

# ASSESSMENT OF INFORMAL SECTOR GARAGES WORKERS' SAFETY AWARENESS AT THE ODORNA GARAGES IN ACCRA, GHANA

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**Abstract-** Poor practices of safety are common in the informal garages in Ghana. Despite advance in technology and easy access to personal protective equipment (PPE), the issue of poor knowledge on the usefulness of personal protective equipment (PPE) still proliferates in most of the informal garages, particular in Odorna garages. The study was to access the basic knowledge on personal safety of three different trade area; automotive mechanics, welders, and autobody sprayers. A total of 13 garages were administered with 50 questionnaires, coupling with interview and observation, data was collected for analysis. Although, majority of the apprentices received basic training from their master craftsmen on the usefulness of personal protective equipment (PPE), only few uses them. Lack of law enforcement of safety practices at the garages has also led to low usage and knowledge of the personal protective equipment since over 90% of workers responded that there is no strict supervision on the use of PPE. Apparently no mechanism is set up to ensure or enforce the observance of safety rules and regulation in the garages. It is recommended that, there should be a mandatory training on personal safety on the usefulness of personal protective equipment (PPE) to master craftsmen and apprentices.

**Index Terms-** Apprentices, Garages, Master Craftsmen, Personal Protective Equipment.

## I. INTRODUCTION

Odorna garages is among the popularly known garages in Ghana. Garage work is an important source of job creation in Ghana. Apart from creating jobs directly, garages have a unique advantage of improving skills of master craftsman and the apprentices. The garages deal in all kinds of services on cars, from automobile body works, fabrication to major engine overhaul. People normally refer the place as 'one time stop' for all kinds of car services. The Odorna garages are divided into zones, and each comprises of garages of various skills master craftsmen. The garages are smaller in size comprising of the master craftsman and apprentices, with special competence in a specific area. This smaller garages fosters work relationship between master craftsman and apprentices, and creates conducive work environment in solving technological problems.

Odorna garages is an urban informal garages in Ghana (ILO, 1997). Most of the workers received some basic formal education whiles other drop-outs of school, before acquiring their skills through years of apprenticeship program. While as some of these garages are well equipped others are not. Though, the master

craftsman provides tools and equipment to be worked with, however, apprentices are also required to purchase some basic tools and equipment, with personal protective equipment (PPE). Observation suggest that, there are poor attitudes toward safety practices, as worker are not really concerned about their personal protection. Some of the workers do not realize the usefulness of personal protective equipment (PPE) and to see personal safety as their legal right. It is in this regard that this study look to access the knowledge of personal protective equipment of workers at Odorna garages, the attitude towards the usefulness of PPE and it effect, and make recommendations as to how one can be helped to practice good personal safety to strengthen the small scale informal enterprise in Ghana for socio-economy development.

## II. MATERIALS AND METHODS

The study relied on primary and secondary data source, and adopted a procedure involving collecting data and information. The primary data were collected based on field observation, and interview workers on the basis of a prepared questionnaire and checklist. The questionnaire was put in three categories: (1) basic knowledge on personal protective equipment (PPE); (2) Attitude towards the use of personal protective equipment (PPE); (3) Effect of poor use of personal protective equipment (PPE). The secondary data were obtained from published and unpublished sources including journals, periodicals, and internet. Apparently, there are few publications from Ghana on the personal safety of workers in the garages (Barling and Zacharatos, 2000).

The survey covered a sample size of 50 Masters Craftsman and apprentices located at Odorna garages. Simple random sampling was use to select the garages under the specialized skill areas; automotive mechanics, welder, and autobody sprayer. To acquire a full response of the questionnaires, the master craftsmen and apprentices were administered with the questionnaire at their own convenience. Though, the questionnaire were prepared in English, local languages such as Akan and Ga was used to translate and communicate the content of the questionnaire where necessary. Assessment was also based on the observation and interaction with workers; the knowledge, attitude and effect on the use of PPE on the work.

## III. RESULTS AND DISCUSSION

Generally, the challenges of Occupational and health and safety practices in Ghana are quite disturbing (Ministry of Health Report, 2007). The survey revealed that little attention is given to

the Occupational health and safety in Ghana. Apparently there are no safety policies to guide the garages in Ghana. None of the garage visited has safety booklets, leaflet or posters. It is not surprising that 100 percent of the responders claim the authorities have recently, not organized any safety program for them. The welders however, in the past have received some form of training on personal safety and proper handling of combustible materials organized by Air Liquide Ghana.

The questionnaire cover areas of demographic characteristic, knowledge of personal protective equipment (PPE), attitude toward personal safety, and the effect of poor use of PPE on workers' health.

*A. Demographic characteristics*

The fact that majority of the respondents are between the ages of 15 and 30 (58%) years, proves that many of the workers start the apprenticeship program at an early age. (See table 1) Observation also indicates that majority of the workers who perform an activity without using personal protective equipment fall under this age group. This has a significant bearing as it implies that majority of these young ones who are to developed the small and medium scale informal sector are at a high risk of health hazards. The workers between the ages of 45 and 60 (14%) years are mostly master craftsmen, of which many retired premature as a result of the hazards accrued during their early ages as apprentice.

