other sources which may be developed during the life of the project.

During the life of the project, the organizations should begin to absorb the cost of the marketing firm by paying an increasing amount during each season until, at the end of the project, they would assume the full cost.

It is expected that growth will derive from increased production by associated farmers who will increase production area and yields in response to increased income potential, new farmers who will, through a "demonstration" or "spread" effect, enter the program, and through the profit incentive to the marketing firm.

VII. Assessment of CAPM Monitoring and Evaluation System

A. Background to Current Situation

Prior to June 1992, general formats had been developed using Excel (Macintosh), mostly to track programmed production. Between June and October 1992, a system was designed (Baird 1992) that set up a comprehensive set of data collection forms including farmer and firm profiles, activity forms for FAs, monthly and semi-annual firm collection forms, etc. The system was "designed to meet project management information needs and reporting requirements and to provide information for national-level stakeholders." The system aimed to collect data (and included the instruments), measure progress of target groups, and provide adequate feedback information to project staff. All staff were to be involved in various ways, and a task and staff flow chart was prepared. In particular the data management department (DMD) had responsibility for preparing summary data from the data base for analysis.

A comprehensive plan was devised to develop a system based on the forms, and the data management specialist (DMS) attempted to prepare data capture screens. The FAs' activity reporting formats never took hold as they were not computerized. Modifications were made to the forms based on field experiences and new FA activity forms were designed. Data collection for the PIR report continued on Excel, while the dBase III Plus system (on IBM) was being developed.

A change in direction occurred in October 1992, when the production and marketing departments concluded that priority should be placed on getting a workable system, as opposed to operationalizing the system that was designed. It must be mentioned that there was concern about the summer production season and information flow was critical (advance notice is needed to organize inputs for farmers). Hence, there was a return to the Excel spreadsheet (Macintosh) for the programmed production and to alert those responsible for marketing as to when product was expected. The DMS then produced weekly planting reports for the FAs and weekly harvest reports for the marketing department.

However, the semi-annual project review in March 1993 showed that tracking of market sales was not being carried out satisfactorily. Subsequently, a new sales tracking system was designed consisting of a triplicate receipt book (with a copy for farmer, firm and CAPM) and the notion that CAPM's copy would periodically be called in and entered into the computer. The system went into operation the first week of June 1993 and a capture screen in dBase has been developed, although no data have yet been inputted. Also, a capture screen in Dbase has been developed for the Farmer Profiles and the available data have been inputted .

One problem at present is that there are many forms and formats, some of which have only incomplete data in terms of collection, others are only partially inputted on the computer. Furthermore, there are a number of lists of farmers that differ slightly from

each other which have been generated from the Profiles on the one hand, and from production lists on the other, so that it is difficult to carry out any analyses of the data.

The types of data required for the PIR have also driven the monitoring system, and include the following :

PIR Output

A.2	Total Sales of Companies
A.3	Production Programs by Farmer Disaggregated by Gender
A.4/A.5	Domestic Sales and Regional Exports
A.7/A.8/A.10	Training by Type and Category of Participant
A.9	Trials
B.1	Crop Budgets
D.1 -.4	Management Monitoring
E.4	Access to Institutional Credit
E.5	Training to Improve Business Management Skills
E.6	Irrigation Upgrades
E.9	Market Chain Improvements
E.11	Cash Incomes of Farmers
E.12	Number of Wage Laborers Hired

B. Regarding Social and Economic Data

The Farmer Profile contains essential baseline data on location, age, sex, literacy, land type, hectarage, irrigation type, transport, experience in farming vegetables (years, crops and areas), amount of marketable yield sold before CAPM, and proposed crops by area. It is critical to establish eligibility in the program and [technically] as a basis for evaluating project impacts. However, the completed Farmer Profile form is only available for some farmers, and was only inputted into Dbase III Plus as a result of this current assessment. Section V used these data to generate participation by land type and, attempts were made to use the data on age, transport, baseline crops and hectarages, and years of farming experience, but the data were scattered and incomplete.

The Farmer Profile could be improved by adding a section that updates the profile in terms of participation in CAPM. Information on irrigation additions and upgrades, and participation in CAPM services (training course participation, facilitation of credit), hectarages under cultivation, and about labour hired as a result of CAPM. This would facilitate monitoring and allow a real evaluation to take place that relates project impact in relation to baseline data.

