

# Investigation of Workplace Environment: The Case of Selected Micro and Small Manufacturing Enterprises in Tanzania

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## BACKGROUND OF THE STUDY

**Abstract**—The main objective of this research paper was to investigate workplace environment in small and medium enterprises in developing countries. Randomly selected enterprises from manufacturing sector were involved in the study, data were collected by means of structured questionnaires and analysed by using SPSS. Findings from the study indicated that many workplaces environment are affected by a number of factors such as lack of proper furniture, insufficient light, excessive noise, poorly designed work centers, insufficient working tools/facilities, lack of safety gears and high temperature environment. All these factors play a vital role as they greatly affect employee's performance. Furthermore workers who are working in those environment suffered from a number of occupational diseases which absolutely affect their performance. It was recommended to explore further the SMEs work environment problems in order to develop a common understanding among the stakeholders in the sector so as to address them properly.

**Keywords**— *workplace environment, employee performance, small and medium enterprises, developing countries.*

## INTRODUCTION

There are many factors which affect worker's ability to perform better. Tinofirei, (2013) grouped these factors into internal and external factors. Internal factors have more to do with individual's employee's motivation towards a particular job, while external factors include the entire work environment which consists of elements such as furniture, light, noise, temperature conditions, facilities; job aids etc. which in one way or the other may affect workers performance. Other external factors include aspects such as management style, remunerations, performance evaluation and relationship with fellows, Kanchanopast, (2013). On the other hand Abhisheck, (2013) pointed out that the business environment today is more challenging, highly competitive, complex and very dynamic. It is therefore the responsibility of organizations leaders to put in place the right strategies to overcome all those issues so as to increase performance levels of their employees and hence remain competitive. Workplace environment is among the area which can be given due attention in order to make workers much more comfortable and thus increase their performance levels. This paper is intending to investigate the workplace environment factors and their impacts on workers performance in small and micro organizations in the developing countries context.

In the recent days researches on workplace environment has attracted the attention of different stakeholders, researchers, employers, employee's government agencies etc. This is because it plays an essential role towards workers performance and productivity in any type of organization El-Zeiny, (2013) Evidence from previous researches showed that providing a good workplace environment increases employee's performance, Chandrasekar, (2011), and hence increase competitiveness position of a company. Employees are familiar and believed that a good workplace environment influences their productivity. For example a study by Hughes, (2007) on various organizations revealed that 90% of employees believed that workplace quality plays a big role in increasing their productivity. These findings comply with the findings of different other researchers {e.g. Naharuddin, & Sadegi, (2013); Zahor Ijaz & Muzammil, (2014); Shikdar & Sawaqed, (2003); Leblebici, (2012) Chandrasekar, (2011) and Hameed & Hamjad, (2009)}. Therefore it can be concluded that there is no doubt that a good workplace environment contribute significantly towards increasing workers productivity. Many previous researches done in this area had confirmed this. Despite of this truth yet findings from some research studies in this area still indicate that majority of workers are unhappy with their workplace environment, Bruce (2008). Meaning to say that more studies are needed in this area. .

## STATEMENT OF THE PROBLEM

Researches on workplace environments proved the importance of providing a good workplace environment so as to increase performance, in organizations; Shikdar and Shawaqed, (2003). For large and formal organizations this seems not to be a big problem. However for micro and small organizations this seems to be a new topic. The small organization's workplace environment has been neglected for a long time. In Tanzania the National agency responsible for ensuring safe and health workplace environment (Occupational Safety and Health Agency, OSHA) put much more emphasize to monitor and regulate large formal organizations and failed to reach the smaller and micro enterprises due to a number of reasons, OSHA report, (2013). Therefore worker's health and performance were

greatly affected. Very few research studies had addressed the situation in small organizations. This gap needs to be filled by new research studies in order to enhance employee's performance and eventually increase their productivity and profitability to the companies. Research studies in these areas will also help to increase the level of awareness regarding good workplace environment to various stakeholders, employers, employees, government agencies so that they can take corrective measures to rectify them.

#### OBJECTIVES

The main objective of this research is to investigate the workplace elements that affect workers' health and performance in small manufacturing enterprises in the context of developing countries.

