

Evaluation of the Compliance Rate to Health and Safety Regulations of some selected Small and Micro Urban informal Sector Activities in Port Harcourt Metropolis Rivers State

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Abstract— The research focused on the evaluation of the compliance rate to health and safety regulations by some selected small and micro urban informal sectors activities in Port Harcourt Metropolis in Rivers State. Small and micro operators from cassava mill, poultry farm, saloon, and restaurant and kiosk shop were the target population. Taro Yamane formula was deployed to get the sample size of 400 respondents. The research adopted the cross sectional and descriptive method of data analyses. Questionnaire was structured as open-ended and concise questions using the established parameters to elicit accurate responses from operators. The study adopted probability and non-probability sampling techniques, Chi-square statistical tool was deployed to test the hypotheses stated and percentages used for analyses. Results revealed that there was a statistical significance difference between the numbers of small and micro urban informal sector operators with the documented history on oral health and safety policy that guides their operations which culminated to the health challenges faced by operators. Secondly, there was significant statistical difference between the awareness methodical approach adopted in health, safety and environmental to the improvement in health and safety enlightenment, and thirdly, there was significant difference between the compliance rate to the regulations and the health challenges faced by respondents. The recommendations of the study suggests an improved culture of health and safety of the people at the local communities to be top-most importance by the government bearing in mind the enormous contributions of the sector to the state and national economy. The basic safety and health precautionary methods should be made enforceable by the agencies in their activities. This would eventually lead to the decrease of the global outbreak of rising health and safety challenges from the sector.

Keywords— Evaluation, Compliance, Health/Safety-Regulations, Urban Informal Sectors.

I. INTRODUCTION

The essence of environmental health and safety is to ensure that we maintain environmental quality as we interface with nature, irrespective of these interactions it is important that the threshold is not exceeded else it becomes a challenge. The ecological balance must be ensured when harnessing these endowment in nature which can solve mans' problem through harmonising the economic and environmental goals. Man should have a responsibility to use these resources wisely irrespective of how man grows technologically. Environmental management is the proper control of environmental problems associated with human activities (micro), it is the effective utilization of environmental resources by the government and citizenry. Population explosion is a serious problem that has driven man into several activities as posited by the Malthusian theory which suggest the need for population control to ensure that man does not commit

suicide, David & Joshua, (2010). Man engage in these activities to meet the need of his insatiable desire, which brings us to a point where we ask ourselves a direct question that, in the face of population explosion how would sustainable development, be feasible? Good health and safety principles are important to every small or micro business. Striking an effective balance between environmental and economic growth is necessary which is what Tom (2015), explained by illustrating in a study that good health and safety is good business. Tom represents the economic growth of a society and the need to measure the acquaintance of small and medium enterprises cannot be over emphasize. These set of operators in the urban informal sector are prone to inaccessibility of the environmental information, and health and safety precautionary tenets in their respective businesses to contribute to the sustainable development goal through proper control of activities. According to World Bank research report conducted by (Nancy et al;

2014) small and micro business are categorised as Agro and Non-agro. In the informal sector, how possible can the government promulgate any Act to protect or enlighten the increased operators to the awareness of health and safety precautionary principles if sustainability must be assured? The reason for the selection of these informal businesses in the small and micro scale was due to the observed increased number from population which has engaged in the activities, and to highlight certain businesses that have pronounced health, safety and environmental effect. The lack of knowledge has increased the several health related challenges that are recorded in these businesses in Port Harcourt Metropolis. According to Ellah (1995), the people are predominantly small shop owners (saloon, gas filling shops, kiosk, electrical/electronic repairs etc., and traders and some agrarian activities with which they earn a living. Therefore, this study seeks to evaluate the compliance rate of these small and micro urban informal sectors to health and Safety regulations in Port Harcourt Metropolis in Rivers State.

II. THE STUDY WAS GUIDED BY THE FOLLOWING HYPOTHESES

H₀₁: There is no significant difference between the number of small and micro operators who are registered and those not registered as it pertains to health and safety operations

H₀₂: There is no significant difference between methods adopted in health and safety awareness campaign and the improvement in health and safety of their operations in the study area.

H₀₃: There is no significant difference between the compliance rate on health and safety regulations by small and micro scale operators in the study area.

