CIB2007-174

Analysis of Accidents on Building Construction Sites Reported in Uganda during 2001 - 2005

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ABSTRACT

This research analyses the causes of accidents on building construction sites in Uganda. Data were obtained from Labour Offices and Accidents Registers from around the country. More information where required was obtained by interviews with contractors and workers who were affected. Results indicated that collapse of building elements and improper use of machinery cause most of the fatalities. Workers being hit by objects and falls are the most common causes of accidents on building projects. Accidents that occurred permanently reduced the capacity of workers who are involved by 37 percent on average. Labourers are the most vulnerable workers followed by masons, carpenters and plant operators. The research seems to suggest that as the percentage of permanent incapacity increases, the relative number of such accidents reduces exponentially until there is a step increase for fatal and near fatal accidents. Reducing the incidences of accidents is important in **Construction for Development**.

KEYWORDS: **Labour, Building Sites, Safety and health, Accidents, Productivity, Uganda.**

1. INTRODUCTION

Research on safety and health in industries has been going on in the developed countries and many publications conclude that construction has more accidents of greater severity than other industrial sectors and is

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responsible for a significant proportion of occupational illnesses (Drever, 1995). It is also one of the least safe industries, with a high frequency of accidents resulting in financial loses, injuries, disabilities and deaths. The situation in Uganda is no better as it is even considered as one of the most dangerous industries on the basis of accident frequency (Lubega *et al.*, 2000). Improved working conditions and worker health result in a lower turnover of workers, promoting greater cooperation and motivation within the work force, thus leading to increased productivity (Cotton *et al.*, 2005). Reducing the rates of accidents and gravity of accidents is critical for Construction for Development.

Serious accidents and injuries have occurred with alarming frequency at construction sites (Mwakali, 2006). The most recent severe construction accident in Uganda was the sudden collapse of a hotel at Bwebajja on 1st September 2004 in which 11 people died and 26 were seriously injured (Mwakali, 2004). Problems concerning accidents at construction sites described in previous studies are due to differences in sites and changing working environment; mobility of the workers; and frequent changes in the location of construction sites (Auld *et al.*, 2001). The other factor is that different materials are handled and transferred a lot at construction sites and this increases the risk of occupational accidents (Niskanen, 1993). Joint Industrial Research Council (1987) in conjunction with the International Labour Organisation summarise the contributory factors to accidents as the technical equipment; the working conditions; and the people.

Studies carried out on accidents of construction workers in the USA have shown that: The accident injuries of construction workers were mainly sprains or strains, cuts, lacerations, and fractures; The body part most frequently injured was the back; Over-exertion and being struck by an object are typical causes of accidents among construction workers; and Falling from a height causes most of the fatalities (Culver *et al.*, 1993). To be able to devise ways of minimizing accidents in Uganda, it would be prudent to find out the causes of accidents and how the accidents affect the workers. The aim of this study is to examine the causes of accidents to building workers in Uganda; to find out their variation and how they affect productivity. It is hoped that these research will help in proposing ways of improving safety practices in order to improve the current situation.

2. BACKGROUND LITERATURE

2.1 Building construction in Uganda

Construction in Uganda contributes about 12 percent of Gross Domestic Product and it is the second largest source of employment after agriculture (UBOS, 2005). Many workers are employed on building sites as civil

engineering works are to a large extent mechanized. Building is labour intensive as it is largely in situ. It employs about 5 percent of the total labour force available in the country (UBOS, 2005)

2.2 Previous reports

The improvement of safety, health and working conditions is gaining attention today in numerous countries. Improvement in occupational safety, health and work organization enhances productivity by lessening the number of interruptions in the manufacturing process by reducing absence by decreasing the number of accidents and by improving work efficiency. (Joint Industrial Safety Council, 1987, p90).

