New Partnership for Africa's Development (NEPAD)

Comprehensive Africa Agriculture Development Programme (CAADP)

Food and Agriculture Organization of the United Nations

Investment Centre Division

GOVERNMENT OF THE KINGDOM OF SWAZILAND

SUPPORT TO NEPAD–CAADP IMPLEMENTATION

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Volume VI of VI

BANKABLE INVESTMENT PROJECT PROFILE

Mfumbaneni Hatchery

February 2005

SWAZILAND: Support to NEPAD–CAADP Implementation

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NEPAD–CAADP BANKABLE INVESTMENT PROJECT PROFILE

Country: Swaziland

Sector of Activities: Livestock

Proposed Project Name: **Mfumbaneni Hatchery**

Project Location: Mpisi Farm

Duration of Project: 3 years

Estimated Cost:
Foreign Exchange..... US$0.83 million
Local Cost ..... US$0.76 million
Total..... US$1.59 million

Suggested Financing:

Source	***US$***	***% of total***
Government	430,000	27
Financing institution(s)	704,000	44
Beneficiaries	455,000	29
Private sector	*[Included under beneficiaries]*	–
Total	***1,589,000***	***100***

SWAZILAND:

NEPAD–CAADP Bankable Investment Project Profile

"Mfumbaneni Hatchery"

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Abbreviations

CAADP	Comprehensive Africa Agriculture Development Program
CSO	Central Statistics Office
DOCs	Day Old Chicks
DVLS	Department of Veterinary and Livestock Services
EIA	Environmental Impact Assessment
GDP	Gross Domestic Product
GOS	Government of Swaziland
HDI	Human Development Index
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
MEE	Ministry of Enterprise and Employment
MEPD	Ministry of Economic Planning and Development
MOAC	Ministry of Agriculture and Cooperatives
MOJCA	Ministry of Justice and Constitutional Affairs
NAMBoard	National Agriculture Marketing Board
NEPAD	New Partnership for Africa's Development
NGO	Non–governmental Organisation
NMTIP	National Medium–Term Investment Programme
PEU	Public Enterprise Unit [of the Ministry of Finance]
PPP	Public–Private Partnership
RSA	Republic of South Africa
SEA	Swaziland Environment Authority
SNL	Swazi National Land
TEBA	The Employment Bureau of Africa
WTO	World Trade Organisation

I. PROGRAMME BACKGROUND

A. Programme Origin

I.1. The *Mfumbaneni Hatchery Project* was conceived through consultations that were held with the Department of Veterinary and Livestock Services. First an internal meeting was held by the department on the 3rd August 2004 where all heads of sub–sections and units were represented. Subsequent to this meeting, several project ideas were discussed with staff from the department including the Director. This culminated into a project document covering several project ideas which was presented to the NEPAD–CAADP *Steering Committee* meeting of the 17th August 2004. The project document was discussed again during the *Steering Committee* meeting of the 1st September 2004, where the hatchery and feed and fodder production project ideas were endorsed under the livestock sector. These projects were further presented for discussion during a *Stakeholder Workshop* that was held on 7th December 2005 where comments were received and later incorporated. This project document summarises the hatchery project..

I.2. In terms of the NEPAD–CAADP linkage, the hatchery project falls under pillar 5 *"Livestock, fisheries and forestry"*.[1]

B. Country Information and Challenges

I.3. Swaziland is a landlocked country with a land area of approximately 17,364 square kilometres that is divided into six agro–ecological zones based on elevation, topography, climate, geology and soils: Highveld, Upper and Lower Middleveld, Western and Eastern Lowveld and Lubombo Range. Swaziland has a subtropical climate with summer rains (75 percent in the period of October till March) and distinct seasons. All regions receive a distinct seasonal rainfall, most of which falls in summer (September to March), whilst little or no rain is expected over the other months. The climatic conditions range from sub–humid and temperate climate in the Highveld to semi–arid climate in the Lowveld.

I.4. Swaziland's population was projected at 1.01 million in 2002 of whom 73 percent live in rural areas. Its Gross Domestic Product (GDP) per capita in 2002 was US$1,180 and it is ranked 133 out of the 175 countries covered by the United Nations Development Programme's (UNDP) Human Development Index (HDI). The World Bank classifies Swaziland as a Lower Middle Income Less Indebted country. However, the incidence of poverty is very high and 2001 *Central Statistics Office* (CSO) estimates are that 69 percent (up from 66 percent in 1995) of the population lives below the poverty line of about US$20 per person per month. The income distribution is also highly skewed with the richest 20 percent accounting for 56.4 percent of national consumption and the poorest 20 percent accounting for only 4.3 percent.

I.5. The performance of the Swazi economy has generally been sluggish for the better part of the 1990s and the new millennium. Economic growth for the 1997/98–2003/04 period is estimated at an average of 2.7 percent whilst population growth is at 2.9 percent. This implies declining income per

[1] The CAADP Pillars are:
1. Expansion of the area under sustainable land management and reliable water control systems.
2. Improvement of rural infrastructure and trade–related capacities for improved market access.
3. Enhancement of food supply and reduction of hunger.
4. Development of agricultural research, technological dissemination and adoption to sustain long–term productivity growth.
5. Sustainable development of livestock, fisheries and forestry resources.

capita. Unemployment is also very high. Although unemployment statistics is poor, many observers agree that it may well be over 40 percent for some age groups, especially the youth who have just joined the labour market.

