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MAHAWELI ENTERPRISE DEVELOPMENT

MED/EIED PROJECT

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COMMERCIAL DEMONSTRATION FARM INVESTMENT POTENTIAL FOR KATTAKADUWA/ERAMINIYAWA

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

August, 1992

Report 10/1992



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.

MAHAWELI ENTERPRISE DEVELOPMENT PROJECT
KATTAKADUWA/ERAMINIYAWA
SEED FARM

by

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SEPTEMBER 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 Kattakaduwa Seed 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 Kattakaduwa Seed 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 N. Wijewarnasuriya, deputy RPM, Embilipitiya**
4. **Mr A.D.J. de Silva, Acting Block Manager**
5. **Mr U.K. Sugathadasa, Field Assistant**
6. **Mr D.H. Sugunapala, Farm Manager**
7. **Mr A.G. Dayananda, Unit Manager**

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KATTAKADUWA SEED FARM

PREAMBLE

Kattakaduwa Seed Farm is situated in the Southern Province of Sri Lanka, in the District of Hambantota, at an elevation of about 52 meters above sea level. The farm is approximately 3 km from Angunukolapelessa which is the closest town and about 1 km from the Mahaweli Block Office. Angunukolapelessa provides many basic facilities to its inhabitants, which include a rural hospital, state bank, primary law courts, Maha Vidyalaya, police station, post office and a regional agricultural research station of the Department of Agriculture.

The farm was taken over by the Mahaweli Economic Agency in 1982 from the River Valleys Development Board. Subsequently, frequent staff changes, severe financial constraints, amateurish management and lack of positive planning appear to have contributed to its ultimate demise. Currently, the farm lies totally neglected, with weeds and shrub jungle covering most of the land.

The farm consists of two blocks totalling 7.5 h on adjacent sides of a motorable dirt road, one section being irrigable (1.8 h) and the other highland (5.7 h). In the irrigable extent, except for a banana plantation which is struggling for survival, weeds and shrubs have completely taken over to the point of concealing the coconut seedlings interplanted in this area. There appears to be no farm roads or footpaths, as none can be identified due to profuse weed and shrub infestation.

In the highland area several varieties of grafted mango continue to grow inspite of neglect and recording an income of Rs. 20,000/- during 1991. This area has also been interplanted with woodapple which amply manifests the ability of the species to survive under appalling conditions. It is of significance, that the older king coconut trees and some mango grafts of the variety Willard, show encouraging growth and spectacular fruit production inspite of gross neglect.

The perimeter is demarcated in both block by concrete posts. However, in the highland area there is no barbed wire, while in the irrigable block, most of it is missing. Unauthorised inroads to the highland area from surrounding private holdings are many. There apparently is no day watcher, thus encouraging theft of the available produce of mango and woodapple.

1. **FARM EXTENT**

Highland	5.7 h
Irrigable	1.8 h

Total	7.5 h
	===

2. **CLIMATE**

Rainfall which is mainly during the North East monsoon is indicated below:

1991

<u>Month</u>	<u>Rainfall in mm</u>
January	128.5
February	nil
March	49.0
April	84.0
May	118.0
June	134.5
July	55.4
August	47.0
September	29.5
October	150.8
November	52.0
December	115.9

Temperatures range from a maximum of around 34°C to a minimum of about 26°C.

3. **SOILS**

They belong to a combination of reddish brown earths and low humic gley soils. Based on observations of standing crops in the farm, vegetables, paddy and fruit crops can be successfully incorporated into a successful cropping programme. judicious rotations with legumes like soya, green gram etc. can significantly improve soil status to sustain an intensive cropping schedule.

4. AVAILABLE FACILITIES

a) **Roads**

Angunukolapelessa which is the nearest town to the farm is about 3 km away and linked by a good macadamized road upto the Mahaweli Block Office which is about 1 km from the farm and connected by a motorable dirt road, referred to as 'Track 18 field road.

b) **Buildings**

The office cum living quarters is a well constructed building with a brick, cement and a tiled roof. No water service or electricity is provided. Water for domestic use is supplied by a bowser from the Mahaweli Block Office. The building consists of 2 rooms, a kitchen, sitting room and a toilet, with its overall dimensions being 10 x 8 m.

