

EVALUATION OF THE ABATTOIR BUSINESS PLAN
on the
ISLES of SCILLY

FINAL REPORT

For

Cornwall Agricultural Council

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I Introduction

Promar International were given the role to undertake the independent review of the business plan for the Isles of Scilly Abattoir awarded following a tender to Cornwall Agricultural Council .

The tender was awarded having agreed that Promar International would join forces with the consultancy arm of the Meat and Livestock commission on the basis that aspects of the tender requires specialist knowledge within the meat sector particularly in relation to abattoir design and management.

Promar International is a specialist consultancy company with National cover to the rural and agricultural sector and has considerable experience of undertaking evaluation work of projects including those that are financed by European Funds. Our team for this particular project includes specialists from our rural consultancy division with significant experience of farm and rural issues .This includes wide experience in evaluating various agricultural projects, schemes and programmes.

The staff allocated to evaluate this project have extensive experience of agricultural systems, financial analysis, environmental matters as well as hands on experience with abattoirs and the meat processing sector.

The project proposal is to develop an abattoir and cutting plant on a site near the incinerator on land owned by the Duchy of Cornwall in Hugh Town, St Mary's together with an umbrella fund for livestock producers to enable them to put in place the required infrastructure such as fencing and water provision; Shared livestock handling facilities; livestock trailers and breeding stock.

Total project costs to develop an abattoir, operate it for the first year and the umbrella fund are £443,510 with £226,030 (50.9%) grant aid requested from Objective One.

The programme also includes training and extension activity (funded from other sources) to support farmers in the skills of livestock production.

A feasibility study including market research was commissioned to establish the level of support for the proposal and as a result a business plan was produced to support an application for objective one funding to support the development of dedicated abattoir for the islands.

The main objective for Cornwall Agricultural Council was to provide an independent review of the business plan and to appraise various documentation. The subject matter for review is covered within the documents provided. These included:

- Feasibility study (October 2003)
- Business Plan (most recent –October 2006)
- Key papers raised during appraisal

In order to attract funding projects outputs were identified as follows :

- The project will bring at least 2,400 m² of derelict land back into use on the site of the abattoir
- Current scrubland will be brought back into agricultural use, which will lead to enhanced landscape and tourism value. It is difficult to estimate the likely total area. However at least 300 acres could be readily utilised, where some land on all the inhabited islands is better utilised for agriculture.
- 4 part time jobs will be created which will deliver over £16,000 wages and salaries by the third year in the processing plant
- Up to 50 native breed suckler cows will have been purchased by the islanders
- Up to two handling units for cattle and sheep will have been set up
- The islands will have improved infrastructure for livestock production in terms of water and fencing
- The project will assist in securing the livelihoods of up to 40 farmers on the islands if they choose to keep livestock
- The project will allow the islands to reduce the true cost of meat on the islands as food miles will be reduced
- The landscape of the islands will be improved, which will enhance the Isles of Scilly as a tourist destination
- Improved animal welfare for current livestock on the islands as the need for transport to the mainland for slaughter will be eliminated. Over recent years transport of animals to the mainland has resulted in great stress to livestock with

cattle requiring rest before slaughter and in a few instances cattle have had to be destroyed when they broke free on the quay at Penzance.

2 Evaluation Process

The evaluation process undertaken was desk top based with detailed consultation between staff allocated to undertake the evaluation task. In order to have some form of structure to the process it was decided to provide an evaluation report for each key area under the following headings.

Market Research

Feasibility Study

- Environmental Aspects
- Livestock proposal and profitability

Abattoir proposal

- concept, practical aspects
- design and development
- incinerator and waste disposal

The Business plan

- Assess physical and Financial projections
- Assess targets and time scales
- Assess whether data and financial figures are realistic
- Comment on capital costs both buildings and equipment
- Assess sustainability business plan
- Identify any inadequacies with the design and fitting of the abattoir

Proposed staffing and management of operations

Project Outputs

The proposal included discussion with as many key stakeholders as was possible to enhance the overall evaluation process. These included:

- Natural England (Taunton and Truro)
- Isles of Scilly Wildlife Trust
- Isles of Scilly Tourism office
- Defra – Veterinary service (SW)
- Cornwall County Council (Animal health division)
- Trading standards (SW)
- Mainland marketing
- Individual Farmers on the Isles of Scilly

3 Market research report

This market research section of the project has been evaluated by members of our specialist agri food consultancy division within Promar. The comments are made in good faith, but without having seen the actual TOR for the marketing analysis and/or having been made aware of the budget and resource allocation for this element of the assignment.

The report itself is well written, but alludes in a number of places to its own weaknesses, in terms of the budget and time allocated to this part of the overall project, as well as in some cases the subsequent methodology employed to carry out the assignment.

The conclusions suggest that more work is required on the market analysis if the feasibility of the project proves to be positive – we believe that the marketing analysis should be driving the overall feasibility of the project.

The UK, and in fact many other parts of the world, is littered with projects that are feasible from a technical point of view - but which fail to address the critical part of the overall project – this is whether a sustainable market can be secured in the face of existing, and in many cases, well established suppliers, with a range of products that have a strong USP in order to gain entry in to a crowded market place.

The objectives of the research are listed in Section 2.0 of the report and are fine as far as they go - but there is no reference to the existing competition, which a more extensive market analysis would take in to account as follows:

- who already supplies the market
- how do they do this and how do they operate, not least what are their terms and conditions of business
- what is the overall strength of their Service Package – what volumes do they supply, what are the timings of delivery, what is their price structure at ex factory and wholesale levels, what sort of promotional support is provided, what is the quality

standard they operate to, what sort of technical support do they provide to customers etc

- what are the opportunities for branding support and on what basic “brand pillars” should be developed
- are there opportunities for the development of exports of products from the Isles of Scilly to the mainland UK market – it is mentioned in passing that some consumers might be interested in some form of delivery service but this hardly constitutes a rigorous analysis
- the development of a robust marketing and business plan over the next 5 years with sales and marketing targets and KPIs included as well as the identification of realistic costs of sales etc

Summary key Issues

- The desk research carried out is focused entirely on the internal situation regarding the Isles of Scilly. No reference is made to the broader trends that can be observed in the rest of the UK vis a vis meat and dairy consumption over a period of time. Such data could be easily accessed from the likes of Defra, the MLC and/or MDC. Not least, when 120, 000 of the potential customers for this project are presumably from the mainland, an understanding their behaviour would be sensible, as it is unlikely that this will change radically when on holiday.
- More information is required about the type of consumers that visit the Isles of Scilly to begin some more detailed planning for this element of the project. This could be secured from the likes of the DEFRA/Dunn Humby/Food Chain Centre project being run in conjunction with Kent Business School.
- The methodology confirms that some primary research was carried out with both consumers and potential customers of the project – but the consumer research was carried out on a random basis [Page 2] and the reports suggests that this was in the form of a short interview.

It would be preferred to see more detailed consumer research carried out on a structured basis. Better quality information is needed here still. The research carried with potential customers appears to involve a mix of face to face B2B and phone research.

- Phone research normally implies quite short exchanges of information. More detailed work carried out here is needed with the main customers for the project and a deeper understanding of the market dynamics , especially in relation to the level of existing competition and what might make customers switch supply to a more local project.
- Section 4.1.3 suggests that some analysis of the price levels for products on the mainland and the Isles of Scilly are given. While this is useful, the really key price to understand is the price that the proposed factory meets in terms of its ex factory level and the target prices achieved by the current suppliers to the market. More analysis of this is required.

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- Section 4.2.2 - it is promising that so many respondents rated the project as “very interesting”, but no further qualification of this is made. And it would have been surprising if the response had been anything than this to begin with. As such, it provides a useful platform to build from, but does require substantial further work before any firm project commitment can be made.
 - Page 5 of the report underlines this by listing a number of areas that might need addressing before this further qualification can be made but no detail is provided as to the key areas that have been identified as follows:
 - price levels
 - quality standards
 - the marketing of the products as bring of premium quality
 - packaging requirements
 - the ability to market the less attractive cuts of meat
 - ability to meet strict commercial and technical requirements on sourcing of products

Until more information on these aspects can be furnished and an indication of the key issues to be overcome and some idea as to how these factors can be dealt with, the marketing plan remains flawed and promises of customers being “very interested” are somewhat meaningless. The comment that the Co op made as to the fact that they would be interested in this sort of project, but cannot make any promises at this stage is a good summary of the current situation. The report admits this on Page 5. Having said this – the report was produced in 2003. From work carried out in the intervening period, interest in local food projects and products with strong regional provenance has only increased in the last 4 years, to the extent that it is a top 5 business priority for most of the leading retailers in the UK.

- Section 4.2.3 - begins to discuss the current supply situation, but there is a need to have this examined in much more detail vis a vis the following:
 - how long have these suppliers been involved with the Isles of Scilly market
 - how established are their trade relationships with key customers, especially the Co op
 - how strong is their overall Service Package especially in terms of volume supply, price, quality and terms and conditions of business all of which must be at least matched if not bettered by the new proposed project
- Mention of the need for provenance of local products is made on Page 6 – and while we would agree that this is important, the fact that products are currently sourced from Cornwall is an over simplification of the issue. We suspect other factors are at play here.
- Mention of made that one customer has switched from frozen to fresh products. However, no real explanation of why this happened and what changes to the business were required to do this. As such, it represents anecdotal comment, rather than hard facts. A case study would have been useful here in giving further substance to the change in consumer trends on the IOS.

- No final estimate of the current quantity of meat consumed on the Isles of Scilly is made for the project in Tables 4, 5 & 6, let alone an estimate of future demand and what they key factors an market assumptions underpinning this are.
- The business activity of the Co op is at this stage not known – Page 8. We are making the assumption that this is a critical potential customer for the project and this situation must be resolved – “a significant amount of meat” is far too vague. A much more detailed understanding of this key customer is required for the project to move forward.
- Critical in determining the business success of this new project will be an understanding of the ability of these mainland suppliers to access the Isles of Scilly market - and where a new project on the IOS could outscore the existing suppliers.
Our experience is that it is very easy to under estimate the strength of existing suppliers to the market and a much better level of understanding here is required if the project went ahead.
- Reduction in sales during the winter outlets – there is a huge difference between 30 and 70% mentioned. We would want further clarification of this before moving ahead with the proposed project.

It also calls in to question whether this project is about supplying first and foremost local demand or whether it is about supplying the massive influx to the IOS during the summer months which sees the potential number of consumers rise significantly. This should be addressed in the development of a fuller and more robust marketing plan.

- Page 13 – mentions no negative comments towards the establishment of local abattoir and/or dairy, but we wonder what level of detail vis a vis what this might mean for local food supplies was given, and what other implications were discussed. Again, this element of the research appears to be relatively shallow and simplistic. Views from the commercial customer base would be just as important in the long run.
- Section 5 – Conclusions and Recommendations. This section claims that there is significant support for a local project from residents, tourists and local businesses alike – this may well be the case, based on the limited research carried out for this assignment to date – but it is on the basis of very limited information to date being given to respondents. Transferring high levels of potential interest in to firm buying decisions from consumers and customers alike, is a task that should not be under estimated at all. The comment from the Co op should always be borne in mind - “no promises can be made”.

Conclusion

The market research report is well written – in as far as it goes – the random sampling of consumers, and the use of a short street based interview, while a possible technique, is not normally used and a more structured approach should ideally be employed. The sample size is dangerously small and could easily be skewed by just a few respondents. The fact that consumers are interested in the concept is probably of no great surprise and a greater degree of sophistication on understanding consumer behaviour is required for the project to have the required degree of credibility.

Having consumers “very interested” in locally sourced products is one thing – getting them to purchase them on a regular and sustained basis and in the face of existing suppliers to the market is another thing altogether. Of course, high degrees of consumer interest are to be welcomed per se, and this presents an important building block for the project – but needs further work here in order to flesh out the key areas of influence.