I.6. Part of the sluggish performance of the Swazi economy emanates from the changed regional and global environment. The two most important developments of the 1990s in the Southern African region are the democratic reforms in the Republic of South Africa (RSA) and the end of the civil war in Mozambique. One major implication of these otherwise very positive developments is that competition for investment has become stiffer and countries like Swaziland have started loosing out. There has also been a direct loss in employment opportunities for Swazis working in South Africa, especially mine workers who are being retrenched in numbers. *Ministry of Enterprise and Employment* (MEE) data shows that the number of Swazis registered with *The Employment Bureau of Africa* (TEBA) — mainly miners — dropped from 15,892 in 1994 to only 8,308 in 2000.

I.7. In the global front, trade liberalisation under the *World Trade Organisation* (WTO) framework means that competition in world and the domestic market is increasing. Some of the special dispensations that some Swazi products have been enjoying in some markets (such as in the European Union and the United States of America) are under threat and are being reviewed. Local industries are therefore under pressure to restructure in order to remain competitive. This has already lead to a number of job losses, a trend that is expected to continue in the medium term.

I.8. All this is happening at a time when the country is also grappling with a serious HIV/AIDS pandemic. Although opinions differ on interpretation, the national prevalence rate based on pregnant women attending clinics is now estimated at 38.6 percent. The highest prevalence rates are found among the 15–49 year age group, which forms the skilled and most productive segment of the population. The HIV/AIDS pandemic has come with a number of problems including that of increasing numbers of orphans and vulnerable children (OVCs). To prop up declining school enrolment rates, government has had to respond by introducing a bursary scheme that pays for OVCs that cannot afford to pay school fees.

I.9. Prospects for economic performance are not optimistic in the short to medium term. The *Ministry of Economic Planning and Development* (MEPD) forecasts economic growth averaging 2 percent over the medium–term. The openness and smallness of the Swazi economy renders its performance to be mainly dependant on the external environment. Important determinants for economic performance remain the country's ability to attract and retain investment (both foreign and local) which requires macro–economic stability and fiscal discipline. For an essentially agro–processing based economy, environmental factors such as the weather are also very important.

C. Importance of Agriculture in the Economy

I.10. Agriculture now constitutes slightly less than 10 percent of GDP. This has been declining over the years from over 40 percent at independence. In spite of this decline, the sector is still seen as the backbone of the economy mainly because it supplies the bulk of the raw materials used in manufacturing. Agriculture is also of great importance to job creation and provides over 20 percent of all formal sector employment. These official figures exclude much larger numbers of SNL jobs, where people are self employment as farmers or assisting on the farm.

I.11. Official statistics show that livestock contribution to GDP is around 2 percent. This is likely to be an understatement considering that much of livestock production occurs on *Swazi Nation Land* (SNL) where operations tend to be informal and therefore not adequately captured in official statistics.

According to the *Ministry of Agriculture and Co–operatives* (MOAC) 2003 *Livestock Survey* there were 561,019 heads of cattle, 326,476 goats, 15,979 sheep and 26,715 pigs. Population figures for chickens (and to some extent pigs) seem to fluctuate too widely over the years, probably reflecting the different time at which the survey is taken and are therefore not very useful. However, the market for Day Old Chicks (DOCs) is estimated at 10 million birds a year, indicating annual poultry production of about 16,000 tons. In terms of distribution 86 percent of cattle, 96 percent goats, 81 percent sheep and 78 percent pigs are on SNL and the rest are on *Title Deed Land* (TDL) and government farms. SNL is land held under customary law and allocated to families through Chiefs and constitutes an estimated two thirds of the total land area. TDL is land held under private title and constitutes about one third of total land area.

D. Government Intervention in the Livestock Sector

I.12. Past government interventions in the livestock sector have tended to emphasize larger stock, especially cattle. The most prominent among these include the following:

- Provision of extension services on animal health and production;
- Provision of subsidised specialised services in areas, such as:
  - controlling tick borne diseases through operating a dipping service;
  - meat inspection and certification;
  - operating a bull loan scheme and cattle breeding service at *"Sisa"* ranches;[2]
  - promoting off–take through operating sale yards where monthly auctions are conducted;
  - operating fattening ranches where farmers' animals are grass fattened in a bid to enhance off–take;
- Disease control and prevention through surveillance and timely diagnosis;
- Operating a cattle breeding research program.

I.13. In recent years, there has been an increased realisation of the important role which the small stock sub–sector can play in improving food security and nutrition especially in rural and peri urban areas. A 1998 *Vulnerability Mapping* exercise conducted by MOAC in collaboration with *Save The Children* confirmed that even poorer households do own some limited numbers of small stock from which they derive an appreciable source of food and income. Therefore improving the performance of the small stock sector, in which more people participate, has a better chance of reaching more people and therefore reducing poverty.

