4.0 DESCRIPTION OF THE METHODOLOGY AND WORK PLAN FOR CONDUCTING THE INFORMAL SECTOR SURVEY

1. Background

The World Bank's enhancing the Economic Performance of African Cities Project is supporting KCCA to improve the enabling environment for economic growth and employment creation in the city. In order to support the development of an economic development strategy for the Greater Kampala metro region, an informal sector survey will be undertaken to provide policy makers with analytical information on the prominent sectors within the city. The survey is designed to produce representative estimates for the key indicators for the greater Kampala as a whole, and by enterprise wherever possible. The informal sector module will be part of the National Manpower Survey (NMPS) that is currently being implemented by UBOS. One of the modules of the NMPS is an informal sector module that focuses on the skill levels, remuneration, training and working conditions of those in the informal sector. The implementation of the informal sector survey in greater Kampala complements the few questions included in the 2016/17 UNHS on household based enterprises.

In 2010 Uganda Bureau of Statistics (UBOS) carried out and Census of Business Establishments (COBE) was all businesses were including enterprises with less 5 employees. The analysis from the 2010 COBE shows that 64 percent of the businesses in greater Kampala are involved in trading followed by Accommodations and food services. The data presented in Table 1 does not necessary show the distribution of informal sector but small enterprises which includes informal enterprises.

Table 1: distribution of businesses by Industry for Greater Kampala

Type of establishments	Number of businesses	% Share
Trade	117,653	63.6
Accommodation & Food Services	23,552	12.73
Recreation & Personal Services	19,572	10.58
Other Manufacturing	10,094	5.46
Real Estate & Business Services	5,305	2.87
Education, Health & Social Work	3,326	1.8
Information & Communication	1,838	0.99
Food Processing	1,688	0.91
Financial & Insurance Services	608	0.33
Agriculture	508	0.27
Transport & Storage	382	0.21
Mining & Quarrying	209	0.11

Fishing	143	0.08
Construction	78	0.04
Utilities	15	0.01
Forestry	5	0
Total	184,976	100

The analysis of business by industry in the greater Kampala shows that 63 percent are in trade followed accommodation and food services (12%) similar partner are observed in Wakiso and Mukono respectively as shown in Table 2.

Table 1. Distribution of Business enterprises by industry by district

Industry	**No of businesses**	**% Share**
Kampala		
Accommodation & Food Services	15,267	12.6
Agriculture	241	0.2
Construction	65	0.05
Education, Health & Social Work	1,909	1.57
Financial & Insurance Services	462	0.38
Fishing	21	0.02
Food Processing	1,119	0.92
Forestry	3	0
Information & Communication	1,228	1.01
Mining & Quarrying	64	0.05
Other Manufacturing	7,420	6.12
Real Estate & Business Services	3,827	3.16
Recreation & Personal Services	12,249	10.1
Trade	77,166	63.62
Transport & Storage	240	0.2
Utilities	11	0.01
Total	121,292	100
Mukono		
Industry	**No of businesses**	**% Share**
Accommodation & Food Services	1,428	12.64
Agriculture	61	0.54
Construction	3	0.03
Education, Health & Social Work	229	2.03
Financial & Insurance Services	32	0.28
Fishing	2	0.02
Food Processing	112	0.99
Information & Communication	111	0.98
Other Manufacturing	503	4.45
Real Estate & Business Services	271	2.4
Recreation & Personal Services	1,217	10.77
Trade	7,304	64.64
Transport & Storage	25	0.22
Utilities	2	0.02
Total	11,300	100
Wakiso		
Industry	**No of businesses**	**% Share**

Accommodation & Food Services	6,857	13.09
Agriculture	206	0.39
Construction	10	0.02
Education, Health & Social Work	1,188	2.27
Financial & Insurance Services	114	0.22
Fishing	120	0.23
Food Processing	457	0.87
Forestry	2	0
Information & Communication	499	0.95
Mining & Quarrying	145	0.28
Other Manufacturing	2,171	4.14
Real Estate & Business Services	1,207	2.3
Recreation & Personal Services	6,106	11.66
Trade	33,183	63.35
Transport & Storage	117	0.22
Utilities	2	0
Total	52,384	100

Target population

The survey will target households with enterprise and non-household enterprise identified within the enumeration areas. These will be identified during a listing operation to be undertaken prior to the start of the survey.