Quality and price parameters and the ability of the proposed project to meet with these will be critical. Just being “local” will not be enough to sustain the success of the project overall. This overall success will depend much more on the ability of the project to develop a strong Service Package and to build its marketing on strong and defensible brand pillars, including the development of rock solid QA systems, which guarantee food safety.

In summary the market research evaluation concludes :

- The methodology is in some cases not well developed
- The report lacks any macro background detail on consumption trends for meat products per se
- It needs more robust consumer analysis and better and more detailed pricing analysis
- It needs a much better understanding of key customer behaviour and that of the existing supply base
- The report is all about the current situation – not the future market potential
- There is no mention of the ability to develop a market on the Mainland
- It does not take into account the existing competition
- It raises as many questions as it answers as to how the proposed project can overcome the constraints it faces
- The report sometimes relies on anecdotal evidence rather than hard facts
- The conclusions are weakly developed
- No firm conclusions on the overall size of the market are given
- There is no forward looking marketing plan covering the next 5 years
- The report suggests that more work is required – which is agreed

The overall project should be fundamentally driven by the marketing analysis – not the other way round – this might be our single biggest concern of all

4 Feasibility Study

A feasibility study was undertaken in the 2003 to establish the level of support for the development of an abattoir to facilitate the farmers on the islands to keep more livestock and in particular cattle. This report was partly based on a producer survey that was undertaken at the time and the starting point is to note the main conclusions of the initial study which can be summarised as follows:

1. "If sufficient farmers can be encouraged to keep livestock it is considered that an abattoir could be viable based on the estimates of profitability in appendix 2 ."
2. If abattoir is built in advance of need, the building will not run to full capacity and interest charges will be large"
3. To encourage farmers to keep livestock will need considerable input .

Summary key issues

- The first conclusion would imply that the consultation process with farmers concludes an element of doubt from farmers for the proposal on the basis of the outcome ie the word 'if'. One would expect the study to conclude one way or the other.
- The second conclusion expresses concerns regarding potential throughput and the risk of incurring additional finance charges. There is no evidence within the study that livestock numbers in terms of age profile has been established for 'base line data' before project begins. Throughput for the abattoir would be difficult to assess without working through annual production data for different groups of cattle.
- The third conclusion does raise concerns on the basis that farmers would need substantial support and input in dealing with environmental agreements, applications for various schemes and some form of extension from a knowledgeable livestock advisor. The failure or success would therefore depend on the level of take up for this support.

The study does not provide any indication or evidence of farmer attitude or commitment to the project

The initial study was supported by the use of a producer questionnaire and as a background to the initial feasibility study some of the data collected is considered useful as part of this evaluation process. These include:

- 29 farmers responded to the Producer Questionnaire . Given the figure of 43 holdings on the island this was a response rate of 67% which is considered satisfactory in terms of sample size
- Over 50% of those that responded did not have livestock
- Only 50% of respondents would keep more cattle .
- Only 51% would be prepared to retail their own meat
- 49% would use the abattoir as an outlet for live animals ie sale beast to Mainland marketing as they would not wish to get involved in marketing meat.
- Only one farm kept sheep and very few had experience of sheep production
- Survey of farm size (acres)

0-10	10-20	20-30	30-40	40-50	50-60	60-70	144
19%	19%	19%	19%	16%	0	6%	2

The majority farms within the survey are small and are below 40 acres

- The main enterprise on the majority farms was bulb production and as farm size increases so does the bulb area on those farms

4.1 Assessment Beef and Sheep Profitability

4.1.1 Beef

The proposal is to increase cattle numbers on the island based on farmers having 5 cows and 10 sheep .The most appropriate breed of cattle was considered to be the North Devon and as the majority of farms lacked winter housing these cattle would be outwintered. The policy would be to retain pure- breeds as opposed to cross breeding and is assumed that farmers would collaborate to share resources.

Summary key issues

- The proposal has been based on farmers having 5cows and 10 sheep with the assumption that this would yield a 'profit' without having any contribution in the form of Single Farm Payment

Defra statistics show that the average net farm income for beef and sheep farm was £13,400 in 2004/05 and their support payments ,including single farm payment contribution accounted for £18,900. which indicates that in the absence of SFP the majority of farms would result in a negative net farm income. The latest EBLEX data in 2006 for 41 LFA showed, on average, a net loss of £170 per cow and data for extensive finishing cattle gave on average a net loss of £153.78 /beast. These results are based on average performance with some lower and some higher .It must be noted that the top third performers end up with a negative net margin which is lower.

These results are recorded from commercial herds which are of scale and size to benefit from some economy to scale. Thus there is doubt of whether cattle margins on the islands can generate a positive net margin when the results recorded for commercial farms end up with a negative net margin.

- Overhead costs are considered to be underestimated and some items considered unrealistic. Overhead Costs work out at £175.60 /cow assuming no cost for sheep. Compared to EBLEX data (below) these are lower than the costs achieved by the top third producers on a lowland system. North Devon cattle on an extensive system should be compared to LFA performance data which have higher costs compared to lowland systems.

EBLEX financial data for BEEF and Sheep in England (published Nov 2006)

Lowland Sucker cow margin (per cow)

	Bottom (£)	Average (£)	Top (£)
Gross margin per cow	84.50	131.96	148.83
Overheads	424.42	296.33	184.08
Net margin	-339.92	-164.37	-35.25

Source:Promar International

LFA suckler cow margin (per cow)

	Bottom (£)	Average (£)	Top (£)
Gross margin	131.22	158.35	162.11
Overheads	459.74	328.44	236.80
Net margin	-328.52	-170.09	-74.69

Source :Promar International

Finishing margin (extensive system per beast)

	Bottom(£)	Average(£)	Top(£)
Gross margin	24.08	73.46	153.16
Overheads	352.58	227.24	166.56
Net margin	-328.49	-153.78	-13.40

Source :Promar International

- The management of a small suckler herds where one bull is shared between a number of farmers is problematic unless cows are grouped in groups of 25 to 30 cows. Bulls would have to be retained on a farm for a minimum period of 6-8 weeks before moving on and commercial herds often state 12 weeks. The proposal would be to have spring calving herds thus one bull could only be retained on two farms as opposed to the proposal of five as calving patterns would slip to autumn calving.

The alternative policy would be for farmers to take cows to the bull when bulling but there are issues with sucklers and heat detection especially with cows on grass. Small herds do not assist either.

Another option would be for farmers to collaborate and agree to group herds but grazing arrangements would prove difficult due to size of farms , field sizes and fencing etc which would make the option unworkable.

The use of AI for commercial suckler herds is not advisable as heat detection and serving cows would not be practical where cows are not housed.

4.1.2 Beef Replacements

- Gross margin per head is totally unrealistic at £492 per head where down calving value is £625 and thus works out at 78.7% margin on output. The margin has been inflated as there is an error in gross margin budget where value calf should have been deducted from the output as opposed to adding on. The inputs have also been underestimated and the level of margin suggested is highly unlikely to be achieved.

4.1.3 Annual Cattle throughput and quality

Summary key issues

- The data provided within the study only refers to total numbers of cattle on the Island and therefore it very difficult to profile annual throughput of finished cattle. This exercise is considered crucial in order to have a 'base line' for current position and to plan the cattle numbers/ targets for year 1, 2 and three within the business plan.
- The increase in livestock numbers would have to be considered on an individual holding basis to ensure that they can comply with existing or future management agreements.

- Planning the throughput of finished cattle will be difficult taking into account the 'finishing system' proposed using minimal concentrate input. The system is likely to result in an ad hoc supply as farmers will supply as soon as cattle are ready to go.
- The calving patterns and the availability of 'quality forage' will have a major impact on any planned supply/throughput. Forage quality can vary from one season to another based on climate/weather change .
- The business plan indicates a throughput of 160 in year 3 but the feasibility study states(par 3.3) that there will be limited scope of exceeding 150 finished cattle per annum because forage area will become a limiting factor. Budgets also assume concentrate usage to be minimal hence a risk that planned throughputs will not be achieved
- The quality of carcasses could vary based on a number factors such as :
 - Beef quality of individual cows and bulls selected.
 - Nutrition health of calf from birth to finishing stage
 - Quality feed during finishing stage
 - The number of heifers going through to finish .Experience in selection of cattle for slaughter is considered vital when dealing with heifers as they more likely to add on fat compared to steers.
 - the ability of individual farmers to select cattle for slaughter at appropriate stage which can be difficult task even for the experienced producer
- The proposal is that Mainland Marketing will purchase stock from farmers but there is no proposal/policy established of how this will work to ensure a fair price for finished stock. Seasonal variations would have to be considered along with price achieved on mainland. There is a risk that farmers could choose to sell on mainland .

4.2 Sheep enterprise

Summary key issues

- Gross margin per ewe are considered to be very optimistic at a Gross margin of £51.78 Compared with EBLEX Business costings for flocks on the mainland the level of performance would suggest that the performance would be in excess that achieved by top third producers .

EBLEX data LFA Flocks (Nov 2006)

Per ewe

	Bottom(£)	Average(£)	Top(£)
Gross margin	20.62	28.54	41.76
Overheads	52.59	41.90	37.21
Net margin	-31.97	-13.36	4.56

Source :Promar International

EBLEX data Lowland Flocks (Nov 2006)

Per ewe

	Bottom(£)	Average(£)	Top(£)
Gross margin	13.49	29.35	41.18
Overheads	49.96	42.77	35.55
Net margin	-36.47	-13.43	5.62

Source :Promar International

- Replacement costs for ewes and rams within the gross margin assumes a net cost of £0.70 /ewe which is considered unrealistic. Replacement costs are likely to be higher and based on Eblex data for 2006 ranged between £9- £12 per ewe. The rate is likely to be higher as replacements such as the Llyn ewe would have to be purchased from the mainland with add on costs for transport/freight charges. As a single item this would have a major impact on the margins predicted
- Price achieved per lamb is optimistic and levels would suggest they would be achieving the weight and price as achieved by top third producers on mainland. Taking into account new producers with minimal experience and the quality forage on the islands this financial achievement is considered highly unlikely.
- There are no slaughtering costs therefore the assumption is that the abattoir are buying the lambs for processing and marketing. Based on average price of £50 this assumes that at certain times during the 'lamb season' this price will be higher as well as being lower. An average price £50 or above would normally be associated with early lamb production. Competition of lamb supply from the mainland will also need to be considered eg current season lamb price and competition from NZ imports.

4.3 Capital Cost Livestock

- The capital allocated for livestock purchases are considered low for cattle and possibly high for rams and low for ewes. The added cost of transport/ freight needs to be considered to these values.
Value of cows at £600 and Bulls at £1200 are considered to be on the low side if we are looking at quality stock.
Rams are even of higher value than bulls at £1400 and a price of £400 to £600 would secure a good quality ram. The ewe price of £60 is considered too low especially for the Llyn breed which is currently in high demand for crossing with continental breeds. The other factor to consider with the introduction of single farm payment the supply of breeding stock has reduced .

4.4 Farm Gross margin budget

- The estimated profit shown in the gross margin budget includes capital payments which can be misleading eg capital allocation for stone walling would be either a one off payment or phased eg from yr1 to yr 3. The budget would imply that every farmer who kept cows would be eligible for such payment(s) .Farm boundaries differ where some have no walls to attract funding whilst others would attract different levels of funding under various schemes.
- The contributions from various schemes are overstated whilst overhead costs are considered to be understated.
- The normal accounting system would include rental payments within overhead costs

4.5 Tourism and Implications for Public Access

The main source of revenue on the Isles of Scilly is from tourism and it is stated that one of the main attractions of the islands is the glorious landscape, through which there are many footpaths. The proposal states that it is important that this valuable asset is not compromised in any way and implications for access from the introduction of grazing animals should be carefully considered.

It also agreed that many visitors are attracted to the sight of grazing animals which adds interest and charm to a landscape.