Also on the subject of baseline data and changes as a result of CAPM, a big gap is the lack of income data. There are no measured data on income, either for a baseline situation or as a result of CAPM. To ascertain whether or not the income figures of E14,000 suggested in the PPA can be achieved, baseline data on farmers income (pre-CAPM and as a result of CAPM) must be collected, but have not been. Estimates were made for this

assessment by the horticultural specialist and a FA of current gross income from vegetable production by type of farmer (i.e., scheme, non-scheme SNL and TDL). Incomes are greatly differential with scheme farmers falling below E3,000, non-scheme SNL farmers falling in the range given by the PPA (E5,000 to E14.000), and TDL farmers greatly exceeding this figure (but there are only 8 TDL farmers and 97 scheme farmers!). The PIR (E.11) listed E6.706 as an actual average figure.

As data collection relates to PRISM targets, five Seasonal Assessment Forms were developed to track project targets. The first three related to financial, sustainable practices, and development of markets by the firms. Worksheet #4, Farmers Credit/Labour Analysis by Region relates to farmer's credit and labour and some of these data were made available to prepare the tables in Section V. However, they too were incomplete and it was difficult to obtain labour hours and costs; labour hired was not disaggregated by gender. Also, better information needs to be collected on credit as the types of credit may be quite different between scheme and non-scheme farmers. Data on training are properly collected and disaggregated by gender, type of training and category of participant.

C. Regarding Production and Marketing Data

Just as there is a farmer profile, so a Marketing Firm Profile form was prepared to collect information on employees, business start up dates and pre-project business information (financial indicators--turnover, net profit, liquidity). Not much was accomplished by these forms due to the small number of firms and in fact the section on business information was not filled out.

The Marketing Firm Semi-Annual Capabilities Assessment form uses a series of market service indicators, with a scale of 1 to 5 as to who is responsible, with the goal to move from CAPM to Firm full responsibility. Forms examined indicated that except for Philani which was rated as two on most variables, the others were at one (i.e., CAPM fully responsible). As there were only four/five firms and three have folded, data collection was minimal in both time and amount.

Summary data by crop are collected on Actual Areas Planted By Week forms for the production season that has the proposed and actual hectarages by area. It would be helpful to see these summarized in a table by production season, and also disaggregated by type of farmers.

The weekly planting report for Fas has been dropped and Fas are operating from the Production Program form, now listed by date, which appears confusing as farmers are listed over and over. Additional marketing forms have been introduced for tracking packing boxes and for rating crops.

An excellent addition to the forms is the new Crop Rating Form, that collects data by crop on diseases, insects, weeds and weed control, soil moisture. The form should add sex of farmers and hectareage. This form could become important for monitoring production problems, and should add "remedial actions taken."

The Monthly Visit Form should add a column for farmer number which will access gender and type of farmer in order to monitor visits and technical assistance delivered.

Another form, that is currently untitled and that was developed from the Visit Activity Form collects detailed production data on planting materials, area planted, variety, spacing fertilizers, fungicides, pesticides, estimated yields, grading and packing. This format is excellent, but the problem is that the Fas' use of them decreased because they had not been computerized. However, it was recently decided that they should be completed by the end of the season, but reviewed more frequently.

Perhaps its name should be changed to "Production Practices and Outcome Form" since it does not record what the FA does, but rather what the farmers' cultural practices and use of inputs are. The form is relatively simple and well laid out. It should be reviewed by the horticultural specialist and production advisor bi-weekly (and before the farmer's next programmed planting) in order to recommend changes in cultural practices and applications of inputs.

Projected Output Forms are based on actual plantings for each crop. It was not clear how the projected output and the real outputs are related to each other. One problem is that real yield data are elusive in that farmers sell their product to a number of sources, sometimes pay in kind, and utilize some for consumption. Nevertheless, there should be some systematic effort to relate amounts packed for and sold through CAPM market channels to projected yields, at least for selected areas. It is anticipated that even with a packhouse and farmer organization that manages it, a certain amount of product will be sold to hawkers. It would be useful to have an idea of these quantities presently and a method to measuring them in the new situation.

The Field Boxes forms should assist in tracking product output and were intended to be completed by anyone removing packing boxes from the central collection point. However, the mechanisms to relate the data by farmer and number of boxes back to any of the other data collected are unclear. This form, in any case, supplements the Produce Log Sheet, which is similar but has data on transportation that is intended to include vender/hawker sales. (The current Visit Activity Form, discussed above, also has a column for marketable yield and could be correlated with data on this sheet.)

As noted above, there needs to be some attention directed towards obtaining some accurate estimates of vender sales (this is as stressed in Section II A.4 of the PIR). A rough baseline on this needs to be determined before the project extension, as a way to monitor/assess the possible off-take from various CAPM marketing channels suggested in the project extension.