III. METHOD OF STUDY

This research deployed a survey and descriptive method of data analysis. According to Kerlinger (1986), as cited by Oyegun (2003), the most important purpose of a survey research is to describe systematically the distribution of socio-psychological variables of a set of population. It has to do with attitudes from various respondents, their behaviors and opinions on certain issues. To achieve our aim there is need to understand the psychological and attitudinal behavior of how the small and micro operators in the urban informal sector conforms to the occupational health and safety regulation in their various businesses.

IV. STUDY POPULATION AND SAMPLE SIZE

The population for this study was made up of 30% of the 89 communities in Obio/Akpor Local Government Area and 30% of the 25 communities that make up the Port Harcourt City Local government Area. Port Harcourt Metropolis is made up of Obio/Akpor and Port Harcourt Local Government Areas. The 30% of the study are made up of 17 communities from Obio/Akpor and 18 Communities from Port Harcourt Local Government Area. The 35 communities were further stratified into 5 strata of 7 communities each and random sampling technique was applied to obtain the desired sample size for the study. The essence of the stratification was to classify the population into sub-populations, strata or group for random sampling. The 35 randomly selected communities represented the 30% of the communities in Port Harcourt Metropolis. This method was adopted as being representative of the study population. A month observation through the pilot study in the selected communities revealed that at least twenty small and micro enterprises operate within every 200 meter and some even more close at about 50 meters distance, this will give an estimated number of 3680 small and micro scale enterprise in our selected communities. Using Taro Yamane's formula (1967) where n = sample size, N = total population, e^2 = level of significance and 1 = constant. The formula is given as;

$$n = \frac{N}{1 + N(e)}$$

$$n = \frac{3680}{1 + 3680(0.05)}$$

This leaves us with a total number of 400 questionnaires that will be distributed to the small and micro scale business will be drawn through sampling techniques from the communities based on their proportion to the whole Metropolis. Furthermore, the non-probability sampling technique shall be deployed as a result of the observed increase of engagement by the populace, which is the reason for the selection of these businesses. According to World Bank research report conducted by (Nancy, et al., 2014) small and micro business are categorized as Agro and Non-agro.

Table 1. Category of business ownership types

Agro	Non-agro
Cassava Mill	Saloon
Poultry farm	Restaurant
Grinding Mill	Kiosk Shop

Source: World Bank (2019)

V. ANALYTICAL TECHNIQUE

Occupational Health and safety compliance checklist for business was used for this selected informal operator which was divided into three categories for the purpose of this study. The parameters that was used to assess the occupational health and safety precautionary compliance was the risk of exposure to inhalation, duration the working hours by each operator and the method of preferred means of environmental awareness. It is believed that if an individual is exposed to toxin over a long period of time there is bound to be accumulation and a breakdown of the system. The identification of parameter would help limit the scope of the study as there are other parameters that further researches can unravel as part of the checklist compliance of occupational health and safety at work. The statistical tool that was used to test the hypothesis

was the Chi-square, this was because of the scale of measurement adopted in analyses of non-parametric nature of data. The use of central measurement tendencies like percentage, pie chart, was deployed to analyze the data generated from respondent.

$$\chi^2 = \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

VI. RESULTS

Hypothesis one: There is no significant difference between the number of small and micro operator's been documented or oral health and safety policy that guides its operation with the health challenges at work place.

Question; what pattern do you have in consulting employee about their health and safety issues during operations to prevent rise in health challenges.

Table 2. Hypothesis testing one

Category	Cassava Mill	Poultry Farm	Saloon	Restaurant	Kiosk Shop
One-on-one	27.7	42.3	59.8	37.8	51.4
Written report	2.3	3.5	4.9		
General meeting	7.7	11.8	16.7	10.5	14.3
Employers inquiry	8.2	12.6	17.8	11.2	15.2
Other	3.2	4.8	6.8	4.3	5.9

Table 2, above is the contingency for first hypothesis which says, since the t-calculated value of 29.4 is greater than the t-critical value at 95% probability level is 26.30, we therefore reject the null hypothesis and accept the alternate hypothesis which states that there is statistical significant difference between the number of small and micro urban informal sector operators with the documented history on oral health and safety policy that guides its operations to the rising health challenges at work place.

