

MAHAWELI ENTERPRISE DEVELOPMENT

MED/EIED PROJECT

(USAID/Sri Lanka Project No. 383 - 0090)

(Contract No. C-00-0031-00)

COMMERCIAL DEMONSTRATION FARM INVESTMENT POTENTIAL FOR ATTANAKADAWELA

A short-term consultancy report
by
Dr Cedric R. De Vaz

August, 1992

Report 7/1992



INTERNATIONAL SCIENCE AND TECHNOLOGY INSTITUTE, INC.

WITH :

ERNST & YOUNG CONSULTANTS (Sri Lanka)
DEVELOPMENT ALTERNATIVES, INC.
HIGH VALUE HORTICULTURE, PLC.
SPARKS COMMODITIES, INC.
AGROSKILLS, LTD

CONSULTANTS TO THE MAHAWELI AUTHORITY OF SRI LANKA

The Mahaweli Enterprise Development Project

The Government of Sri Lanka and the international donor community have given high priority to the development of the natural and human resources of the Mahaweli river basin. The first phase of this development, the construction of dams, irrigation and power systems, roads and other physical infrastructure, is largely complete. The second phase, settling the land and forming an agricultural production base, is well under way. The third phase, the major challenge for the 1990's, is the building of a diverse and dynamic economy, improving employment and income prospects for Mahaweli settlers and their families. In this phase the private sector has a leading role to play.

The Mahaweli Enterprise Development Project (MED) is a USAID-supported initiative of the Mahaweli Authority of Sri Lanka to promote investment and business development in agribusiness, manufacturing, tourism, minerals and services. MED directly assists small, medium and large-scale investors with technical assistance, marketing support, training, business advisory services and credit. MED also provides policy assistance to improve access to resources, such as land, water and capital, and the legal and institutional framework for enterprise development.

The official MED implementing agency is the Employment, Investment and Enterprise Development Division of the Mahaweli Authority. The main MED technical consultancy is provided by a consortium led by the International Science and Technology Institute, Inc., a private consulting firm with head offices in Washington DC. Other firms in the consortium are Agroskills, Development Alternatives, Ernst and Young, High Value Horticulture and Sparks Commodities. Marketing services are provided by SRD Research and Development Group, Inc.

PN-ABM)-526

100 79605

MAHAWELI ENTERPRISE DEVELOPMENT PROJECT

ATTANAKADAWELA FARM

by

Dr. Cedric R. De Vaz
B.Sc. (Agri.); M.Sc. (Hort.); Ph.D.(Agri.)

AUGUST 1992

PREFACE

Dr. Cedric de Vaz, an agronomist, is a retired Deputy Director of Agriculture with extensive experience in agriculture and horticulture. He has prepared this MED information report on Attanakadawela Farm as part of the preparation by the MASL for offering this farm to the private sector for development. The views and proposals expressed in the report are those of the consultant and do not necessarily represent the views of ISTI, the MASL or USAID as the funding agency.

This report is based in good part on information provided by the staff and files of the MASL. However, frequent staff changes and incomplete documentation have contributed to serious gaps in the institutional memory and records of activities and performance on Attanakadawela Farm.

LIST OF ACRONYMS

CM	-	Centimeters
H	-	Hectare
KG	-	Kilogram(s)
MED	-	Mahaweli Enterprise Development Project
M	-	Meter(s)
Rs	-	Rupees

PERSONS INTERVIEWED IN COMPILING THE REPORT

1. Dr. Jim Finucane, Chief of Party, MED
2. Mr Jayantha Jayewardene, Deputy Chief of Party, MED
3. Mr. M.G. Suwaris, Block Manager, Mahaweli Office
4. Mr. U.K.B. Doleswela, Agricultural Officer
5. Mr. M.G. Ratnayake, Agricultural Officer
6. Mr. R. Jayaratne, Agricultural Officer