D. Summary and Recommended Changes

Although the project has obtained figures to match up with the outputs for reporting for the PIR, there is not a sense that baseline and current data form an adequate basis for assessing the project's impact. Because of production details, product pick-ups, and anxiety about supplying markets, there is a tendency to dismiss regular data collection of production and sales. This is part of the reason for the delayed and incorrect payments to some farmers as well. In addition there are several lists of farmers, and not all the data have been collected or inputted on the computer. Up until recently, the capture screens on Dbase III Plus had not been prepared.

CAPM management should have taken a stronger role in following up on this system, and needs to in the future. The staff needs to resolve the M & E situation in terms of data collection and what this means in terms of measuring project impacts, keeping track of production, marketing activities, and farmer payments. Presently, the project has a monitoring system, but lacks a system that analyzes and evaluates the results of production and sales and the impacts these activities make on project participants. Decisions about the difference between having useful systems to the staff and the requirements for reports needs consideration.

The staff must be convinced that collecting and analyzing information on production and sales is beneficial to their work. Subsequently, the FAs must spend more time on recording and collecting data and the technical assistance team must review the data collected and provide oversight to the DMS in terms of inputting them into the computer and compiling summary tables, cross tabulations, and various statistical manipulations to measure indicators.

1. Changes to Procedures

Time should be taken between the completion of this winter and the upcoming, (but slower) summer production season to complete collection and computerization of data. The gaps in the Farmer Profile forms should be corrected and capture screens developed by the DMS for the other data collected by the FAs.

A brief training course on data collection and analysis and differences between monitoring and evaluation should be held for the staff (TA team and FAs). There should be a return to the system set up by Baird, but with the modifications suggested here.

A systematic effort must be made to collect and input data from the new sales tracking forms.

2. Changes to Forms

The Farmer Profile could be improved by adding a section that updates information on irrigation additions and upgrades, participation in CAPM services (training courses, facilitation of credit), hectares under cultivation, and labour hired.

Farmer number (which will then link to gender and type of farmer) and hectareage should be added to the Crop Rating Form. This form could become important for monitoring production problems and a section on "remedial actions taken" should be added to it.

The Monthly Visit Form should add a column for farmer number (which will then link to gender and type of farmer) to monitor visits and technical assistance delivered by gender.

3. Changes in the Ways the Forms are Used

The Visit Activity Form should be reviewed by the horticultural specialist and production advisor bi-weekly to monitor cultural practices and to recommend changes in cultural practices and applications of inputs to farmers.

4. Additions to Types of Data Collected

Attempts must be made to collect income data and better data on sales outside CAPM market channels. A baseline needs to be established for new farmers in each of these, and then changes as a result of CAPM measured.

Data on farmer associations (membership by gender and location, activities, financial aspects, etc.) will have to be collected, computerized, and analyzed.

5. Changes to the Ways Data are Analyzed

The DMS should prepare summary tables such as given in Tables 2 to 6 on the remaining variables from the Farmer Profile forms and update all tables at the beginning and end of each production season.

The categorization system that groups farmers by type (scheme, non-scheme, SNL and TDL) as well as by area and gender should be maintained and data should be analyzed and reported in these categories.

The Chief of Party and production advisor (and perhaps others in the technical assistance teams) should provide oversight to the DMS in terms of data analysis, particularly in terms of measuring impacts and calculating indicators.

Annex A

Cost and Returns Tables

Table A-1

TOMATO (PER HECTARE)

NAME:

SEASON: Winter AREA: 1 ha
 CULTIVAR (Name): Floradade SEEDLING SOURCE ("Buy" or "Seedbed") Buy
 WATER (Elec, Diel, or None): None IRRIGATION (Furrow or Drip): Furrow
 SYSTEM (Trellis or Ground): Trellis WEED CONTROL ("Hand" or 'Sencor' or 'Lasso'): sencor
 YIELD POT. (Hi, Ave): Ave MARKET (CAPM, NAMB, OTHER): CAPM