The stores is a semi permanent structure with zinc roof and protected on the sides also by zinc sheets with dimensions of 11 x 6 m.

5. OTHER CONSTRUCTIONS

- a) A drying floor constructed adjacent to the stores and measuring 8 x 6 m which needs resurfacing.
- b) A long abandoned plant house, with only the tops of 50 concrete post visible and almost fully covered by weed and shrub jungle.
- c) A non-functional and abandoned bio gas unit, consisting of two cylindrical concrete structures embedded in the soil and another rectangular contraption covered with soil and debris. Interestingly, the date embossed on the concrete indicates 11 December 1982.
- d) A well behind the office, not in use.

6. ASSETS

A hand tractor, mould board plough and a rotavator belonging to the farm have been removed to the Block Office for safe keeping, as indicated during the discussions.

7. IRRIGATION

Based on information provided at discussions with relevant officers, there should be no serious problems on supplementary irrigation for a successful cropping programme.

Due to the relatively small irrigable area available of 1.8 h water could be obtained to sustain year round cropping. Channel irrigation by gravity flow is practiced. However, due to non-use and neglect, the channels are obscured and need adequate cleaning prior to providing an efficient irrigation system.

8. LABOUR

There is ample labour, both male and female available throughout the year with daily wages of Rs. 53.50/- for casual employment and Rs. 77.30 for those employed over 21 days per month.

9. PAST CROPPING

Seed production in paddy, chilli and soya have been included in the cropping programmes which terminated in Maha 1991/92 due to the closing down of the farm. Discussions revealed that sudden cuts in the budgets, with no prior warning seriously hindered the successful completion of cropping programmes. The current permanent standing crops in the farm include the following:

<u>Crops</u>	<u>Number of trees</u>
Mango	427 (18 varieties)
Woodapple	139
King coconut	06
Coconut	21
Jak	09
Banana	400 (Kolikuttu and Embul)

The other trees include, mangoes - 202 trees and teak 05 trees.

10. SETTLERS

There are 2334 registered allottee families in the Angunukolapellesa block, with an average holding size of about one hectare. Cultivation of paddy and other field crops is done in both Maha and Yala seasons.

11. CONSTRAINTS

- a) Lack of electricity, telephone and water services to the farm.
- b) Absence of perimeter fencing around most of the farm area encourages unauthorised entry of people and consequently theft of farm produce, specially mango and woodapple.
- c) Prolonged neglect of the farm and the rank overgrowth of weeds and shrubs will make it an expensive and difficult task to bring the land area and irrigation channels to a productive state.
- d) The 427 mango trees are reported to consist of 18 varieties of unknown origin. Most of these plants can be unproductive and therefore uneconomical.
- e) The method of interplanting woodapple in the mango orchard leaves much to be desired. There will be serious competition for growth and development of both species.

12. CURRENT FARM STAFF

No casual or permanent labour is attached to the farm, except a night watcher. A field assistant attached to the Mahaweei Economic Agency Block Office at Angunukolapellesse oversees this farm.

13. RECOMMENDATIONS BY THE CONSULTANT

- a) Intensive cultivation of the very limited irrigable land area with vegetable plant nurseries which should include chilli, eggplant, capsicum, big onion, cabbage, beet root and knol knol. the current cost of seed is given below:

<u>Vegetable crop</u>	<u>Variety</u>	<u>Cost in Rs/kg</u>
Egg plant (brinjal)	SM-164	580/-
Capsicum	CA-8	1,400/-
Tomato	Biansz or T-146 or KWR	1,550/-
Chilli	MI-1	750/-
Big onion	Red Creole	1,500/-
Beet-root	Crimson Globe	900/-
Capsicum	Hungarian YW	2,250/-
Cabbage hybrids	YR Cross	14,000/-

The Department of Agriculture can supply locally produced seed of some of the varieties, while all exotic types will have to be purchased from the private sector.

