







### SME Survey 2016: Zambia

### Section A: Interview identifier information

[Section to be completed by enumerator in advance of the interview]

| A01 Enumerator name ENM     | A07 GPS Coordinates of Business  Longitude: dd°ddddd  Latitude: dd°ddddd                      |
|-----------------------------|---|
| A02 Enumerator ID:<br>ENM   | A08 Approximate distance of SME from the Lusaka CBD   |
| A03 Questionnaire number    | [estimated in kms via the Google  Maps shortest route to the main  post office in Lusaka CBD] |
| A04 Date of survey DD-MM-YY |   |
| A05 Survey start time HH:MM | Enumerator's signature:   |
| A06 Survey end time HH:MM   | Supervisors signature:  |
|                             |   |

Additional Survey Codes (use when relevant):

Does not apply = **N/A=88**; Not sure/don't know = **UNSURE=98**; Prefer not to say = **DECLINED=97** 

| Section B: Interviewee identifiers and personal details |  |  |  |  |
|---|--|--|--|--|
| B01 Name of SME:  |  |  |  |  |
|   |  |  |  |  |
| B02 SME address:  |  |  |  |  |
|   |  |  |  |  |
| B03 Email address (if any):                             |  |  |  |  |

| B04               | B05       | B06       | B07               | B08                            |
|-------------------|-----------|-----------|-------------------|--------------------------------|
|                   |           |           |                   |                                |
| Name (First Name, | Job Title | Gender    | Are you an owner  | What is your highest level of  |
| Surname)          | Job Title | Gender    | of this business? | education?                     |
|                   |           | 1= Male   | 1= Yes            | 0= No schooling                |
|                   |           | 2= Female | 2= No             | 1= Primary (Grade 1-7)         |
|                   |           |           |                   | 2= Junior/ (Grade 8-9)         |
|                   |           |           |                   | 3= Senior secondary (Grade 10- |
|                   |           |           |                   | 12)                            |
|                   |           |           |                   | 4= Tertiary                    |
|                   |           | B06       | B07               | B08                            |
|                   |           |           |                   |                                |
|                   |           |           |                   |                                |
|                   |           |           |                   |                                |









## SME Survey 2016: Consent Form [Interviewer Copy]

### The research

We are conducting research to explore the economic impacts of climate variability on businesses in Botswana, Zambia and Kenya

you will be asked a variety of questions about your business and about your experience of climate variability, The aim of this survey is to gather information and opinions about the way in which climate variability impacts businesses such as yours. During this survey

### Your role within the study

name of your business, will be used in any document based on this survey. The information you provide during the course of this interview will be treated as strictly confidential and will be anonymised. Neither your name, nor the

You are free to discontinue the survey at any time and you are free to decline to answer any question on the survey.

If at any point during the survey you wish to take a break, please just let the interviewer know

### Contact Us

University of Barotseland in Mongu and Dr Kate Gannon (+447725558583) from the Grantham Research Institute on Climate Change and the Environment (London School of Economics). Should you have any questions, or if you require more information about this research, please do not hesitate to contact us. In Zambia the study is being overseen by a team of three researchers comprising Mr Mukelabai Ndiyoi (0977430928) and Mr Mubita Nyambe of the

| Signed      | is greatly appreciated. |
|-------------|-------------------------|
| Print name: |                         |
| Date:       |                         |

Please sign below to confirm you have understood the above information and you are happy to participate in this survey. Your assistance with this research

### **Section C: SME identifiers**

| <b>C01</b> : What is your main business? |  |  |
|--|--|--|
|  |  |  |
|  |  |  |
|  |  |  |
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|  |  |  |
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|  |  |  |
|  |  |  |
|  |  |  |

| C02                        | C03                        | C04                                     |
|----------------------------|----------------------------|---|
|                            |                            | Ask if C03 = 1                          |
| Year business was formed:  | Is your business currently | With which regulatory body(ies) are you |
| rear business was formed:  | registered?                | registered?                             |
| Year [If business has been | 1= Yes                     | 1= PACRA                                |
| open less than a year,     | 2= No => If 'no' go to CO5 | 2= Department of Cooperatives           |
| please state the month the |                            | 3= Registrar of Societies               |
| business opened]           |                            | 4= Other Specify                        |
| C02                        | C03                        | C04                                     |
|                            |                            |   |
|                            |                            |   |

| C05   | C06  | C07   | C08  | C09                              | C10                                |
|---|--|---|--|----------------------------------|------------------------------------|
|   |  |   |  | Ask if C08 = >0                  |                                    |
| Total number of current permanent employees | Of this<br>number how<br>many are<br><b>Male</b> | Of this<br>number how<br>many are<br>Female | Total number of seasonal or temporary employees currently employed | Of this number how many are Male | Of this number how many are Female |
| Number                                      | Number   | Number                                      | Number   | Number                           | Number                             |
| C05   | C06  | C07   | C08  | C09                              | C10                                |
|   |  |   |  |                                  |                                    |

Permanent employees are those who have been working for the company for 12 months, or are expected to be working for the company for 12 months

### **Section D: Obstacles to Business Operations**

I would now like to discuss the various obstacles that your business faces.