#### SPECIFIC OBJECTIVES

- i) To analyze the workplace elements affecting workers' performance
- ii) To analyze the availability of important facilities at the work places
- iii) To analyze health related problems affecting employees at their workplaces.
- iv) To suggest measures to be taken to improve the workplace environment

#### LITERATURE REVIEW

Micro, Small and Medium Enterprises Defined:

The definition of whether a company falls under micro, small or medium enterprises can vary from one region to another. Basically it depends on two main factors, the *employment size* and the *capital invested/turnover* per year. See the tables below for clarifications.

Table 1 Category of Organizations in developed countries

Company Category	Employees	Turnover
Micro	< 10	< € 2m
Small	10 - 49	€ 2m - 10m
Medium	50 - 249	€ 10m - 50m

Source: [http://ec.europa.eu/enterprise/policies/sme/facts-figure-analysis/sme-definition/index\\_en.htm](http://ec.europa.eu/enterprise/policies/sme/facts-figure-analysis/sme-definition/index_en.htm)

Table 2 Category of companies in developing countries

Category	Employees	Capital invested
Micro	1-4	≥\$2800
Small	5-49	\$2800 - 110,000
Medium	50-99	\$110000 - 440,000
Large	>100	>\$440,000

Source: Tanzania SMEs Development Policy, 2003.

As seen from the table above the characteristics of micro, small and medium sized enterprises varies depending on the region. In Europe a micro organization comprises of 0-10 employees (refer table 1 above) whereas in the developing countries context like Tanzania the number of employees is less than four (refer table 2 above). As far as this research is concerned it will concentrate more on the micro and small organizations because many previous studies have concentrated in medium sized and large enterprises and hence

to carry out studies in this area will help to reveal the situation for micro and small organizations.

#### WORKPLACE DEFINED

According to the business dictionary.com, (2014) workplace environment is defined as the exact location where a job is executed. Typically it involves the qualities of elements such as air supply, lighting, temperature conditions, noise level, furniture, personal protective equipment, job aids and the overall spatial arrangement. It is widely accepted by many researchers and stakeholders that a good workplace environment helps to produce better performance, Amjad, (2009). This is very true for both types of companies whether small or large organizations. Zahoor, Ijaz & Muzammil, (2014) in their research study entitled how to make an organization into a compelling place to work concluded that in order to increase performance and protect employee's health and welfare providing a good workplace environment should be part of strategic activities of any organizations. Their argument emphasizes the importance of providing a good workplace environment to employees. Although some researches done in the developed world indicated that there is a significant improvement in workplace environment, for example study by Taiwo, (2010) nevertheless the problem still persists especially for developing countries. For example the results of Shikdar and Sawaqed, (2003) research where they investigated worker's productivity, and occupational health and safety issues in selected industries in the Sultanate of Oman. Their results indicated that up to 60% of workers who participated in their study were unhappy of their working environment. They outline the following typical workplace environment problems in developing countries. Improper workplace design, ill structured job, mismatch between workers' abilities and work demand, adverse environment, poor human machine system and inappropriate management program. This indicates that workplace environment problems still exist.

Chandrasekar, (2011) identified a list of workplace environment factors which affect employees' productivity; environmental factors such as temperature, lighting, ventilation were commonly identified by respondents to have a big impact on their productivity. All these factors adversely affect worker's productivity. For example high temperature environment can lead to heat stress. Mismatch between the workers' physical structure and job demand may lead to muscular skeletal disorders, excessive noise can affect employee's productivity by as much as 40% (Ajala, 2012) and it may also lead to health problems such as hearing impairments, Kaleel and Mallick, (2012). Confidently it can be concluded that a poor workplace environment has many disadvantages as opposed to the advantages and thus it should be given the due attention as it deserves.

#### PRODUCTIVITY DEFINED

Productivity is simply a comparison between the input resources consumed by a system to get the output of more values. In this research subjective measure of productivity were utilized. A subjective measure of productivity does not rely on comparison of quantitative figures established previously, instead it relies on individuals' assessment,

perceptions and attitudes towards a product or service produced/offered, Wang and Gianakis, (1999). Subjective measure can be collected direct from workers through instruments such as questionnaire or interview guide.