Only about 4.6% from the respondents do written report on health and safety challenges, when over 80% have no such records. According to BIF health and safety compliance guide, these operators have duly not adopted

this principle. A BIF (Presumably refers to a specific organization or company health and safety guide likely outlines procedures and protocols to ensure the well-being of employees and others in the workplace) e.g Organizations like the British Safety Council(BSI) or ISPON (Institute of Safety Professional of Nigeria).

Hypothesis two; There is no statistical significant difference between the methodology adopted in health and safety awareness campaign with the improvement in health and safety of the respondents.

Question: What suitable means is most preferred that can increase the health and safety awareness to you in your business.

Table 3. Hypothesis two

Category	Cassava Mill	Poultry Farm	Saloon	Restaurant	Kiosk shop
Television	11.4	17.4	24.6	15.5	21.1
Smart phone	17.8	27.3	38.5	24.3	11.3
Radio	10.2	15.7	22.1	14	19
Town-hall	2.3	3.5	4.9	3.1	4.2
Handbill	7.3	11.2	15.8	10	13.6

Table 3 above is the contingency for second hypothesis which says, since the t-calculated value of 90.29 is

greater than the t-critical value at 95% probability level of 26.30, we therefore reject the null hypothesis, and

accept the alternate hypothesis which states that there is significant statistical difference between the methodology adopted in health and safety environmental education with the improvement in health and safety of the respondents. From the various medium that was used as awareness campaign as identified in the research instrument, respondents alluded to the fact that when health and safety education is brought to the respondents in the urban areas, the global aim of sustainable development becomes achievable. This involves the direct approach of local-

global means of environmental awareness. Hypothesis three; There is no significant statistical difference between the compliance rate of health and safety regulation and the health challenges faced by small and micro respondents from the selected informal sector in Port Harcourt.

Question: By way of overall health assessment, which health challenge do you mostly complain of as a result of no compliance of regulations in your operations?

Table 4. Hypothesis testing three

Category	Cassava Mill	Poultry Farm	Saloon	Restaurant	Kiosk Shop
Eye problem	6.2	9.5	13.4	8.5	11.5
Skin Problem	12.5	19.1	27	17.1	23.2
Respiratory Problem	9.1	13.9	19.7	12.4	16.9
Body-Ache	21.2	32.5	45.9	29	39.4

Table 4 above is the contingency for third hypothesis which says, since the t-calculated at 69.57 is greater than the t-critical value at 95% probability level is 21.03, we therefore reject the null hypothesis, and accept the alternate hypothesis, which states that there is significant statistical difference between the compliance rate of health and safety regulation and the health challenges faced by small and micro scale operators in Port Harcourt Metropolis.

VII. DISCUSSION OF FINDINGS

The various categories of small and micro urban informal sector operators have vehemently stated that there is difference between the inclusion of documented or oral health and safety policy that guide its operation with the rising health challenges that is been recorded at the primary health care, especially occupational health issues. It was seen that the operators of cassava local mill within the local government area recorded that 59% of the respondents who attested to the fact that they are experiencing respiratory problems like breathing difficulty, chest pain and coughing due to inhalation and duration of exposure. Especially for those that have been in the business for 5-10years. The survey revealed that in poultry farming, duration of exposure and inhalation, especially for 90% for those who have spent longer time in the business suffer body-ache like waist, back and joint pain in addition to skin irritation. This is as a result of increased duration from respondents at work place and frequency at which the working environment is been cleaned. The difference is further established by this set (Saloon) operators from the way and manner and the

nature of their job and the personnel involved. For example, 58.5% of respondents from the saloon category have up to vocational and tertiary level of education. So it is believed that they more enlightened individuals go into this kind of business and the various training that would be given to enhance their technical-know-how on this type of job have been acquired, therefore have greater chances of introducing the precautionary measures. Respondents from restaurant category suffer more of respiratory and skin related challenges, because of the closeness to fire and inhalation of smoke. About 41% of respondents from this category (Restaurant) have secondary school certificate as their highest level of education, while over 44.7% spend close 13 hours and above at place of work. Due to the closeness to heat, about 32.8% of the respondents revealed that skin related ailment are most predominant, skin related problem like itching, rashes, bleaching and irritation. Apart from trying to enforce health and safety regulations from authorities, over the years it has proven to be abortive especially because of the kind of society we live. The attempt to increase environmental education for every individual in the most remote part of the community in attempt to change their non-chalant attitude about health and safety around and within their environment. Teaching them a new way of life, a more secured and safe way to carry out their business operations. As earlier expressed in the literature review of this report, Tom, (2015) conducted a study to examine the compliance rate of health and safety legislation in small and micro business and found out that reputation rather than obligation is the key to