Using the response options on <u>card 1</u>, to what degree is << each obstacle >> an obstacle to the current operations of your business?

[ENUM: Circle one for each obstacle on the list or place 'X' in box. If respondent is illiterate, ask respondent 'how much is <<each obstacle>> an obstacle to business on a scale of 0-4'].

|   |                |                   |                      |                   |                            | (Spont        | aneous)        |
|---|----------------|-------------------|----------------------|-------------------|----------------------------|---------------|----------------|
| Obstacle  | No<br>Obstacle | Minor<br>obstacle | Moderate<br>obstacle | Major<br>obstacle | Very<br>severe<br>obstacle | Don't<br>know | Does not apply |
| D01: Access to finance                                | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D02: Access to land                                   | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D03: Access to appropriate technology and facilities  | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D04: An inadequately educated/under-skilled workforce | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D05: Business licensing & permits                     | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D06: Corruption                                       | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D07: Crime theft and disorder                         | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D08: Customs and trade regulations                    | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D09: Electricity                                      | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D10: Flooding   | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D11: Other climate hazards (excluding flooding)       | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D12: Political instability                            | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D13: Practices of competitors in the informal sector  | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D14: Tax administration                               | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D15: Tax rates  | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D16: Transport  | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D17: Waste collection/disposal                        | 0              | 1                 | 2                    | 3                 | 4                          |               |                |
| D18: Water supply disruption                          | 0              | 1                 | 2                    | 3                 | 4                          |               |                |

### Section E: Business electricity usage

| E01                                 | E02   |
|-------------------------------------|---|
|                                     |   |
| Does your business use electricity? | Is this business connected to the electricity grid?     |
| 1= Yes                              | 1= Yes => <b>If 'yes' go to E07</b>                     |
| 2= No => If 'no' go to section J    | 2= No => If 'no' complete E03-E06, then go to section J |
| FO1                                 | F02   |
|                                     |   |
|                                     |   |

| E03                     | E04                      | E05            | E06                         |
|-------------------------|--------------------------|----------------|-----------------------------|
|                         |                          | Ask if E02 = 2 |                             |
|                         |                          | -              |                             |
| Using the options on    | Using the options on     | Do you plan    | Please explain why/why not: |
| card 2, what other      | card 3, why is your      | to connect     |                             |
| sources of energy       | business not connected   | to the grid    |                             |
| does your business      | to the grid?             | in future?     |                             |
| use?                    |                          |                |                             |
| 1= Petroleum based      | 1= National Grid is too  | 1=Yes          |                             |
| fuels (e.g. gasoline/   | expensive                | 2=No           |                             |
| diesel for use in a     | 2= National Grid's       |                |                             |
| generator)              | supply is too unreliable |                |                             |
| 2 = Coal                | 3= SME is located too    |                |                             |
| 3 = Wood fuel (e.g.     | far from the grid        |                |                             |
| firewood/charcoal)      | 4 = Other (please        |                |                             |
| 4= Liquefied            | specify)                 |                |                             |
| Petroleum Gas (LPG)     |                          |                |                             |
| 5= Bagasse or other     |                          |                |                             |
| form of biofuel         |                          |                |                             |
| 6 = Solar power         |                          |                |                             |
| 7 = Wind power          |                          |                |                             |
| 8 = Manual labour       |                          |                |                             |
| 9= Other energy         |                          |                |                             |
| source (please specify) |                          |                |                             |
| [please record all that | [please record all that  |                |                             |
| apply]                  | apply]                   |                |                             |
| E03                     | E04                      | E05            |                             |
|                         |                          |                |                             |
|                         |                          |                |                             |
|                         |                          |                | Now go to SECTION J         |

| E07  | E08  | E09  | E10   | E11   |
|--|--|--|---|---|
|  |  |  |   |   |
| Over the last<br>12 months did<br>your business<br>experience<br>power<br>outages? | Using the options on <b>card 4</b> , over the last 12 months how many times in a typical month did this business experience power outages? | Over the last 12 months, how long did power outages last on average? | In the last 12 months, during which month did your business experience the worst electricity supply disruption? | Please estimate the longest duration power outage that your business has experienced over the last 12 months? |
| 1= Yes<br>2= No =><br>If 'no' go to<br>section J                                   | 1= Less than once a month 2= 1-5 times/month 3= 6-10 times/month 4= 11-15 times/month 5= 15+ times/month, but not everyday 6= Everyday     | Days:<br>Hours:<br>Minutes   | Month, Year   | Days:<br>Hours:<br>Minutes  |
| E07  | E08  | E09  | E10   | E11   |
|  |  |  |   |   |