Summary key issues

- Given the proposal the main concern is the ability of individual farmers to manage this landscape to required standards bearing in mind constraints of small fields and demand for variation in stocking rates throughout the seasons.
Impact of weather is another factor which has to be considered where damage to important species of vegetation can occur with grazing livestock during periods of drought or extreme wet conditions.
- Concerns are expressed regarding public safety especially when suckler cows have young calves at foot. The risks are higher post calving with the high risk period being the first 3 months and to a lesser extent the remaining period to 6 months. The risks are considered higher if visitors had dogs and there are concerns regarding the statement that in the ' *presence of livestock that dogs must be kept under close control.*' Dogs on leads pose a greater threat to the individual and would be regarded as very high risk situation in the presence of cows with calves at foot.

The proposal of a spring calving herd would coincide with start tourism season and also the spring growth and given normal calving spread this is likely to cover a period between April and August and possibly through to September. This would coincide with the main tourism season and the peak grass growing season.

Conclusion

Considering livestock number proposed per farm the margins for beef and sheep are likely to be marginal and when overhead costs are accurately accounted for the level of net margin is likely to result in a loss especially where economy to scale cannot be achieved. This can be confirmed by EBLEX data for commercial herds where accurate costing are used to compare achievement under different systems. This comparison concludes that the gross net margins are optimistic and some of the financial assumptions made in the proposal are considered to be unrealistic.

The evaluation also concludes that some of the practical issues of livestock management have not been fully considered.

The financial gains in terms of 'profit' per farm is considered to be overstated .The result considered to be a combination of overstating income streams / livestock margins as well as understating of overhead costs

Economically a small scale beef/sheep enterprise is considered to be non viable and in the long term is not sustainable unless producers are compensated or subsidised for having stock on their farms. The conclusion is that for those that retail meat the extra margin is on the sale of meat as opposed to any margin for production.

Tourism is vital for the economy of the islands and the attraction for visitors is the policy of open access to the countryside. There are footpaths and walkways around the islands but it has been confirmed that the visitors will stray away from footpaths along any areas of interest.

In the interest of public safety cows and calves at foot should be kept away from direct contact with the public during a minimum period of three months and pending on breed even six months. Thus would have implications for land with footpaths and also for land that is adjacent to any areas where there was public access. In order to safeguard the public livestock grazing areas and boundary fencing will need careful consideration.

5 Environmental Report

5.1 The Environmental Stewardship Scheme for Isles of Scilly

The Joint Character Area description (JCA 158) of the Isles of Scilly is a key document in relation to the environmental Stewardship scheme. The environmental issues identified in the proposal regarding impact of the reduction of livestock can be confirmed where it states that:

- the encroaching of gorse and bracken into areas where grazing livestock have declined as being damaging to wildlife .
- Identified as a major issue is the management of maritime heathland by grazing to reduce the spread of bracken and scrub.
- In addition to grazing aspects the protection of field boundaries such as dry stone walls, banks and hedges from abandonment linked with the decline in livestock grazing.
- The environmental stewardship targeting statement for JCA 158 identifies key targets which include
- SSSI's or land adjacent to it, management to maintain or restore in favourable condition.
- Priority habitats such as lowland heath land, coastal habitats and wetlands
- Characteristic field boundary patterns

This illustrates the importance of livestock grazing and its associated management practices to the habitat. It also identifies SSSI's as a key target areas.

5.1.1 Managing Potential Impacts of Grazing

The re-introduction of grazing livestock-cattle would over time deliver benefits for the vegetation and the variety of wildlife it supports. The EIA mentions that if sensibly managed it could have beneficial effects on the wildlife and vegetation. This is correct

but there would have to be a compromise between managing for the highest commercial return and that required for the coastal and heath land habitats.

The mention of sensibly managed would probably mean some guidance and monitoring from Natural England. Consideration will have to be given to:

- A need for the commercial return to be balanced with habitat objectives
- Land managed on or next to SSSI's should consider entry to Higher Level Stewardship Scheme (HLS)

Summary key issues

- During discussions with Natural England the main issue would be grazing management and the need to adjust stocking rates between winter and summer grazing. The avoid of overgrazing was highlighted as the Island has many plants and vegetation that is considered of major importance even on land currently considered as 'clean land' ie the main area currently being farmed. The main implication of this is that strict controls would probably have to be put in place along with monitoring controls.
- Livestock numbers would have to be assessed on a farm by farm basis to comply with the concerns expressed above. The assumption made in the proposal that all farms would have 5 cows and 10 sheep may not apply (excluding any other issues regarding commercial practicability for this level of stocking density).
- The total number of stock on farm has to take into account the age of finished cattle and thus with two to three year finishing period the minimum number stock based on 5 cows per farm is likely to be between 15 and 20 head stock at any one time. Grazing management policy to be implemented is likely to be impractical for many of the farms on the Island bearing in mind that 54% farms are under 30 acres (based on feasibility data)
- There is a risk that beef numbers would be built up using clean land as opposed to land attracting HLS payments ie the focus of production could be on land currently used for other farm enterprises .

5.1.2 Associated Infrastructure

The assessment of the siting of gates, fences and water troughs is satisfactory with the obvious problem of added cost due to the constraints highlighted within the document. Public access will significantly influence this. The feasibility study points out the significant expense of stock proofing the grazing fields.

Summary key issues

- Area for fencing needs to be mapped out on a farm by farm basis to establish requirements so that estimation of costs can be as accurate as possible.
- The fencing costs in the feasibility relate to costs on a per 100m basis combined with individual cost of materials. There is no detailed information available to check the capital requirement to cover fencing or water. The capital of £35,000 for fencing and water is therefore assumed to be an estimated figure
- Cost of fencing and water material has increased in line with cost of steel and would have to be factored into any revised budget, Accepted that the feasibility was undertaken in the early stages of this proposal 2003.
- In event of proposal to have mixed grazing with cattle and sheep there will be need to have all fencing stock proof for sheep. In reality it may prove to be a better

proposition to fence dedicated areas at the expense of the benefits of mixed grazing. The possibilities will vary from to farm and without initial assessment costs will remain as a rough estimate of capital requiremnt.

Some of the main aims of the Higher Level Stewardship Scheme are:

- Maintenance and enhancement of landscape quality and character
- Promotion of public access

Key issue

- No mention has been made within the proposal and it should be considered on those holdings which would meet the key targets for JCA 158. Areas for public access will need careful consideration especially if they are to be in contact with livestock (refer to section on pulic access and safety issues)

5.1.3 Implications for Public Access

The changes in the vegetation and the landscape could have benefits for public access if this project is feasible. However, there may be a conflict with public rights of way the possible costs may be considered as part of a capital works program in the Higher Level Stewardship Scheme. The Higher Level Stewardship may provide capital works funding for public access if the proposal went ahead.

5.1.4 Bracken Control

The means of control described is relavent and could be one of the options in an Entry Level Scheme application, (EL6) but is only available within Less Favoured Area parcels of 15 ha or more. Where possible it states that control must be by mechanical means such as cutting or perhaps rolling with a piece of angle iron attached across the roller to bruise the braken stem. This prevents the plant from growing any further as it does not send a shoot up to replacement one that has been cut off.This could be part of Entry Level Application in which case farmer would be paid to carry out the tasks.

Key issue

- This only applies to areas 15ha or more and taking into account the size farms it is likley to exclude the majority of farms on the Island.

5.1.5 Scrub Control

The methods suggested are compatible with normal practice for scrub control. It will require regular cutting or cutting and the use of a herbicide. Obviously this will enable more grass to be established and grown but the practice of control must be maintained in the autumn and winter to be effective and sustainable.

Key issues

- Practice must be maintained to be effective
- Need to get farmers on board to impliment such practise.

- No costs have been included in any budget for scrub control as the assumption has been made that grazing livestock will bring back land to productive use without any assistance. Considering the proposal to fatten cattle on such land it is considered that the standard on management will require some mechanical / herbicide support to restore current scrub land mentioned within the report involving up to 300 acres.

5.1.6 Provisions for Monitoring

This is considered a key area and the report states that the Wildlife Trust would be willing to monitor these effects, make recommendations for stocking rates and turnout on wildlife trust land. The report also suggests that the use of the Wildlife Trust Habitat Management plan should be used by the graziers (land manager) to meet the aims and objectives of the trust.

Summary Key issues

- The farmers would have to implement the management recommendations including control of stocking rates during different periods and considering many have no experience of livestock production there could be problems for certain individuals in understanding the practical application of a set management plan.
- Land managers outside of Wildlife Trust are likely to need guidance and on-going monitoring to ensure that the aims of the trust are met to bring back neglected land into production. Equal emphasis will have to be given to ensure that existing habitat is not damaged in any way.

5.1.7 Traditional Breeds Incentive Scheme

This scheme will only apply to farmers who farm land with SSSI status and land adjacent to it. It is targeted towards extensive livestock production systems where there is a benefit to nature conservation management.

The requirements are that land must be entered into either the Countryside Stewardship Scheme or the Environmentally Sensitive Areas scheme. Approval to the scheme will be based on farm assessment and certain restrictions may apply which is likely to include:

- Grazing may be restricted to a particular period
- Maximum and minimum Stocking rates will be set according to habitat.
- Pure bred breeds and offspring must be used
- No inorganic fertilisers to be used
- Additional management prescriptions may be applied

Summary Key issues

- Based on the feasibility study a maximum of 16 farmers would be eligible to payments under this scheme. Farm budget implies all farmers would be eligible
- This scheme in use by the various wildlife trusts is not always a commercial venture in itself, it is used as a management tool for the habitat management.

5.1.8 The Countryside Stewardship Scheme

The schemes and payment rates have now changed, the old countryside stewardship scheme is no longer available and has been replaced by two levels.

Entry Level Scheme

The payment rates for eligible land is a flat rate of £30 per hectare per year, for fields of 15ha or more within the LFA the flat rate is £8 per ha per year.

Higher Level Scheme

This is discretionary and its aims are to deliver significant environmental benefits which are targeted to the JCA and its key targets.

Summary Key issues

- Natural England confirmed that many environmental agreement on the Island are coming to an end and many farms will now be looking for new opportunities to replace old agreements. Many are believed to be dating back to 1996.
- The average payment for current scheme for farmers who participate is £70/ha and on an individual farm ranges from £50 to £200/ha. However £200 would have to be a key area and are not regarded as the norm.
- Budgets suggest that all farmers would be eligible for rates for managed pasture at £115/ha and improved at £70/ha. The example given would suggest an average rate of £101/ha for individual farms which is far short of current average for achieved on the Islands.
- Study has informed us that next year's budgets for environmental schemes are very tight and are likely to be restrictive as a result of the take up of ELS
- Basic scheme payment rates for the ELSs likely to be less than the rates for the old scheme quoted in the feasibility study
- Farms which meet key targets should consider the HLS and capital works initiatives irrespective of the outcome of this evaluation

5.1.9 Stocking Rates

The EIA points out that stocking rates will be considered on a site by site basis. It gives a guide for heathland for summer and winter stocking. This stocking rate will be specific to the habitat management and will be significantly lower than commercial farming practices.

The use of native breeds for habitat management often means over wintering some cattle at stocking rates which are very low. The alternative would be to in winter and there will be a need for winter forage for the housed animals which.

Summary key issues

- The possible need for hay was pointed out in the EIA, the susceptibility of this crop to weather conditions and the equipment required to handle it may be a factor in preventing this type of crop.
- Motivation for Hay/forage making could be limited on the island.
- Many farms are of insufficient size and lack scale to produce forage for sale.

- Availability of suitable equipment could be an issue and feasibility study would imply that suitable equipment would be available. Such costs have not been included.
- Forage Crop yields are likely to be low as fertilizer usage would be limited and local knowledge would suggest that during hot seasons land tends to 'burn' which would be an added burden.
- Those farms on HLS can consider Hay making supplement £75/ha if they have are of sufficient size and have the capacity to allocate land for this purpose

Conclusion

From an environmental aspect the use of beef cattle to improve and manage the habitat is considered of benefit and can be confirmed by similar management practises on other sites throughout the UK. Many adopt the approach of mixed grazing using a mix of cattle and sheep or even cattle and horses which eliminates need to have specific fencing for sheep.