INPUTS/ha	UNIT	AMT.	E/UNIT	TOTAL (E)	E/MONTH			
					1	2	3	4
Tractor hire (land prep.)	hrs	5.6	45.00	252	252			
Seedlings	1000	13.4	36	482	482			
(Seed cost)	1000	14.7	0.53	8				
Fertiliser								
2-3-2(22)	kg	952	0.75	714	714			
LAN	kg	71	0.60	43		43		
Labour	p-da	3		0				
Planting (labour)	p-da	15		0				
Weed control								
Chemical	p-da	8		0				
Sencor		4	75	300	300			
Disease and Insect Control								
Bravo (2)	lt	16	28.00	448	90	134	134	90
Dithane M45 (3)	kg	0	16.00	0	0	0	0	0
copper oxychloride (5)	kg	5	14.90	75		22	22	22
Malathion 25 wp(2.5)	kg	0	9.35	0	0	0	0	0
Curacron (1.5)	lt	6	37	222		111	111	
Talstar (.4)	lt	0.8	200.00	160	32	64	64	
Labour	p-da	12		0				
Irrigation				0	0			
Water/pumping	hrs	180	0	0	0	0	0	0
Labour	p-da	15		0	0			
Optional								
Trellis poles	ea	2084	0.80	1667		1667		
Trellis string	roll	10	60.00	600		600		
Trellis labour	p-da	12		0		0		
Harvesting (labour)	p-da	67		0				
Total labour	p-da	132.2	5.00	<u>661</u>	<u>165</u>	<u>145</u>	<u>165</u>	<u>178</u>
TOTAL PRODUCTION COSTS				5632	2035	2787	497	290
Packaging	ea	1200		0				
Transport	t km	100	0.10	240			72	168
Commission (12.5%)			0.000	0			0	0
MARKETING COSTS				240	2035	2787	569	458
TOTAL COSTS				5872				
Yield/gross returns	tonne	24	550.00	13200			4620	8580
NET RETURNS/ha				7328				

-511

Table A-2

BELL PEPPER (PER HECTARE)

NAME:

SEASON: Winter

AREA:

CULTIVAR (Hybrid or OP): OP

SEEDLING SOURCE ("Buy" or "Seedbed") Buy

WATER(Elec, Diel or None): None

IRRIGATION(Furrow or Drip): Furrow

SYSTEM(Bare,Plastic,Grass): Bare

WEED CONTROL (Hand or if Chem-'Sencor' or 'Lasso'): Hand

YIELD POT. (Hi, Ave): Ave

INPUTS/ha	UNIT	AMT.	E/UNIT	TOTAL (E)	E/MONTH			
					1	2	3	4
Tractor hire (land prep.)	hrs	5.6	45.00	252	252			
Seedlings (Seed)	1000 kg	24.7 0.25	36.00 220.00	889	889			
Fertiliser								
2-3-2(22)	kg	952	0.75	714	714			
LAN	kg	71	0.60	43		43		
Labour	p-da	3		0				
Planting (labour)	p-da	15		0				
Weed control								
Hand	p-da	28		0				
-		0	0	0	0			
Disease and Insect Control								
Ridomil MZ (1)	kg	6	70.00	420	84	126	126	54
copper oxychloride (5)	kg	10	14.90	149		45	45	45
mercaptotion 25 wp(2.5)	kg	5	9.35	47	12	12	12	12
Kelthane 18.5wp (2)	kg	0	26.35	0		0	0	
Labour	p-da	12		0				
Irrigation				0	0			
Water/pumping	hrs	180	0	0	0	0	0	0
Labour	p-da	15		0	0			
Optional								
Plastic mulch	m	8333	0	0	0			
- Labour	p-da	0						
Harvesting (labour)	p-da	21		0				
Total labour	p-da	94	5.00	470	160	94	141	75
Total Prod. Costs				2984	2111	319	323	216
Packaging		2500	1.45	3625				
Transport	t km	100		0			0	0
Commission (12.5%)							0	0
Marketing Costs				3625				
Yield/gross returns	tonne	15	750.00	11250			6750	4500
NET RETURNS/ha				4641				

60

SWEET CORN (PER HECTARE)

SEASON: Summer AREA: 1 ha
 CULTIVAR (Name): Snowbelle IRRIGATION (Furrow or Drip): Furrow
 WATER (Elec, Diel, or None): None WEED CONTROL ("Hand" or 'Gesaprim' or 'Lasso'): Hand
 SYSTEM (): MARKET (CAPM, NAMB, OTHER): CAPM
 YIELD POT. (Hi, Ave): Ave