|     |  | 1 - Heat (e.g. welding, heating, water) | E12-<br>1 |
|-----|--|---|-----------|
|     |  | 2 - Communications and IT               | E12-<br>2 |
|     |  | 3 - Lighting                            | E12-<br>3 |
| E12 | Which of the activities on <b>card 5</b> does your business use electricity for?           | 4 - Equipment and other motive power    | E12-      |
| L12 | [Please tick all that apply]   | 5 - Water pumping                       | E12-<br>5 |
|     |  | 6 - Cooling                             | E12-<br>6 |
|     |  | 7 - Other (please specify:              | E08-      |
|     |  |   |           |
|     |  | 1 - Heat (e.g. welding, heating, water) | E13-<br>1 |
|     |  | 2 - Communications and IT               | E13-<br>2 |
|     |  | 3 - Lighting                            | E13-<br>3 |
| E13 | Which of the activities on <b>card 5</b> is the most important use of electricity for your | 4 - Equipment and other motive power    | E13-      |
|     | business? [Please tick only one]   | 5 - Water pumping                       | E13-<br>5 |
|     | . , ,  | 6 - Cooling                             | E13-<br>6 |
|     |  | 7 - Other (please specify:              | E13-      |
|     |  |   |           |

# intersection between the month and the severity of the outage] [ENUM: fill out this page with respondent so they can see and reflect upon the time-series being developed. Place a cross (X) in the

**E14:** We'd like to understand how your business' experience of power outages has changed over time. Using the options available on the table below during which months do you feel you experienced the most severe power outages?

|                   | outages | 0 - No power | outages | 1 - Mild power | power outages | 2 - Moderate | outages | 3 - Severe power | power outages | 4 - Very severe |
|-------------------|---------|--------------|---------|----------------|---------------|--------------|---------|------------------|---------------|-----------------|
| August<br>2015    |         |              |         |                |               |              |         |                  |               |                 |
| September<br>2015 |         |              |         |                |               |              |         |                  |               |                 |
| October<br>2015   |         |              |         |                |               |              |         |                  |               |                 |
| November<br>2015  |         |              |         |                |               |              |         |                  |               |                 |
| December<br>2015  |         |              |         |                |               |              |         |                  |               |                 |
| January<br>2016   |         |              |         |                |               |              |         |                  |               |                 |
| February<br>2016  |         |              |         |                |               |              |         |                  |               |                 |
| March<br>2016     |         |              |         |                |               |              |         |                  |               |                 |
| April<br>2016     |         |              |         |                |               |              |         |                  |               |                 |
| May<br>2016       |         |              |         |                |               |              |         |                  |               |                 |
| June<br>2016      |         |              |         |                |               |              |         |                  |               |                 |
| July<br>2016      |         |              |         |                |               |              |         |                  |               |                 |

### ENUM: Place a cross (X) in the intersection between the power outage experience and degree of agreement

We'd like to compare your experience of power outages over the last 12 months, with your experience of power outages at previous times. Using the options on <u>card 6</u> please state how much you agree with the following statements:

|     |  | 1 - Strongly<br>disagree | 2 -<br>Disagree | 3 - Neither<br>agree nor<br>disagree | 4 -<br>Agree | 5 -<br>Strongly<br>agree | DECLINED<br>UNSURE<br>or N/A |
|-----|--|--------------------------|-----------------|--------------------------------------|--------------|--------------------------|------------------------------|
| E15 | Over the last 12 months my business has experienced more regular power outages than is usual.                          |                          |                 |                                      |              |                          |                              |
| E16 | Over the last 12 months the power outages that my business has experienced have generally lasted longer than is usual. |                          |                 |                                      |              |                          |                              |

### **Section F: Business impacts of power outages**

| F01  | F02   | F03   | F04   | F05   |
|--|---|---|---|---|
|  | Ask if F02  | 1 = 1   |   |   |
| In the last 12 months have business operations/ production processes been halted as a result of power outages? | Using the options on card 4, how many days in a typical month have business operations or production processes been halted as a result of power outages?    | Please estimate<br>how long<br>operations were<br>halted on average | Using the options on card 7, do times of power outage have any impact on your business' productivity?   | In the last 12 months have power outages caused any damage to your business inventory or resulted in any other losses of business assets? |
| 1=Yes<br>2= No => If no go to<br>F04   | 1= Less than once a<br>month<br>2= 1-5 times/month<br>3= 6-10 times/month<br>4= 11-15 times/month<br>5= 15+ times/month, but<br>not everyday<br>6= Everyday | Days:Hours:<br>Minutes  | 1= Productivity decreases at times of power outage 2= Productivity increases at times of power outage 3= Power outages have no impact on productivity | 1= Yes<br>2= No   |
| F01  | F02   | F03   | F04   | F05   |
|  |   |   |   |   |

