

1 organisations in
lagos state;
renewable energy
association



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1 Research Design According to Parahoo (1997), research design simply answers the questions of how, when and where the collection and analysis of data occur. The survey research design will be adopted for the generation of the information needed for this research study.

The survey research design can be described as a process of information collection based on questions asked and responded to. This method is based on a collection of primary data. This quantitative method will employ the use of questionnaires which will be discussed under the instrument for the study.

3. 2 Population of Study The population size for this research work rests at an estimated size of 1200 workers from the different organisations in Lagos state; Renewable Energy Association of Nigeria (REAN), Lagos State Environmental Protection Agency (LASEPA), and Lagos State Government Ministry of the Environment (MOE).

3. 3 Sample Size and Sampling

Technique To calculate the sample size for this research work, the formula used by Krejcie and Morgan (1970) in their work " Determining Sample Size for Research Activities" was adopted by the researcher.

This formula is:
$$S = \frac{X^2 NP (1-P)}{D^2 (N-1) + X^2 P (1-P)}$$
 Where: S = required sample size X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level which is 3. 841 (1. 96 * 1.

96) N = the population size, 1200. P = the population proportion (which is assumed to be 0. 5 since this would provide the maximum sample size). D = the degree of accuracy expressed as a proportion (0. 05) Workings: $S = 3. 841 * 1200 * 0. 5 * (1-0. 5) / 0.$

$05^2 (1200-1) + 3. 841 * 0. 5 (1-0. 5)$ $S = 3. 841 * 1200 * 0. 5 * 0. 5 / 0.$

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$0025 (1199) + 3.841 * 0.5 * 0.55 = 1152.3 / (2.9975) + (0.$

$96025)S = 1152.3 / 3.95775S = 291.150$, which is approximately 291.

Thus, the sample size that will be adopted for this research study will be a total of 306 from the population size in line with the survey research method to achieve the efficacy of the research. A probability sampling technique will be used in other to allow equal chance of being chosen as a sample. The study includes data collection from three different organizations, hence, the most suitable probability sampling technique is the stratified random sampling.

Stratified sampling is a type of probability sampling technique where the researcher divides the population into subgroups or “strata”, after which the final subjects are selected randomly from the different subgroups or “strata”. The stratified sampling technique will be adopted because it is the most suitable technique for the study as it allows the researcher to gather data from the three groups in the population. The researcher believes that the stratified sampling technique will ensure equal representation of all three organizations. In stratified sampling, “stratified” is synonymous to “layers”, therefore, in order to arrive at the sample size for a stratified sampling technique, layers must be made which is showed in Table 1 (Stephanie, 2013). The stratification of the population size will be based on three categories: (1) renewable energy, represented by Renewable Energy Association of Nigeria (REAN) with a sample of 260 (2) the environment, represented by Lagos State Environmental Protection Agency (LASEPA) with a sample of 460 (3) the environment, represented by the Lagos State

Government Ministry of the Environment (MOE) with a sample of 480. As the sample size has been earlier calculated to be 291, the stratified sampling formula will be used to calculate the sample size of each strata (Stephanie, 2013). The formula: Sample size of the strata = size of entire sample / population size * layer size.

After the strata has been gotten, the researcher will use the systematic random sampling in distributing the questionnaire to the sample size in the various stratums. Table 1. Stratified random sampling

Name of organizations	Population	Layer size	Sample size
REAN	260	80	$291/1200*260=63$
LASEPA	460	120	$291/1200*460=111.55 \approx 112$
Lagos state MOE	480	160	$291/1200*480=116.4 \approx 116$
Total	1200	360	291

Source: Researcher

3.4 Method of Data Collection

The data collected in this research study was from both primary and secondary data source.

Primary Data Source

The primary data source that will be used is the Questionnaire method. The questionnaire will be administered to expert personnel from the areas of environment, and renewable energy sources sustainable development goals as related to this research study.

Secondary Data Source

This consisted of data gathered from relevant journals, articles, blog post, reports, and publications.

5 Research Instrument

The purpose of a research instrument in a research study is to collect information. Research instruments or research tools (as they are alternatively referred to) help to make data collection easier.

Research instruments include a questionnaire, interview, observation,

reading, etc. The research instrument that will be used in this study is questionnaire which is a quantitative data collection instrument. The questionnaire will have two divisions which will provide personal information and opinions of the respondents. The research study will use the closed format type with multiple choice questions so as to enable ease of data gathering. The respondents will include expert personnel from the areas of environment, and renewable energy sources.

The questions in the questionnaire will be modelled after the research questions which when answered in turn stimulates the achievement of the research objectives. The format that will be adopted for the questionnaire is the Five Likert Scale, which is a type of scale system that measures opinions on a level of agreement. It moves on a scale which commences from Strongly Agree and ends at Strongly Disagree Strongly Agree (SA), Agree (A), Uncertain (U), Disagree (D), and Strongly Disagree (SD)3.

6 Reliability of Research Instrument Reliability in its simplest forms means the capacity to get the same result from using an instrument to access the work more than once (Bernard, 2011). That is, reliability measures the accuracy and consistency of a result. The reliability of the instrument will be tested as the research will carry out a pre-test of the instrument with which the result of the pre-test will be compared to the result of the generated from the sample size. 3. 7 Validity of Research Instrument The validity of an instrument refers to the extent to which an instrument measures what it is designed to measure. As a result of this, the researcher will carry out a pre-test or pilot test of the study at a similar organisation as the ones mentioned in the population of the study. It is expected that the result generated will be <https://assignbuster.com/1-organisations-in-lagos-state-renewable-energy-association/>

similar to the one that will be administered eventually to the stated population.

3. 8 Method of Data AnalysisThe method of data analysis that will be used for this research work will be simple percentage, bar chart, frequency tables, and tabulations. This is in addition to the use of Statistical Package of the Social Science (SPSS) Version Six. 3. 9 Ethic ConsiderationIn the process of conducting research, certain factors are taken into consideration. Factors such as diligence, and hard work among others, but it is not only limited to that, over time the honesty and integrity of the researcher has also been taken into consideration.

This is to ensure that the rights of the participants in the research are recognised, respected, and protected. In order to ensure that this research study is ethical, the participants' rights to self-determination, anonymity, confidentiality, and informed (verbal) consent will be observed. The participants will be informed prior to questionnaire distribution of these rights, and that they can withdraw from participating at any time. The participants will also be informed that the study does not in any way affect their lives, and jobs.