2. Sampling Frame

2. Sampling Frame

The sampling frame used for informal sector 2016 is the frame for the Uganda Population and Housing Census which was conducted on August 2014 (PHC 2014), provided by the Uganda Bureau of Statistics (UBOS). The sampling frame is a complete list of census Enumeration Areas (EA) created for the census covering the whole country, consisting of 80182 EAs. An EA is a natural village in rural areas and a city block in urban areas. Uganda is divided into 112 administrative districts, each districts is sub-divided into sub-districts, and each sub-district into parish, and each parish into villages. The frame file contains the administrative belongings for each EA and number of households at the time of the census. Each EA has also a designated residence type, urban or rural. Following are the definition of the geo-regions and the study domains.

The sample for the Uganda informal sector survey is designed to provide indicator such as employment, gross output estimates for the greater Kampala. In order to increase the efficiency of the sample design, the sampling frame will be divided into three strata which are as homogeneous as possible. The first level of stratification generally corresponds to the geographic domains of analysis that is Kampala, Wakiso and Mukono.

3. Sampling Procedure and Sample Allocation

Sample size determination

The sample size for a particular survey is determined by the accuracy required for the survey estimates for each domain, as well as by the resource and operational constraints. The accuracy of the survey results depends on both the sampling error, which can be measured through variance estimation, and the non-sampling error from all other sources, such as response and other measurement errors, coding and data entry errors. The sampling error is inversely proportional to the square root of the sample size. On the other hand, the non-sampling error may actually increase with the sample size, since it is more difficult to control the quality of a larger operation. It is therefore important that the overall sample size be manageable for quality and operational control purposes. The sample size also depends on cost considerations and logistical issues related to the organization of the teams of enumerators and the workload for the data collection.

- In determining the sample design for the informal sector survey, UBOS will use a mixed approach in determining the sample i.e the household approach where enumeration areas will be selected and a complete list of households with informal business will be identified and selected based on the industry. The total sample size will be finalized after reviewing the existing information on the number of businesses and agreeing on the categories for which estimates are required. In the interim, a total of 3000 business establishments employing less than 5 persons will be targeted.

3.1 Sample Allocation

Ideally, proportional allocation would be most appropriate if we are interested in an overall estimate with no major interest in the type of industry. This however tends to yield estimates which are biased towards the dominant industry. As a balancing act, consideration will be made to ensure that other categories of industry with low representation are also in the sample. In order to ensure that the allocation is well balanced in the three districts, a power allocation of 0.4 was used in the sample as a compromise allocation. The allocation is based on the COBE data as shown in table 3 above.

Table 3: Share of business establishments by district

District	Total Businesses	% Share	No. of est.	No.of EAs
Kampala	121,292	65.6	1427	71
Mukono	11,300	6.1	552	28
Wakiso	52,384	28.3	1020	51
Total	184,976	100	3000	150

3.2 Selection of EAs with PPS Systematic Sampling Procedure

The sample will be a two stage stratified sample selected from the sampling frame. Three strata will be created namely, Kampala, Wakiso and Mukono sampling

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stratum. Samples will be selected randomly independently using probability proportional to size selection (PPS). Before the sample selection, the sampling frame will be sorted within sampling stratum by type first, then by sub-county, parish, village and EA code. With this sorting and the PPS sampling procedure, implicit stratification by type will be achieved. It is expected that the sample points will be proportionally allocated.