**Table 1: Distribution of age**

age	master	apprentice	attach ment person nel	percentage %
15-30		28	1	<b>58</b>
30-45	7	7		<b>28</b>
45-60	6	1		<b>14</b>
60+				<b>0</b>
Sub total	13	36	1	100
<b>Overall I total</b>		<b>50</b>		<b>100</b>

Table 2 shows that at least all the workers had enrolled in primary school, with 12 (24 percent) dropout of school at junior school level in search for greener pasture. Majority of these drop out take up apprenticeship program so as to acquired basic skills for self-employment or be employed by a company. The remaining apprentices 38 (76%) who continue and completes junior school also end up with their school dropout colleagues on the same apprenticeship program. In contrast to that, 4 (8%) apprentices upgraded themselves by attending secondary school or vocation school. The dramatic decline in the academic ladder was attributed to parents' inability to pay their words school fees, as reported by UNESCO Institute of statistics (2011).

**Table 2: Educational level of respondents**

school	master	apprentice	attachment personnel	percentage %
no schooling				<b>0</b>
Primary school	3	9		<b>24</b>
Junior school	9	25		<b>68</b>
Secondary school		1		<b>2</b>
Vocational school	1	1	1	<b>6</b>
sub total	13	36	1	100
<b>Overall total</b>		<b>50</b>		<b>100</b>

*B. Knowledge on personal protective equipment (PPE)*

Personal protective equipment (PPE) are equipment design to protect the user's body from injury or infection. The PPE reduces worker exposure to hazards such as heat, chemical, physical, and airborne particulate matter. When asked as to whether PPE protect us from injury, 48 (96%) of the workers responded yes leaving only 2 (4%) worker who have no knowledge of the importance of PPE. The entire worker (100%) responded that, currently, they have never received any training on personal safety and on PPE. Table 3 gives summary of the response to questions on PPE posed to respondents. This was consistent with the findings of survey conducted by E. Adei, D. Adei and S. Osei-Bonsu (2011) among the autobody spraying garages where only 6.7 percent of the sprayers received education on safety that can help to upgrade the knowledge of potential hazard of material used on cars, furniture and coffin spraying industry. Additionally, insufficient OHS education has been one of the challenges to occupational health and safety practices (Ministry of Health Report, 2007).

**Table 3: Workers' knowledge of PPE in percentage**

Activity	Response	masters	apprentice	attachment personnel	Total
Personal safety induction	YES	38.5	44.4	0.0	<b>42.0</b>
	NO	61.5	55.6	100.0	<b>58.0</b>
Protection from injury by PPE	YES	92.3	97.2	100.0	<b>96.0</b>
	NO	7.7	2.8	0.0	<b>4.0</b>
Organization of safety programs on personal safety	YES	0.0	0.0	0.0	<b>0.0</b>
	NO	100.0	100.0	100.0	<b>100.0</b>

Majority of the master craftsmen (trainers), 8 (61.5%) had never conducted training on personal safety for their apprentices and on the part of the apprentices, 20 (55.6%) responded not to have received an induction on safety when they started work. Out of this response, autobody sprayers are of the majority.

*C. Attitude towards the use of personal protective equipment (PPE)*

Although 48 (96 percent) of the respondent are aware of the fact that, PPE usage is one of the ways by which work related injury may be prevented, only 6 (12 percent) of the respondent wear the PPE at all time. Further observation shows that out of the 12 percent workers who answered that they use the PPE at all times during work, only 8 percent were observed to be actually using the PPE.

Since majority (76.9 percent) of the master craftsmen do not often wear the PPE they often do not monitor and insist on the use of the PPE of the apprentices, as 36 (72 percent) respondents claim there is no strict rules and monitoring of the wearing of PPE. Some of the workers blame their infrequent use of the PPE to the high ambient temperature of the working environment, others said they feel uncomfortable in them and often slowdown the work, while majority claims that they could not afford the PPE as stipulated by the Regional Committee for Africa Report (2004) that, the OHS challenges faced by Africans is due to endemic poverty and poor performance of African economies.

The decline in the use of PPE is not surprising as majority of the respondents (56 percent) are of the view that such PPE must be provided by the master craftsmen. The 44 percent who were of the view that the PPE must be provided by the apprentices, gave reasons such as: the informal sector is small scale enterprise and therefore master craftsmen cannot afford the provision of the PPE to the apprentices.