TABLE OF CONTENTS

	<u>Page</u>
PREAMBLE	01
1. FARM EXTENT	02
2. CLIMATE	02
3. SOILS	02
4. AVAILABLE FACILITIES	02
5. BUILDINGS & OTHER CONSTRUCTION	03
6. OTHER ASSETS	04
7. IRRIGATION	04
8. LABOUR	04
9. PAST CROPPING & RELATED ACTIVITIES	04
10. SETTLERS	05
11. RECOMMENDATIONS BY THE CONSULTANT	05
12. ADVANTAGES AVAILABLE	08
13. CONSTRAINTS	08
14. LABOUR	08
15. SUGGESTED FARM STAFF	09
16. SUGGESTED EQUIPMENT & TOOLS	09
17. FURNITURE & OFFICE EQUIPMENT	10
SUMMARY	10

ATTANAKADAWELA FARM

PREAMBLE

Attanakadawela farm with a chequered history is located in the North Central Province of Sri Lanka, in the District of Polonnaruwa. Administratively it falls into Block G of System B of the Mahaweli Project and lies midway between Giritale and Bakamuna, at a distance of about 16 Km either way. It was vested in the Mahaweli Authority in October 1982 and commenced activities as a Demonstration & Training Centre for Agricultural Officers and Farmers, where apparently ambitious programmes combining agriculture and livestock were introduced.

A wide range of exotic and local vegetables, together with other field crops are mentioned in the cropping programmes. Poultry, goats and cattle were also incorporated into the training programmes to make it more meaningful. The one and only "miscellaneous file" available for the past and present status of this farm, indicates that besides the sale of agricultural produce, yoghurt and curd made by the trainees at the centre, were also available to the public. However, as all good things must come to an end, subsequent mis-management and dire financial constraints triggered off the last rites, till finally the farm was closed down in 1990. The "miscellaneous file" indicates sale of seed paddy, piglings, goats, cattle, yoghurt etc. Unfortunately, no mention is made of details of sales and revenue earned, except in one instance where 3 head of cattle and 4 pigs were sold for Rs 16,525/- in 1990, prior to closing down of the farm. Mention is also made of the sale of goats and seed paddy, without any details of income.

Subsequent to its closing down, a private Dutch firm was given the lease of this farm in July 1990 for a period of one year, when sweet corn, gherkins, big-onion and chilli were cultivated. Since the departure of the Dutch, on the expiry of the lease, no activity whatsoever is reported. Currently, the farm lies totally neglected, with some unauthorized families occupying two of the three living quarters and also engaged in paddy cultivation on farm property.

During discussions with relevant officers, it transpired that the Mahaweli Unit Office and the Unit Manager's quarters constructed on one side of the farm and currently in occupation, cannot be released as farm property. Consequently, this land area of about 1/4 h comprising the office, quarters and roads will have to be deducted from the initial total farm area of 4.45 h. There is also another semi permanent building adjacent to the unit office which has been released for a sewing training centre for girls. However, at the discussions it appeared that this building could be given back to the farm after appropriate negotiations.

The farm has a perimeter fencing supported by impressive concrete posts, where some of the barbed wire need replacement. Overgrown shrubs and weeds are seen mostly along the perimeter fencing, while the rest of the farm appears in a reasonably good state for cultivation without too much weeding and clearing.

In close proximity to the farm is a Sub Post Office, School and a Rural Hospital, while about 16 Km away are two flourishing tourist hotels.

1. FARM EXTENT

(Without the area occupying the Mahaweli Unit Office and Quarters)

Paddyland	-	3.2 h
Highland	-	1.0 h
Total	-	4.2 h

It must be mentioned that even the paddy land can be used for the cultivation of other field crops during the Maha season due to its good drainage.

2. CLIMATE

No climatic data is available at the Farm. However, it was mentioned that the average rainfall was about 170 to 225 cm per year, mostly during the North East monsoon.

3. SOILS

They belong to a combination of reddish brown earths and low humic gley soils with an undulating terrain. The soil pH may vary from slightly acid to neutral. During the period the farm was given on lease to a Dutch firm, the drainage in the lower paddy land section has been considerably improved and re-structured. Consequently, other field crops can be grown in the paddy area, even during the maha season.