improving health and safety especially at workplace. Fuyane et al., (2013), asserted that not until health and safety consciousness becomes a way of life in our everyday activities, the mandate of united nation in the agenda of sustainable development will amount to an exercise in futility. In the Holy bible, Hosea 4: 6, said that “my people perish for lack of knowledge. This ultimately override the erroneous saying in Africa that “wetin i no sabi, no fit kill me”. Whether we like it not any act that is unsafe and unhealthy in the Northern Hemisphere is applicable down the Southern Hemisphere. Several businesses that man decided to engage himself in other to make a living have turned round to cause more pain than the intended gain. The health and safety adverse effect cannot commensurate with the damage of today. Anjali et al., (2016) in his study of the informal sector to determine the consequent risk faced by operators. No doubt, several challenges like muscular-skeletal complaint, respiratory health

challenge, eye problem and skin related complaints were observed. And like this study it affirms, duration of exposure as a major risk factor of health and safety issues at workplace. This would mean that operators needs to as matters of urgency reduce the number of hours they work per day, especially those that stay at workplace more than 9 hours. Norway has taken a systematic approach of environmental strategy education by identifying that it needs the commitment and cooperation from all stakeholders to make progress. For environmental education to succeed, it has to be an all-inclusive affair, incorporating in the curriculum at various levels of education and a communal habit. Identifying the various means of information dissemination, this will make everybody irrespective of your location and tribe or religion. The future of the next generation is in our hands, what we do to it is entirely left to ourselves; we either make it better or worse than we met it.



Plate 1 a and b: Grinding Mill in Operation without Personal Protective Equipment PPE



Plate 2: Poultry Farm operator without safety wears

VII. CONCLUSION

Health and safety is the primary pathway towards achieving sustainable development, this is a call for the need of preserving the earth for the future generation as well as doing business in good health which is now of grave concern to the world. This has brought several nations of the earth to promulgate laws for strict adherence especially as regards to one's health. Unfortunately in the third world countries the narrative seems to be only on paper and in most cases nothing at all. This study is concerned about the health and safety challenges of the informal sector, particularly the micro and small operators. It has become necessary to conduct risk assessment in every business so operators can identify associated hazards associated therein. The formulated policy of health and safety are often times concerned to operators of the formal sectors alone, as such the need to beam our search-light on the micro and small operators of informal sectors. The selected category that was identified in this study includes local cassava mill, poultry farm, saloon, and restaurant and kiosk shop. Williams (2005) in his presentation of traditions of geography enumerated earth-science and the importance of man in the physical environment where this rising economic activities take place. Obviously, the need to bring the peaceful co-existence of environmental and economic practice would guarantee the goal towards sustainable development. Small and micro business operators have been identified by various scholars that it is the heart-beat and live-wire of any economy, because it is easy and least expensive to begin. It becomes important and imperative that health and safety for small and micro business operators in the informal sectors be given the considerations it deserves and incorporated into the overall plans and scheme for regulatory compliance. In an informal sector, the government can even claim ignorance of its operations not to talk of locating where they are carried out. The assessment of health and safety in these selected businesses from respondents has been able to highlight the health challenges faced by operators and the most preferred means of environmental education. The access to information about health and safety from the informal small and micro scale category is highly deficient especially to the various individual in the communities that make up the urban areas that probably have no good network signal. The associated risk to the categories includes eye problem, skin problem, respiratory problem and body-ache. In the event of things, the local awareness and consciousness has brought more enlightenment of health and safety measures as members of the various categories agreed

that the global staged awareness approach has been high-jacked by political big-wigs with little or nothing down the rungs of the ladder within the geographical space. According to the BIF 29 health and safety guide, it is required that any firm with more than five employees should have a written health and safety policy that members can access at will. If the employees are perhaps less than five, an oral health and safety policy should be conventionally provided, which in this study the researcher has assessed the compliance to this regulation. The compliance rate of health and safety regulation to challenges faced by operators in the informal sectors is of serious concern that more studies should be focused on, if we shall implement the sustainable development goals. Furthermore investment in the health and safety sector in these category of jobs this would help policy makers carry out right decision that will affect the very individual as well as potential entrepreneurs.

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