

R8145 – FINAL REPORT

Modern energy – impact on micro-enterprise

Appendix 4

Qualitative data from the Statistical Questionnaires

DISCLAIMER

This Appendix is an output from the Department for International Development (DfID) funded Engineering Knowledge and Research Programme (project no R8145). The views expressed are not necessarily those of DfID

Unclassified
ED03495
Issue Number 1
March 2007

In collaboration with




Title	Modern Energy – Impact on Micro-enterprise – APPENDIX 4
Customer	UK Department for International Development
Customer reference	R8145
Confidentiality, copyright and reproduction	This report is the Copyright of AEA Technology and has been prepared by AEA Technology plc in collaboration with Integrated Energy Solutions (Pty) Ltd of South Africa under contract to the Department for International Development dated 25 September 2002. AEA Technology plc and Integrated Energy Solutions (Pty) Ltd accept no liability whatsoever to any third party for any loss or damage arising from any interpretation or use of the information contained in this report, or reliance on any views expressed therein.
File reference	N:/projects/international/DFID/Micro enterprise ED03493/final report/R8145 Appendix 4 – Qualitative Data from the Statistical Questionnaires issue v1.doc
Reference number	AEAT/ENV/R/2412

AEA Energy & Environment
The Gemini Building
Fermi Avenue
Harwell International Business Centre
Didcot
OX11 0QR

Telephone +44 (0) 870 190 6212
Facsimile +44 (0) 870 190 6318

AEA Energy & Environment is a business name of AEA Technology plc
AEA Energy & Environment is certificated to is certificated to ISO 9001 and ISO14001

Authors	Denise Oakley	AEA Energy and Environment
	Paul Harris	Integrated Energy Solutions
	Chris Hazard	Integrated Energy Solutions

Approved by	Name	Signature	Date
	Tom Slesenger		26 March 2007

A4.1 STARTING BUSINESS REASONS	1
A4.2 EXPECTED IMPACTS BEFORE ELECTRIFICATION	3
A4.3 PERCEIVED IMPACTS AFTER ELECTRIFICATION	4
A4.3.1 Positive Year One:	4
A4.3.2 Negative Year One:	5
A4.3.3 Positive Year Two:	6
A4.3.4 Negative Year Two	7
A4.4 CHANGE TO THE BUSINESS AFTER RECEIVING ELECTRIFICATION	8
A4.4.1 Year One	8
A4.4.2 Year Two	9
A4.5 MARKET IMPACT OF IMPROVED ENERGY ACCESS AFTER RECEIVING ELECTRIFICATION	10
A4.5.1 Year One	10
A4.5.2 Year Two	12

Qualitative data from the Statistical Questionnaires

The Appendix contains the responses provided directly by those interviewed and extracted directly from the spreadsheet in Appendix 6A (electronic).

A4.1 STARTING BUSINESS REASONS

She was doing the same in Eastern Cape	No work - support family	No one to support me, one child
Had a similar business in Khayelitsha	To feed family	Traditional business opportunity
Lot of children need looking after - mums are working	Money to feed family	Have done the same in the informal settlement of Mfuleni
No employment so business started - not enough money for starting another type of business	No work	Have no income support family
Fruit and veg is always needed; family needed more income	Not working - need to bring in money	Unemployed, desire to be an entrepreneur
Salary is not much in family. People coming in because of that nail ba? - good market - presently	No income - start very small	Support family, take savings
Had previous experience	To make a living	Supplement husbands income. Husband Shell pump attendant
Mother doing the same business	Supplement husband's income	To augment income
Done the same business in Khayalitsha	No work and to feed 4 children	No work - need money
No other work needed income	No work - to bring in money	No job
Needed money to provide for the family	No work - to bring in money	Family needs more income
No work, needed to make money	Supplement salary	Unemployed
To earn money, No other opportunities, food for children	Supplement salary	Unemployed, desire to be an entrepreneur
To keep myself busy when not working - to avoid crime.	To supplement income	No Work

