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for tomorrow

**FEEDBACK REPORT ON A STUDY 'FINANCIAL PROVISION FOR
CONSTRUCTION HEALTH AND SAFETY (H&S)'**

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DEDICATION

The report is dedicated to the improvement of construction H&S in South Africa.

ACKNOWLEDGEMENTS

A research report, regardless of magnitude, requires acknowledgements and thanks to:

- Neil Enslin for facilitating the survey of the selected members of the Kwazulu Natal Master Builders (KZNMB);
- The Association of Construction Health and Safety Management (ACHASM) for providing their members contact details;
- The respondents for responding, and
- Fidelis Emuze for capturing and analysing the data and tabling the statistics.

ORIGIN OF THE REPORT

Previous research findings and anecdotal evidence indicate that adequate financial provision is not facilitated by contract documentation. Furthermore, various stakeholders have: enquired regarding the 'cost of H&S', and expressed frustration with respect to the non-facilitation of equitable financial provision for H&S by contract documentation.

SCOPE OF THE REPORT

This report has been compiled to provide feedback to both respondents and non-respondents to the survey, and does not include the findings of a survey of the related literature.

EXECUTIVE SUMMARY

Contract documentation, documents, and other references do not address H&S to the requisite extent. Furthermore, contract documents have not facilitated financial provision for H&S subsequent to the promulgation of the Construction Regulations on 18 July 2003.

The mean percentage H&S constitutes of tender and project cost is 3.8% and 2.4% respectively, but according to KZNMB members is 1.6% and 1% respectively. However, ≤ 33.3% of respondents' organisations compute the percentage H&S constitutes of project cost.

The traditional project parameters of cost, quality, and time are more important than H&S to respondents' organisations.

Recommendations include: contract documentation should include appropriate H&S related clauses; a detailed H&S section should be included in the Preliminaries; H&S specifications should be project specific, record residual hazards, be included in contract documentation, and be linked to the facilitating of financial provision for H&S; contractors should determine the cost of H&S, and built environment councils and voluntary associations should raise the status of H&S within their constituencies.

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1. OBJECTIVES OF THE STUDY

The objectives of the study were to determine the:

- Perceived importance of H&S;
- Extent to which H&S has been / is addressed by contract documentation;
- Perceptions relative to the financial provision for H&S, and
- Potential of interventions to contribute to an improvement in H&S.

2. METHODOLOGY AND SAMPLE STRATA

The study was descriptive in nature and the quantitative questionnaire consisted of six questions, five being closed end and one being open end, the latter allowing for the recording of general comments. The five closed end questions included thirty-four sub-questions.

The national membership of the ACHASM and members of the KZNMB that achieved places in the 2010 regional H&S competition constituted the sample strata. 18 Members of ACHASM and 8 KZNMB's members responded.

3. FINDINGS

3.1 Analysis

The analysis of the data consisted of the calculation of descriptive statistics to depict the frequency distribution and central tendency of responses to fixed response questions to determine the extent of contribution, degree of concurrence, and the degree of importance.

To rank fixed response items according to the central tendency of responses, mean scores (MSs) were calculated as follows:

$$MS = \frac{1n_1 + 2n_2 + 3n_3 + 4n_4 + 5n_5}{n_0 + n_1 + n_2 + n_3 + n_4 + n_5}$$

The variables are referenced in Table 1.