INPUTS/ha	UNIT	AMT.	E/UNIT	TOTAL (E)	E/MONTH			
					1	2	3	4
Tractor hire (land prep.)	hrs	5.6	0.00	0	0			
Seedlings (Seed)	kg	10	80.00	800				
Fertiliser								
2-3-2(22)	kg	952	0.75	714	714			
LAN	kg	71	0.60	43		43		
Labour	p-da	3	5.00	15				
Planting (labour)	p-da	6	5.00	30				
Weed control								
Hand	p-da	28	5.00	140				
		0	0	0	0			
Disease and Insect Control								
carbofuran - 1X	kg	11	12.50	138				
Orthene 75wp - 1X	kg	2	65.00	130		130		
cypermethrin 20ec - 6X	lt	0.9	100.00	90		18	72	
cypermethrin-hi cis-6X	lt	0.25	150.00	38		38		
cypermethrin 20ec - 6X	lt	0.1	100.00	10	10			
Labour	p-da	12	5.00	60		12	48	
Irrigation								
Water/pumping	hrs	72	0	0	0	0	0	
Labour	p-da	15	5.00	75	26.25	22.5	26.25	
Optional								
Harvesting (labour)	p-da	10	5.00	50				
Total labour	p-da	74	0.00	0	0	0	0	0
TOT. PROD. COSTS				2332	750	263	146	0
Packaging	ea			0				
Transport	t km	100	0.00	0			0	
Commission (12.5%)			0.000	0			0	0
TOT. MARKETING COSTS				0	750	263	146	0
Yield/gross returns	cobs	28000	0.35	9800			9800	
NET RETURNS/ha				7468				

- 61 -

Table A-4

TOMATO (PER HECTARE)

NAME:

SEASON: Winter AREA: 1 ha
 CULTIVAR (Name): Nema SEEDLING SOURCE ("Buy" or "Seedbed") Buy
 WATER (Elec, Diel, or None): None IRRIGATION (Furrow or Drip): Furrow
 SYSTEM (Trellis or Ground): Ground WEED CONTROL ("Hand" or "Sencor" or "Lasso"): sencor
 YIELD POT. (Hi, Ave): Ave MARKET (CAPM, NAMB, OTHER): CAPM

INPUTS/ha	UNIT	AMT.	E/UNIT	TOTAL (E)	E/MONTH			
					1	2	3	4
Tractor hire (land prep.)	hrs	5.6	45.00	252	252			
Seedlings	1000	13.4	36	482	482			
(Seed cost)	1000	14.7	19.75	291	291			
Fertiliser								
2-3-2(22)	kg	952	0.75	714	714			
LAN	kg	71	0.60	43		43		
Labour	p-da	3		0				
Planting (labour)	p-da	15		0				
Weed control								
Chemical	p-da	8		0				
Sencor		4	75	300	300			
Disease and Insect Control								
Bravo (2)	lt	16	28.00	448	90	134	134	90
Dithane M45 (3)	kg	0	16.00	0	0	0	0	0
copper oxychloride (5)	kg	5	14.90	75		22	26	26
Malathion 25 wp(2.5)	kg	0	9.35	0	0	0	0	0
Curacron (1.5)	lt	6	37	222		111	111	
Talstar (.4)	lt	0.8	200.00	160	32	64	64	
Labour	p-da	12		0				
Irrigation								
Water/pumping	hrs	180	0	0	0	0	0	0
Labour	p-da	15		0	0			
Optional								
Trellis poles	ea	0	0.80	0		0		
Trellis string	roll	0	60.00	0		0		
Trellis labour	p-da	0		0		0		
Harvesting (labour)	p-da	56		0				
Total labour	p-da	109	5.00	<u>545</u>	<u>136</u>	<u>120</u>	<u>136</u>	<u>153</u>
TOTAL PRODUCTION COSTS				3532	2297	494	472	268
Packaging								
Packaging	ea	1000		0				
Transport	t km	100	0.00	0			0	0
Commission (12.5%)			0.000	0			0	0
MARKETING COSTS				0	0	0	0	0
TOTAL COSTS				3532	2297	494	472	268
Yield/gross returns								
Yield/gross returns	tonne	20	600.00	12000			4200	7800
NET RETURNS/ha				8468	-2297	-2792	937	8468

62'

Annex B.

Philani: Case Study of a Swazi Produce Marketing Firm

The owners/managers of Philani have been growing and marketing their own produce for several years. In 1990, they formed their own company, Philani Fruits and Vegetables of Swaziland, and opened a fresh produce wholesale trading business in October of that year, as an agent of NAMBoard. Philani's principal customers have been wholesale buyers in Swaziland and traders from Mozambique who come to Swaziland to procure supplies. The company sources produce from Swaziland and the Republic of South Africa. Philani buys the produce imported from South Africa - which is the bulk of its business - for its own account. Most of the produce supplied by Swazi producers has been on consignment.