Work opportunity for the manager	Supplement income	Family business in the Transkei
had business in Gugulethu and also husband not employed since 1992	No work - no money	To support family
No employment	Unemployed	need extra money - no work
Lack of work/employment - needed income - started in Khayelitsha in 1995	No employment: supplement income of husband - eager to own a business	No work - needed to bring in money
No other income. Had a good business in Philip - had connection - electric one before and hand machine here at present	No work - needed income	Unemployed
For money, having no employment	Needed to provide an income - no work	No other opportunities. To provide for family
No employment and needs to increase income	No income - start very small	Supplement income
No one else working and two children to support	no other work	Breadwinner - no income, start small
Few shops so decided to start	Unemployed	To be own boss and to earn living
For an income	Supplement salary	Supplement income
Breadwinner for family - bought stock from Philip	Unemployment	No job - to earn money
Owner started business to enhance income	Supplement income	To earn a living
Not working - for income	No income - no husband - have to support family	Have to support family
No other work	Saw that no one else was doing this business (and he is trained)	Unemployed, no income - support
To make money - no work	Need - sole provider	No other work. Needed money
Desire own business	Bring in money for childrens' schooling	No job, need to support family
Started as a hobby, now a business bringing in money	To feed family	Needed money - and disabled
Supplement income, cover transport cost to work. Start 1 case beer	No work	

A4.2 EXPECTED IMPACTS BEFORE ELECTRIFICATION

<u>Positive</u>	<u>Negative</u>
No Impact	No impact
Can prepare hot food for the children	Lack of outside lighting
Allows stall to be open during early evening.	N/A
Little at present	No change
Little at present	Little at present
Keeping chicken cold and fresh	No comments
Ice enables her to keep meat for a day or two	None
Very important to braai	No access to electricity means she cannot sell all week
Energy is my business	No + or - impacts
None	Electricity will replace paraffin
Makes the use of phones possible	No electricity is constraining stock covered
Good lighting will make work in early morning and late evening possible	Paraffin is used for lighting and this may run out in the evening while there is still urgent work to do.
With electricity can buy an overlocker to add value to dresses and sell for more	Cannot have a fridge & lights at present
Ice cools the beer	None
Light is needed for the inside room of shabeen	No fridge
Cold beer, lighting & music	LP Gas is very expensive
Lighting is very important. Currently uses ice for keeping drinks cold. Also uses freezer in other shop and then puts things into fridge in Mfuleni shop	No impact
Whole business depends on electricity and paraffin	No impact
Paraffin lamps enable the spaza to stay open till late.	
Little at present	
Cold drinks, fresh meat	
Not important	
Increase in number of customers	
Able to make the beer to sell	

A4.3 PERCEIVED IMPACTS AFTER ELECTRIFICATION

A4.3.1 Positive Year One:

Can stock more products	Word after dark	Preserve meat longer period
Can stock products longer period - fresh	Able to work faster, able to keep meat frozen	Electric stove assists to heat the meat for evening sales
Do proper business	Can work fast - sewing. Keeps chicken fresh, no waste	The ability to keep goods frozen and fresh
Good - help to see when counting money at night	Only for lights at present. Electric sewing machine burn out	Quicker to boil water
Ice cream cold	Cold products, no waste	Sell products late
Can light stall at night	Sell/stock more beers.	Cheaper to make the medicine
Able to keep ice cream - also keeps vegs fresh	Beer cold	Effective operation - serve night to attract customer (advert)
Minimum impact but enables lighting	Beer cold. Music. Cleaner, Bright lights. No waste - chickens.	Manual machine too slow - with the electric sewing able to work quicker - easier.
Not able to operate - critical	Cold beer and lights in beer hall	Business neat
Clientele bigger	Cold beers are better than warm ones.	Expand business
Able to use more equipment	Freezer to keep meat - also stay open later	Fridge/Muni? Spelling
Can use power tool for business - much faster	Able to sell meat because of fridge - bigger variety.	Not used in business except for lights
Able to keep frozen meat	In future help to extend business	Increase business
No waste. Cleaner. Better lighting at circle.	Lights. Bigger and more freezers	Increase business
Able to freeze and keep more chicken for resale	Open longer hours	Elec good for chickens. No waste, no damage
Increase business	Business not dependent on electricity	Cleanliness and faster. More articles for sale
Fresh cold meat. No waste. Cleaner	Cheaper to use than LPG	Buy more stock - and store longer
Buy more stock, fresh longer	Will make it possible to keep a fridge also for the lights	Able to keep meat and chicken properly frozen.
Regarded as very important otherwise melt products	Expand business ex P/phone	

A4.3.2 Negative Year One:

None	None	None
Streetlights black out	Too slow - cannot compete	N/a
None	Unable to work at night	No negative issues
None	None	If elec. Goes - off food, perish
None	None	Only more competitors
None	Manual machine very slow and cumbersome	No impact
would limit products for sale	More competition	None
Less money in community to pay for electricity	None	Experience income loss if products not preserved
None	None	Could not earn money
None	None	None
Would not be able to work	None	None
Nil	No sales	Would not be able to keep large quantities of chicken
Did not have a freezer	Less travel to fetch fresh product	Loose income - no phone
None	It would not be as efficient because of no fridge	None
Would find it difficult to run the business	None	None
None	LPG was costly - transport problems	None
None	None	None
None	Not able to keep the quantity of frozen meat.	Nil