[2] Government fattening and Sisa ranches were established following a concern on the overgrazing caused by overstocking of the SNL areas. The grazing pressure in these areas was causing range deterioration and hence soil erosion. The government ranches were therefore established in a bid to reduce the problem in these areas. Beside relieving grazing pressure in SNL areas, the ranches were established in order to enable the Swazi farmer to realize good economic returns from cattle that were better managed. In the fattening ranches the animals are fattened for a certain period and then sold on behalf of the farmer. Under overgrazed conditions animals are underfed and undernourished and hence are of no economic value. The Sisa ranches were established for the same purpose but Sisa ranches enables farmers to multiply their cattle numbers. Sisa ranches only admits female breeding stock. When these animals are admitted into a Sisa ranch, they are subjected to improved management practices such as breeding. The male calves are removed into fattening ranches after weaning, leaving the female calves behind which add to the foundation stock.

I.14. The last decade has seen an intensification in government's effort at developing the poultry industry and the response from farmers has largely been positive. Due to improving production, imports of poultry products have been going down from over 9,000 metric tons per year in 1993 to just over 1,000 metric tons in 2000. Along side the declining imports of poultry products, the imports of DOCs and breeding eggs have also been increasing to support local production.

E. The Poultry Industry

I.15. It has already been stated that domestic poultry meat production (excluding free range) is estimated at over 10 million birds per year or about 16,000 tons. About 80 percent of this market is supplied by two main processors either directly or through their out grower schemes. Independent farmers supply the remaining 20 percent. There are two main suppliers of DOCs, the largest of which imports eggs and hatches them locally and the other imports DOCs directly from neighbouring countries. Market concentration in the poultry industry is therefore very high, which means that smallholder farmers are competing against institutions which compared to them are giants. Market concentration is even higher in egg production where it is estimated that the two largest producers control over 90 percent of the market..

I.16. In spite of this high market concentration, the inflow of poultry imports helps to keep the competition on in the industry. This is reflected in the relatively low margins and the low price of poultry meat compared to other meats. The retail price for beef can be 50–100 percent higher than that for poultry. At the broiler production level, it is estimated that returns to capital and entrepreneurship are not more than 20 percent and a farmer has to be lucky to get E3–4.00 profit per chicken. Appendix 2 shows gross margin analysis for a 1,000–broiler unit doing six batches per year. The estimated profit is about 20 percent (before interest), which means that if slight mistakes are made, a loss can be easily recorded.

I.17. Margins look better in egg production, possibly due to the much higher market concentration after a number of small farmers went bankrupt in the 1990s in the face of heavy competition from large scale producers.

II. PROJECT AREA

II.1. The proposed site for this project is Mfumbaneni at Mpisi Farm. This is the site of the old Government Hatchery that closed down in 1994 mainly due to the outbreak of Salmonellosis. Mpisi Farm lies in the Lower Middleveld and conditions are suitable for producing chicks that will be adaptable to most climates of the country. The place is already well serviced in terms of electricity, water and roads. Being closer to the town of Manzini, this site is also centrally located, which makes it well placed to supply most areas of the country as well as to source its inputs easily. Mfumbaneni is also well linked (by tarred road) to the MR3 that traverses the country from the eastern border with Mozambique to the western border with South Africa and going through the country's biggest two cities of Manzini, Mbabane and the Matsapha Industrial site.

II.2. Using the same site will mean that all existing un–movable infrastructures can be utilised, which will help contain costs.

III. PROGRAMME RATIONALE

III.1. Within a relatively short period of time, the country has managed to develop a somewhat vibrant poultry industry supplying well over 80 percent of local demand for poultry meat. At the same time, poultry is providing income and employment opportunities to a number of individuals, a sizeable portion of whom are women. This success has come about without much cost to government. In fact MOAC has a rather thin network of poultry extension staff: there are about 8 officers servicing the whole country. Government's main contribution to the development of the industry has mainly been through creating a conducive environment for the private sector and farmers to participate and the response has been very positive. The private sector has played a significant role in developing the industry especially the larger meat processors who usually engage in contract farming with farmers. They provide farmers with all the inputs they require as well as technical advice. These costs are then recovered when the farmer sells his produce. The disadvantage of this though is that there is a tendency for those not participating in these schemes to get isolated.

III.2. In spite of all the successes in the poultry industry, there are still some problems to be addressed as well as opportunities to be taken advantage of. Government is particularly concerned about the risk posed by the total dependence on imports for the supply of DOCs as well as the unreliability of the supply to farmers, especially to the independent growers who tend to be smaller and therefore lack market power. It has always been a developmental and risk management strategy of the government to increasingly achieve self sufficiency in some basic food commodities. The recent avian influenza outbreak in the RSA, which resulted in a total ban of all exports of poultry and poultry products from that country — where Swaziland sources all her DOCs — demonstrated the importance of reducing this dependence. This ban meant that poultry farmers had to shut down their businesses because there is no reliable source of DOCs. Experience shows that when such disruptions occur, it takes quite an effort to get farmers to start producing again.