Philani became a CAPM participant about the end of 1991. CAPM long-term advisors and short-term consultants have assisted Philani to develop a business plan and, in general, to strengthen the company's management and marketing capability. Following is a rough estimate of the number of person-days devoted to Philani during the past 1-1/2 years:

	Person-days
o CAPM long-term expatriate TA	85
o CAPM Swazi advisors	40
o Chemonics consultant (Mannion)	42
o IESC executive	42

As yet, the latest available version of the Business Plan, a draft dated December 1992, is incomplete; it does not have financial or income statements, per se, although it has projected cash flows. Philani's accounting firm is Ernst & Young. Philani has apparently indicated it will have a current financial statement by June 30, 1993. An updated Business Plan is in process that takes into account the contract to provide supplies to the UN in Mozambique.

CAPM has attempted to get Philani to vertically integrate by working more directly with small Swazi farmers, procuring increasing quantities of produce from them, and providing technical assistance with Philani field agents. Toward that end, the draft Business Development Plan dated December 1992 contains the following paragraph in a Memorandum to be signed by the owners:

We are committed to pursuing the plan as set down in this report. We see sourcing produce from Swazi growers for sale in the domestic and regional export markets as the means for diversifying our product line, broadening our customer base, and increasing growth of both sales and profits. Therefore, it is our intent to source an increasingly larger percentage of our produce from Swazi producers. We recognize that we need to structure our firm appropriately by strengthening our

62

sales force and working directly with growers in order to make this marketing and production strategy work. We plan to identify Philani growers and establish strong linkages with them. We plan to anticipate our sales in domestic and regional markets based upon identified local and regional demand and program production with our Swazi producers before they plant the crops. We will employ field agents as necessary to represent our company in dealings with our growers and work directly with farmers with whom we are linked. Our field agents will be trained in production and marketing and provide these services to growers.

The Memorandum of Understanding has not yet been signed, although CAPM advisors indicate they believe it will be. USAID has indicated that prior to approval of another requested short-term marketing consultancy assigned to Philani, the company must sign this MOU and must produce a financial statement.

The wife in this family company initially ran the company, while the husband worked full-time in another occupation; in early 1993 (late 1992?), he quit the other job to devote full time to the produce marketing company.

According to the International Executive Service Corp (IESC) executive who is assisting Philani under CAPM auspices, the owner/manager is pushing for orders in Swazi markets - he's picking up the reins. He is working for better sources for product. Business is increasing with the OK chain, and he's doing some business with SPAR. His strategy is to try for stable markets, and not try to wrestle with Gastaldis - not try to be king of the hill.

Philani had advertised in an attempt to obtain more business. As a result, the company was invited to submit a bid to supply fresh produce and other food supplies for the United Nations contingent in Mozambique. At Philani's request, the IESC executive helped put together a bid. Philani was awarded a contract in May 1993 which extends to October 31, 1993. For Philani, it is a relatively large contract. With help from CAPM and the IESC executive, it could put Philani in a stronger financial position and will certainly give the company some good experience.

The UN representative has indicated there will likely be an extension of their needs for another two years, and that it will be re-bid. Meanwhile, the IESC executive's approach with Philani is to try hard not to get the company in a position of debt for trucks and other capital assets, and to watch the cash flow carefully, to assure that it will be in a strong financial position on October 31, 1993, at which time it could consolidate at a reduced level of operations if the company does not get a renewal of the UN contract. Meanwhile, Philani has obtained a E200,000 line of credit to help finance the acquisition of produce.

Annex B

Philani's overhead - everything - runs about E12,000 per month, which the IESC executive considers to be quite reasonable. The owner/manager takes a salary and "the rest goes to the bank," as repayment on Philani's line of credit.

Annex C.
Methodology for the Focused Rapid Rural Appraisal

The social analyst asked and received permission from the Mission and CAPM project staff to carry out a rapid rural appraisal (RRA) as one means of assessing the impact of the project on various beneficiaries. An examination of the social soundness analysis, updated social analysis, and baseline formal survey suggested that a number of formal and informal methods of obtaining data had already been utilized.

Therefore, a comprehensive, multi-disciplinary method would be helpful in specifically assessing the impact of the CAPM project on the farmers. The RRA was focused on this assessment as opposed to being a general mapping of an area or the investigation of potential technologies. Other stakeholders in the project (CAPM project and staff members, extension personnel in the area, chiefs and traditional leaders, firms, hawkers, traders, input suppliers, and banks) are to be assessed separately.