A4.3.3 Positive Year Two:

Able to use power tool	Stock chicken - not selling (deep freeze - fresh)	Serve customers with cold beer
Can also work after dark	Keep products fresh longer	Serve customers cold beer
Street lights mean people are more willing to wait at the circle (potential customers)	Business was started because of electricity	cold beer - music
Keep meat fresh	Sell dolly licks	cannot run business without electricity
Stock products fresh	Can trade longer hours. Products fresh longer	Variety of cold products - longer hours of business.
Cannot really say because business nil really dependent as energy	No electricity - no business	Expand business - sell cool drinks
Could start business - service to community	Enabled it - no freezer could not sell frozen chickens	help to grow business.
Electric lead is taken from house to stall for lighting at night.	None - does not work at circle after dark	Fridge for meat and drinks. Lights
Leaves fruit bags hanging on the stall so customers can see - street lights enable customer up to 8 pm	Stock chicken - fresh	No need to use ice any more; can stay open until 7.30 pm
Ice cream and fruit and veg keep fresh and cold	Easier and quicker with electricity (used paraffin before)	In future help to extend business
enabled business	Preparation of medicine can be labour intensive without electricity - ease.	Keep products fresh/cold. Lighting - security
Area already electrified - start business Aug 2005.	Effective operation - serve night to attract customers (advert)	Longer trading hours, expand business, external stand
Can only do this business properly where there is electricity	None - apart from lighting	Possibility to expand business
Difficult to work effectively without electrical	Electric machines for sewing	Expand business
None	Expand business, ice cream, bompies	Expand business
No real impact	electric sewing machine - fast	Keep products cold
Fresh (frozen) loner period	To work after dark	Without electricity would not be any TV's to repair; would not be able to solder. None
Stock more products relating to my particular business	Beers are cold, and we can play radio and have TV on for customers	Deep freeze, lights, cooling
Sells frozen meat so would not have business without electricity.	Better with electricity but was using generator before	Sell cold beer to clients.

A4.3.4 Negative Year Two

Nil	power failure - products lost	None
None	None	Power failure, might loose customers/business
None	power failure - ice products might melt	power failure - beer will be hot
greatly affect my business - meat	power failure might affect meat products	Power failure loose market when sell warm beer and loose products
Power failure - lost business	None	None
None	None	enabled business
None	None	Power failure - affects cool products
None	power failure - might lose chickens	Loss of market business
None	none	None
Business loss especially with ice cream	No	paraffin sales have gone down due to electricity
None	None	None
Will run business at a loss	None	None
None	None	None
power failure - business close	Business may decrease - lose customers	decrease my market - trading hours
People are building houses and these boards are used to build shacks - no one buying boards anymore in Mfuleni.	More competition from other sewers	None
Cannot tell - no	None	when electricity cuts or black outs it can cause my products to melt or cool drinks not to sell
Lost my business if no electricity	None	None
Products melt - lost in market business	None	No
None, (but some competition)	None	Power failure - loose freshness of chicken

A4.4 CHANGE TO THE BUSINESS AFTER RECEIVING ELECTRIFICATION

A4.4.1 Year One

Enlarge my business in future	An electric machine would be much faster	Increase business
Trading hours longer - because of street lights at circle.	Has increased the potential of the business	Could improve output on sales
Longer trading hours	Very good, work fast. No waste. Better lighting.	has made the business possible
Better light	A big difference when she uses the neighbours electric sewing machine.	Enlarge business
Better eating, cleaner	Cooling with fridges saves expense for ice. Cleaner - good lighting, convenient	Expand if buy electric mixer
Light stall at night - v good	Better service, expand business in future	Cleaner than the paraffin stove
Increase the variety of products to sell.	Cold beer, bright lights, music	Continuous running of business, safe environment
Establish new site (expand business)	Cannot say, has always had electricity. Will not be able to operate without cold beer.	Cannot say - always worked with electricity
Cannot really tell because start business after electrification	Always had electricity so cannot comment but without - the business would not sell	Able to make more articles and able to compete
It has cut costs down - does not have to pay to have boards cut. Now has tool to do it.	Increased business potential	Could explore more opportunity, expand business
Cannot judge as business has always had electricity	Business started with electricity so not able to comment	Increase business
Cleaner. No waste. Fresh meat	No real impact	Keep open longer hours
Cannot say - always had electricity for the business	It has improved the business	Longer trading hours, bigger stock
Stock more products	Grow business	Able to sell at night
Much better. Cleaner. Can store stock cold	No change as she has taken her stand to road side and sells from there.	Don't know
Plan to enlarge business	has improved because of better service and lower costs.	Extend trading hours
Extend business	Plays radio very loud to tell customers where shop is. Hopes to get a fridge/freezer so that vegs can keep longer.	Enabled chicken selling
Cannot say - electricity was there.	Grow business, enlarge market, external income	