III.3. This project is therefore proposed so that the country can move closer to achieving its objectives of self sufficiency in basic food stuffs, through the local breeding of DOCs. The strategy is that within the project framework, government will work with a donor, farmers and/or farmer groups and the private sector to resuscitate the *Mfumbaneni Hatchery Project*. The ultimate goal however is that the facility should be run by farmers themselves.

IV. PROGRAMME OBJECTIVES

IV.1. The ***overall objective*** of the project is to empower farmers through chicken farming by removing the existing bottle–neck in the supply of DOCs as well as ensuring that farmers gain more control over this critical input.

IV.2. Other ***specific objectives*** of the project are:

- To improve farmer incomes through ensuring a steady and reliable supply of DOCs;
- To improve food security through improved self reliance in basic food commodities;
- To reduce the risk of importing diseases from other countries;
- To empower farmers to learn to co–operate among themselves in addressing their needs.

V. PROJECT DESCRIPTION

V.1. The project aims to bring back to production the existing *Mfumbaneni Chick Breeding Centre* that was closed after the outbreak of Salmonellosis disease and later damaged by storms. The intention is that this centre should not be run by government alone but under an arrangement in which farmers have a stake. Opportunities for donor participation in the project are seen mainly in two areas namely (i) provision of Technical Assistance (which is listed under section X. below) and (ii) farmer development and assisting them to acquire shares in the operation.

V.2. In order to get the centre up and running, the first task would be to engage with relevant stakeholders so that a *Public–Private Partnership* (PPP) for the sustainable operation of the centre is established. A Transactions Advisor will have to be hired to mobilise stakeholders and see the PPP negotiations through before any physical work begins. Project components are summarised as follows:

Component 1: Project Management

V.3. Activities envisaged under this component include the following:

- Appointment of a Transactions Advisor. Once in place, the Transactions Advisor would also serve as Project Manager.
- Mobilisation of farmers or farmer groups who have an interest in participating in the project.
- Signing of agreement between farmer groups (and/or other private sector organisation) and government on the type of partnership to be pursued.
- Providing training to both farmers and those government officers who serve the poultry industry.

Component 2: Operationalisation of the Hatchery

V.4. This will mainly be the responsibility of the PPP outfit that would be agreed and is therefore not yet known with certainty at this stage. The anticipated involvement of the project is in terms of providing technical assistance – should it be required — through funding a Chick Breeding Specialist and a Specialist in Breeding Equipment (see TA requirements) whilst locals are being trained. Anticipated activities under this component are as follows:

- Civil works on project especially the rehabilitation of farm buildings;
- Mobilising TA (breeder and breeding equipment expert);
- Servicing and purchase of some equipment as necessary;
- Operationalizing the breeding centre.

V.5. Before the centre starts operating, it would be expected to undertake an Environmental Impact Assessment (EIA) as required by the *Swaziland Environmental Authority* (SEA). These costs would be funded by the enterprise itself and a budget is provided under operating expenses.

V.6. ***Current State of Facilities at the Site.*** Most of the buildings and major equipment at the site are still in place and in serviceable condition. Key buildings for the project include the following:

- Three breeding houses;
- One hatchery building;
- 10 staff housing units;
- One office block building.

V.7. The three breeding houses will need minor rehabilitation such as re–doing the fencing work. An additional breeding house will have to be constructed to bring the number to the proposed four. The hatchery building will need major rehabilitation including re–roofing. The staff houses and office building will need minor rehabilitation such as the changing of doors and painting.

V.8. Key equipment that is available include the following:

- One incubator with a capacity to hold 90,000 eggs;
- Two hatching machines, each with a capacity to hold 15,000 eggs.

V.9. A technical expert hired by MOAC in 2002 concluded that the equipment was still in reasonable condition. Some rehabilitation and possibly upgrading will most likely be required. The costs for doing this is not expected to be very huge and these have to be weighed against the cost of procuring a new unit, which is in the region of E600,000 (both incubator and hatcher).

VI. INDICATIVE COSTS

Table 1: Estimated Project Cost by Component (E'000)

Component/Activity	Component/Activity Cost				% of Base Costs
	Local	Foreign	Total	% Foreign	
1. Project Management	265	1,185	1,450	82%	17%
Technical Assistance	*90*	*810*	*900*	*90%*	*10%*
Transactions Advisor (E50,000/month for 18 months)	90	810	900	90%	10%
Other	*125*	*25*	*150*	*17%*	*2%*
Office space (18 months)	50	0	50	0%	1%
Communication	50	0	50	0%	1%
Other O&M	25	25	50	50%	1%
Training	*50*	*350*	*400*	*88%*	*5%*
Long–term	0	200	200	100%	2%
Short term	0	100	100	100%	1%
Workshops	50	50	100	50%	1%
2. Operationalisation of Hatchery	3,929	3,355	7,284	46%	83%
Buildings	*1,302*	*198*	*1,500*	*13%*	*17%*
Existing value	1,170	0	1,170	0%	13%
Required rehabilitation on buildings	132	198	330	60%	4%
Machinery	*718*	*0*	*718*	*0%*	*8%*
Existing value	618	0	618	0%	7%
Required upgrading & maintenance	100	0	100	0%	1%
Other equipment	*11*	*45*	*56*	*80%*	*1%*
Technical Assistance	*144*	*1296*	*1,440*	*90%*	*16%*
Technical Manager (E30,000/month for 24 month)	72	648	720	90%	8%
Breeding specialist (E30,000/month for 24 months)	72	648	720	90%	8%