The high accident rates in construction bear witness to the lack of clear responsibility for safety when a number of subcontractors are working on site, which is exacerbated by the prevalence of temporary and self employed workers (Income data Services, 1990). The construction industry is characterized by many small size firms that carry out work on subcontract basis. So many players on a construction site who are not well coordinated provide room for accidents to happen. Dawson *et al.* (1988: 253 – 260) argued that recession influences the ability to maintain a safe and healthy workplace in a number of ways. Firstly, a harsher financial climate intensifies competition for resources within organizations, which may detract from health and safety matters. Secondly, pressure to contain labor costs and to raise productivity has been associated with an increased accident rate. And finally, employees may tolerate working in hazardous conditions due to the fear of losing their jobs if they complain.

Construction even in developed countries does not have a good record. It is documented that construction work is one of the most dangerous occupations in the United States. With respect to all reported injuries per 100 full time workers, construction ranks a close second to manufacturing. In terms of lost workday cases, construction has the highest rate of all industries (Bureau of Labour Statistics, 1996). Construction is arguably the most hazardous industry in UK and has a consistent recorded a poor accident record (Edwards and Nicholas, 2002). The construction industry in the UK in particular, has the dubious distinction of having the highest accident rate in respect of fatal accidents and serious injuries of all industries (Joyce, 1995). Apart from the human cost of suffering an accident, the economic effect can be devastating. The indirect cost will range from product to material to legal costs. Accidents lead to loss of productivity of the workers. Many accidents go unreported. Drawing from the UK experience, surveys indicate that employers report less than 40 percent of the reportable injuries (Health and Safety Executive (HSE), 2003). The extent of reporting accidents in a developing country like Uganda might be worse.

2.3 Hazards on building sites

Accidents at work occur either due to lack of knowledge or training; lack of supervision; or lack of means to carry out the task safely or due to carelessness, apathy or downright recklessness. In addition to these factors, the short term and transitory nature of the construction industry, the lack of controlled working environment and the complexity and diversity of the size of organizations, all have an effect on safety performance within the industry (Sawacha *et al.*, 1999).

Investigation and risk assessment are the core activity of preventive management and a precondition of effective measures to create good work environment (Swedish Work Environment Authority (SWEA), 2003, p4). The type of hazard, the degree of risk it poses, and the severity of harm that may result will vary from workplace to workplace, sector to sector. Mwakali (2006) argues that all accidents are multi-causal, with a combination of factors needing to coincide to give rise to an incident. Underlying each of the causal factors is a range of influences determining the extent to which they undermine safety. Operatives' actions, for example, are influenced by their attitudes towards safety, their knowledge and skills, and their alertness and health. These are in turn affected by peer pressure, education and training, working hours, payment schemes, previous injuries or ill health and so on.

2.4 Legal framework for accidents on sites in Uganda

The laws most relevant to identification and mitigation of effects of accidents caused on craftsmen in the building industry are the Factories Act, Chapter 198 (1964) and the Workman Compensation Act, Chapter 255 (1995). The Factories Act provides details of the safe means of access and safe place of work. In addition, Clause 61 of the Factories Act requires employers to keep registers having particulars of every accident and cases of occupational diseases occurring and to give the details to the labour officer. The details of cases in the registers should be kept available for inspection by an inspector for at least 5 years. The Workman Compensation Act (1995) among other things sets the reporting procedures, the compensation process, schedules of incapacity and occupational diseases. Clause 3(2) of Workman Compensation Act only extends liability to an employer if an accident results in permanent incapacity or if it incapacitates the worker for at least three consecutive days from earning full wages at the work at which one is employed. The observation is that this clause limits the reporting of accidents and that may be one of the reasons many minor accidents go unreported. Because of the transient nature of construction, the incapacity might manifest itself when the project has long closed. Clauses 9) and 10) of the Workman Compensation Act deal with notification of accidents to the labour officer.

The contractor is legally required to report all forms of accidents including near miss occupational illnesses. However, employers are often reluctant to report even though they are legally responsible for reporting the accidents. Of particular importance in this study are the second and third schedules of the Workman Compensation Act. The second schedule provides the percentages of permanent incapacities that depend on the part of the body and extent of injury. The third schedule details the scheduled occupational illnesses that should be reported once the symptoms are detected. In effect, the Workman Compensation Act allows reporting of any incidences where the relationship between occupational illnesses and exposure conditions are linked.