The stocking rates used to achieve such benefits are very low and from a commercial beef production view point will reduce the financial output considerably.

The use of the traditional breeds incentive relates to SSSI land and relies on pure breeds, with pure bred progeny and stocking rates which is related to the habitat. These cattle are often kept for conservation purposes and retained for their entire life. This can be confirmed by other area's of the UK where the use of beef for this purpose is a tool for habitat management and not always as a commercial beef enterprise.

The relatively new Entry Level Scheme is a flat rate payment of £30/ha which will be significantly below the old stewardship scheme payments illustrated in the feasibility study. Some of the farms will still be on the old scheme it has been confirmed that the average payment per ha is far less than what was anticipated when the feasibility study was produced.

The likely impact of the new scheme needs to be considered irrespective of outcome of the proposed project. Those farms which meet at least 5 of the key targets from the JCA should consider the Higher Level Scheme. Payments are related to the type of options which fit with the key targets. The Higher Level Stewardship scheme offers capital funding for boundary restoration, public access, hay making supplement and scrub and bracken control.

The land managers will require practical advice and monitoring of the effects of cattle grazing which the study points out may be secured from the Wild LifeTrust and English Nature. Without this support the conservation objectives outlined may not be achieved.

6 The proposed abattoir

It is proposed to develop an abattoir and cutting plant on a site near the incinerator on land owned by the Duchy of Cornwall in Hugh Town, St Mary's together with an umbrella fund for livestock producers to enable them to put in place the required infrastructure such as fencing and water provision; Shared livestock handling facilities; livestock trailers and breeding stock.

Total project costs to develop an abattoir, operate it for the first year and the umbrella fund are £443,510 with £226,030 (50.9%) grant aid requested from Objective One.

The programme also includes training and extension activity (funded from other sources) to support farmers in the skills of livestock production.

The feasibility study identified that there is adequate land area on the islands devoted to or potentially available for grassland to allow for livestock production at the required scale to allow an abattoir/cutting plant to be financially viable given a small premium for meat at point of sale and contract slaughter/cutting services.

Table: Project milestones

Milestone	Target Achievement
Planning permission received	September 2004 (achieved)
Objective One Support confirmed	November 2006
Abattoir construction completed	May 2007
Abattoir commences activity	1 st June 2007

Abattoir staff recruited (up to four by year three)	April – June 2007
Year 1 Throughputs – cattle, sheep, pigs	*80 cattle; 60 lambs; 20 pigs
Year 2 Throughputs – cattle, sheep, pigs	100 cattle; 100 lambs; 30 pigs
Year 3 Throughputs – cattle, sheep, pigs	160 cattle, 150 lambs; 35 pigs
Umbrella funding utilised	December 2008

* A recent survey indicated that cattle numbers on the island have increased by around 90 cattle since 2004 and hence the milestone numbers of cattle have been increased by 30 cattle in year 1, 10 in year 2 and 15 in year 3.

6.1 Background UK Legislation on Abattoirs

The regulations under which all food production premises operate changed from 1 January 2006. This affected both abattoirs and the other primary and secondary meat processors and will affect the plans for any new plant built on the Isles of Scilly. In July 2000 the European Commission published measures to update and consolidate 17 existing hygiene directives. The objective was to modernise the existing legislation (some now over 40 years old) in order to establish conditions that prevent, eliminate or acceptably control pathogen contamination of food.

In the UK this legislation is divided into three main sections that directly affect food businesses. It is known collectively as H123.

- **H1 (852/2004)** - covers the hygiene of foodstuffs and includes requirements for all Food Business Operators (FBO's)
- **H2 (853/2004)** - contains specific hygiene rules for food of animal origin and includes specific requirements for FBO's involved in the production of meat and meat products.
- **H3 (854/2004)** - contains the rules for the operation and application of the official controls on food production.

(for full implications see *Guide to Food Hygiene and Other Regulations for the Meat Industry (MIG)* – FSA)

The regulation clearly states the duty of the FBO and introduces a new approach to food safety by including primary production (e.g. farmers), often for the first time. The regulation calls for a flexible self-regulatory approach based on HACCP principles and good practice.

It is hoped that if an FBO is able to demonstrate that good hygiene controls and practices are in place, the level of official intervention and inspection (and the cost) will be reduced .

For abattoirs there will still be a requirement for an OVS to oversee the plant and some level of daily MHS control. For cutting plants daily control will be largely replaced by periodic compliance visits, the frequency of which will depend upon the assessment of the plant and its size.

These regulations were enforceable from 1st January 2006 and in the abattoir and meat cutting sector all existing licensed and all proposed new plants are required to apply for a new license, because the old legislation has been rescinded.

For a new plant the regional FSA Veterinary Meat Hygiene Adviser , should be consulted at an early stage to give them the opportunity to comment on the plans for the plant. They will not however license the plant until it has been built and is demonstrated as operating to their satisfaction.

6.2 Operational Costs of an Abattoir and Viability of the Isles of Scilly Project

The following section examines the budgeted operational costs for the abattoir and cutting facility as detailed in the Objective One Application. It must be noted that the costs shown are typical estimated benchmarked figures for a plant of this size. Similarly the figures with which we have compared them comes from information MLC has on plants of a similar size and type

The exact operational costs may differ from these estimates, but nevertheless we believe that these will give an indication of the likely reality of the costs that will be involved.

It is in the view of the review consultants that clarity from the outset will be required to determine the desired financial return of the facility. The main question in need of the proposed facility be required to return a worthwhile financial return or addressing is;

Will the proposed facility be required to return a worthwhile financial return or simply act as a loss leading (or breakeven) enterprise that is vital in order to support the stock production and grazing activities.

We begin this section of the review by a short explanation of how the MLC approaches the calculation of the operational cost of abattoirs and meat processing plants.

Operational Costs

Cost Variation

MLC work has shown that although the actual comparative cost involved in running abattoirs can vary significantly, the main cost centres (associated with facilities that are slaughtering cattle, sheep and pigs and those that are cutting/packing /wholesaling the meat) and the proportional relationships are similar.

The variation that is seen in operational costs between plants depend principally on the:

1. Size of operation
2. Specific nature of the operation (i.e. what combination of slaughtering and further processing is the plant engaged upon)
3. Management structure, efficiency of operation and other special factors that all play a part e.g. specific environmental requirements such as waste water treatment

Nature of Operation

For many companies operating an abattoir, slaughtering is only the first stage of what they do. The purpose of the abattoir for many companies is to service the needs of the company to produce and sell fresh meat to its customers

The more common additional processes carried out by abattoir companies, other than slaughter are those of:

- Maturation of the meat - either on the bone or after vacuum packing (the extent of which is limited in many plants due to the lack of chiller space).
- Primal boning and cutting - breaking the carcass down into the common large constituents; in the case of beef this usually means complete de-boning; vacuum packing of the resulting large joints. Some abattoirs have co-located cutting plants to undertake such activity, some have separate companies and in the smallest butcher abattoirs it is done as part of the retail butchery process
- Further cutting and preparation - some abattoirs will break down and pack the primal cuts into consumer sized portions for the retail and catering trades, although this activity tends to be left to other specialist companies. The large abattoirs serving the supermarkets tend to have separate retail packing plants.
- Contract / service slaughtering in addition to sales of meat, companies may also offer 'contract slaughter services. Today such services are rarely offered by the larger abattoirs serving the large supermarkets.
- Contract/service meat cutting and preparation

Clearly, the extent of this additional activity will affect the cost structure of the plant.

The MLC Approach to Abattoir Costings

Many of the costs in an abattoir/processing plant are 'variable' on throughput (e.g. where slaughter staff work on piece rate terms; the water used; the power used etc), although traditional convention may consider such costs as 'overheads'.

An approach MLC has long used is to consider the major costs in abattoir/processing plants as 'operating costs'.

These are used together with information on returns to calculate key indicative operating parameters:

1. Value of meat sales; returns from contract slaughter; returns from offal and by products.
2. Cost of livestock for slaughter - made up of;
 - a. Cost of livestock
 - b. Cost of procurement
3. Gross margin on sales (1 minus 2)
4. Operating costs
5. Operating profit (3 minus 4)

With the following caveats:

- i. Operating cost and profit can be quoted before or after depreciation has been taken into account.
- ii. Capital (debt) repayments can similarly be treated as part of the 'operating cost', or as a further deduction from 'operating profit'.
- iii. Any realisation in the value of the 5th quarter (the offal and by products) can be treated as a credit on the 'cost of livestock', or the 'Operating cost – in particular the slaughter cost, rather than as an addition to the total 'value of meat sales'.

6.2.1 Production Costs

6.2.1.1 Labour

Even the smallest abattoir typically has at least two types of operatives, those working in the 'clean' areas (dealing with dressing the carcase); and those working in the 'dirty' areas (dealing with the lairage, guts, hides etc). In very small plants these operations may be carried out by the same staff moving between areas and changing clothing in hygiene stations located between work areas.

Plants that have primal cutting and packing operations also have cutting and packing room staff. In some plants these 'clean' and 'cutting room' staff may be the same people, for example, in many pig slaughterhouses the staff will slaughter in the morning and process

the previous days kill in the afternoon. In the smallest plants one or two men may do everything!

Those working in the management, administration or selling are usually accounted for under separate 'administration' cost categories

Labour is paid either on 'piece' rates (reflecting throughput), or hourly/weekly (reflecting time). Clearly the incentive structure for labour will differ depending on how they are paid. In small abattoirs, where typically slaughter will take place on one or two days a week, piece rates alone are often not sufficient to retain staff unless the staff are able to 'float' between two or three small slaughterhouses.

Larger abattoirs with a more regular kill may prefer to pay weekly or even have some staff on salary. (Staff are increasingly more useful to a plant if they can be multi-skilled).

Rates for slaughter/cutting operatives vary depending on availability and skills of staff, but a rate of £8-£10/hour may be considered average – assuming that the operatives work an 8 hour day and 5 day week. It is expected that the rate would increase if operatives worked fewer hours per week. (Employers National Insurance and Pension Contributions must be added to these rates to account for the full cost of staff)

The staff rates for abattoir staff in the Isles of Scilly project shown in Appendix 12 are in line with this. Two part time staff should be able to cope with the proposed slaughter requirement for one day. However, we believe that they will need to work for longer than one day to cut and pack all that is proposed product to retail standards, we therefore believe the labour charges are on the low side.

6.2.1.2 Waste Disposal Charges (other than effluent/sewage)

Historically abattoirs earned money from the 'fifth quarter' (edible offals, blood, hides, skins, non edible offals for rendering for the production of fats etc). However, in the 1990s and especially since BSE in 1996, this situation has now changed drastically. Many by-products are now treated as waste, which abattoirs must pay to have removed and treated/rendered by specialist firms. All animal by products resulting from the activity of slaughterhouses are covered by:

The Animal By Products Regulations 2005 (England)

This applies and enforces **EC 1774/2002** and together they provide:

- The definition of ABP
- Categories of ABP
- Permitted options for disposal of ABP

- A legal notice to be served for the disposal of ABP or for cleaning and disinfection of vehicles, containers or establishments

Under these regulations ABP are defined as Category 1, 2 or 3 (see Appendix 1); in summary terms Category 1 refers to SRM material, that from related TSE sources, wild animals suspected of being infected with communicable disease, products derived from animals treated with dangerous substances; Category 2 refers to material that may pose a risk to human or animal health e.g. products containing residues of veterinary drugs or other contaminants, sludge, manure and digestive tract contents, animals that die other than being slaughtered including those killed for disease control purposes, post mortem rejects (currently under review), spoiled meat; Category 3 refers to parts of animals that have been slaughtered for human consumption but are not intended for such i.e. can be used as pet food, blood from animals that have passed inspection, animal by-products resulting from the production of food for human consumption.