Table 1: Estimated Project Cost by Component (E'000)					
Component/Activity	Component/Activity Cost				% of Base Costs
	Local	Foreign	Total	% Foreign	
Transport (vehicles)	*224*	*896*	*1,120*	*80%*	*13%*
For Hatchery operation (truck, tractor & pick–up)	144	576	720	80%	8%
Pick–up: Technical Manager	40	160	200	80%	2%
Pick–up: Breeding Specialist	40	160	200	80%	2%
Breeding stock	*150*	*0*	*150*	*0%*	*2%*
Hatchery Operation Expenses	*1,380*	*920*	*2,300*	*40%*	*26%*
Total Base Costs	4,194	4,540	8,734	52%	100%
Physical contingency (10%)	419	454	873	52%	10%
Price contingency (8.0%)	346	375	721	52%	8%
Total Project Costs	4,960	5,368	10,328	52%	118%

Table 2: Estimated Project Cost by Component (US$'000)					
Component/Activity	Component/Activity Cost				% of Base Costs
	Local	Foreign	Total	% Foreign	
1. Project Management	41	182	223	82%	17%
Technical Assistance	*14*	*125*	*138*	*90%*	*10%*
Transactions Advisor (E50,000/month for 18 months)	14	125	138	90%	10%
Other	*19*	*4*	*23*	*17%*	*2%*
Office space (18 months)	8	0	8	0%	1%
Communication	8	0	8	0%	1%
Other O&M	4	4	8	50%	1%
Training	*8*	*54*	*62*	*88%*	*5%*
Long–term	0	31	31	100%	2%
Short term	0	15	15	100%	1%
Workshops	8	8	15	50%	1%
2. Operationalisation of Hatchery	604	516	1,121	46%	83%
Buildings	*200*	*30*	*231*	*13%*	*17%*
Existing value	180	0	180	0%	13%
Required rehabilitation on buildings	20	30	51	60%	4%
Machinery	*110*	*0*	*110*	*0%*	*8%*
Existing value	95	0	95	0%	7%
Required upgrading & maintenance	15	0	15	0%	1%
Other equipment	*2*	*7*	*9*	*80%*	*1%*
Technical Assistance	*22*	*199*	*222*	*90%*	*16%*
Technical Manager (E30,000/month for 24 month)	11	100	111	90%	8%
Breeding specialist (E30,000/month for 24 months)	11	100	111	90%	8%
Transport (vehicles)	*34*	*138*	*172*	*80%*	*13%*
For Hatchery operation (truck, tractor & pick–up)	22	89	111	80%	8%
Pick–up: Technical Manager	6	25	31	80%	2%
Pick–up: Breeding Specialist	6	25	31	80%	2%
Breeding stock	*23*	*0*	*23*	*0%*	*2%*
Hatchery Operation Expenses	*212*	*142*	*354*	*40%*	*26%*
Total Base Costs	645	698	1,344	52%	100%
Physical contingency (10%)	65	70	134	52%	10%
Price contingency (8.0%)	53	58	111	52%	8%
Total Project Costs	763	826	1,589	52%	118%
Exchange rate US$1.0 = E6.5					

VI.1. ***Summary Preliminary Cost–Benefit Analysis for the Hatchery.*** A Cost–Benefit Analysis (CBA) over a fifteen year time horizon was done on the project based on discussions with officers who once operated the centre. Key assumptions are as follows:

- Breeding stock of 10,000 (9,000 hens & 1,000 cocks) is kept, which at 200 eggs/hen/year could produce 1.8 million breeding eggs per year;
- Using the full capacity of existing equipment, about 1.2 million chicks can be produced. This would leave about 500,000 eggs, most of which would be sold to other hatchers and a small percentage of eggs unsuitable for hatching sold as table eggs;
- The selling price of a chick and a hatching egg is E2.60 (US$0.,4) and E1.60 (US$0.24) respectively;
- The cost of feeding a breeding chicken is E103.64 (US$15.9) per year.

VI.2. The results show that, if well managed, this project could be quite profitable and a Net Present Value (NPV) of E3,766 over 15 years and an Internal Rate of Return (IRR) of 30 percent are possible.

Table 3: Summary of Preliminary Cost–Benefit Analysis for Hatchery

Indicator	E'000	US$'000
Capital cost	2,784	428.3
Average yearly total expenses	2,292	352.6
Average yearly total income	3,596	553.2
IRR	29.6%	29.6%
NPV	3,766 at 12% discount	1,419 at 3.5 discount
Payback period	One year	One year

VI.3. The CBA analysis incorporates all the costs of all existing infrastructure and equipment that would be used by the project. However it is likely that whoever partners with government on this venture will prefer leasing infrastructures such as buildings and the land. In such a case capital costs that will require cash financing will mainly be rehabilitation, servicing and replacement of existing equipment and purchase of the breeding stock. If the leasing option is adopted it would improve the IRR and NPV. Another option possible is to form a company, in which case government's infrastructure and equipment can be converted into her equity contribution. The option that will finally be adopted will depend on the response government will receive on the PPP and will only be known at that stage.