| F06   | F07  | F08   |
|---|--|---|
|   | Ask if F06 = 1   |   |
| In the last 12 months have you been unable to fulfill any obligations to customers or any customer orders as a result of power outages? | Do you believe that<br>this has resulted in any<br>permanent loss of<br>customers or business? | Using the options on <b>card 8</b> , please tell me whether you believe that power outages over the last 12 months have in anyway affected demand for your commodity(ies), service(s), product(s) or crop(s)? |
| 1= Yes  | 1= Yes   | 1 = Demand has decreased as a result of power   |
| 2= No => If no go to F08  | 2= No  | shortages   |
|   |  | 2 = Demand has increased as a result of power   |
|   |  | shortages   |
|   |  | 3 = Power shortages have had no impact on demand  |
| F06   | F07  | F08   |
|   |  |   |

| F09  | F10  | F11   |
|--|--|---|
|  | Ask if F09 = 1                                   | Ask if F10 = 1  |
| Do you think any of your suppliers have also been affected by power outages? | Has this had any consequences for your business? | Using the options on <b>card 9</b> , please specify the consequences your business has experienced as a result of suppliers' power outages  |
| 1= Yes<br>2= No => If no go to F12   | 1= Yes<br>2= No => If no go<br>to F12            | 1 = Supplier has been unable to supply sufficient raw materials or goods or has been delayed supplying raw materials or goods 2 = Supplier's prices have increased 3 = Supplier has switched to a different commodity, product or crop 4 = Supplier has gone out of business 5 = Supplier has relocated its facilities to cope with power outages 6 = Other (please specify) [Please record all that apply] |
| F09  | F10  | F11   |
|  |  |   |

| F12                                 | F13  | F14                             |
|-------------------------------------|--|---------------------------------|
|                                     |  |                                 |
| STATEMENT 1: My business has        | STATEMENT 2: My business might               | STATEMENT 3: My business has    |
| already reduced its total number of | <b>reduce</b> its workforce in the future if | reduced employees hours of work |
| employees due to power outages      | power outages continue.                      | as a result of power outages    |
| 1=True                              | 1=True                                       | 1=True                          |
| 2=False                             | 2=False                                      | 2=False                         |
| F12                                 | F13  | F14                             |
|                                     |  |                                 |
|                                     |  | !                               |

| F15   | F16                                | F17   |
|---|------------------------------------|---|
|   | Ask if F15 = 1                     |   |
| STATEMENT 4 – At times of power outage my business has temporarily dismissed employees or sent employees home early | Were employees paid for this time? | STATEMENT 5 – Power outages are a factor preventing my business from hiring new employees |
| 1= True   | 1= Yes                             | 1= True   |
| 2= False = <b>If 'false' go to F17</b>  | 2= No                              | 2= False  |
|   | 3=Sometimes                        |   |
| F15   | F16                                | F17   |
|   |                                    |   |

| F18   | F19  | F20   |
|---|--|---|
|   |  |   |
| STATEMENT 6 – Power outages have had no impact on the number of | STATEMENT 7 - My business is considering taking on extra | STATEMENT 8 - My business has already taken on extra employees in |
| employees in my business  | employees in response to power outages                   | response to power outages   |
| 1= True   | 1= True  | 1= True   |
| 2= False  | 2= False   | 2= False  |
| F18   | F19  | F20   |
|   |  |   |
|   |  |   |

| F21  | F22  | F23             |
|--|--|-----------------|
|  |  | Ask if F22 = 1  |
| Do you feel your business is at risk of closing down as a result of power outages? | Apart from those we have discussed already, has your business experienced any other (positive or negative) impacts of power outages over the last 12 months? | Please specify: |
| 1= Yes   | 1= Yes   |                 |
| 2= No  | 2= No  |                 |
| F21  | F22  |                 |
|  |  |                 |

### Section G: Coping with power outages

### When there is no power on the grid, does your business rely on any of the alternative sources of energy listed on <u>card 2</u>?

| G01         | G02     | G03       | G04       | G05         | G06     | G07     | G08     | G09            |
|-------------|---------|-----------|-----------|-------------|---------|---------|---------|----------------|
| Petroleum   | Coal    | Wood fuel | Liquefied | Bagasse     | Solar   | Wind    | Manual  | Other energy   |
| based       |         | (e.g.     | Petroleu  | (from sugar | power   | power   | labour  | source (please |
| fuels (e.g. |         | firewood/ | m Gas     | cane) or    |         |         |         | specify)       |
| diesel for  |         | charcoal) | (LPG)     | other form  |         |         |         |                |
| generator)  |         |           |           | of biofuel  |         |         |         |                |
| 1 = Yes     | 1 = Yes | 1 = Yes   | 1 = Yes   | 1 = Yes     | 1 = Yes | 1 = Yes | 1 = Yes | 1 = Yes        |
| 2 = No      | 2 = No  | 2 = No    | 2 = No    | 2 = No      | 2 = No  | 2 = No  | 2 = No  | 2 = No         |
| G01         | G02     | G03       | G04       | G05         | G06     | G07     | G08     | G09            |
|             |         |           |           |             |         |         |         |                |
|             |         |           |           |             |         |         |         |                |