The sample of required number of EAs will be probabilities proportional to size (PPS), using the systematic sampling algorithm described in Hansen, Hurwitz, and Madow (1953). The measure of size (MOS) for selecting EAs will be the households. The selection of the household enterprises will be based on those households with enterprises. For non-household based enterprises, the sample will be based on the total number listed by industry. All those sectors with one enterprise will be selected with certainty and the balance will be proportionally allocated to other sectors.

After the first stage selection and before the main survey, a household/ enterprise listing operation will be carried out in all of the selected EAs. The household/ enterprise listing operation consists of visiting each of the 300 selected EAs; to draw a location map and a detailed sketch map; and to record on the household/ enterprise listing forms all household and non-household enterprise found in the EA with the address and the name of the owner or the person managing the enterprise. The resulting list of household/ enterprise will serve as the sampling frame for the selection of enterprise in the second stage.

At the second stage, a fixed number of 10 enterprises for non-household and 10 for the household based enterprises will be selected from the newly established household/ enterprise listing for each selected EA. The 20 enterprises per EA is based on previous experience of undertaking Social economic surveys were 10 enterprise are selected for social-economic surveys. Enterprise selection will be performed in central office prior the main survey. The survey interviewers must interview only the pre-selected enterprise. No replacements and no changes of the pre-selected enterprise will be allowed in the implementing stages in order to prevent bias.

The selection of 10 enterprises will be with equal probability from the listing for each sample EA. The following procedures can be used for selecting the 10 sample enterprise from the listing for each sample EA:

1. All the enterprise listed in the sample EA should be assigned a serial number from 1 to M'ei, the total number of enterprise listed in the EA.

2. To obtain the sampling interval for the selection of enterprise within the sample EA (Iehi), divide M'ei by 10, and maintain 2 decimal places.

3. Select a random number (Rei) with 2 decimal places, between 0.01 and Iei. The sample enterprises within the sample EA will be identified by the following selection numbers:

$S_{eij} = R_{ei}[Iei \times (j-1)]$, rounded up,

Where j = 1, 2, 3,..., 10

The j-th selected enterprise is the one with a serial number equal to Seij.

A spreadsheet will developed for selecting the 10 sampled households enterprises in each sample EA. This spreadsheet includes items for the identification of the sample EA, and formulas for the systematic selection of enterprise once the total number of enterprise listed has been entered

The sample for informal sector survey for greater Kampala will be a stratified sample selected in two stages from the sampling frame. Stratification will be achieved by separating the enterprise by type and selecting a minimum of 1 from each of the categories listed.

4.1 PREPARATORY ACTIVITIES

There will be need to pre-test/pilot the survey instruments before the main data collection gets underway. This will test the suitability of the instruments and give a clearer picture on the study costs and time.

5.0 STUDY ORGANIZATION AND FIELDWORK

The study will comprise of 4 field teams. Each team will consist of a Supervisor, 4 interviewers and one Driver. It is estimated that the data collection will be undertaken in three field rounds, spanning over a period of three months. The entire programme will be under the stewardship of a Survey Director assisted by a deputy. The detailed work plan is attached for further details.

5.1 Transport

Each field team will be availed with a vehicle during the exercise. Regular supervision visits will be arranged to check on field progress.

6.0 DATA COLLECTION AND MANAGEMENT

An Application will be developed and we propose to use Computer Assisted Personal Interviews (CAPI). Staff will be trained to use CAPI during the process of data collection but there will be need for editors to check the data and do further cleaning.

6.1 Consistency checks/ Data cleaning/Editing

A computer program (hot-deck scrutiny) for verification and validation will be developed and operated during application development and further during data cleaning.

6.3 Reliability of Data

Range and consistency checks will be included in the application to ensure that inconsistent data is not entered. More intensive and thorough checks will be carried out using the data cleaning process. This will ensure that at the end of the data collection exercise there are only a few checks that need to be done before the data can be used.

7.0 DURATION AND TIMING

Preparatory work will start in July 2016 and the training of field interviewers will commence in the same month. Actual fieldwork is expected to start in the same month and end in October 2016.