A brief description of a methodology for carrying out a RRA was prepared that (1) contrasted the RRA method with a formal survey method; (2) discussed the purpose of conducting a focused RRA for assessment purposes; (3) considered farmers' selection criteria; (4) outlined the steps and procedures for carrying out the RRA; (6) delineated the topics that were to be assessed; (7) listed the major questions to be formulated and asked; and (8) provided guidelines for interviewing farmers. In particular, participants were cautioned that a RRA contrasted with a formal survey in that a formal survey has 100% data recovery, relies on questionnaires and survey instruments, is statistically valid and reliable and can use a stratified sample and form the basis for quantitative statements and projections.

By contrast, an informal appraisal has about 60% data recovery, is qualitative, but some general notions of frequencies can be determined, allows for gaining focused desired data and may be modified on the spot.

The Chief of Party (COP), horticultural specialist, production advisor, marketing advisor and all field assistants provided feedback. To conduct the RRA, two teams were formed which included the COP, marketing advisor, social analyst, field assistant for the area, and Mission staff member who is the BMEP project manager. The assessment took place in each of the areas that CAPM collects product. The teams met with twenty-one farmers in total over a three day period, with one day spent in each area. There were 7 farmers (4 female and 3 male) in the central, 8 farmers (4 female and 4 male) in the north, and 6 farmers (6 male) in the southeast.

Prior to the meetings, in cooperation with the horticultural specialist and field assistants for each area, farmers were pre-

selected (to maximize diversity, but to include typical situations). The social analyst prepared a format for recording the data, that formed the basis of the debriefing sessions which were held daily after each team completed its work.

Data on each farmer and basic similarities and differences were discerned during the session. Data were elicited on the following major topics and abstracted into the data tables that follow:

Farmer characteristics (location, association membership; age, sex, level of resources, education level, CAPM participant/non-participant, types and amount of CAPM crops)

1. Farmers' participation in and benefits from the CAPM project
2. Crops planted, before and during CAPM (CAPM and non-CAPM crops)
3. Changes in terms of labour and work patterns because of CAPM involvement
4. Participation in and benefits from CAPM training
5. Experience with inputs and membership in farmers' associations
7. Commercial orientation and marketing strategies utilized
8. Relative income and changes as a result of CAPM participation (these data were deemed too unreliable to report)
9. Assessment of CAPM: problems and constraints.

The categories of (a) scheme farmers, (b) non-scheme, individual SNL farmers, and (c) TDL farmers evolved from the analysis of the data and a consideration of the different farming systems. Tables C-1 to C-8 that follow are a compilation of the data collected by the three categories of farmers. Farmers were allowed more than one response.

TABLE C - 1

REASONS FOR JOINING CAPM**

REASON	SCHEME FARMER RESPONSES (N = 12)	INDIVIDUAL SNL FARMER RESPONSES (N = 5)	TDL FARMER RESPONSES (N = 4)
MARKETING	Marketing - 4 Increase Income - 1	Marketing - 3 Cash Flow - 1	Access to Markets - 1 Assistance - 2 Organized Market - 1
TECHNICAL ASSISTANCE	Beginning Vegetable Production - 1 General - 2		General - 1
INPUTS		Loans Facilitated - 1	
OTHER			Wanted a Woman Farmer - 1

** Multiple Responses Possible

TABLE C - 2

PARTICIPATION IN CAPM SERVICES**

CAPM SERVICE	SCHEME FARMER RESPONSES (N = 12)	INDIVIDUAL SNL FARMER RESPONSES (N = 5)	TDL FARMER RESPONSES (N = 4)
TRAINING	All	Field Assistance - 3 Courses - 2	All (Technical assistance more than courses)
CREDIT	2	3	
SEEDLINGS		3 (Planting Inputs)	

** Multiple Responses Possible

TABLE C - 3

ADDITIONAL DESTRED SERVICES FROM CAPM**

SCHEME FARMER RESPONSES (N = 12)	INDIVIDUAL SNL FARMER RESPONSES (N = 5)	TDL FARMER RESPONSES (N = 4)
Support for Farmers' Association - 2 Outlet for New Crops - 1	Technical Assistance and Training - 4 Disease/Pest Control - 3 Marketing/Cash Flow - 1	Technical Assistance and Training - 1 Production - 2 Marketing - 2