3. METHODS

The study undertook to obtain and examine the reported accidents in the building construction sector in Uganda during the period 2001 – 2005, both years inclusive. Focus was made on five years because that is when contractors are obliged by law to keep information on health and safety in accordance with clause 64 of the Factories Act. The study focused on collecting accident data from all districts of Uganda. Data were collected on different types of trade, type of injury, cause, part of body injured, and incapacity inflicted focusing on building construction related accidents. Data were also obtained on the contractors and names of individuals who were actually involved. Information was obtained from the Labour Offices all over the country basing on the accident registers and LD31 forms, where particulars of the workers and nature of injury are recorded. Most Labour officers keep registers where all reportable accidents and occupational health problems. The labour offices also keep copies of LD31 forms. Interviews were also held with some of the contractors and workers in order to obtain missing information. This approach was considered fair taking into account the sensitivity and political influence accidents in Uganda can attract. The alternative was to collect data from the contractors but they are scattered, some may not be keeping records of reported accidents for long, it is possible that they could have developed a protective attitude and easily withhold information. The data obtained about reported accidents are therefore considered reliable. The data acquisition process lasted for a three months period starting June 2006. Data on 269 reported cases on building site accidents were entered into and analysed using SSPS 10.0 for Windows.

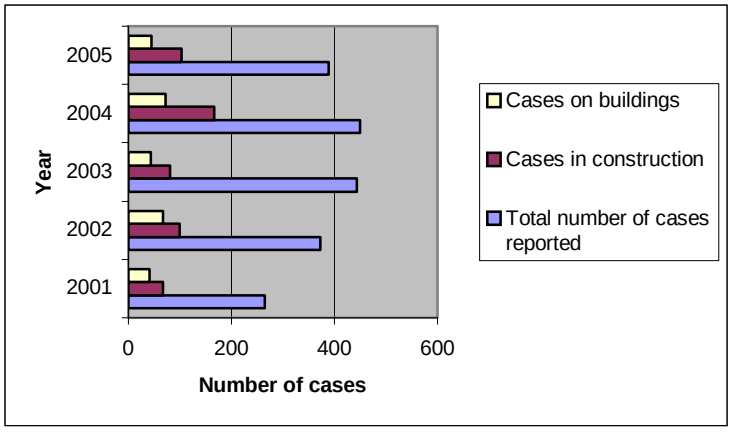
4. RESULTS AND DISCUSSION

The number of reported cases from all the districts of Uganda is shown in Figure 173.1. The figure shows that there has been a general increase in

the total number of cases over the years; a general increase in the number of cases in construction; and a general increase in the number of cases reported from building sites. From the statistics for the years 2001 – 2005, the annual averages were 54 cases on building sites, 103 cases on construction sites including buildings and 384 cases for all industries construction inclusive. Lubega *et al*. (2000), on the other hand reported an annual average of 46 accidents in construction and an annual average of 158 for all accidents during the late 1990s.

In Uganda, there were 146 accidents recorded in the construction industry during the period 1996 to 1998. These formed 30 per cent of all recorded accidents in that period (Lubega *et al.*, 2000). During the period 2001 – 2005, construction accounted for 27 percent of all accidents including those in building that alone accounted for 14 percent. Although the percentage for construction accidents has reduced, the number of accidents has actually increased. The general increase may be attributed to the general improved performance of the economy and accelerating changes in technology. The distribution of the craftsmen and other people who were involved in accidents on building projects is indicated in Table 173.1. From the table, it is evident that the most vulnerable groups of workers are Labourers, followed by masons, carpenters and operators. Labourers may be more vulnerable because a good number of them are not trained. They also the carry out most of the dangerous jobs like lifting, handle materials and other menial tasks. Because of the need to save on plant, they are usually engaged in bigger numbers and are usually the majority on building sites. Masons and carpenters may are also vulnerable because they handle materials and work at great heights.