| G10  | G11                                  | G12  | G13  |
|--|--------------------------------------|--|--|
|  |                                      | Ask if G10 = 1   |  |
| Does your business have access to a generator? | Is this generator private or shared? | What fuel type does your generator use?  | Approximately what percentage of your businesses electricity comes from a generator? |
| 1 = Yes<br>2 = No => If 'no' go to<br>G14      | 1 = Private<br>2 = Shared            | 1 = Diesel 2 = Liquefied Petroleum Gas (LPG) 3 = Biodiesel 4 = A combination of these fuels 5 = Other (please specify) | Estimated percentage   |
| G10  | G11                                  | G12  | G13  |
|  |                                      |  |  |

| G14   | G15             | G16   |
|---|-----------------|---|
|   | Ask if G14 = 1  |   |
| Apart from electricity from the grid, or from a generator, does your business have access to any other form of electricity (e.g. from solar power)? | Please specify: | Approximately what percentage of your businesses electricity comes from this/these alternative source(s)? |
| 1 = Yes<br>2 = No => If 'no' go to G17  |                 | Estimated percentage  |
| G14   |                 | G16   |
|   |                 |   |

| G17                     | G18                     | G19                            | G20                         |
|-------------------------|-------------------------|--------------------------------|-----------------------------|
| Has your business       | Has your business       | Has your business taken out a  | Has your business taken out |
| reduced its business    | adjusted its business   | LOAN to cope with power        | INSURANCE to cope with      |
| hours, or hours of      | hours, or hours of      | outages over the last 12       | power outages over the last |
| operation, to cope with | operation, to cope with | months?                        | 12 months?                  |
| power outages over the  | power outages over the  | [Loan may come in various      |                             |
| last 12 months?         | last 12 months?         | forms including finance/lease] |                             |
| 1= Yes                  | 1= Yes                  | 1= Yes                         | 1= Yes                      |
| 2= No                   | 2= No                   | 2= No                          | 2= No                       |
| G17                     | G18                     | G19                            | G20                         |
| _                       |                         |                                |                             |
|                         |                         |                                |                             |

| G21   | G22   | G23   |
|---|---|---|
|   | Ask if G21 = 1  |   |
| Has your business sold assets to cope with power outages over the last 12 months? | Did you sell assets at a lower price to cope with power outages over the last 12 months?? | Has your business mortgaged/rented out assets to cope with power outages over the last 12 months? |
| 1= Yes  | 1= Yes  | 1= Yes  |
| 2= No => If 'no' go to G23  | 2= No   | 2= No   |
| G21   | G22   | G23   |
|   |   |   |

| G24   | G25   | G26  |
|---|---|--|
| Has your business switched to a different product, service, commodity or crop to cope with power outages over the last 12 months? | Has your business started trading or farming an <b>additional</b> commodity, service, product or crop to cope with power outages over the last 12 | Has your business relocated any facilities or assets to cope with power outages over the last 12 months? |
|   | months?   |  |
| 1= Yes  | 1= Yes  | 1= Yes   |
| 2= No   | 2= No   | 2= No  |
| G24   | G25   | G26  |
|   |   |  |

| G27  | G28             | G29  | G30             |
|--|-----------------|--|-----------------|
|  | Ask if G27 = 1  |  | Ask if G29 = 1  |
| Has your business adopted any new technologies or upgraded infrastructure, equipment or other company assets to cope with power outages over the last 12 months? | Please specify: | Has your business collaborated with any other businesses to cope with power outages over the last 12 months? | Please specify: |
| 1= Yes<br>2= No=> If 'no' go to<br>G29<br>G27  |                 | 1= Yes<br>2= No=> If 'no' go to<br>G31<br>G29  |                 |
|  |                 |  |                 |