All three categories of animal by-products must be kept separate from the point where they arise. If materials from two categories are mixed, that mixture must be downgraded to the higher risk category e.g. a mixture of Category 2 and 3 materials must all become Category 2 material.

Other regulations cover the staining, storage, labelling of ABP and the restriction of the movement of ABP that require staining, set out in:

Many abattoirs have incinerators to dispose of some of the waste on site and a few of the larger plants have their own rendering facilities.

Charges for waste disposal vary by region, the distance from the rendering plant and the volumes taken. Although average collection charges are listed fortnightly in the Meat Trades Journal, there is no 'standard charge' and abattoirs must negotiate collection charges with the renderer.

Indicative disposal charges (2004) – excluding blood

	£/head
Cattle	16
Lamb	1.50
Pigs	0.35

Charges are usually made per tonne at separate rates for the differing categories (co-efficient can be used to build up a total estimated waste tonnage and thus an estimated cost per animal)

In the context of the Isles of Scilly project it is indicated that such waste will be disposed of using the incinerator at St Marys, and that stomach and gut content (and presumably

some lairage waste, although some, it is indicated will go to a septic tank) will be composted (p 14 of the Application). The disposal charges allowed for this (p 39 of the Application) are comparable with the above.

The water rates paid by plants usually include a 'trade effluent' disposal charge based on the incoming 'fresh water' meter readings. Historically 'trade effluent' has been a mixture of wastewater, blood, straw and faecal material, but large volumes of blood now has to be disposed of separately. Many smaller plants are now disposing of blood by adding it to the SRM bin (for Category I waste), and many larger plants are storing the blood and having it tankered away for further treatment. Some large plants have to store all the trade effluent and pay to have it tankered away.

Many plants in rural locations are not connected to mains drainage and the 'trade effluent' produced would previously be spread on the adjoining farmland as a soil improver. Because spreading is no longer a permitted disposal route for blood, the remaining 'trade effluent' does not contain sufficient nutrients to class it as a soil improver and the spreading of this has also been prohibited.

Faced with the reducing number of disposal options many plants are installing on site effluent treatment and separation systems and reluctantly accept the additional cost of tankering away the resulting sludge.

See the comment on waste treatment in the section on comments on plant design. A new system to replace that described on p 14 will now be required.

Small returns are still available from the sale of edible offal and skins. For sheep skins at the time of writing the world market had picked up (with additional demand from China) and sheep skins were fetching between £1.50 and £2.00.

We believe that the estimated returns for cattle hides are 30 to 40% too low and that those for sheep skins are 50 to 100% too high.

Obtaining a return from the edible offals and other material that has a market, means devoting labour to separating and cleaning the material. Some abattoirs feel that the returns do not cover the costs and will add the material to the waste bin. Others employ outside contractors to take care of the gut room operations.

If the project went ahead the harvesting of edible offals is one that the plant should consider more carefully. See comments on plant design and costs.

6.2.1.3 MHS Inspection Charges

All abattoirs have to be licensed by the FSA and are currently monitored and animals and carcasses inspected by the Meat Hygiene Service 'Official Veterinary Surgeons' and 'Meat

Hygiene Inspectors' in order to ensure certain hygiene standards. Since 2001 an option of being charged a headage rate (rather than a flat time charge) was given; the headage charge is the most efficient for small/medium abattoirs. The relevant figure for each species is:

	£/head
Cattle	2.76
Sheep	0.31 (for weights over 18kg)
Pigs	0.80 (for >25kg)

These need to be checked as rates do change annually. The headage charge above covers all inspection duties, both ante and post mortem.

6.2.1.4 MLC Levy

The Meat and Livestock Commission takes a levy from both livestock producers and abattoirs within Great Britain in order to fund technical, marketing and policy work for the industry. MLC charges the abattoir must pay are:

	General Levy	Promotional Levy	Total
Cattle	2.15	2.42	4.57
Sheep	0.33	0.34	0.67
Pigs	0.40	0.65 (+PIDS 0.2)	1.25

The abattoir is able to claim the entire promotional levy and half the general levy back from producers:

	£/head
Cattle	3.495
Sheep	0.505
Pigs	0.805

In view of c and d above, the combined MLC and inspection charges indicated in Appendix 7 of the Application seem high. We understand there are issues regarding the provision of a vet/meat inspection on the islands, that may affect these charges.

6.2.1.5 Quality control

In many of the larger abattoirs, there are now specific 'quality control staff', particularly in the large pig plants but also increasingly in the larger cattle plants and beginning in the larger sheep plants; initially such staff were most concerned about cutting operations, but with the

need for HACCP throughout the plant (and the inspection requirements of 'assurance schemes' and supermarkets) their role has grown to cover all operations.

The smaller/medium abattoirs are also now faced with HACCP requirements but few will have staff dedicated to this purpose.

Other aspects of quality control also include the payment for the provision of independent services, such as those supplied by MLC Service Ltd to undertake independent weight authentication and classification. In the larger plants automatic classification (or carcass assessment) techniques are now being introduced (e.g. the visual image analysis of carcasses), particularly in the large pig plants. This information is crucial to the price and payment schedules for the stock purchased and when carried out independently helps to create an aura of trust between the abattoir and its customers.

A key part of the proposed project is the production of quality product. However, currently the Application gives no indication of any specific internal specialist quality control staff, or any payment of an outside third party to do this (or any specific training in such as animal welfare).

6.2.1.6 Other Production Costs

The following are the major other 'Operating Costs'; they are sometimes defined as fixed or overhead costs in some abattoir accounts, although they are dependent upon throughput.

- Energy – heat, light, power
- Water and effluent
- Repair and Maintenance
- Cleaning, Laundry
- Packing materials
- Selling/distribution

Key issues

The costs for the Isles of Scilly are, where possible, compared with MLC figures for a plant of a similar size and type in Table 2 below but there are omissions:

- Laundry – no cost for cleaning clothes seems to have been included.
- Packaging - is mentioned in p23 of the Application , but there is no cost for packing materials in the cash flow projector (a capital cost for a vac packer is included in Appendix 11.
- Selling and distribution -given that a major market for the product will be on the mainland, the costs for selling and distribution (i.e. transport, advertising), excluding marketing staff, seem light.

6.3 General Overhead Costs

The following are also defined as 'Operating Costs', although unlike those in other production costs above, in most plants they are in general independent of throughput.

6.3.1 Administrative staff and management

The operation of a small plant could require the employment of up to one extra person for all or part of the week (depending on throughput), purely to cope with the administrative requirements in handling animals, even if the plant is only involved in contract killing stock and not with any trading.

The majority of abattoirs are purchasing stock to convert to meat for re-sale. Depending upon the size of the business this can require additional staff to specialise in livestock procurement and sales. In smaller plants the administrative staff can undertake these duties and in small and medium plants the owner/manager is also usually involved.

All administrative and management staff are assumed to be part time. The time allowed for management (giving their other duties i.e. see Appendix 12) seems to be very low.

6.3.2 Rates

The calculation of rates on abattoirs is carried out by specialist valuers, typically taking into account location and floor area of different parts of the facility.

6.3.3 Insurance

Has become an increasingly significant cost for plants, not only to cover third party liability (to employees and customers), but also to cover the structures and equipment of the plant, which because of construction materials have put many facilities into a higher fire risk category.

6.3.4 Repairs to plant building/structure

Can also include repair to surrounding infrastructure, of entrance roads, hard-standing, maintenance of vehicle wash facilities etc.

6.3.5 Other office costs

The main other costs in this category are those involved with: *staff recruitment, security, telephone, postage and stationary, computer, bank charges, subscriptions, audit and accountancy, legal and professional fees*

6.3.6 Depreciation

In its simplest terms, depreciation is the amount of money needed to replace worn out equipment at the end of its working life. As such this amount of money must be collected over the course of the life of the equipment; in this sense it can therefore be seen as a cost. Several types of formula are used to calculate depreciation; variables include value of equipment when purchased; value when sold/scrapped and life expectancy of equipment.

MLC IC usually works on a 20-year lifespan for basic slaughter plant structures, equipment lifespan can vary (e.g. computers 3 to 5 years), but an average of 10 years is acceptable.

The Isles of Scilly projects depreciation rates seem reasonable.

The above items indicates the main categories of cost incurred by abattoirs in the typical slaughter process (first stage primary processing) and slaughter/cutting (first and second stage primary processing).

Additional costs to what could be defined as 'normal' would be incurred if, for instance, meat was hung for longer in maturation chillers (requiring more chiller space – i.e. involving a greater capital cost, and greater energy costs – operating costs).

It is difficult to judge from the Application if sufficient allowance has been made for the operational cost of 10 day maturation. As far as the structures are concerned the review consultants have a concern that there is not enough chiller space in the plans (see comments on plant design).

6.3.7 Benchmarking Operating Costs

Although actual costs vary by size of plant, studies over the years have indicated that for plants of a similar type, the operational costs are likely to be proportionally very similar e.g. the labour as a proportion of total costs.

6.4 Costs and Financing

In practice it is found that three key 'Overhead' costs can vary greatly and are much more dependent on individual plant circumstances than others; these are those associated with:

- Rates (municipal charges)
- Deprecation
- Other financial charges – interest

Consequently in the proportional 'Costs' presented in Table I, these have been excluded. In practice they are of course crucial.

Taking the case of depreciation and finance charges for example, in recent years many of the feasibility studies prepared by MLC IC for the construction and operation of small abattoirs in particular, have shown that on a new build (i.e. one that uses all new materials and equipment, with the plant being constructed by outside contractors), if the cost of **depreciation** is fully taken into account and if any **hard loans** (i.e. from banks and finance houses) are more than 25% of the equity, then given the low profit margins inherent in the industry it is often very difficult to make a sound economic case for the project.

It is worth noting that in the Applications description of the source of funds, the need for a large bank loan (in addition to grant aid) has been removed by the assumption that, what amounts to, considerable goodwill gifts of funds to support the project can be obtained (i.e. these amount to £162,000 or over 36% of the overall project costs).

The operational costs that relate to laundry, packing materials and distribution can vary significantly between plants. This is particularly so in the case of the latter two, which can increase or decrease depending on the level of further processing (cutting and packing) that takes place on the site.

The operating costs relating to repairs and maintenance also vary between plants across the country due to factors such as throughput, the age of the plant, willingness of management to regularly invest and upgrade etc.

6.4.1 Cost comparison of Isles of Scilly of MLC Model Abattoir with the proposed Isles of Scilly plant

Table I focuses on the operational cost of slaughtering and primal cutting that could be expected from the size of abattoir being proposed on the Isles of Scilly. The costs associated with livestock procurement and sales have been excluded. As a result the costs are broadly inclusive of both animals purchased for meat re-sale and those that are slaughtered on a

contract / service basis; in the same way the transport of carcass meat to either customer is treated the same.

The costing information is derived from the 'real' situation in a number of plants whose accounts MLC IC had access to in the course of other consulting work since 2004.

The indicative costs for the Isles of Scilly plant uses the model figures as a base and adjusts them to take account of the different proposed slaughter configuration of 160 cattle, 150 sheep and 35 pigs a year. This also assumes that the same level of cutting and maturation would be taking place. The percentage proportionalities between the costs will change slightly depending on the slaughter configuration between cattle, sheep and pigs.

These costs do not include the cost of breaking down carcasses to retail packing, these are included in Table 2.