VI.4. Other avenues for improving profitability of the operation would be to increase hatching capacity so as to produce more DOCs and therefore sell fewer eggs to other hatchers.

VI.5. When the centre closed in the early 1990s, it had already developed an export market in countries such as Tanzania and Mozambique. With vigorous marketing, reliability and quality control, part of this market, especially the Mozambican one can be recovered and new ones developed.

VII. PROPOSED SOURCES OF FUNDING

Table 4: Estimated Project Cost by Source of Funding (E'000)				
Component	Total	Government	Donor	Beneficiaries
1. Project Management	1,450	100	1,310	40
Technical Assistance (Transaction Advisor)	900	0	900	0
Other expenses	150	100	50	0
Training	400	0	360	40
2. Operationalisation of Hatchery	7,284	2,263	2,560	2,461
Buildings	1,500	1,500	0	0
Machinery (incubator & hatchers)	718	718	0	0
Other equipment	56	45	0	11
Technical Assistance (Breeder & Technical Manager)	1,440	0	1,440	0
Transport (vehicles)	1,120	0	1,120	0
Breeding stock	150	0	0	150
Operational expenses for hatchery	2,300	0	0	2,300
Total Base Costs	8,734	2,363	3,870	2,501
Physical contingency (10%)	873	236	387	250
Price contingency (8.0%)	721	195	319	206
Total Project Costs	10,328	2,794	4,576	2,958

Table 5: Estimated Project Cost by Source of Funding (US$'000)				
Component	Total	Government	Donor	Beneficiaries
1. Project Management	223	15	202	6
Technical Assistance (Transaction Advisor)	138	0	138	0
Other expenses	23	15	8	0
Training	62	0	55	6
2. Operationalisation of Hatchery	1,121	348	394	379
Buildings	231	231	0	0
Machinery (incubator & hatchers)	110	110	0	0
Other equipment	9	7	0	2
Technical Assistance (Breeder & Technical Manager)	222	0	222	0
Transport (vehicles)	172	0	172	0
Breeding stock	23	0	0	23
Operational expenses for hatchery	354	0	0	354
Total Base Costs	1,344	364	595	385
Physical contingency (10%)	134	36	60	38
Price contingency (8.0%)	111	30	49	32
Total Project Costs	1,589	430	704	455

VIII. PROJECT BENEFITS

VIII.1. The CBA has demonstrated that if well implemented and managed, this project could be highly viable, both financially and economically. In addition, this project will lead to benefits that will accrue not just only to poultry farmers but to rural livelihoods in general. The main intention of the project is to make livestock farming a more rewarding enterprise through the removal of existing bottlenecks affecting farmer access to inputs (DOCs) and the costs involved. Poultry being small stock, is accessible to a wider section of the population and most participants tend to be women. The

Poultry Section of MOAC estimates that over 90 percent of the independent chicken growers are women. This means that project benefits will also be more widely spread across the population and benefit a currently disadvantaged group.

VIII.2. Other benefits are as follows:

- Improved incomes among poultry farmers due to a more reliable supply of day old chicks thus allowing (a) continuity in production and (b) farmers being more able to take full advantage of peak demand seasons and not be constrained by DOCs.
- Improved food security and nutritional standards at the household level due to improved access to protein products.

IX. IMPLEMENTATION ARRANGEMENTS

IX.1. The implementation of the project is proposed to be a *Public–Private Partnership* (PPP) involving government, farmers groups and possibly a strategic private sector entity. It is proposed that a Transactions Advisor be hired, through Technical Assistance. The overall responsibility of the Transactions Advisor would be to see the project off the ground. His/her first task would be to get government and participating donors to agree on the type of PPP they want from this project and the objectives it should achieve at the end of the day. The other important task of the advisor is to work with the government to mobilise farmer groups and the private sector to participate so that the process can start moving.

IX.2. It is understood that approaches by the private sector on Mfumbaneni have been made in the past and government was not quite decided on the direction she wanted to take. Government is now decided on the future direction of this facility and this clear message will ensure that people participate with confidence.

IX.3. In order to see the transactioning process through, it is proposed that a *Steering Committee* be formed to work with the Transactions Advisor. Membership of this committee will come from across the relevant government departments, participating donor agencies and possibly the *National Agriculture Marketing Board* (NAMBoard). Among government membership of the committee, the *Public Enterprise Unit* (PEU) under Ministry of Finance, MEPD and *Ministry of Justice and Constitutional Affairs* (MOJCA) should be represented. This committee will be chaired by the Director of the *Department of Veterinary and Livestock Services* (DVLS) under MOAC and subsequently report to the Principal Secretary.