- b) All unsold seedlings should be planted in vacant areas of the farm to ensure extra income and also totally eliminate losses incurred for purchase of seed, fertilizer etc.
- c) Except for exotic seed like cabbage, beet root etc, which have to be purchased every season, all other local varieties, like chilli, egg plant, etc can be obtained from the farm plantings. Any excess vegetable seeds produced in the farm can also be sold locally to farmers who may wish to raise their own seedlings.
- d) Judicious rotation of crops, specially legumes like green gram should figure prominently in the cropping programmes.
- e) The paddy area can be gainfully cultivated to produce seed paddy, for which there is a ready local demand. The paddy crop can be rotated with a high yielding tomato variety which should be able to circumvent the serious constraint of the bacterial wilt disease due to the semi aquatic conditions for the paddy crop, restricting or eliminating the survival of the organism. It must necessarily be emphasized that in this approach only the creation of anaerobic soil conditions need to be exploited for its success. Consequently, if serious soil problems are envisaged due to puddling of low humic gley soils, which subsequently may not be the ideal for the cultivation of other field crops, water can only be impounded in these fields for a few weeks, without any puddling or actual paddy cultivation. This exercise will also significantly reduce and control the weed population.
- f) There is a very good demand for budded and grafted plants of mango and citrus. Some of the varieties of mango already available in the farm like Willard, Karthacolumban and Velaicolumban can serve as excellent sources of bud wood. The raising of root stocks for budding and grafting, from locally available cheap mango seeds, will also be a distinct advantage. The abandoned plant house in the farm can be renovated to successfully raise these plants.
- g) The uneconomical unproductive mango trees in the farm, can be top-worked with desired varieties to gainfully generate substantial income, from hitherto non-bearing trees.
- h) As indicated during discussions there is a potential for the sale of eggs to the local population. An egg producing unit, with 250 pullets will be an asset to this farm, both by way of income from the sale of eggs and also the free and easy availability of deep litter manure to enrich the land area with organic matter to sustain an intensive cultivation programme. There is also a belief that poultry

manure is a repellent to the survival of nematodes, Meloidogyne spp. which are an acknowledged hazard to most crops grown in Sri Lanka. This programme will also gainfully employ the watchers who have to be employed round the clock, in 8 hour shifts to safeguard the nurseries and fruit crops.

- i) If the farm continues to function under the Mahaweli Economic Agency, a revolving fund, where the income generated by the sale of farm produce can be credited to a special account and used as and when required is strongly recommended. Depending on Government Treasury dole outs, as currently practiced leaves much to be desired.

14. **SUGGESTED FARM STAFF**

- a) An officer-in-charge, with experience in farm management
- b) An assistant to the officer-in-charge, whose duties will include supervision of labour, maintaining check roll, stores, sales, etc.
- c) Three watchers in 8 hour shifts
- d) Casual labour depending on cropping programme and the work load.

15. **SUGGESTED EQUIPMENT AND TOOLS**

Two wheeled tractor, mould board plough and rotavator are already available as farm assets.