#### WORKPLACE ENVIRONMENT AND PRODUCTIVITY

Many studies on workplace environment emphasize the importance of providing a good workplace for better performance. An independent study by Chandrasekhar, (2003) investigating on workplace environment in organizational performance in public organizations in India found that workplace environment plays a big role in increasing employee's performance. Shikdar and Sawaqed, (2003) researched on workers health and occupational and safety issues in the Sultanate of Oman. Findings of their study indicated poor environment condition especially noise, unsuitable furniture and high temperature are very common situation in workplace environment. They also found out that complaints about fatigue, back pain, headache and related muscular skeletal disorders were very common. All those problems together greatly affects employees performance and they need to be addressed properly. Leblebici, (2012) suggested that among other ways to avoid those kind of problems is to provide a better workplace environment.

Ajala, (2012) researched the influence of workplace environment on workers welfare, performance and productivity in Nigeria. Findings of this study indicated that workplace elements such as sufficient light, absence of noise, proper ventilation and layout arrangement substantially increase workers productivity. It is evidently observed from the empirical findings stated above that a good workplace environment plays a very fundamental role towards increasing performance and productivity of workers in general.

#### RESEARCH METHODOLOGY

Descriptive research design was employed for this study in which questionnaires were used as data collection instruments to investigate the workplace environment. The populations of the study were employees of private sector randomly selected from 62 different micro and small organizations located in Morogoro, Coast and Dar es Salaam region in Tanzania. A total of 140 questionnaires were administered to respondents (from all levels lower cadre, middle and top level) from the selected organizations. Simple random sampling technique was employed during conduction of the study. 109 respondents filled up and returned back the questionnaires for data analysis. SPSS was

employed to calculate the statistical parameters used in the discussion part where simple percentages and mean were used to establish the opinions of respondents and analyze them accordingly.

#### FINDINGS AND DISCUSSION

Findings indicated a number of workplace environment problems in most of the enterprises which affects workers performance, also problems related to employee's health were observed and insufficient working tools and equipment. The following part summarizes and discusses the main findings:

#### SUMMARY OF ORGANIZATIONS SURVEYED

A total of 62 companies participated in the survey. Out of those 37 were metal manufacturing companies, 21 were wood/timber manufacturing companies and 4 were food processing companies. See the table 3 below:

Table 3: Statistics of Industries visited

Type of companies	Companies surveyed	%
Metal manufacturing	37	59
Wood manufacturing	21	34
Food processing	4	7
Total	62	100

It can be seen that majority of the companies were mainly metal and timber manufacturing this is because the two dominate the small and medium enterprises sector in Tanzania.

#### WORKPLACE ELEMENTS AFFECTING EMPLOYEE'S PERFORMANCE

The following table list a number of workplace elements likely to affects workers performance negatively in the workplaces.

Table: 3 Workplace elements affecting employee's performance.

Element	SA	A	N	D	SD	Mean	Rank
1	48(44%)	36(34%)	4(3%)	13(12%)	8(7%)	3.98	2
2	3(3%)	11(10%)	0(0%)	38(35%)	57(52%)	2.01	5
3	40(35%)	26(22%)	8(7%)	29(25%)	14(11%)	3.67	3
4	11(10%)	19(17%)	2(1%)	24(22%)	54(50%)	2.56	4
5	54(14%)	26(10%)	21(8%)	11(21%)	18(47%)	4.37	1

Key: 1: lack of furniture, 2: Poor/insufficient lighting, 3: Excessive noise, 4: high temperature and poor ventilation and 5: Poor workplace layout.

Poor workplace layout is one of the leading workplace elements that influence employee's performance at the workplace with a mean value of 4.37. This shows that the settings in many working places were not properly arranged. Poor arrangement of the working area may lead to unnecessary wastage of time and energy in trying to locate and access the necessary items for doing the job and hence overall performance of employees affected. For effective and smoothly flow of the work the workplace need to be properly arranged. Lack of furniture or unsuitable furniture in the workplace is ranked no 2 with the means score of 3.98 meaning to say that employees want employers to furnish them with proper and enough furniture which can make them feel much more comfortable while working. Proper and suitable furniture will also help to boost employee's productivity. Noise is ranked third with a means score of 3.67 where majority of employees complained that their

workplace were not free of noise. Noise can affect concentration of employees on work as well as their health. What is insisted is to put more efforts to eliminate noise from the working area in order to enhance more the job and increase performance. Room temperature and ventilation was ranked fourth with a means score of 2.56 while light is ranked fifth with a means score of 2.01. Majority of employees confirmed that temperature is moderate and ventilation and lighting is sufficient for them to proceed with their work comfortably. Therefore these two elements have weaker influence on performance, however with regard to temperature some employees provided an additional note that during hot season temperature become a problem and in some working places it goes as high as 36°C meaning to say that the issues of temperature should not be completely ignored. Adequate temperature and enough ventilation are very essential for ensuring workers' comfort ability, good health and performance.