4. AVAILABLE FACILITIES

The farm is well connected by a good macadamized highway, with a distance of about 16 Km to two main towns, namely Giritale and Bakamuna. The dirt road encircling the farm perimeter is in good condition, excepting at one point, where a culvert needs minor repairs.

Electricity supply is already available at farm site, where it has been connected to the three houses.

Telephone facilities are not available in the farm. However, in close proximity to the farm is the Sub Post Office which has this service, from where it can be obtained to the farm, without many problems.

5. **BUILDINGS & OTHER CONSTRUCTION**

- a) The Mahaweli Unit office, the Unit Managers quarters and a Watchers room have not been taken into consideration, as the Consultant was informed during discussions that these buildings will not be released as farm property.
- b) Two residential quarters, constructed with brick and cement and asbestos roofs, measuring 6 m x 9.75 m each, consisting of two rooms, a toilet and a kitchen. Both quarters are provided with electricity, without water service and are currently occupied by unauthorized personnel.
- c) One unoccupied residential quarters, measuring 8.5 m x 6.7 m, with an additional extension of 6 m x 3.6 m. Electricity is provided, without water service.
- d) Cattle shed - A permanent well constructed tiled roof building, with brick and cement, measuring 6 m x 4.8 m, provided with feeding bins. It requires very little repairs to drains and verandah.
- e) Calf shed - A brick and cement permanent building, without a roof, measuring 3.6 m x 7.3 m.
- f) Stores
 - i) A solidly constructed building, with bricks, cement and an asbestos roof, 7.3 m x 18.3 m, with two large metal folding doors, a large hall, well cemented floor and provided with electricity.
 - ii) Another well constructed store with brick and cement and an asbestos roof, 17 m x 7.3 m, with two large wooden doors.
- g) Semi-permanent building - 9 m x 22 m, currently housing the sewing training centre. Half walls with brick and cement, enclosed upto roof level with mesh. No electricity or water service supplied to building.
- h) Goat/poultry shed - A semi-permanent building, 7.3 m x 4.8 m, with half walls of brick and cement. Roof and walls need extensive repairs.
- i) Other constructions
 - i) Two wells, with plenty of water. One well has an electric pump, for water supply to Unit Managers quarters and Office.

- ii) A fish/duck pond, currently run dry, measuring about 20 m x 30 m x 3 m. Can be easily brought into use.
- iii) An abandoned meteorological set up, where only the wooden stands remain.

6. OTHER ASSETS

- a) There is no record of any equipment or machinery available in the farm.
- b) There are no standing crops, except for some large trees of margosa (30), tamarind (4) and coconut (7).

7. IRRIGATION

Officially, water is released according to approved cultivation programmes of the System B farmers. However, during discussions it was revealed that considering the small area of the farm, the sinking of a few wells would cater to all the water requirements, should this need arise. In general, it can be stated that there should be no problems with irrigation, as the farmers cultivate their fields for both maha and Yala seasons.

8. LABOUR

Both male and female labourers are available in plenty at wages of Rs. 80 to 100 per day.

9. PAST CROPPING & RELATED ACTIVITIES

Considering the initial status of the farm, which was essentially a Demonstration & Training Centre, there is no record of regular cropping programmes. However, available records indicate that vegetable nurseries for supply of seedlings to farmers and the production of seed paddy were the official activities. The Dutch firm who had taken the farm on lease had introduced sweet corn, gherkins etc. Unfortunately, the final outcome of the venture remains unknown, due to lack of any records.

There was also an integrated livestock programme, where cattle, goats, poultry and pigs were maintained.

Trainees were exposed to general principles of rearing livestock and also the manufacture of curd and yoghurt as a cottage industry. Sadly, no records of any of these meaningful activities are available for future guidance.

10. SETTLERS

There are 570 registered families in this area, owning 3.2 h each, of which 2 h are paddy land and 1.2 of highland. Cultivation of paddy and other field crops is done throughout the year.