**Table 4: Workers knowledge on PPE in percentage**

Activity	Response	masters	apprentice	Attachment personnel	Total
Frequency in wearing PPE	all time	23.1	5.6	100.0	<b>12.0</b>
	some time	53.8	55.6	0.0	<b>54.0</b>
Monitors the wearing of PPE by master craftsmen	never	23.1	38.9	0.0	<b>34.0</b>
	YES	30.8	27.8	0.0	<b>28.0</b>
Providing of PPE	NO	69.2	72.2	100.0	<b>72.0</b>
	master apprentice	53.8	55.6	100.0	<b>56.0</b>
Attend regular check up	NO	46.2	44.4	0.0	<b>44.0</b>
	YES	7.7	0.0	0.0	<b>2.0</b>
	NO	92.3	100.0	100.0	<b>98.0</b>

A worker in the garages supposed to equip himself with all the necessary PPE to prevent burns, cuts, electrical shock, inhaling toxic vapours and mist, swallowing paints and absorbing contaminant through the skin and eye (Rongo, 2004). Apart from the workers (12 percent) who wear PPE at all time, majority 49 (98 percent) of the workers do not go for regular check-up. In response to this disturbing issue, majority of the workers claim that the daily income is insufficient, as it is 'hand to mouth' kind of work. This claim was supported by the Chairman, Mr. Kwasi Odame of Odorna garages, and relented that, if periodic checkups can be provided for them, the situation may be reversed.

*D. Effect of poor use of personal protective equipment (PPE)*

Garages can be dangerous places due to the many hazards looming around in the form of occupational skin problem, electric shock, burns, cuts, falling object on the eye and noise (automotive mechanics); sparks, heat, cuts, scratches, electric shock, radiation exposure to the eye 'arc eye' and burns (Welder); dusts, mists, fumes, solvent vapour, cuts, puncture and damage to the skin (autobody sprayer). Effect of these hazards on the human organs can be temporal or permanent illness or death.

One will then expect that a worker working in any of these garage will put on the PPE to prevent the obvious injuries for not wearing PPE, however, lack of knowledge on the effect of not wearing PPE on the worker has excavated the low usage of PPE.

Although 68 percent reported work related accidents took place in some of the garage, 58.8 percent of the injuries were minor. A number of these injuries could have been prevented, if workers could have adopted the culture of wearing PPE, at all times and in the appropriate way.

Injured apprentices are faced with huge socioeconomic burden with majority (55.9 percent) of the respondents claiming that the cost of injury is mostly borne by them. The apprentices are mostly low income earners, spending the little they earn on medical bills puts a lot of pressure on their finances.

**Table 5: Effect of poor use of PPE in percentage**

Activity	Response	masters	apprentice	attachment personnel	Total
Workshop accident	YES	61.5	72.2	0.0	<b>68.0</b>
	NO	38.5	27.8	100.0	<b>32.0</b>
Type of injury	major	23.1	30.6	0.0	<b>41.2</b>
	minor	38.5	41.7	0.0	<b>58.8</b>
Provision of first aid	YES	0.0	5.6	0.0	<b>5.9</b>
	NO	61.5	66.7	0.0	<b>94.1</b>
Cost borne by	master	30.8	30.6	0.0	<b>44.1</b>
	individual	30.8	41.7	0.0	<b>55.9</b>
	both	0.0	0.0	0.0	<b>0.0</b>
Return back to work	YES	61.5	72.2	0.0	<b>100.0</b>
	NO	0.0	0.0	0.0	<b>0.0</b>
Injury slows down production	YES	61.5	72.2	0.0	<b>100.0</b>
	NO	0.0	0.0	0.0	<b>0.0</b>
Fund for injure person	YES	7.7	0.0	0.0	<b>2.0</b>
	NO	92.3	100.0	100.0	<b>98.0</b>

#### IV. CONCLUSION AND RECOMMENDATION

This study shows that despite the high level of awareness on the usefulness of PPE, there still prevail poor attitude towards the use of PPE among Odorna garages. The little knowledge on long term effect of solvent vapour and inhaling of fumes and dusts to lungs; ultra-violet radiation to the eye; and grease, oil, solvent to the skin was established. One can only conclude that there should be collaboration between the Associations of Garages, Government Agencies, Ghana Health Service to train workers on the importance of using personal protective equipment (PPE) at all time and in the correct way. The fact that PPE is worn at all times does not necessarily guarantee invulnerable of the hazards in the workshop, to this the training should include an intensive education on the need to have regular checkup (100 percent

workers do not attend regular checkup). Master craftsmen must also integrate into their training to apprentices the usefulness of PPE. Medical screening of the workers is proposed by the study to gain further insight into the adverse health effects resulting from their work. A comprehensive study in other workshops across the country is warranted to obtain a holistic picture nationwide for the necessary policy considerations.

The low number of attachment personal (2 percent) show that there is absolutely no collaboration between the training institutions and garages.

My recommendation includes that:

1. The government needs to take a very active role in the development and implementation of a legal framework under which the activities in the garages are to be regulated, to ensure health safety for workers.
2. The Association of Garages should ensure that every master craftsman is taken through an intensive safety training workshop for certification before owning a garage.
3. The Association of Garages should provide frequent training on health safety and first aids for all the workers.
4. Master craftsmen in conjunction with the Association of Garages should ensure the provision and usage of PPE to all workers.
5. Provision of free medical screening to encourage regular checkup by the workers, and hence minimize the inherent risks of injury.
6. The training institutions should collaborate with the master craftsmen to encourage them to upgrade at the institutions and inversely take up students on attachment program.

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