| G31                    | G32             | G33                       | G34                           |
|------------------------|-----------------|---------------------------|-------------------------------|
|                        | Ask if G31 = 1  |                           | Ask if G33 = 1                |
| In the last 12 months  | Please specify: | In the last 12 months has | Using the options listed      |
| have power outages     |                 | your business received    | on <b>card 11</b> , from whom |
| influenced your        |                 | or accessed any support   | did you receive support?      |
| business investment    |                 | to deal with the impacts  | (please state all that        |
| decisions?             |                 | of power outages?         | apply)                        |
| 1= Yes                 |                 | 1= Yes                    | 1 = From national             |
| 2= No => If 'no' go to |                 | 2= No => If 'no' go to    | government                    |
| G33                    |                 | G35                       | 2 = From local county/        |
|                        |                 |                           | local administration          |
|                        |                 |                           | 3 = From NGOs or from         |
|                        |                 |                           | other international           |
|                        |                 |                           | institutions? (e.g. World     |
|                        |                 |                           | Bank)                         |
|                        |                 |                           | 4 = From electricity          |
|                        |                 |                           | provider                      |
|                        |                 |                           | 5 = From industry             |
|                        |                 |                           | associations                  |
|                        |                 |                           | 6 = From other                |
|                        |                 |                           | businesses                    |
|                        |                 |                           | 7 = From family and           |
|                        |                 |                           | friends                       |
|                        |                 |                           | 8 = From others (please       |
|                        |                 |                           | specify)                      |
| G31                    |                 | G33                       | G34                           |
|                        |                 |                           |                               |
|                        |                 |                           |                               |

| G35   | G36  |
|---|--|
|   | Ask if G35 = 1   |
| Has your business taken any steps to reduce its own total electricity requirements and consumption? | Using the options on <b>card 12</b> , which steps has your business taken to reduce its own electricity consumption?   |
| 1= Yes<br>2= No => If 'no' go to G37  | 1= My business has switched to more energy efficient equipment or lighting 2= My business turns equipment or lights off when they are not in use 3= My business has installed timers to power lighting or equipment only when needed 4=My business has switched to a different commodity, service, product or crop that requires less electricity 5= Other (please specify) [Please record all that apply] |
| G35   | G36  |
|   |  |

### Has your business taken any other steps not yet mentioned to cope with power outages over the last 12 months? If so please specify:

### Section H: Cost of power outages to business

### H01

Using the options on **card 13**, have power outages had any impact on the price of your commodity, service, product or crop?

- 1= The price I sell at has decreased as a result of power outages
- 2 = The price I sell at has increased as a result of power outages
- 3 = Power outages have had no effect on my price of sale
- 4 = Other (please specify)

H01

ENUM: *Place a cross (X) in the intersection between the power outage experience and degree of agreement*Using the options on <u>card 6</u>, please state how much you agree with the following statements:

|     |  | 1 - Strongly<br>disagree | 2 -<br>Disagree | 3 - Neither<br>agree nor<br>disagree | 4 -<br>Agree | 5 -<br>Strongly<br>agree | DECLINED<br>UNSURE<br>or N/A |
|-----|--|--------------------------|-----------------|--------------------------------------|--------------|--------------------------|------------------------------|
| H02 | The <b>losses</b> my business has experienced as a result of power outages have been higher over the last 12 months than is usual. |                          |                 |                                      |              |                          |                              |
| H03 | Over the last 12 months my business has experienced <b>lower annual profits</b> as a result of power outages                       |                          |                 |                                      |              |                          |                              |

| H04 | Ask if<br>H03 = 4 or 5 | By what percentage do you believe your annual profits have decreased as a result of load shedding? | Percentage | H04 |  |
|-----|------------------------|--|------------|-----|--|
|-----|------------------------|--|------------|-----|--|

### **Section I Awareness and learning**

| 101   | 102                       | 103                       |
|---|---------------------------|---------------------------|
|   | Interviewer – only ask    | 102/103 if respondent     |
|   | did not reference El Ni   | ño already in response    |
|   | to IO1. If already refere | enced El Niño, go to 104. |
| Why do you think power outages in Zambia have been particularly | Are you aware of the      | Are you aware that an     |
| bad over the past 12 months?                                    | El Niño weather           | El Niño weather event     |
| [Interviewer, if respondent does not mention drought, load      | phenomenon?               | occurred recently?        |
| shedding or El Niño of own accord, when respondent has finished |                           |                           |
| answering prompt once more – "Are there any other reasons       |                           |                           |
| why you think power outages in Zambia have been particularly    |                           |                           |
| bad over the past 12 months?"]                                  |                           |                           |
|   | 1= Yes                    | 1= Yes                    |
|   | 2= No => If 'no' go to    | 2= No => If 'no' go to    |
|   | 108                       | 108                       |
|   | 102                       | 103                       |
|   |                           |                           |
|   |                           |                           |
|   |                           |                           |
|   |                           |                           |

| 104  | 105   | 106  | 107                            |
|--|---|--|--------------------------------|
|  |   | Ask if IO3 = 1   |                                |
| When did you first<br>hear that the<br>recent El Niño was<br>expected or<br>occurring? | Using the options on card<br>14, from where did you<br>receive the information<br>that an El Niño was<br>expected or occurring? | Upon learning that El Niño was expected or occurring, did your business make any different decisions to cope with its impacts? | Ask if 106 = 1 Please specify: |
| Approximate<br>Month, Year   | Option from card 14 [Please record all that apply]  | 1= Yes<br>2= No => If 'no' go to 108   |                                |
| 104  | 105   | 106  |                                |