Table I Operating Costs

	Total	Number	Total	Number	Total	Number
	Cattle	Primal	Sheep	Primal	Pigs	Primal
	Kill	Cut	Kill	Cut	Kill	Cut
	160.00	90.00	150.00	70.00	35.00	20.00
Operating Costs						
Labour:						
<i>Slaughterline and lairage</i>	-	-	-	-	-	-
<i>Cutting</i>	-	-	-	-	-	-
<i>General</i>	-	-	-	-	-	-
<i>Other</i>	-	-	-	-	-	-
Sub-Total	£75.00	£8,850.00	£6.00	£708.00	£12.76	£350.90
Waste disposal	£14.76	£2,361.60	£1.16	£174.00	£1.88	£65.63
Meat inspection, vet	£2.76	£441.60	£0.31	£46.50	£0.80	£28.00
MLC levy	£1.08	£172.80	£0.17	£25.50	£0.45	£15.75
Quality control	£0.75	£120.00	£0.06	£9.00	£0.13	£4.55
Other production:						
<i>Energy (heat, light, power)</i>	-	-	-	-	-	-
<i>Water and effluent</i>	-	-	-	-	-	-
<i>Repair and maintenance</i>	-	-	-	-	-	-
<i>Cleaning, laundry</i>	-	-	-	-	-	-
<i>Packing materials</i>	-	-	-	-	-	-
Sub-Total	£19.63	£2,789.80	£1.45	£193.80	£3.19	£101.79
Distribution:						
<i>General distribution</i>	-	-	-	-	-	-
<i>Motor vehicle repairs</i>	-	-	-	-	-	-
<i>Motor insurance</i>	-	-	-	-	-	-
Sub-Total	£12.00	£1,920.00	£0.96	£144.00	£2.04	£71.40
General overhead:						
<i>Administrative staff and management</i>	-	-	-	-	-	-
<i>Rates</i>	-	-	-	-	-	-
<i>Insurance</i>	-	-	-	-	-	-

Repairs to plant building/structure	-	-	-	-	-	-
Other*	-	-	-	-	-	-
Sub-Total	£18.46	£2,953.04	£1.52	£228.00	£3.36	£117.62
Total (excluding depreciation)		£19,608.8		£1,528.8		£755.63
Cost per head - kill and primal cut	£144.4		£11.63		£24.60	
Cost per head with mix of kill only and kill and primal cut.		£122.56		£10.19		£21.59

Other* - costs in this category are those involved with: *staff recruitment, security, telephone, postage and stationary, computer, bank charges, subscriptions, audit and accountancy, legal and professional fees;*

Indicative Operating Costs

Costs per head

The operating costs above can be taken together with the individual species throughput in the plant for the same period to establish indicative costs per species slaughtered (after allowing for some adjustments); these are important when assessing the level of return that is required from contract/service slaughter.

In practice, slaughter and cutting lines are set up to operate at a given level of throughput (usually described in terms of carcasses processed per hour); against this 'desired' level of throughput there will be an associated level of operational costs.

A major problem facing most plants is that if livestock numbers fall below the 'designed' level of throughput in the short/medium term, this level of costs (although it contains fixed and variable elements) cannot be easily reduced in the same proportion (there are some items that are totally variable but many in the short/medium term are fixed). In such circumstances the unit cost of slaughter will increase. Therefore an annual unit cost of slaughter derived from the annual operating costs, may be an average of what is the true seasonal cost, if throughputs vary.

At the same time, most plants are often set up in a way to sustain throughputs that are higher than the 'designed' level for the short/medium term, without a proportional increase in costs. Assuming a basic level of primal cutting after slaughter, the operating costs per

species (excluding retail cutting and packing), for the Isles of Scilly slaughter configuration, derived from the background costs needed to produce the figures in the table are:

	£ a head
Cattle	122
Sheep	10
Pigs	21

6.4.2 Total Operating Costs of the proposed plant

Because of the way in which the cost figures are presented in the Application it is not possible to provide a direct comparison with Table 1. Therefore, Table 2 compares the third year operating costs contained in the report and the MLC figures detailed in Table 1 (also based on the third year projected throughputs)

Expenditure / Operating Costs	EFFP Report	MLC figures
MLC figure from Table 1		£21893
Livestock Processing Cost	£15965	
additional cost for retail cut and pack using MLC figures (*)		90 x £227 = £20430 70 x £24 = £1680 20 x £68 = £1380 total = £23490
Maintenance and cleaning	£4200	
Machinery repairs	£1080	
Transport cost	£1440	
Power and water	£1900	
Management salary	£12000	
Rates(**)		
Advertising	£1300	
Office costs	£1440	
Insurance	£960	
Accountant	£1200	
EFFP Total	£41485	
MLC Total		£45383

(*) MLC figures for retail packing add these additional costs for labour and packing materials

(**) Rates have been excluded.

Key issue

This shows that the total operating cost contained in the report are lower than comparable with the MLC standard figures. In addition it should be remembered that in the previous section, that commented on individual costs, there were concerns that labour, laundry, packaging, selling, distribution and management had not been demonstrably accounted for.

It should be noted that in many cases seen across the country, abattoir businesses of all sizes rely heavily on their wholesaling/retailing activities to enable total business viability – slaughtering activities alone rarely make substantial returns to a business. This is particularly true for small throughput plants unless it is supplying a niche market where a premium price can be charged for the product.

6.5 The Overall layout of the Abattoir

The documents provided include many older versions of the Objective One application. This creates considerable confusion as all the older versions are dated the same – July 2005. By reading the dated support documentation it is possible to determine the most recent version and this copy has been used in preparing this report

The design of the abattoir is shown on three drawings provided with the information pack.

An AutoCAD drawing with a “Planning Permission Granted 31.05.06” stamp in the corner.

A hand drawn version dated 27.02.06 (believed to be by CTS Ltd)

An Elevations drawing by the Chartered Surveyors with a “Planning Permission Granted 31.05.06” stamp in the corner.

Between the hand drawn version and the AutoCAD version a Cutting Plant and amenity area has been added so the following comments are based on the newer AutoCAD version.

We realise the plant is only intended to process a small number of animals but the provision of a crush within the lairage would enable safe veterinary inspection to be carried out.

The gate to the right of the lairage entrance will be awkward to use as animals will have to enter and then immediately turn to the right. If the gate was relocated adjacent to the cattle blood trough wall it would make stock movement easier by creating a diagonal route through the pens.

Because of the small number of staff at the plant we assume that they will have to move between the lairage and the slaughterhall. This is normal for low throughput slaughterhouse but to ensure hygienic separation of “clean” and “dirty” operations it is essential to provide a small hygiene station between the two areas. To ensure contamination from the lairage does not enter the slaughterhall the brown lairage smock and boots should be changed for the white slaughterhouse coat and boots. The reverse procedure must be carried out when moving from slaughterhouse to lairage and staff should wash their hands when moving in either direction.

There is an internal wall shown between the landing area and the cattle dressing pram. It is a good idea to have a barrier between the landing area and slaughterhall but this is usually a series of bollards giving staff an escape route rather than with a full height wall.

The smalls pen shows a hoist but to minimise the delay between stun and stick an elevator should be used in place of the hoist. The slaughtering regulations do not detail a maximum allowable time between stun and stick but it does say that the delay should be as short as

possible. The Farm Animal Welfare Council report on the slaughter or killing of red meat animals recommends that the law should be changed –

Recommendation 210. The law should be changed in England and Wales to permit the bleeding of pigs and sheep within sight of their con-specifics, provided that, for head only electrical stunning, a maximum stun to bleed time of 15 seconds is set down in legislation.

After sticking the legislation states that no further dressing should take place until, in the case of bovine animals, a period of not less than 30 seconds; and in the case of sheep, goats, pigs and deer, a period of not less than 20 seconds.

The pig scald tank and dehairer will have to be moved when dressing sheep to provide space for staff to stand in front of the fore-leg conveyor.

The location of the boot wash and boot racks is shown just inside the main door. These should be located within or adjacent to the exit from the hygiene area where all staff and visitors entering the plant can use them.

The door in the rear of the Cutting Room should only be used as a fire escape and all staff and visitors must enter the room via the hygiene area. This door must not be used as a “short cut” and should be fitted with a one way break out latch.

The Elevation drawing shows stained softwood windows and doors. These are permitted within the regulations but the wood must be finished with a waterproof seal and this must be maintained to prevent moisture attacking the wood leading to bacterial growth, contamination and splintering. A more practical solution is to use plastic frames for all the windows and staff access doors. The remaining external doors to the lairage, gut room, hide room, casualty entrance, etc would normally be galvanised steel and the insulated despatch door would be plastic coated steel to provide a hygienic washable finish.

The plan and elevation drawing shows windows in the Cutting Room. Should the glass be broken then all product must be condemned and a full clean down carried out. One option is to use a modern plastic alternative to pains of glass but to avoid any problems most plants in the UK do not fit windows to the food production areas.

The drawing clearly shows insulation provided to the walls of the Carcase Chill Room but not to the Cutting Room. In the UK the legislation requires the air temperature to be maintained at 12 °C or below in working areas to help maintain the product cold chain. so insulation is usually provided to reduce the running cost of the refrigeration equipment.

Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin. Chapter V: Hygiene During Cutting and Boning. Food business operators must ensure that cutting and boning of meat of domestic ungulates takes place in accordance with the following requirements.

-
1. Carcasses of domestic ungulates may be cut into half-carcases or quarters, and half carcasses into no more than three wholesale cuts, in slaughterhouses. Further cutting and boning must be carried out in a cutting plant.
 2. The work on meat must be organised in such a way as to prevent or minimise contamination. To this end, food business operators must ensure in particular that:
 - (a) meat intended for cutting is brought into the workrooms progressively as needed;
 - (b) during cutting, boning, trimming, slicing, dicing, wrapping and packaging, the meat is maintained at not more than 3 ° C for offal and 7 ° C for other meat, by means of an ambient temperature of not more than 12 ° C or an alternative system having an equivalent effect;
 and
 - (c) where the premises are approved for the cutting of meat of different animal species, precautions are taken to avoid cross-contamination, where necessary by separation of the operations on the different species in either space or time.

If it is intended to slaughter OTM animals a separate lockable carcass chill room or a locking rail system in the main carcass chill room must be provided to secure the OTM carcasses until the brain stem sample results are received. On the mainland the test results are available in a few hours or overnight but the island location will probably result in a longer turn around and hence longer holding time. Unless the hides and offal from OTM stock is disposed of as waste these items must also be held under secure storage pending the test results.

The current UK legislation requires the Vertebral Column to be removed from carcasses over 24 months at a licenced plant or butchers shop. Both options has its own problems – removal at the cutting plant means the meat has to be transported without the supporting spine (in primals in trays or boxes) and removal at the butchers shop means the butcher has to arrange for controlled disposal of the bones.

The Hide Room is too narrow to lay out the cattle hides for cooling and salting after removal. This is not a problem if the hides and skins are disposed of as waste. Should they decide to layout hides for chilling or salting prior to storage they will need space for a pallet (1200 x 1000) and an additional dry room for salt storage. If they decide to save hides and kill OTM they will need a system for identifying individual hides and the facility must be lockable until test results are received and carcasses released.

The working floor of the plant is level with the surrounding ground making it easy for animals to access from trailer tailgates. It would be good practice to have strip drains across all the doorways to ensure debris and wash water does not spill out into the yard areas.

Unless by-product skips are going to be on a daily basis they can quickly begin to smell especially at the height of summer. I realise its an extra expense but it is a good idea to have a "lean to" on the side of the by-products rooms to keep the skips under cover. As well as keeping the site tidy it also discourages vermin, especially gulls.

The cost schedule in Appendix 6 details ‘materials for landscaping the site’ but there is no mention of stock proof fencing and gates to provide a secure animal proof defined curtilage.

The equipment schedule in Appendix 11 details a ‘blood transfer pump, pneumatic’ but there is no mention of a blood storage tank or an air compressor to provide compressed air to operate the pump.

There is no mention of a detergent based wash system for cleaning the building.

The drawing does not show any space allocation for a plant room to contain the refrigeration equipment, pressure washer, water storage tank, boiler and electrical switchgear.

6.5.1 Construction and layout – general comments

The drawing shows a conventional construction with insulation provided to the walls of the Chiller and Detained Room. However section 3.6 of the text states that **“all parts of the plant will be constructed using insulated panels to minimise heat exchange”** This system of insulated panels within a steel framework is a more cost effective construction method and one commonly used in the UK.