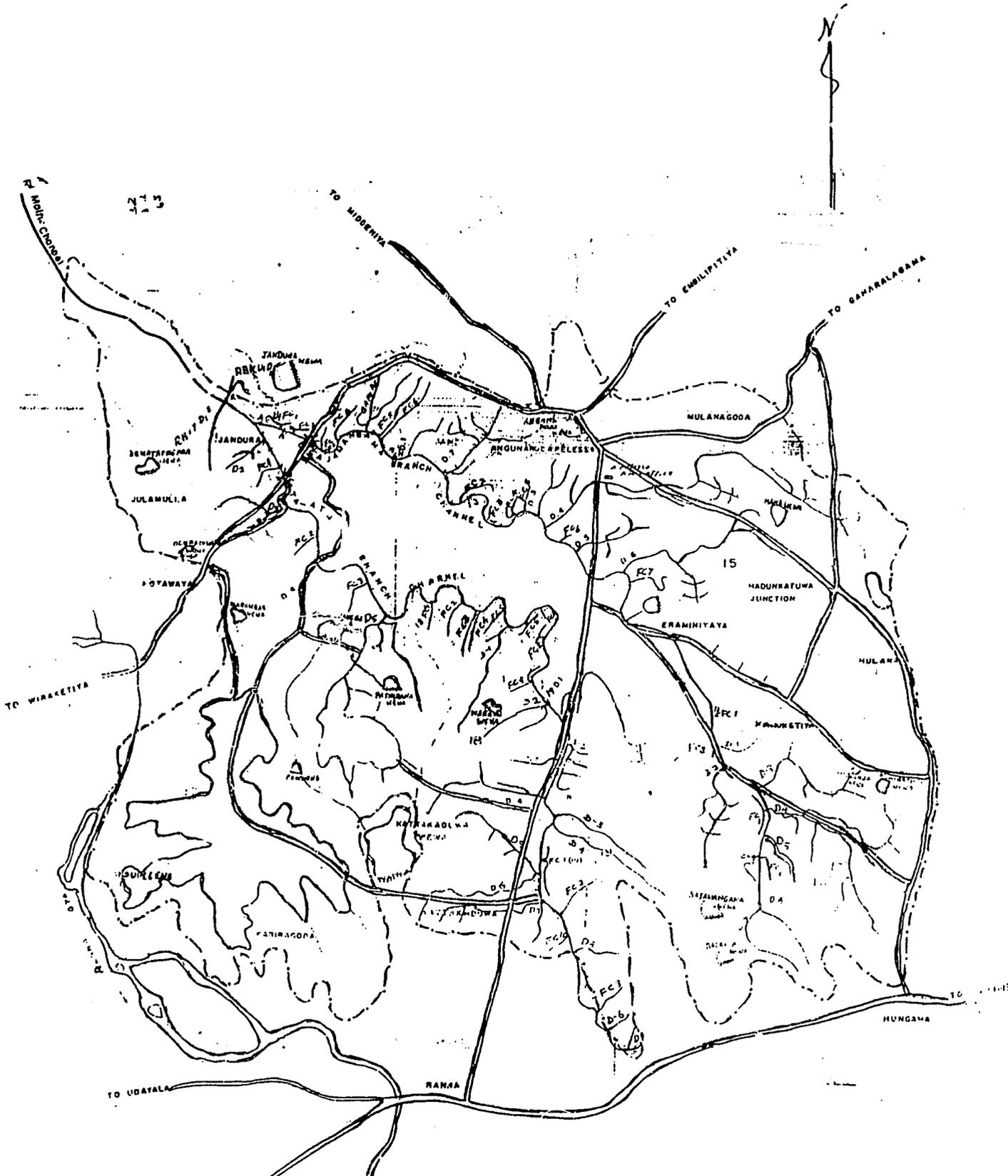
Mammoties	15
Mammoty forks	06
Pruning knives	06
Watering cans	06
G.I. buckets	03
Hand forks	06
Knapsack sprayer	01

16. **FURNITURE AND OFFICE EQUIPMENT**

Writing tables	02
Filing cabinet	01
Office chairs	06
Iron safe	01
Typewriter	01

SUMMARY

The Kattakaduwa Seed Farm has the potential of being a viable enterprise under good management and planning. Its near proximity to a populated town, assure water availability, ample labour and a soil well suited for diverse cropping, could all add up to a sound investment for a "small time" agricultural entrepreneur. The current pathetic state of the farm caused by frequent staff changes, lack of essential funds, driving incentives, combined with amateurish execution of administration and planning, should in no way outweigh its latent potentialities as a future successful agricultural venture.



42
14
65

SCALE - 1/2 MILE TO AN INCH

LEGEND

MAIN CHANNEL	—————
BRANCH CHANNEL	—————
DIST CHANNEL	—————
MAJOR ROAD	—————
OTHER ROAD	—————
BLOCK BOUNDARY	—————

- A Measuring weir
- F Turn out
- C Cattle Crossing
- I Bridge Repairing
- E Retaining Wall
- T Turn out
- B Bridge
- H Measuring weir
- L Control pipe Outlet
- J Retaining wall

21 03 90										
LATE	DESIGN	CHIEF	ENGINEER	RECOMMENDED	RESIDENT	APPROVED				
MAHAWELI ECONOMIC AGENCY OF M.A.S.L. ORM BRANCH PROJECT OFFICE EMBILIPITIYA										
UDA-WALI GENERAL LAY OUT PLAN OF ANGUNAKOLAPELESSA BLOCK										
SHEET	OF	1	DWS.NO. RPM/W/OBM							

a

Sketch of Kattakadune Seed farm.