Figure 173.1: Accident cases reported during 2001 – 2005



The cause “hit by object” was the most common cause of accident as in Table 173.2. This cause accounted for 50.2 percent of all the

accidents during the period. This may be partly attributed to the manual nature of most of the tasks, the fact that many workers do not have adequate personal protection equipment. The other major reason that came out clearly is the collapse of parts of building structures under construction.

The other five major causes were falls, machines, being hit by vehicles, and cuts. Many falls may have been due to the poor scaffolding that is employed on building sites. Many workers operate where there are no guardrails and toe boards, and on many occasions bush pole scaffolding is left at the same place for a long time. The explanation about machines and vehicles is that people who are given to operate them may not be competent enough and usually end up injuring themselves or their workmates. Cuts are due to poor housekeeping, lack of risk assessment and implementation of mitigation measures, and inadequate use of Personal Protection Equipment.

Table 173.1: Distribution of tradesmen and other people who were involved in reported accidents on building sites during 2001 - 2005

Trade	Frequency	Percent
Carpenter	36	13.4
Concreter	9	3.3
Driver	10	3.7
Electrician	4	1.5
Excavator	4	1.5
Glazier	1	0.4
Mason	55	20.4
Operator	24	8.9
Painter	4	1.5
Plasterer	7	2.6
Plumber	7	2.6
Labourer	80	29.7
Steel fixer	8	3.0
Supervisor	2	0.7
Third party	3	1.1
Tiler	2	0.7
Welder	13	4.8
Total	269	100.0

Table 173.2: Causes of reported accidents injuries during 2001 - 2005

Cause	Frequency	Percent
Burnt	12	4.5
Chemical	1	0.4
Cut	21	7.8
Dust	3	1.1
Electricity	3	1.1
Fall	40	14.9
Hit by object	135	50.2
Machine	27	10.0
Suffocation	1	0.4
Trauma	4	1.5
Vehicle	22	8.2
Total	269	100.0

Table 173.3 shows the analysis of body parts that were affected by the accidents. The upper limbs were most affected by accidents with a total percentage of 24.9. The lower limbs follow with a percentage of 22.7. The torso had a percentage of 14.5 and the head on its own had the least percentage of 12.7. Those with multiple and skin injuries comprised of 10.1 percent.

Table 173.3: Body parts injured as a result of the accidents

Major part	Part	Frequency	Percent	Combined
Head	Face	7	2.6	
	Brain	5	1.9	12.7
	Head	12	4.5	
	Eye	9	3.3	
	Teeth	1	0.4	
Upper limbs	Arm	27	10.0	
	Finger	4	1.5	24.9
	Hand	36	13.4	
Torso	Groin	1	0.4	
	Abdomen	6	2.2	
	Shoulder	1	0.4	
	Ribs	1	0.4	14.5
	Chest	14	5.2	
	Back	13	4.8	
	Neck	3	1.1	
Lower limbs	Leg	40	14.9	22.7
	Feet	20	7.4	
	Knee	1	0.4	
Multiple injuries	Multiple injuries	15	5.6	10.1
Skin injuries	Skin	12	4.5	
Fatal	Fatal	41	15.2	15.2
Total		269	100.0	100.0

Fatal accidents accounted for 15.2 percent of building accidents during the period. The most common cause of fatalities was being hit by objects, collapsing building elements in particular followed by operational faults from machines. Comparison with statistics from UK in 2005/06 indicate that falls are the most common kind of death causing accidents accounting for 22 percent of fatal accidents. The second most common cause of fatal injury was being struck by a moving vehicle, or a moving or falling object (Safety and Health Practitioner, 2006). According to HSE (1985), 90 percent of all construction accidents in UK leading to death can be prevented, 70 percent by positive management action. The majority of the fatalities from this study were due to the collapse of buildings still under construction, which could have been avoided by meticulous structural design, and use of appropriate building techniques. It is apparent that occupational illnesses are not reported. Discussions with labour officers, contractors and workers revealed that this is because of: the transient nature of construction worker engagement. They are not tested before they are engaged and so there is no objective way of assessing the level of

be manoeuvred similarly to boom lifts, but the platform extends only vertically, except an option that extends the deck horizontally up to 1.83m.