#### HEALTH PROBLEMS AFFECTING WORKERS DUE TO POOR WORKPLACE DESIGN

This section discussed health related problems/issues raised by workers at their workplaces. (See Figure 1)

The findings showed a high percentage of health related complaints from workers, mostly headache (55%), back pains, (46%) and neck pains, (39%). This suggests/indicates that there are many occupational health problems suffered by workers in this sector due to a number of reasons. The problems could be attributed by poorly designed jobs, inappropriate working heights, lack of proper tooling and equipment all these combined together seriously affect employee's performance.

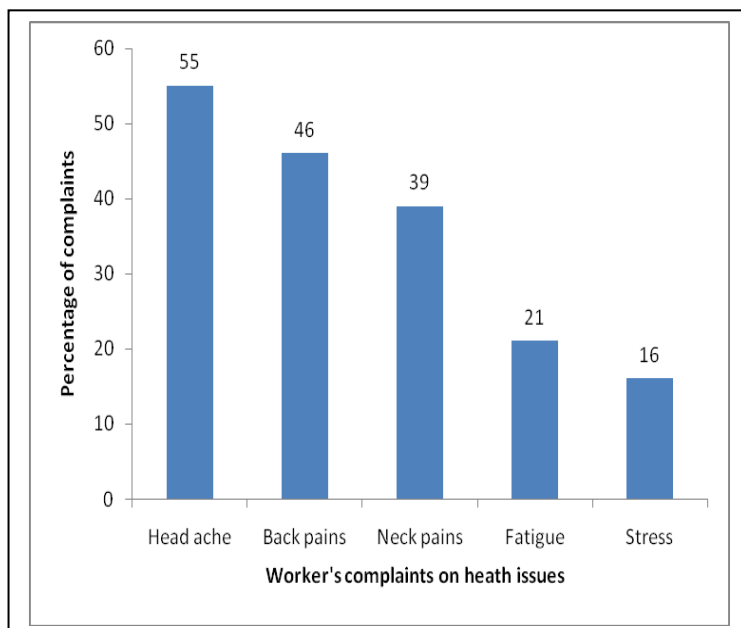


Figure 1: Commonly health problems as responded by workers

These findings are in line with the findings of Shikdar and Sawaged , (2003). It is advised to ensure that the healths of workers are properly protected by providing a friendly environment equipped with enough supporting tools and facilities for employees to work in order to make them enjoy their work and eventually increase employee's efficiency and effectiveness in totality.