11. RECOMMENDATIONS BY THE CONSULTANT

- a) Considering the limited land area of the farm, the intensive cultivation for the production of exotic and local vegetable seedlings to meet the large and steady demand of farmers not only in the vicinity, but also from other areas in the outskirts like Minneriya, Naula, Hingurakgoda, Polonnaruwa etc. is recommended. These seedlings should include chilli, tomato, egg-plant, capsicum, big-onion, cabbage and knol-khol. The price of seedlings can range from 15 to 25 cents each.

The cost of vegetable seeds of local varieties which can be supplied by the Department of Agriculture at Peradeniya is given below.

<u>VEGETABLE CROP</u>	<u>VARIETAL NAME</u>	<u>COST PER KG IN RUPEES</u>
Egg plant	SM-164 or Tinevelly	580/-
Capsicum	CA-8	1,400/-
Tomato	Biansz, or T-146 or KWR	1,550/-
Chilli	MI-1	750/-

All exotic varieties have to be purchased from the private sector outlets, whose current prices are indicated below.

<u>VEGETABLE CROP</u>	<u>VARIETAL NAME</u>	<u>COST PER KG IN RS</u>
Cabbage - hybrids	YR Cross	14,000/-
Knol-khol		750/-
Beetroot	Crimson Globe	900/-
Big onion	Red Creole	1,500/-
Capsicum	Hungarian YW	2,250/-

- b) Any unsold seedlings should be planted in available areas in the farm to ensure extra income and eliminate losses incurred for purchase of seed, fertilizer etc. The Officer-in-charge should judiciously plan for the entire farm area to be planted each season by raising additional seedlings, if those planted for sale are not in excess.
- c) Production of seed paddy with popular local varieties like BG-300; BG-34/8; BG-34/6; BG-379/2 etc. every two years, can bring in a substantial income where yields of over 225 bushels per hectare can be expected. There apparently is a big demand locally for seed paddy.
- d) A judicious crop rotation programme must be implemented to derive the full benefits of this high potential limited land area. The crops suggested are, exotic and local vegetables, green gram, big-onion, groundnut, gingelly and paddy. It must necessarily be emphasized that paddy rotation will control some serious soil borne diseases, eg. Bacterial wilt (Pseudomonas solanacearum) which is a limiting factor for extended and successful cultivation of tomato in Sri Lanka. Under the flooded conditions prevalent for paddy cultivation, the survival of the bacterial wilt causing organism is greatly hampered, giving a new lease of life to the soil.

Consequently, a tomato crop planted immediately after the harvest of the paddy, with appropriate drainage precautions, will produce a bumper harvest of export quality tomatoes.

Similarly, big-onion and groundnut as rotation crops, besides assuring substantial returns, are also considered good "cleaning crops", where after the harvest the land needs very little or no preparation for a subsequent planting.

- e) Except for cabbage, knol-khol and big-onion seed which have to be purchased every season, all other local varieties like chilli, egg-plant etc. can be obtained from the farm produce. Any excess of such seeds produced in the farm will find a ready market amongst local farmers who may prefer to raise their own seedlings.
- f) There is a regular and good demand for day old chicks (layers). Currently, an average figure of about 10,000 chicks are requested annually only for the Bakamuna and Elehera areas, which are supplied either from Colombo or Gampola. It was revealed at the discussions that if "day olds" are available in larger numbers, even upto 50,000 chicks per year can be sold to neighbouring areas like Minneriya, Naula etc, where again the demand is appreciable. The investor in this instance can opt to be an agent for a private firm already involved in this business and maintain parent stocks in the farm, together with incubators of appropriate capacity for hatching the eggs. There is also the added advantage in this exercise by the free and easy availability of poultry litter, which is believed to have a deterrent effect on the survival of nematodes (*Meloidogyne* spp.) which are an acknowledged yield reducing hazard to most crops grown in Sri Lanka.
- g) The abandoned duck pond can be revived to raise ducks for flesh. As the initial expenses for this venture will be mainly for the purchase of ducklings and their feeding, it appears a viable proposition.
- This enterprise could well be linked with the proposed "day old chicks" programme referred to in (f) above, where parent stocks of ducks can be maintained in the farm and the eggs hatched in the available incubators.
- h) There is a strong demand for popular varieties of budded and grafted plants of mango, citrus etc. The existing building where the sewing training classes are conducted would make an ideal plant propagation house, with little renovations.
- Currently, budded plants are brought from outside areas in very limited quantities and sold at Rs 40/- each. The availability of local mango varieties in abundance will provide root stock material at a very cheap rate, for budding or grafting of recommended and popular scion varieties.
- i) There is a long stretch of internal farm roads which can profitably be planted with a few hundred trees of papaw, to obtain a bonus income. The current local price for one Kg of papaw is Rs 5/- and apparently there is a good demand at the surrounding tourist hotels and local weekly fairs.