Personnel PAAPs, which are compact, enable vertical movement, are more suited to single-site operation, and are generally used inside buildings for maintenance work. These PAAPs are designed to support safe workloads of up 160kg.

2.2 Benefits of using PAAPs

In a special feature, The Civil Engineering & Building Contractor (2000) reports on the range of benefits arising from the use of PAAPs on the Montecasino project, which entailed the construction of a 'village' within a 19m-high structure. The height of the structure and the buildings and the features within, required 'special' access. Barry Lewis, the Senior Contracts Manager, cites manoeuvreability of PAAPs, the ability to circumvent 'obstructions', safe access, a 30% saving on the time required for the finishing trades, improved productivity, a lower accident rate, and sequence advantages arising from being able to use PAAPs on laid carpets.

Pope (2000) in turn contends that PAAPs promote H&S and productivity because of their inherent features, namely fatigue and stress, which are both major causes of accidents during the moving and handling of tools and equipment at height. He further contends that the South African market is beginning to realise that investment in such equipment is returned several times over due to such higher productivity, versatility of operation, and virtual elimination of accident risk when working at height.

2.3 PAAPs versus scaffolding

Smith (1991) contends that a PAAP can be a cost effective, efficient way to transport workers and tools to the work area. Workers can be lifted to their overhead jobs in minutes, eliminating the time and effort required to climb scaffolding or ladders. After completing work in a location, the PAAP can easily be driven to another location, averting the need to dismantle or re-assemble and erect as with scaffolding.

Barry Lewis, the Senior Contracts Manager, Montecasino project, debates the merits of scaffolding and states: "Scaffold properly erected and maintained is not unsafe, but it is what people do to it." He contends that the South African workforce does not have the requisite knowledge relative to scaffolding in terms of *inter alia*, load bearing capacity. Furthermore, they are prone to removing components that are obstructing access and then they do not re-insert the components. PAAPs in turn enable skilled and semi-skilled workers access to work faces without the need for

fitness before engagement. In addition, the employers and trade unions do not have the capacity to measure the levels of exposure of the workers to the hazardous materials. Also even when the illnesses crop up later on, there are no investigations to link the causes and the sources of the problems that in many cases require carrying out investigation backwards.

The distribution of the level of permanent incapacity inflicted on the workers is provided in the graph in Figure 173.2. Most of the accidents inflicted permanent incapacity of 0 -10 percent followed 10.1 - 20 percent. The number of accidents caused generally goes on decreasing with increase in permanent incapacity inflicted. This trend seems to go on till the number rises for fatal and near fatal accidents that inflict permanent incapacity of 90.1 – 100 per cent. The trend of relative frequency of accidents versus permanent incapacity inflicted best suits an exponential curve given by the equation equation 173.1.

$$\mathrm{Re}\,lative.frequency = b_o \times e^{-.0530 \times permanent.incapacity} \qquad (173.1)$$

Where b_o = 0.4792.

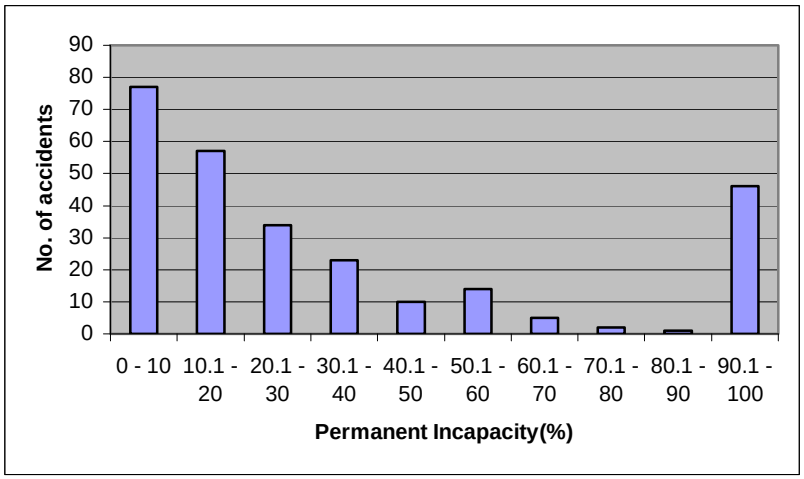
When one assumes that permanent incapacity is zero, relative frequency becomes equal to b_o = 0.4792. The implication is that about half of the accidents craftsmen face inflict no permanent incapacity. The other implication is that as the percentage of permanent incapacity increases, the relative number of such accidents reduces exponentially until there is a sudden increase of accidents for fatal and near fatal accidents. these accidents contributed about 17 percent of all accidents.