| 108   |
|---|
|   |
| Did you receive warning that a general trend towards more severe power outages was anticipated over the last 12 months? |
| 1 = Yes => If 'yes' answer questions !09-I12, then go to question I15   |
| 2 = No => If 'no' go to I13   |
| 108   |
|   |
|   |

| 109                                      | I10  | l11   | 112                             |
|--|--|---|---------------------------------|
|  |  | Ask if 108 = 1  |                                 |
| When did you first receive this warning? | Using the options on card 14, from where did you receive this warning? | Did receiving advance warning (that more severe power outages were anticipated) help your business to plan for power outages? | Please explain/give an example: |
| Month, year                              | Option from card 14 [Please record all that apply]                     | 1 = Yes<br>2 = No   |                                 |
| 109                                      | 110  | l11   |                                 |
|  |  |   | Now go to I15                   |

| 113   | l14                             |  |  |  |  |  |
|---|---------------------------------|--|--|--|--|--|
| Ask if 108 = 2  |                                 |  |  |  |  |  |
| Do you think that if you had received advance warning | Please explain/give an example: |  |  |  |  |  |
| (that more severe power outages were anticipated), it |                                 |  |  |  |  |  |
| would have helped your business to plan for power     |                                 |  |  |  |  |  |
| outages?  |                                 |  |  |  |  |  |
| 1=Yes   |                                 |  |  |  |  |  |
| 2=No  |                                 |  |  |  |  |  |
| l13   |                                 |  |  |  |  |  |
|   |                                 |  |  |  |  |  |
|   |                                 |  |  |  |  |  |

| I15  | I16   | I17   | I18  |
|--|---|---|--|
|  | Ask if 115 = 1  |   | Ask if 117 = 1   |
| Did your business consult a load shedding timetable? | What percentage of the time did the power outages that your business experienced follow this timetable? | Did you receive<br>advanced notice of<br>power outage events<br>from any other sources? | Using the options on card 14, please specify from where: |
| 1= Yes,<br>2= No => If 'no' go to I17                | Percentage (%)  | 1= Yes<br>2= No => If 'no' go to<br>119   | Option from card 14 [Please record all that apply]       |
| I15  | I16   | I17   | I18  |
|  |   |   |  |

If the same frequency and intensity of power outages was forecast to occur again in five years' time, can you tell me which of the strategies listed on <u>card 15</u> your business would be most likely to implement (please select up to three).

[Enum: Allow respondent to select strategies (I19a, I20a and I21a) first and record these, before probing through follow on question (I19b, I20b and I21b)]

| I19a  | 119b  |
|---|---|
| 1 <sup>st</sup> strategy chosen               | Using the options listed on <b>card 16</b> , do you foresee your business facing any obstacles to implementing this strategy? |
| Number from card 15 [if other please specify] | Number from card 16 [Please record all that apply]  |
| STR01   | OBS01   |
|   |   |

| 120a  | 120b  |
|---|---|
| 2 <sup>nd</sup> strategy chosen               | Using the options listed on <b>card 16</b> , do you foresee your business facing any obstacles to implementing this strategy? |
| Number from card 15 [if other please specify] | Number from card 16 [Please record all that apply]  |
|   |   |
|   |   |

| I21a  | 121b  |
|---|---|
| 3 <sup>rd</sup> strategy chosen               | Using the options listed on <b>card 16</b> , do you foresee your business facing any obstacles to implementing this strategy? |
| Number from card 15 [if other please specify] | Number from card 16 [Please record all that apply]  |
|   |   |
|   |   |
|   |   |

### Section J: Water shortages and floods.

To conclude this survey I would like to just very briefly ask you about your businesses experiences of water shortages and flooding.

Water shortages:

| J01  | J02   | J03   | J04   | J05  |  |  |  |
|--|---|---|---|--|--|--|--|
|  | Ask if J01 = 1  |   | Ask if J02 = 1  |  |  |  |  |
| Does your<br>business have a<br>piped water<br>supply? | Over the last 12 months did your business experience insufficient water supply for its activities (either because your water supply was completely cut off or because of decreased water pressure)? | Using the options on card 4, over the last 12 months how many times in a typical month did your business experience insufficient water supply?              | How long did these episodes of insufficient water supply last on average? | In the last 12<br>months, what was<br>the worst month for<br>your business'<br>experience of water<br>supply disruption? |  |  |  |
| 1= Yes,<br>2= No => If 'no'<br>go to J09               | 1= Yes,<br>2= No => If 'no' go to<br>J09  | 1= Less than once a<br>month<br>2= 1-5 times/month<br>3= 6-10 times/month<br>4= 11-15 times/month<br>5= 15+ times/month,<br>but not everyday<br>6= Everyday | Days:Hours:Minutes  | Month, Year  |  |  |  |
| J01  | J02   | J03   | J04   | J05  |  |  |  |
|  |   |   |   |  |  |  |  |