#### AVAILABILITY OF FACILITIES REQUIRED FOR ACCOMPLISHING THE JOB IN THE WORKPLACE

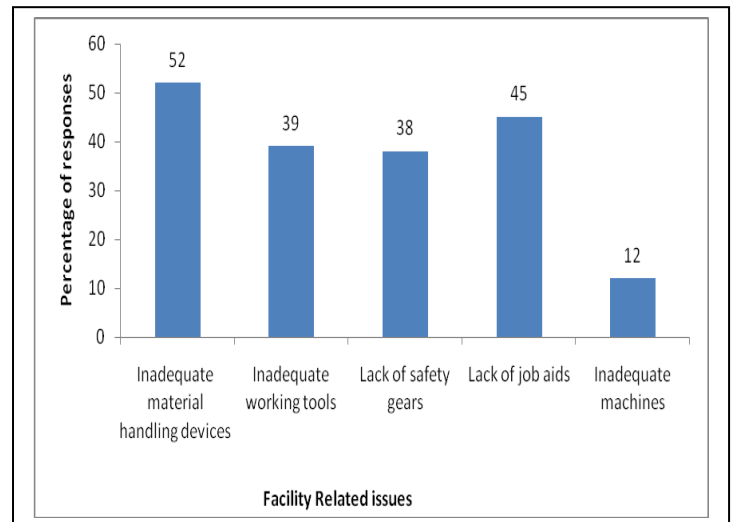


Figure: 2 Facility issues at workplaces

With regard to availability of facilities in the working places a good number of workers indicated inadequate facilities in the working centers as reported in figure 2 above. 52% of workers indicated inadequate material handling devices which led to the use of traditional or inappropriate method to handle/carry materials/products from one point to the other. 39% indicated inadequate working tools/machines/facilities which may temp them to use improper tooling for some jobs which greatly affect their health and performance. 38% indicated the lack of safety gears such as masks, gloves and ear masks. Working without safety gears may seriously affecting workers health especially after doing it for a prolonged period of time. The seriousness of this problem is witnesses by one of the respondents here: ("My name is ....., I am a welding technician, when I were in technical college our tutors used to insist the use of safety gears whenever doing any welding operations, but when I came here I find out that safety gears are very few such that sometimes I weld without wearing a welding helmet, or without wearing goggles for protecting my eyes and body against welding light and hot slags coming out of the weld as it solidifies."). This kind of witness really confirmed the existence of serious problems in SMs work environment Again 12% of the respondents indicated lack of machines which leads to the use of primitive manual methods in doing some of the tasks which could easily be done by using machines. See another comment: "...there are very few machines here, they are not proportional to the number of workers and jobs received. For example when we were in practical sessions in the colleges we were using a shear cutting machine to cut a sheet metal or



a flat bar but here there is only one shear cutter and its demand is very high, so some workers use a chisel to cut smaller flat bars instead of using a shear cutter this end up consuming a lot of our time and energy and may lead to serious health problems in the future” Finally 45% of the respondents indicated the lack of job aids in their working places. Job aids can provide correct information to workers who may be in need of such information so that they can make decisions on time and continue with their job. Without job aids one may end up wasting time by making unnecessary consultations from fellow workers/supervisors or sometimes end up making the wrong decision.

### CONCLUSIONS

As it was expected the results of this research study confirmed previous researches in the workplace environment literatures and showed a number of problems affecting workers in their workplaces. The following conclusions were drawn with regard to workplace environment in small and medium enterprises in developing countries.

- With regard to Workplace elements that affecting employee's performance, the main factors affecting employee's performance were found to be poorly designed work centers, followed by Lack of proper furniture and excessive noisy environment whereas other factors such as light and temperature were found to have less impact to the employee's performance. However some employees were concerned about high temperature environment in the work places especially during hot seasons meaning to say that temperature as a factor should not be completely ignored.
- With regard to health problems affecting employee's headache, back pains and neck pains were the leading health problems reported to have affected employees in their working centers while only few cases of fatigue and stress were observed. Conclusively one could say that health problems as a result of poor work environment is indeed a major problem of concern among small and medium enterprises in developing countries.
- Lastly concerning the availability of the necessary working facilities required to support the job, majority of respondents indicate inadequate facilities. Inadequate material handling equipment/devices, inadequate working tools, lack of job aids and lack of safety gears given higher scores while inadequate machines given low scores. All in all it shows that the availability of the necessary facilities required to accomplish the tasks are not so sufficient and therefore the problem should be resolved.

### RECOMMENDATIONS:

Strategies recommended for systematic workplace improvement in small and micro enterprises in developing countries context are highlighted below.

- There is a need to investigate in details the working environment in SMEs. Looking at the findings of this research it showed that there are many problems in many areas in the working environment of small organizations yet to be discovered. Detailed investigations of this area will lead to a better understanding of the problems and hence develop

appropriate strategies to resolve the problems facing this sector.

A common understanding among stakeholders should be established. After establishing an understanding of the issues facing this sector the starting point to address the problems is develop a common understanding among the stakeholders (employees, employers, the local government and other government regulatory authorities). That being done could simplify the process of addressing the situation. The reason behind this argument is that some managers and workers in the organizations visited seem to be unaware of the importance of providing better workplace environment for the welfares of their employees as well as their organizations. Although this was not the focus of this research but was discovered during consultations and discussions with the stakeholders involved in data collections process.

The lines of communications between the different stakeholders should also be improved. Again this was not part of the study but was discovered during the survey. The researcher observed lack of an open and trust environment which could enable workers and employers to come together to raise and discuss issues that could help in the improvement of their working environment. Open communications between employees and employers, employees and the government agencies could help to create an environment where people talk and discuss various problems and the way forward to resolve them without any fear.

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