The mean permanent incapacity is 37.0 and the standard deviation for the 269 cases is 33.13. This implies that on average, the people who are involved in accidents reduce their productivity by 37 percent. As can be seen from figure 173.2, there was a lot of variation in the incapacity inflicted on the workers.

Interviews with the labour officers, contractors and workers indicate that some accidents may not have been reported due to: Casualization of labour and informality in engaging workers; Witnesses being afraid of reporting for fear of losing their jobs; Many employers fearing losing their reputation; Some building contractors not insuring their workers and so they are scared of paying penalties when accidents happen. They opt to sort out the problems locally; due to the fear by witnesses that some of the cases might become political and raise a lot of problems if reported. It is partly because of the transient nature of the construction industry both in terms of jobsite and the workforce that most contractors do not see the value of providing safety and health training to their workers (Goldenhar *et al.,* 2001). Even in countries like US, construction is ranked last in the percentage of employers providing formal job-skills training for workers (Center to protect workers' rights, 1997). Training would go a long way in reducing worker injury. It is often argued that labour only subcontracting worsens the already appalling record of site safety. However, the problems

of health and safety in construction are deeply rooted in the organization of the industry (Dawson et al., 1988). Labour only subcontracting is more a symptom than a cause of that structure. In particular, it is the casual nature of much of the employment that is the biggest barrier to self-regulation regarding health and safety (Winch, 1998).

Figure 173.2: Distribution of reported cases against percentage level of permanent incapacity



5. CONCLUSION AND RECOMMENDATIONS

The objective of this paper was to analyse the record of accidents in the building industry in Uganda during the period 2001 – 2005. It has been found out that the record of accidents is generally worsening although 2005 shows some improvement from 2004. The major causes of accidents have been identified as being hit by objects, falls, machine related accidents and accidents involving vehicles. Occupational illnesses are largely unreported possibly due to structural inefficiencies that lead to failure to identify them. On average, accidents permanently reduce the capacity of people who are involved by 37 percent, which is a big percentage. Fatalities account for 15.2 percent of the accidents. Near fatal accidents that cause 90.1 – 100 percent incapacity together with fatalities account for 17.1 percent of accidents. The accidents have had a big effect on the productivity of the workers. The trend of relative frequency of accidents versus permanent incapacity inflicted best suits an exponential curve. This curve can be used to predict the levels of accidents. However, further research is required to validate it.

Most of the fatalities originated from collapse of building components followed by machine and vehicle related accidents. It is recommended that stricter adherence to building regulations, proper

structural designs, use of proper construction procedures, and plant operating procedures be enforced to reduce fatalities. There is need for stricter enforcement of the existing laws, induction and training in safety aspects to be carried out, and increased provision of protective wear in order to reduce on the number and gravity of accidents. Contractors should be required to carry out assessment of all risks. In Sweden, all employers are obliged to document all risks and divide them into serious and non-serious (SWEA, 2003 p 19). Identification of risks and finding ways of mitigating the causes will go a long way to reduce the incidence of accidents on building sites. Contractors should be encouraged to have a more proactive attitude to risk assessment and mitigation or avoidance of possible causes as recommended by the SWEA (2003). In the absence of incentives within organizations to emphasize safety, these conditions could be encouraged externally by the state through tough enforcement of the legislation. Incorporating existing legislation into construction contracts and making clauses operational is a priority (Cotton *et al,* 2005). The labour offices should be strengthened and facilitated to enforce the laws and regulations and increase on the vigilance. Positive reinforcements in the form of monetary rewards and non-monetary incentives are also recommended in fostering safe work behaviour.