We'd like to compare your experience of water shortages over the last 12 months, with your experience of water shortages at previous times. Using the options on <u>card 6</u>, please state how much you agree with the following statement:

|     |  | 1 -<br>Strongly<br>disagree | 2 -<br>Disagree | 3 -<br>Neither<br>agree<br>nor<br>disagree | 4 -<br>Agree | 5 -<br>Strongly<br>agree | DECLINED<br>UNSURE<br>or N/A |
|-----|--|-----------------------------|-----------------|--|--------------|--------------------------|------------------------------|
| J06 | Over the last 12 months my business has experienced more severe episodes of insufficient water supply than is typical. |                             |                 |  |              |                          |                              |

| J07   | J08   |
|---|---|
|   |   |
| Has your business adopted any of the strategies listed on card 17 to cope with insufficient water supply over the last 12 months? If so please specify: | Using the options on <b>card 17</b> , what action(s), coping strategy(ies) or form(s) of support would best help your business to cope with the impacts of insufficient water supply in the future? |
| Number from card 17, [if 'other' please specify and please record all that apply]   | Number from card 17, [if 'other' please specify and please select up to three]  |
| J07   | J08   |
|   |   |

Flooding:

| J09   | J10  | J11                                      | J12  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|--|
|   | Ask if J09 = 1                                 |  |  |  |  |  |  |  |
| Over the last 12 months, has your business been | Over the last 12 months, how many incidents of | On average how long did each incident of | In the last 12 months, what was the worst month for your |  |  |  |  |  |
| impacted by flooding                            | flooding did this business experience?         | flooding last?                           | business' experience of flooding?                        |  |  |  |  |  |
| 1= Yes,   | Number of incidents                            | Days, hours                              | Month, Year  |  |  |  |  |  |
| 2= No => If no, go to J16                       |  |  |  |  |  |  |  |  |
| J09   | J10  | J11                                      | J12  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |  |

### Using the options on card 6 please state how much you agree with the following statement:

|     |  | Strongly<br>disagree | Disagree | Neither<br>agree<br>nor<br>disagree | Agree | Strongly<br>agree | DECLINED<br>UNSURE<br>or N/A |
|-----|--|----------------------|----------|-------------------------------------|-------|-------------------|------------------------------|
| J13 | Over the last 12 months, my business has experienced more severe flooding than is typical. |                      |          |                                     |       |                   |                              |

| J14   | J15  |
|---|--|
|   |  |
| Has your business adopted any of the strategies listed on | Using the options on card 18, what action(s), coping     |
| card 18 to cope with flooding over the last 12 months? If | strategy(ies) or form(s) of support would best help your |
| so please specify:  | business to cope with the impacts of flooding in future? |
| Number from card 18, [if 'other' please specify and       | Number from card 18, [if 'other' please specify and      |
| please record all that apply]                             | please select up to three]                               |
| J14   | J15  |
|   |  |
|   |  |

| J16 | Would you consider allowing us to contact you again for a short follow up survey, as we track the ongoing impacts of power outages in Zambia?  1= Yes, 2= No | J16 |  |
|-----|--|-----|--|
|-----|--|-----|--|

### SURVEY ENDS HERE THANK YOU VERY MUCH FOR YOUR TIME AND YOUR COOPERATION

### FOR ENUMERATORS: PLEASE ANSWER AT THE END OF THE SURVEY

| Could you please estimate the respondent's age  It is my perception that the responses to the questions regarding opinions and                 | 1) Under 25 2) 26-39 3) 40-59 4) 60+  1) Truthful 2) Somewhat truthful 3) Not truthful   |
|--|--|
| perceptions are -  It is my perception that the responses to the questions regarding figures (e.g., business losses; employment numbers) are - | <ol> <li>Taken directly from establishment records</li> <li>Estimated with some precision</li> <li>Arbitrary and unreliable numbers</li> <li>In some cases taken from the book and in other cases estimated</li> </ol>   |
| Regarding the suitability of the respondent for further participation, it is my perception that –  | <ol> <li>They were highly engaged with the research process and would make an ideal candidate for further participation</li> <li>They were well engaged with the research process and would make a good candidate for further participation</li> <li>They were somewhat engaged with the research process and could potentially be approached for further participation</li> <li>They were less engaged with the research process than would be ideal for further participation</li> </ol> |
| Any further comments:  |  |

| of load shedding and its use of electricity. Where possible also please share with us any personal reflections on how you personally felt during your interaction with this business on this issue. And please share with us any feedback that the business may have given you about their feelings regarding the survey, or any emotional or psychological response towards the issue they may have expressed (continue on a second sheet if necessary). |  |  |
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