** Multiple Responses Possible

68

TABLE C - 4

CHANGES IN PRODUCTION AND LABOUR AS A RESULT OF CAPM**

SCHEME FARMER RESPONSES (N = 12)	INDIVIDUAL SNL FARMER RESPONSES (N = 5)	TDL FARMER RESPONSES (N = 4)
Input Changes - 7 New Inputs Used (including seedlings) More Inputs Needed Programming of Crops - 6 New Crops - 6 Higher Yields - 1 Changes in Labour - 2	Grading Produce Required - 2 More Labour Needed for Grading - 2 More Inputs Needed - 2 New Crops Grown - 1 Larger Areas Cultivated - 1	New Crops Grown - 1 Improved Technical Assistance - 1 More Labour Needed for Harvesting - 1

** Multiple Responses Possible

TABLE C - 5

ADVANTAGES OF JOINING CAPM**

ADVANTAGES	SCHEME FARMER RESPONSES (N = 12)	INDIVIDUAL SNL FARMER RESPONSES (N = 5)	TDL FARMER RESPONSES (N = 4)
MARKETING	Marketing Assistance - 6 Access to Markets - 5 Increased Sales - 1 Timely Payments - 2	More Channels - 4 (Knows the markets but can't cross the borders) Payments are Faster - 1 Direct Deposit - 1	Know the Markets - 2 No Worry About Markets - 1
TECHNICAL ASSISTANCE/ PRODUCTION	Production Support - 3 Programmed Production - 2	Seedlings - 3 Training - 1 Yield Increase - 1 Areas Increase - 1 Encouragement - 1	Seedlings - 1 New Line of Crops - 2 Regular Field Visits - 1 General Tech. Assistance - 1
OTHER	Transport - 2	"MOAC knows us" - 1	Too Early to Tell - 1

**Multiple Responses Possible

69

TABLE C - 6

MARKET CHANNELS CURRENTLY UTILIZED**

MARKET CHANNEL	SCHEME FARMER RESPONSES (N = 12)	INDIVIDUAL SNI. FARMER RESPONSES (N = 5)	TDL FARMER RESPONSES (N = 4)
NAMBOARD	11*	3*	2
CAPM	11*	4*	
VENDORS/HAWKERS	11*	5	3
INDIAN TRADERS	3		
CONTRACT WITH SUPERMARKETS	2		2
OWN VAN		1	2

*Some farmers could not distinguish

**Multiple Responses Possible

TABLE C - 7

PROBLEMS AND CONSTRAINTS WITH CAPM**

PROBLEMS AND CONSTRAINTS	SCHEME FARMER RESPONSES (N = 12)	INDIVIDUAL SNI. FARMER RESPONSES (N = 5)	TDL FARMER RESPONSES (N = 4)
MARKETING	Delay in Payments - 4 Low Returns/Prices - 3 Grading - 1 Not Taking all Product - 1 Doesn't Understand Terms-1	Delayed payments - 2 Lack of Competition of Firms for Same Crop - 1 Too Soon to Tell - 2 Friction with Marketing Firm - 1 Grading and Low-Grades Lett - 2	Market Glut Possible - 1 Price Fluctuations - 1 Delayed Payments - 1 Too Soon to Tell - 2
PRODUCTION	Disease & Pests on New Crops - 4 Costs of Inputs and Seeds - 1 Lack of Knowledge - 3 (Not enough production support) Access to Inputs - 1 No Room to Rotate - 2	High Costs of Inputs - 1 Diseases (Peppers) - 1 Spacing (Tomatoes) - 1 Programmed Production to Restrictive - 1 (Should be flexible) Yields not High Enough- 1	Wrong Technical Information - 1 (for Pest Regulation)
CREDIT	Doesn't Understand - 1 Needs More - 1	Bank Personnel Needs to Know More About Programme - 1 Staff Turnover - 1	No Credit Facilitated -1
TRANSPORT	Needs Transport - 1 CAPM Provides Transport but Should Not - 1		

**Multiple Responses Possible

TABLE C - 8

CONSTRAINTS OUTSIDE CAPM**

CONSTRAINTS	SCHEME FARMER RESPONSES (N = 12)	INDIVIDUAL SNL FARMER RESPONSES (N = 5)	TDL FARMERS RESPONSES (N = 4)
MARKETING	Markets Unstable - 3 Vendors Unreliable - 2	Vendors Unreliable - 2 NAMBoard - 1 Cash Payments could be robbed - 1	RSA undercuts Prices - 1
TOOLS AND EQUIPMENT	Government Tractor Service Unreliable - 2 Scheme Rotovator not Working - 1		
DISEASE/ PESTS	2	1	
WATER/ DROUGHT IRRIGATION		2	1
TRANSPORT			1