IX.4. It is not anticipated that there will be need for many disbursements to be made as part of the project. Therefore in terms of resource management, it seems possible that participating partners can keep their resources in their purses until contributions towards the PPP are required. The Transactions Advisor can serve as a Project Co–ordinator and contact person for the donor who will sponsor the project management cost item. However, the Director of the DVLS will co–sign all disbursements under this project. In case of donors who already have a presence in the country, their existing aid administration arrangement will be used.

X. TECHNICAL ASSISTANCE REQUIREMENTS

X.1. Technical assistance requirements for the project would mainly depend on the type of PPP that is finally agreed. Some private companies or farmer groups may be able to source on their own all or some of the required skills for running this operation and some may not. Therefore it is not possible to identify all the possible TA requirements at this stage. Below is a listing of the most likely TA requirements.

- ***Transactions Advisor.*** Public–private sector partnerships in Swaziland are still relatively new and there are not as yet many lessons to learn from. It is also recognised that mobilising a PPP is quite a time consuming process which requires a person who will be dedicated to it as opposed to giving the task to an already busy civil servant. Short–term TA in this area would therefore be required, possibly for 18 months. Its task would be to mobilise the process of getting the PPP off the ground and the hatchery operating.

- ***Chick Breeding Specialist.*** Practical skills in this subject are not adequate in the country, hence the need for TA. For project success it would be important to secure the services of someone who is not only experienced in the science side of breeding but also the commercial side. Ideally, this TA should also be the one managing the hatchery business whilst a local is being trained. However this would be left to the would be owners of the hatchery business. The time required to train a local would determine the duration of this TA but would probably be in the region of 24–36 months.

- ***Technical Specialist in Breeding Equipment.*** The equipment used is quite specialised and again expertise is not readily available in the country, hence TA would be required. There would also be need to have a local understudying this TA. Therefore once again the duration of the TA would be determined by the amount of time required to train the local technician, but 24–36 months should be adequate.

XI. ISSUES AND PROPOSED ACTION

XI.1. ***Community and Private Sector Participation.*** The production of DOCs is business in nature and should ideally be done by the private sector. However, due to several reasons including lack of business acumen, lack of technical expertise, poor access to credit, risk aversion and others this business opportunity has not as yet been fully exploited, especially by locals. Government is also not satisfied with the conditions under which DOCs are supplied at present, i.e. the total reliance on imports and the rationing that is sometimes done by private providers. However, government's intention is not to replace these private sector providers. Therefore every effort will be made to nurture and encourage private sector participation (and farmers) in the proposed hatchery. Participation of the private sector (and farmers) will mean that the enterprise is run on strictly commercial lines and government bureaucracy is avoided, which will improve chances for project success.

XI.2. Balancing broader developmental objectives with private sector motives: The government would normally desire to move out of such private sector type of projects. However, because of the strategic nature of DOCs in the programme for poultry development and empowerment, government finds it important that a developmental voice remains in this industry. As a result government desires to continue having a minimum stake in the enterprise, e.g. as a minority shareholder so that she can influence the development of the sector. It is important though that the hatchery is run on a commercial basis and that the government voice is not allowed to dominate

XI.3. ***Capacity Building.*** The development of the livestock industry requires not only physical infrastructure–type of investment but more importantly human resources development. The operation of a commercial breeding centre is quite complex and the skills required are not readily available in the country. The implementation of the project should go along with a vigorous skills development programme. In particular, MOAC should consider training the next generation of poultry extension staff that will take over when the current staff starts retiring (*it is understood that training in poultry is not appealing to the young generation, especially among males*). Farmer training should also be an important component of the project so that farmers can run the operation successfully when support from the project terminates.