The text also refers to a **“fridge for clean waste, which is likely only to be livers and kidneys.”** – this is not shown on the layout drawing which only shows hide and gut rooms.

The text states that **“All equipment will be housed and washed cleaned in situ.”** but there is no description of how or where the plastic product trays will be returned and cleaned prior to re-use.

6.5.2 Over Thirty Months Cattle

The plant would be able to slaughter OTM cattle providing the lockable storage facilities are provided. A sampling table must be provided within the slaughter hall and an identification system for the carcass and all its components must be in place. For the small number of OTM animals on the island this should be easy to implement and operate. The transfer of brain stem samples to the laboratories in the UK and this potential delay in obtaining the results may prove more a problem if the carcass chill room is required for normal slaughter. How a “positive” carcass will be disposed of will also have to be decided and this will have to be detailed in the RMOP (Required Method of Operation) prior to OTM approval being given.

6.5.3 Maturation and Freezing

Section 3.6 of the text states **“It is intended to mature beef for at least 10 days and hence there is a significant level of chiller space....”** Far from being significant the layout includes approx 12m of storage rail in the chill room. At the standard carcass spacing of 450mm per side along the rail this would provide storage for 26 sides or 13 bodies of beef. It is intended to quarter the carcass before chilling so the maximum number that can be stored is reduced because quarters take up more space than sides. At the proposed throughput of 3-5 cattle and 6 sheep per week this will mean that hot carcasses will be mixed with cold, maturing carcasses. This is not a good scenario as the hot carcasses will introduce steam and moisture into the room raising the temperature and humidity levels increasing bacterial growth on the maturing carcasses and therefore reducing the shelf life. The best solution is to have two chill rooms, one for reducing the temperature of hot carcasses and one for holding cold carcasses.

Carcasses are normally only quartered before chilling if the chill room is fitted with low level rails. In this case high level rails are being provided so the quartering process only reduces the chill room holding capacity.

The text also states that **“there is provision for freezing the meat if required. In this instance meat would be frozen on racks.”** The drawing does not show a freezer unit large enough to take racks of product but the costing does state that it includes the cost of a freezer.

6.5.4 Waste Treatment

It is not intended to process the hides and skins on the island and the text states that they will be shipped (back?) to the mainland to be sold. With the small number of animals being processed it is unlikely that the hides and skins will be shipped until a full pallet has been produced. This means that a cooling, salting and storage area will be needed – see above. In practice the cost of labour, salt, storage and transport is unlikely to be met by the return from sales and we suggest that the small number produced should be incinerated.

The proposed Millenniumpore filter system is no longer available due to closure of the company therefore an alternative system must be selected. A basic settlement / separation system would ensure the solids are removed from the waste stream and these can be sent for incineration.

Under UK legislation the spreading of gut contents is allowed but this would have to be monitored to ensure the soil type on the island is able to absorb the material without being overloaded.

Under UK legislation blood must be collected and disposed of via an approved system incorporating a heat treatment cycle. We assume that it was intended that the Millenniumpore filter system would have treated the blood prior to incinerating the sludge.

Without this system we suggest that waste blood should be sent for incineration along with the waste heads, offal, etc.

6.5.5 Incineration Costs.

The proposal is to use the existing island incinerator at St Marys, adjacent to the proposed site. Despite repeated requests the cost of burning animal waste has not been confirmed by a burn trial on the St Marys unit. At first this looks like an ideal solution but where this has been proposed in other locations this has not been successful for a number of reasons. The staff are often unwilling to handle the waste because it is very unpleasant and they are often worried about being contaminated with BSE. Indeed, the concern about catching BSE is often given as the main reason.

At a practical level not all incinerators are designed to take wet, sloppy waste and the practical problems of handling the product are often enough to abandon the option.

We contacted Alan Cox on Guernsey who operates the slaughterhouse and incinerator on behalf of the Guernsey Government. Alan was unable to give exact figures due to Government staff being on holiday but he was able to confirm our own estimates of an approx cost of £100 per tonne. On the mainland the cost is usually between £80 to £100 per tonne depending on location and local fuel costs. For this reason many plants with incinerators are currently choosing to use the renderers collection service at approximately £85 per tonne because it also eliminates any complaints about the incinerator from neighbours.

Some incinerator operators are able to offer cheaper fees and this is often due to the type of incinerator they use. Most old incinerators are batch loaded with several burners around the combustion chamber and a loading door that allows large amounts of heat to escape during the loading process. The alternative rotary kilns have a sloping rotating drum with one burner at the end, (plus the afterburner) waste is added continuously at one end and ash falls out the other. These units can halve the cost of incineration but the capital cost is high.

Because of the small amounts of waste produced together with blood and hides and skins we feel that the only option is to use an incinerator. With suitable loading equipment this unit could also be used for the disposal of fallen stock.

6.5.6 Capital costs

Due to the changes and revisions to the Objective One Application the items and costs detailed in Appendix 6 are no longer correct when read in conjunction with the text.

For example the text states that all parts of the plant will be constructed from insulated panels but the costing schedule makes no reference to the cost of insulated panels. It does,

however, give a cost of £12,000 for glass fibre coatings to walls and ceilings, a finish that is not required on insulated panels.

The text refers to the Millenniumpore filter system but the costing schedule refers to a “waste separator” system.

The costing schedule gives a total expenditure of approx £300K and based on an overall area of 200 square metres this gives an approximate cost of £1500 per square metre. This is comparable with the current budget costs used by the Meat and Livestock Commission but we would suggest that a total budget figure of £550K to £600K would be more realistic as this would provide a second chill room, an equipment wash area, a small freezer, an offal chill room, a larger hide room including chill area, a plant room and a covered area for waste skips.

The costing schedule includes professional fees for the production of plans and H&S assessment but there is no mention of project management fees or contingencies.

6.5.7 Working Timescale

The timescale detailed in the Project Milestones gives a construction period of 6 months and a snagging, commissioning period of 1 month.

Although planning permission has been given the detailed design has to be finalised and production drawings completed for the equipment and refrigerated areas. In our experience this detailed design phase will take approximately 3 months and depending on weather conditions the construction time can take 6 months before the internal equipment can be installed. At the time of writing, new slaughter equipment has a 12 to 14 week delivery wait from receipt of order but orders can be placed before construction is completed. As a guide we normally warn clients that it takes approximately 12 months from the start of the detailed design work to the completion of the project.

6.5.8 Planning Permission

Planning permission for the proposed development was granted on 31st 2006 and certain conditions attached to the approval are likely to have financial implications for this development. These conditions are likely to impose additional costs to the project and have not been included in the financial calculations provided. These include:

Condition 7 . Prior to commencement of the development details of foul water ,foul drainage and treatment plant shall be submitted to and agreed in writing with the Local planning Authority.

Condition 8 . Upon commencement of construction on site, a scheme for dealing with Japanese Knotweed shall be implemented in accordance with details approved by the local planning authority.

Condition 9 The sit access onto public highway at junction of Moor Well Lane shall be surfaced, drained and maintained thereafter to the satisfaction of the local authority.

Condition 11. Provision shall be made within the development to collect rain water and re-use rain water from the roof of the building.

The proposed development will have to comply with the planning approval including conditions attached which will have to satisfy the planning authority prior to its operational use. Some of these conditions could be regarded as minor items of cost but under condition 9 where it involves access infrastructure work the cost could end up being considerable. It is likely that these works will have to comply with the requirements of the highways department . These costs have yet to be added to the overall capital cost of the development .

7 Finance and Staffing

7.1 Viability of the Proposed Plant

Operational costs

Summary key issues

- The Operating costs are lower than the MLC standard figures would suggest. The issues have been outlined.
- There are also a number of questions to be asked about the figures contained in the following tables contained in the Application – Cashflow and Budget Assumptions for the abattoir in Appendix 7, the Predicted Profitability table 6 and the EFP Cashflow Projector.
- The Cashflow Projector gives a year 3 income of £114,413. if we take off the cost of stock purchases at £40,277 this gives a total trading output of £74,136 and not the figure of £79,396 given in Table 6 of the application?
- Taking the Operating figure of £42,135 (the EFP total from Table 2 plus rates)from the new total trading figure of £74,136 this gives a profit before finance and depreciation of £32,001. If we then take off the Interest charges of £1,753 (Table 6 Application) and Depreciation of £19,134 we have a Profit of £11,114 (compared with £16,374 in Table 6 Application)
With a loan repayment of £4,416 (given on the EFP Cashflow Projector) this leave a final profit figure of £6,698.
Adding in what may be more realistic charges for labour, laundry, packaging, selling and distribution and management, would reduce this further.

7.2 Capital Costs

Summary key issues

- The MLC view is that the construction cost of the abattoir is low and the more realistic figure of £600,000 will result in the need for a larger loan.
- There is a risk that the 'infrastructure costs' of have been understated in the 2003 budget (annex 6) taking into account some of the planning issues drafted in 2006.

- The financial assessment undertaken by Defra (Sep 2005) based on the financial budgets and forecasts provided highlighted that there was a funding package shortfall of £41,363. This was based on the capital cost abattoir being £322,320 (EFFP Table 2). The implication with revised estimate of £600k is that there would be a major shortfall in match funding and the extra interest would also have to be factored into revised revenue budgets. This shortfall in capital of £277,680 would incur additional charges of £19,298 based on an interest rate of 1.5% over base or £20,687 at 2% over base.

7.3 Funding Sources

Summary key issues

- The £70 k Barclays Bank contribution has only been confirmed in principal and will be based on “normal lending parameters”. The normal lending parameters adopted by the banks are normally based on two elements ie level of security provide and viability of proposed investment. The assumption is made that the Bank is satisfied with the level of security provided through Mainland marketing. The viability of the project will be assessed in detail and with this type of project it is anticipated that the agricultural banking manager will assist in the process. Based on some of the commercial practises, the assumptions made and inaccuracy of budgets /financial data there is a high risk that the Bank would not fund the project to this level. The bank is also likely to request the financial information in a different format as the format provided is proving difficult to assess.
- The Duchy contribution of £50k is based on all other sources of funding being secured .
- The project relies on the “gift funds” detailed in table 4 of the application and there is no evidence available to support this.
- There is no evidence available that the farmer investment will be forthcoming and there is a risk that there could be a major shortfall.

7.4 Proposed Staffing and Management

The proposal is that Mainland marketing will be responsible for the development and management of the project. The running of the abattoir will undertaken by a third party with appropriate qualifications appointed on a part time basis

The employment proposal for the abattoir staff is summarised in annex 12 which was as follows :

- one day killing per week
- one day cutting and packaging
- clean waste systems once per week

Summary of key issues

- It is impossible to assess the capability of staff for the development and management of the project based on information provided .
- There is a risk that the recruitment of a part time person with appropriate experience to run the abattoir could prove difficult . The failure or success of the plant is highly dependant on 'this person' being available.
- The time allocated and budgeted for abattoir staff is based on the above tasks being completed within 10 hours per week and there are concerns on whether the tasks outlined can be covered within the proposed time scale.
- No time or cost has been allocated to the role of maintaining and cleaning equipment which is stated as being carried out once per week.
- 10 hours per week @£8.50 equates to an annual salary of £4420 /person including Employers National insurance based on 52 week year. It is accepted that the plant will not operate on a 52 week basis but the level of pay for a minimum of two days per week for highly skilled staff is considered as a low rate of pay.
- Cross referencing labour cost in appendix 7 with annual operational costs the level of pay can be established eg in year 1 slaughtering and cutting costs based on a per head data equates to a net cost of £2,281 for labour for killing and processing 50 cattle, 60 lambs and 20 pigs. This also applies for the calculation in year 2 and 3. This does not tie up with the overall assumptions made for labour costs.
- A labour cost of £2281 in year 1 with two staff working 10 hours each per week at £8.50 per hour, as stated in the business plan, equates to an annual work load of 13.4 weeks per annum !This is assumed to be an error.
- The plan is to provide work for those on the islands and there are no CV's available so we cannot assess suitability and experience of staff which would be available .The availability of skilled people especially experienced slaughter men and those with trained butchery skills is highlighted as a point of concern.