A4.4.2 Year Two

To make products cheaper	Serve customers cold beer	Can sell frozen and fresh meat
Expand business - sausage	Yes, could expand business	Plan to expand my business
Trade longer hours	Enabled it - cold beer, music etc.	Fridge - stock products
Not sure - on lighting make small difference could extend hours till 19h00 in evening	enabled it, operate grinding cutting and heat - welding machine	Enabled my business
Only started business after electrification	Enlarge my market - business expand	Enabled it.
Stall can be lit at night - street lights at the circle give better security	Could add more products especially cold products	Longer hours trade
Expand business add cold products (ice cream) to business	Expand business adding cold products to business	Bigger quantity of medicine and quicker
Positive - electric clippers	Business was started because of electricity	Continuous running of business - safe environment
Can't really say	No real impact	No change
Broadened market - far more clients.	Better cold products, lighting	Yes, could add quality service while waiting for sewing, could serve them ice cream and bompies.
Not really - no impact on my business	Establish external stand	Made faster, easier and more fancy stitching
Explore with other products - market increase	Grow business - only awaits house (formal dwelling) - market enlarge because of school and sports ground	With an electric sewing machine more work can be done if able to buy one.
Enlarge my market	Buy more variety of stock, especially cold products to sell.	More cost effective - buy ice to keep beer cold - don't have to now - have deep freeze.
More people selling meat	Keep open longer hours	expand business - sausage
Business grow - stock more chicken	expand business	Enabled frozen chickens

A4.5 MARKET IMPACT OF IMPROVED ENERGY ACCESS AFTER RECEIVING ELECTRIFICATION

A4.5.1 Year One

Trade longer hours. Yes, stock products would not lost its freshness because of fridge.	Extend trading hours. Can't tell	Must have electricity to operate business. Having very cold beer and lights for night sales
Cannot determine yet - short in business. Product fress longer	Improve - can stay open till late at night. Meat, etc. is kept frozen.	Bigger variety of goods - more fridges and freezer capacity. Meat and cool drinks could be kept longer
Establish business (open office - in future). Yes. Better service to client, proper bookkeeping	Increase business, plus sell ice cream. Preserve meat, stay fresh	Cannot comment - has always had electricity, but needs it for the fridge. It would suffer if no fridge
Harder, less money available. Have to buy electricity. No	No change	Yes, selling different range of products
More Bompies/ice cream now with freezer	yes, previously had to go to neighbour to collect product from their freezer. Yes - can provide a better service.	Stay open later. More freezer space. Cleaner Able to keep meat frozen and other goods, beers, etc. cold.
Better lighting on stall. Brighter for passing trade. No	Explore better opportunity - expand business. Yes, important ingredient - water - heated more effective	Trading hours extend. Cannot tell
Freezer can be used for ice cream sales. More products for sale	No business locally. Trade later in night. (Houses been electrified)	With a power point sales could improve. Access to fridge would increase sales. No change as the stall/stand does no have electricity
Improved street lighting only. No	Cheaper and cleaner to work with. No real change	Able to supply cold beers, and fresh meat. LP Gas was expensive and had to be collected
New business would like to explore. Cannot really tell	Expand business. Yes, can add more value added services	Presently lights allow for night sales. When he gets fridge, veges will keep better. Less waste in summer. Does not use electricity at present so unable to say.
Better known to area - operation in business easier. Yes, quicker to cut. Not have to convert machines electric	Always had electricity	Longer trade hours
Can't judge, too soon. Can't judge - too soon. Unable to work without electricity	Able to finish articles quickly and professionally	N/a