XII. POSSIBLE RISKS

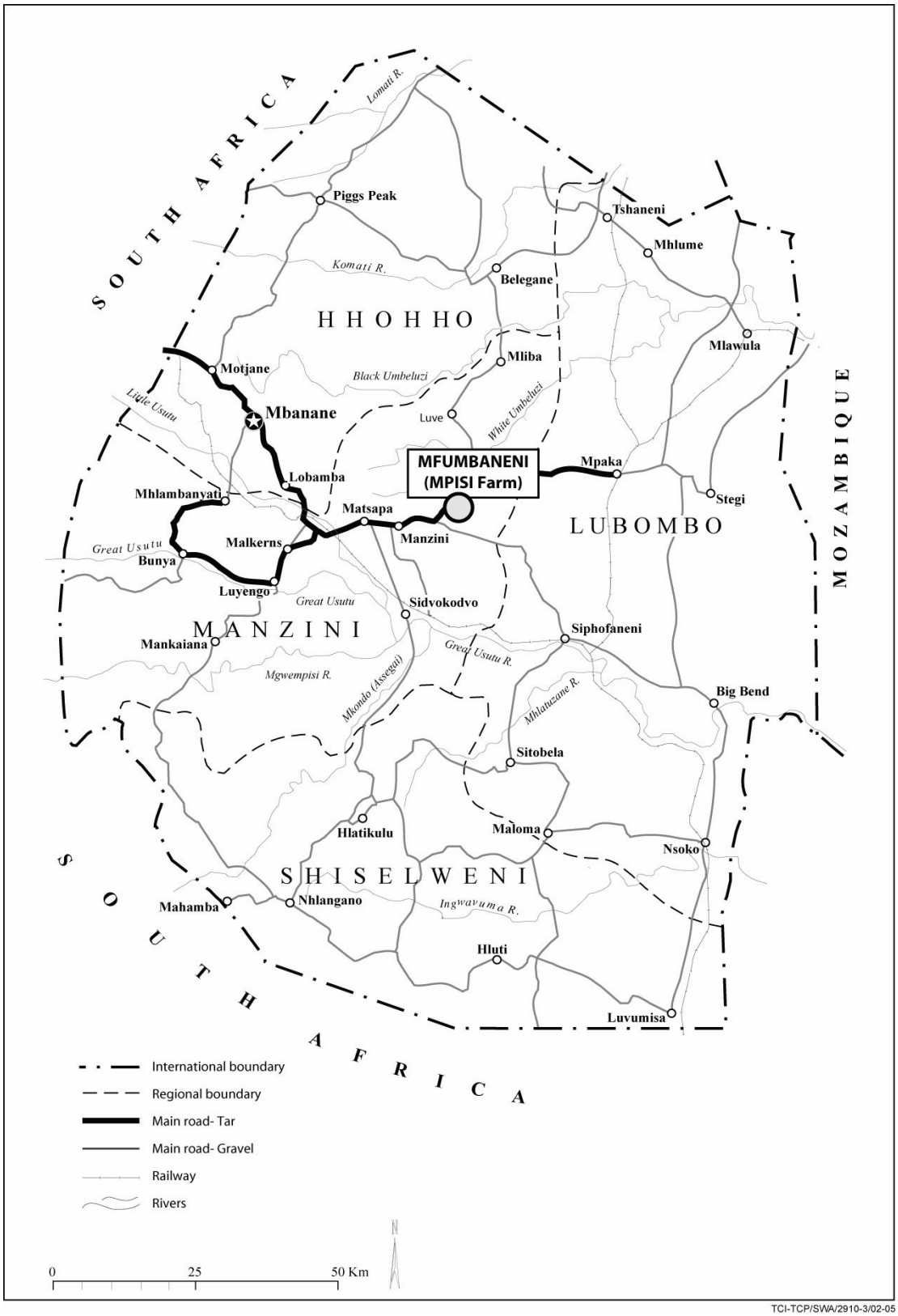
XII.1. ***Crowding out of private sector.*** There is a possibility that existing suppliers of chicks will feel threatened by the direct involvement of government in the industry. This may cause these existing suppliers to close operations. This would be disastrous and is not the intention of the project. Therefore every effort will be made to ensure that the hatchery operates on commercial lines and does not produce state subsidized chicks since the private providers will have difficulty competing.

XII.2. ***The outbreak of diseases.*** In some cases these are beyond anybody's control. But observing basic hygiene standards can reduce the incidence of disease outbreak tremendously. Every effort should be made therefore to train farmers on the importance of these standards.

XII.3. ***Sourcing of breeding stock.*** In order to breed good quality chickens one needs to start with parent stock of good quality. There must be good sources available in South Africa and it is assumed that these will be willing to sell to Swaziland. However this is not known with certainty at this stage.

XII.4. ***Supply of breeding mesh.*** There currently is no local supplier of feed for breeding stock. It is anticipated that local suppliers can formulate this without any major problems. However should this not be possible, then sources would have to be found in RSA and maybe at a slightly higher price than would have been the case.

Appendix 1: Location of Mfumbaneni Hatchery



Appendix 2: Gross Margin Analysis for a 1,000–Broiler Unit, Six Batches per Year

Item	Emalangeni	US Dollars
1. Capital Costs		
1.1. Fixed Structures		
Poles	4,050	623
Cement	675	104
Blocks	2,400	369
Iron sheets	2,800	431
Fence	1,000	154
Miscellaneous items	1,000	154
Labour	2,000	308
Water tank	1,500	231
Sub–total structures	15,425	2,373
1.2. Equipment		
Brooder (1)	1,700	262
Drinking Founts (total of 10)	400	62
Chick trays (for feeding)	150	23
Tube feeders (about 25)	1,125	173
Automatic drinkers (about 20)	1,500	231
Miscellaneous tools	1,000	154
Sub–total Equipment	5,875	904
Total Capital Costs	21,300	3,277
2. Variable Costs		
2.1 Stock	15,600	2,400
2.2. Feed		
Starter	17,040	2,622
Grower	24,480	3,766
Finisher	15,720	2,418
Veterinary expenses	2,760	425
Transport	5,400	831
Sub–total Feed	65,400	10,062
Sub–total variable costs	81,000	12,462
3. Sales		
Formal market (40% of total)	35,770	5,503
Informal market (60% of total)	71,539	11,006
Total Sales	107,309	16,509
Gross Margin before Depreciation	26,309	4,048
Less depreciation	2,718	418
Net gross margin	23,591	3,629
Return to Capital & Entrepreneurship	*23,06%*	*23,06%*