8 Project Outputs

The proposal states that the proposal will produced a number of beneficial outputs and outcomes. The detailed evaluation undertaken above concludes on the these achievements:

- 1) The project will bring at least 2,400 m² of derelict land back into use on the site of the abattoir.

In the absence of a site plan it is impossible to confirm that the area stated but it can be assumed that having secured planning approval a large proportion of this area will be brought back to use

- 2) Current scrubland will be brought back into agricultural use, which will lead to enhanced landscape and tourism value. It is difficult to estimate the likely total area. However at least 300 acres could be readily utilised, where some land on all the inhabited islands is better utilised for agriculture.

There is insufficient evidence in the feasibility study to support this statement This output cannot be assessed as it is assumed that farmers will use scrub land in preference for other 'productive land 'that could be available to them.

- 3) 4 part time jobs will be created which will deliver over £16,000 wages and salaries by the third year in the processing plant.

The employment of suitable staff is the main issue but in terms of number posts this level of input is considered realistic. It is assumed that the 4 part time posts refer to : two in the slaughterhouse, the manager and support from Mainland marketing. The evaluation has highlighted a number of issues regarding the assessment of labour including the cost of wages.

- 4) Up to 50 native breed suckler cows will have been purchased by the islanders

Assuming the Umbrella funding was approved there would be a take up in purchasing of cattle by farmers on the Island thus achievable

- 5) Up to two handling units for cattle and sheep will have been set up

This would be achievable pending umbrella funding approval and the willingness of farmers to collaborate on shared facilities. There is no evidence available to confirm this

but experience suggests that subsidise capital equipment would create interest for collaboration amongst farmers

- 6) The islands will have improved infrastructure for livestock production in terms of water and fencing

Achievable but as stated in the evaluation this would require planning and every holding assessed accordingly.

- 7) The project will assist in securing the livelihoods of up to 40 farmers on the islands if they choose to keep livestock

The evaluation would suggest that this output is not achievable. The feasibility study confirmed that 50 farmers would not increase livestock numbers on a total sample 29 farmers on the island. The scale and returns from the proposed beef and sheep system is unlikely to have much impact on the income of the majority farmers on the island

- 8) The project will allow the islands to reduce the true cost of meat on the islands as food miles will be reduced

There is minimal evidence available in the market research provided to support this statement.

- 9) The landscape of the islands will be improved, which will enhance the Isles of Scilly as a tourist destination

This output will be influenced by output 2) which concluded that this will depend on farmers take up in utilising scrub land as opposed o the more productive land

- 10) Improved animal welfare for current livestock on the islands as the need for transport to the mainland for slaughter will be eliminated.

In the event of project going ahead this output would be achieved. This animal welfare being regarded as one of the key priorities of the project.

9 Final conclusion

The documentation provided for this review highlights that significant work and effort has been undertaken to develop this application. It is also noted that certain individuals have made a major contribution to initiate and manage the project to its current stage for final evaluation. The efforts of these individuals has been recognised by the evaluators .

The evaluation has concluded that certain elements of the application have been overlooked in terms of importance to the success of proposed project.

The market research document produced concluded that if the feasibility study proved favourable then more work was needed to establish detailed market opportunities for meat and meat products on the islands. This requires a structured approach using professional market research techniques to establish the overall size of the market . This aspect of the project is yet to be done.

The production aspects of the business plan was supported through a feasibility study which was conducted partly as a questionnaire and by direct consultation with farmers on the Islands. The review concludes that this process is of insufficient detail and assumptions have been made without any evidential support. The financial projections in some areas are commercially unrealistic and some of the practical issues of livestock management have not been fully considered.

The environmental aspect for using beef cattle to improve and manage environmental habitat is considered of benefit and can be confirmed by similar management practises on other sites throughout the UK. However, there are concerns that the viability of the abattoir is mainly based on livestock being sourced from such supply.

The financial forecasts and budgets produced within the business plan are based on limited market research and the outcomes of a feasibility study which is considered to be of insufficient depth to support some of data used. There are also mathematical errors within the budgets provided. This has led to the concern that there is a risk that potential financiers would not provide the funds even if the business plan indicated that this project was a viable proposition.

The cost of the abattoir has been underestimate by approximately 50% resulting in a major shortfall in match funding .This shortfall would incur additional financial charges which would have a major impact on the overall financial viability of the plant. The design of the abattoir and list of equipment have been changed following advice from EBLEX but the review also identifies that the list of equipment required remains incomplete.

The overall conclusion is that the proposed abattoir will not be financially viable based on the model provided. This is based on the size of the plant , the achievement of planned throughput and the attraction and retention of suitably qualified personnel to operate and manage the plant.

10 Recommendations

Following this review the following recommendation are made to support the interests of farmers and the tourism sector on the Islands

- I. Consider the introduction of livestock for environmental benefits as a separate project. Investigate various options to provide incentives for farmers to participate and

develop a livestock management plan to assist the achievement of set environmental objectives.

2. Investigate the option to develop a small , possibly on farm, ‘ meat cutting and packaging’ unit(s) on the islands as a means of supporting those farmers that wish to retail their own meat supplies.
3. Investigate opportunities and benefits for collaboration amongst farmers focusing on financial returns and costs.
4. Farmers should take advantage of environmental schemes that are available to them to enhance net farm incomes. A service to provide support for individual holdings should be considered .
5. This study has identified that improvements could be made to animal welfare for livestock that are currently transported to mainland for slaughter. A review of current practise should be undertaken and a policy document produced .

II Annex I.

The following comments are based on the questions posed in the original brief.

A. The abattoir

a1. The design of the abattoir and list of equipment have been changed following advice from EBLEX. The enclosed plans, and the list in the appendices to the business plan, are the latest versions. If you think there are any inadequacies please identify them.

The plan and equipment list contains the main items required but there are many areas needing clarification both on the list and on the drawing. These are detailed in the main report see section 6.5.

a2. Are the figures, proposals and costings for handling, treatment and disposal of waste, skins and hides adequate and realistic?

There is insufficient space on the plan to handle the hides and skins and although chilling is mentioned in the text there is no sign of it on the layout drawing and no mention on the costings.

a3. Detailed and complete quotations and tenders for the capital works are awaited from the applicant. There is no need to review the capital costs in any detail. However, feel free to comment if you have any relevant knowledge of comparable investments.

The projected capital cost is lower than we would expect for a plant of this size. This is explained by the areas omitted from the costing but included within the text i.e. hide chill, offal chill, plant room, waste store, etc. If we add the other essential items e.g. the second carcase chill the capital cost increases to approximately £600,000. See section 6.5.5

a4. Are the proposals for ownership and control of the abattoir appropriate, and does the timescale for setting up the structure fit with the business need?

We think the proposed timescale for constructing the abattoir is too short and twice the proposed 6 months would be more appropriate. The expected returns will therefore be delayed but the cost of management and labour will not as it is important that labour is on site prior to completion. This enables staff to talk with suppliers and builders helping to eliminate the inevitable teething troubles.

The proposed ownership should not be a problem providing the abattoir is operated as a stand alone business.

a5. Are the proposed resources for managing and operating the business adequate (including marketing and sales) ? Does the market research in the feasibility study and the proposals for marketing provide an adequate foundation on which to proceed with the investment?

There is insufficient information available to make a valid judgement on whether there are sufficient resources available for managing and operating the business. The proposal is to employ staff and at this stage there are no job specifications or person specifications available for comment. The availability of suitable staff has been expressed of concern.

a6. Is the predicted throughput of animals realistic / achievable? Have variations in seasonal demand on the Islands been taken into account sufficiently?

The proposed spring calving would fit in with the proposed tourist season but we do not believe that the supply of fresh product would be able to match the demand of the tourist season. The study mentions the use of a freezer but there are no details of proposed use or volume.

a7. Have appropriate measures and costs been incorporated for Over Thirty Month cattle?

The slaughter of Over Thirty Month cattle requires a special licence and the plant has to demonstrate the sampling procedure is correct and that the tracking system for carcasses and parts of carcasses is robust. The process is mentioned within the application but there is little detail. See full comments see section 6.5.2 .

a8. Has sufficient provision been made for the sale of poorer quality carcasses (i.e. below the standard demanded by the target markets)?

The study makes mention of producing burgers and processed products from the fore quarter and poorer quality meat but the market research does not back up the suggestion that carcass balance is not a problem.

a9. Are the provisions for veterinary support and Meat Hygiene Service activity satisfactory and adequately costed?

The application refers to the plans to increase the veterinary presence on the islands and providing the new incumbent is suitably trained in meat animals and meat hygiene issues the proposal is satisfactory.

a10. Is there a risk that some farmers may prefer to use mainland abattoir and cutters?

In our opinion there is a risk of farmers continuing to use the established and tested routes of slaughter especially if the normal mainland seasonal variations make this option more cost effective.

a11. Are the financial projections complete and realistic? If not, please identify the main concerns.

The financial projections are not complete and realistic and some of our main concerns include:

- Capital costs have been underestimated
- Proposed income is not supported by sound market research

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- Supply of livestock has not been considered in detail based on the farmers capacity to produce the desired volumes
 - Seasonality of operation not fully investigated
 - Budgets have mathematical errors.
 - Some of the financial assumptions made does not link through to detail budgets.

B The Farmers

B1 Are adequate plans in place to ensure that farmers have the resources (including skills and knowledge) to produce the quality and quantity stock needed, at a profit ?

The information available does not provide sufficient detail to comment on whether the farmers have sufficient skills and knowledge to produce quality beef. The selection of stock for slaughter is one the key elements in the process and can only be gained through experience. There are only a few farmers on the islands with experience of beef production at a scale where one would assume that they will have the necessary skills. However, no audit of skills and experience has been provided to verify this.

The quantity of stock profiled in the business plan is considered to be an estimate as the volumes cannot be cross checked against planned production .There is a need to start with accurate 'base line data' to profile annual production and annual throughput for year 1, 2 and 3. There is no detailed data available on livestock numbers such as Number beef cows, number barren cows, current calving pattern, age profile young stock. etc. Production from purchased stock will also need to be factored into the throughput.

The level profit is likely to result in a negative net margin if overheads are accurately accounted especially for those farmers that do intend to sell their meat ie income based on livestock sales to Mainland Marketing. Those farmers who sell meat direct will have a higher margin but based on proposed scale of production the profits are considered to be marginal. This is covered in the detail in 4.1 of our report

B2 Is the degree of collaboration needed likely to be achievable within appropriate timescales (eg for sharing bulls, rams, handling equipment, buildings, etc)

There is no evidence available to confirm that farmers will co operate on various initiatives. The farmer questionnaire for the feasibility study does not cover this ie whether farmers on the Islands would be willing to collaborate on various initiatives. Therefore based on any evidence difficult to comment to what degree this can be achieved.

B3 Are the husbandry and management proposals realistic and appropriate? Have all the variable, fixed and capital costs been fully identified and estimated at realistic levels.

There are husbandry issues identified in the report with certain proposals being regarded as unrealistic. Some practical issues of livestock management have not been fully considered. Fixed costs and capital costs have not been fully identified and there are numerous examples where costs are not in tune with current agricultural practices. These issues have been covered in detail in section 4 of the report.

B4 Do the returns from cattle, lamb and pig sales appear achievable taking into account the proposed method of sale(eg. Sale to abattoir, or direct meat sales using contract killing.

The returns shown in the enterprise gross margins does not take into account the proposal that some stock will be sold direct to Mainland marketing whilst a proportion of stock will return to the farmer for direct meat sales. There is no separate gross margin to show the levels of returns for those farmers who wish to sell direct.

Livestock Margins are considered to be overstated as detailed in section 4.1 of the report.