- j) An enterprising and a dedicated Officer-in-charge has also the possibility of diversifying into mushroom production, which was mentioned as a popular food item amongst the local population. It is in instances like this, that a profit sharing scheme will pay dividends to the investor.

12. ADVANTAGES AVAILABLE

- a) There are no records of problems created by encroaches or theft. Consequently, the management of the farm should be easy.
- b) Electricity is already available on site. Telephone and water connections should be available with minimum effort.
- c) There are 3 "polas" (village fairs) held weekly, at Diyabeduma, Naula and Bakamuna, where farm produce can have a ready outlet at better prices than at the farm gate.
- d) The available living quarters and other buildings are quite adequate to cater to the recommendations suggested by the Consultant.
- e) There is a good network of macadamized roads connecting the farm to major towns and it also lies in close proximity to a Sub Post Office, School, Rural Hospital and two flourishing tourist hotels.
- f) The soils, drainage and climate are ideally suited for an intensive multiple cropping programme.

13. CONSTRAINTS

During discussions with relevant Officers, it was revealed that this area is visited by a herd of elephants during the paddy ripening period.

Reasonable control of this menace has been achieved by resorting to the lighting of crackers and other noise creating mechanisms. This may be a factor to be reckoned with, and appropriate strategy will have to be adapted to circumvent this hazard.

14. LABOUR

No permanent labour is currently attached to the farm. Casual labour is available in plentiful at Rs 80 to 100 per day.

15. **SUGGESTED FARM STAFF**

- a) An Officer-in-charge, with experience in farm management with a Diploma in Agriculture.
- b) An assistant to the Officer-in-charge, whose duties will include supervision of labour, maintaining of stores, sales, purchases, check roll etc. He should also have some exposure to poultry management, should the investor decide to diversify into the business of day old chicks.
- c) three watchers, working in 8 hour shifts.
- d) One permanent poultry labourer, depending on whether the production of chicks is to be undertaken.
- e) Casual labour, depending on work load per day.

16. **SUGGESTED EQUIPMENT & TOOLS**

Mammoties	15
Mammoty forks	10
Pruning knives	06
Watering cans	10
G.I. Buckets	04
Hand forks	06
Knap sack sprayer	01

Two wheeled hand tractor, trailer, rotavator and mould board plough.

17. **FURNITURE & OFFICE EQUIPMENT**

Writing tables	02
Office chairs	06
Filing cabinet	01
Iron safe	01
Typewriter	01
Stationery, stapler, puncher etc.	

SUMMARY

In summary, Attanakaduwela farm with its unique setting in close proximity to major towns and flourishing tourist hotels, has the added advantage of an assured water supply for year round cultivation, a soil and climate suited to diverse cropping and an uninterrupted labour availability. An enterprising and a dedicated Officer-in-charge, with appropriate support from the investor, should be able to undertake a wide range of income generating activities like, sales of vegetable seedlings, day old chicks, seed paddy, papaw, mushrooms and other high valued crops like green gram, gingelly and quality tomatoes, where a ready market will be available considering the envisaged modest production.