6. ACKNOWLEDGEMENT

The authors would like to thank Makerere University and Sida for it was their support that enabled them to carry out the research.

7. REFERENCES

Auld, M. C., Emery, J., Gordon, D. V. and McClintock, D., 2001, The efficacy of construction site inspections. *Journal of Labour Economics,* **19**(4), 900 –921.

Bureau of Labour Statistics, 1996, *National Census of fatal occupational injuries,* (Washington DC: BLS).

Center to Protect Workers' Rights, 1997, *The construction chart book: the US construction industry and its workers,* (Washington DC: CPWR).

Cotton A. P., Sohial, M. and Scott, R. E., 2005, Towards improved Labour standards for construction of minor works in low-income countries. *Engineering, Construction and Architectural Management,* **12**(6), 617 – 632.

Culver, C., Marshall, M. and Connolly, C., 1993, Analysis of construction accidents. *Construction safety*, **38**(3), 22 – 27.

Dawson, S., Clinton, A., Bamford, M. and Willman, P., 1988, *Safety at work: The limit of self-regulation,* (London: Cambridge University Press).

Drever, F., 1995, *Occupational Health: Decennial Supplement*, (London: HMSO).

Factories Act, Chapter 220, 1964, (Entebbe: Uganda Government Printer).

Goldenhar, L. M., Moran S. K., and Colligan, M., 2001, Health and safety training in a sample of open-shop construction companies. *Journal of Safety Research,* **32** (2), 237 – 252.

Health and Safety Executive, 1985, *Monitoring Safety. Report by the Accident Prevention Unit,* (London: Her Majesty's Stationery's Office).

Health and Safety Executive, 2003, *Causal factors in construction accidents,* (Sudbury, Suffolk: HSE Books).

Income Data Services, 1990, *Safety First*. *Focus No. 56*, (London: IDS).

Joint Industrial Research Council, 1987, *Safety – Health and Working conditions,* (Stockholm: JIRC).

Joyce, R., 1995, *The Construction (Design and Management) Regulations 1994 explained,* (London: Thomas Telford Publications).

Lubega, H., Kiggundu, B. M. and Tindiwensi, D., 2000, An investigation into the causes of accidents in the construction industry in Uganda. In *Proceedings of the 2nd International Conference on Construction in Developing Countries,* 15 – 17 November, Botswana.

Mwakali, J. A., 2004, *Bwebajja building accident report,* Bwebajja Building Accident Investigation Committee, Ministry of Works, Housing and Communications, Kampala.

Mwakali J. A., 2006 A review of the causes and remedies of construction related accidents: the Uganda Experience. In *Advances in Engineering and Technology*, Entebbe, edited by J. A. Mwakali and G. Tabani-Wani (Oxford: Elsevier), 285 – 300.

Niskanen, T., 1993, *Accident risks and prevention measures in materials handling at construction sites,* (Helsinki: Ministry of Labour).

Safety and Health Practitioner, 2006, *Number of fatalities the lowest on record,* **24**(9), 6.

Salminen, S., 1995, Serious occupational accidents in construction industry. *Construction management and economics,* **13**(4), 299 – 306.

Sawacha, E., Naoum, S., and Fong, D., 1999, Factors affecting safety performance on construction sites. *International Journal of Project Management,* **17**(5), 309 – 315.

Swedish Work Environment Authority, 2003, *Investigation and risk assessment in systematic work environment management – a guide,* (Stockholm: Work environment Authority publication services).

Uganda Bureau of Statistics, 2005, *Statistical Abstract. (*Entebbe: UBOS).

Workman's Compensation Act, Chapter 225, 1995, (Entebbe: Uganda Government Printer).