Previously only bins, now with power tool able to make baskets. Costs are lower. Yes, the finished product is of a higher quality	No change. Using manual sewing machine	No business without electricity. Yes, stock more
Business started after electricity - can't say.	Been possible to produce good quality goods - also meat is always fresh. Bigger variety, better quality	Cannot say
No waste. Good street lighting for stall. Fresh meat. Fresher	Faster sewing. New business. Chicken pieces. About same - can sew faster.	More competition. Cold drinks
Able to give fresh meat & chicken - which is good customer service. It is better than those who do not have electricity	Has improved quality and quicker to finish garments	Unable to say, business is only 1 month old
Increase business	Little change but more competitors and business down. Colder, fresher, no waste	Products melt, serve more products.
Enabled more frozen meat business. Yes, fresh & clean.	Expand business. Yes, can sell cold beer to customers (take away)	Increase my business, sell more range of products
Expand business to other site (place). Yes, preserve freshness for longer period	Better beer, more customers. Yes, cold beer	Little direct impact on African beer business, but now chicken business. Chickens yes.
More customers with cold beers and lighting, much safer than paraffin lamps. The lighting is safer. Paraffin lamps are dangerous and expensive.	With electricity, better business, cold beer, chickens, music and better lights. Colder beer, fresh chickens. Cleaner	

A4.5.2 Year Two

Can manufacture more baskets - make work easier. Yes, better finish of baskets	Meat is available from freezer when people need it - more customers	Cost effective - profit more. Yes, could serve customers cold beer.
Can now work at night. Light is better than before so can work better	Stock more chicken. Yes - freshness - keep for longer periods	Trading hours longer. Yes, serve customers cold beer
Lighting in the street means that people are willing to be out after dark. More light around	Expand market - like to sell electricity	Could expand business. Yes, could serve customers cold beer and fresh meat
Trading hours longer - safer. Yes, products store longer period - fresh	People want meat now and this is more available in the community (i.e. fridges/freezers). Meat needs to be kept cold or frozen; stays fresh for longer	Better cold beer / lights music. Yes, enabled business - cold beer
Trading hours longer because of street lights. Yes, stock more products (intestines)	Plan to add other cold products, Yes, bought fridge, sell cold products to clients	Enabled it. Yes, welding shoe soles, etc
Cannot tell. No. business hasn't shown any growth	Trading hours longer after dark - because of street lights. Yes fridge can stock my products if not sold - freshness	Sell variety. Yes, sell bigger clientele, products cool for longer
Cannot say - space needed	Enabled business - fridge - cold meats, ice cream, ice., etc. Yes, fresh and cold	Trading hours longer. Yes, add cold products - customers satisfied
Generally number of customers is growing. Can store some of the fruits, e.g. tomatoes in the fridge	Enabled it - frozen chickens and cold drinks can be sold. Yes	Cannot really say because start business after electrification. Yes especially with cold products that add to business - fresh
Street lights help customers to see fruit and veg stand; also more willing to be out after dark. No difference	Street lights at the circle (but doesn't usually stay after dark)	Has fridges and freezers for cold drinks, meat, etc.
Add more cold products (ice cream) planned cold drinks. Yes, add more value, added produce like ice cream	Stock products fresh - if not sell. Yes, keep chicken fresh longer	Yes, selling different range of products
Enabled business - electric cutter. Yes, with electric cutter	Quicker to boil water and for 'cooking' medicines	Positive and negative. Customers with own fridge do not buy my frozen chickens. Yes, fresh/cold
Cannot really tell. Moved in after electrification	Electricity help that medicine could be clear. Yes, people say my products help them getting babies	could establish an external stand on premises. Don't know

Possible to have proper business (hot water, etc)	Improve and could expand business already busy with new service. Yes, can add more value - added service, voucher distribution machine to reload airtime and Eskom	Explore better opportunity ex school and sport ground. Nil - security reason not expand.
Can't say - area already electrified. Serve clients with music, planned drinks.	No change - no electrical equipment - operate manually. No, the same	Buy variety of products / expand my business. Yes, fridge in stall improve service to customers
Business is worse as people start to build houses.	Could no use electric machines for sewing; lights for sewing at night	Cannot say
Not much because business is not dependent on energy. Cannot say	More cold products sold. No - but with training (sewing) it can improve	Yes, could add more products in future
Add more products. Explore with more products	More competitive - more electric sewing machines being used. With electric can do more stitches / patterns, etc. Great speed - can make more	No business without electricity as fewer TVs. No change
Can sell more fresh products, chicken, sausage, etc. Yes, products kept fresh for longer periods	No change - operate manual sewing machine. Might change with further training	Positive impact. Yes, cold chickens, cold xhosa beer
Much better with electricity as generator needed 5 litres petrol / day. Must have cold beer / drinks otherwise customers won't buy.	Can serve cold beers and drinks.	