Table 1: Definition of Likert scale points and related variables

Likert scale point			Variable
Unsure	Unsure	Unsure	n ₀
Minor extent	Strongly disagree	Not important	n ₁
Near minor extent	Disagree	Less than important	n ₂
Some extent	Neutral	Important	n ₃
Near minor extent	Agree	More than important	n ₄
Major extent	Strongly agree	Very important	n ₅

3.2 Findings

Table 2 indicates the extent to which documents / references address / mention H&S based upon a MS with a minimum value of 1.00, and a maximum value of 5.00, based upon percentage responses to a range 'minor' to 'major'. MSs > 3.00 indicate that the respondents can be deemed to perceive the extent to which documents / references address / mention H&S to be more a major than a minor extent, whereas MSs ≤ 3.00 indicate the extent to be more minor than major. It is notable that all the MSs relative to KZNMB members are higher than those relative to ACHASM members. Furthermore, all the ACHASM MSs are < 3.00 and in fact > 1.00 ≤ 1.80, which indicates that the members of ACHASM perceive the documents / references to address / mention H&S between a minor to near minor extent. Three of the six KZNMB MSs are < 3.00, namely the: JBCC, Model Preambles, and Standard System of Measuring Builders Work. However, two MSs, namely the NEC and FIDIC, are > 4.20 ≤ 5.00, which indicates that are perceived to address / mention H&S between a near major to major / major extent. The GCC MS falls within the range > 3.40 ≤ 4.20, which indicates that it is perceived to address / mention H&S between some extent to a near major / near major extent. The JBCC, Model Preambles, and Standard System of Measuring Builders Work MSs fall within the range > 1.80 ≤ 2.60, which indicates that they are perceived to address / mention H&S between a minor to near minor / near minor extent.

In terms of the mean MSs, with the exception of the NEC, all the MSs are < 3.00. This is attributable to the low ACHASM MSs. However, three of the KZNMB MSs are < 3.00.

Table 2: Extent to which documents / references address / mention H&S.

Document / Reference	ACHASM		KZNMB		Mean	
	MS	Rank	MS	Rank	MS	Rank
Contracts:						
• JBCC	1.40	3	2.43	5	1.92	5
• GCC	1.33	5	3.80	3	2.57	3
• NEC	1.60	1	4.75	1	3.18	1
• FIDIC	1.57	2	4.25	2	2.91	2
Model Preambles	1.31	6	2.17	6	1.74	6
Standard System of Measuring Builders Work	1.36	4	2.60	4	1.98	4

Table 3A indicates the basis on which contract documents have facilitated financial provision for H&S subsequent to the promulgation of the Construction Regulations (18 July 2003) according to ACHASM members.

20% of respondents maintain that provisional sums never facilitated financial provision for H&S and 66.6% > 0% ≤ 30% of projects. Only 6.7% identified each of > 60% ≤ 70% and > 80% ≤ 90% of projects.

13.3% of respondents maintain that preliminaries items never facilitated financial provision for H&S and 53.4% > 0% ≤ 30% of projects. Only 6.7% identified each of > 30% ≤ 40%, > 50% ≤ 60% and > 90% ≤ 100%, and 13.3% > 80% ≤ 90% of projects.

35.7% of respondents maintain that detailed H&S preliminaries items never facilitated financial provision for H&S and 42.8% > 0% ≤ 30% of projects. Only 7.1% identified each of > 30% ≤ 40%, > 50% ≤ 60% and > 60% ≤ 70% of projects.

21.4% of respondents maintain that detailed H&S 'trade' / section never facilitated financial provision for H&S and 42.8% > 0% ≤ 30% of projects. Only 7.1% identified each of > 40% ≤ 50%, > 50% ≤ 60% and 100% of projects.

Table 3A: Basis on which contract documents have facilitated financial provision for H&S subsequent to the promulgation of the Construction Regulations (18 July 2003) according to ACHASM members.

Form of provision	Response per percentage extent (%)												
	Unsure	0%	> 0% ≤ 10%	> 10% ≤ 20%	> 20% ≤ 30%	> 30% ≤ 40%	> 40% ≤ 50%	> 50% ≤ 60%	> 60% ≤ 70%	> 70% ≤ 80%	> 80% ≤ 90%	> 90% < 100%	100%
Provisional sum	0.0	20.0	33.3	20.0	13.3	0.0	0.0	0.0	6.7	0.0	6.7	0.0	0.0
Preliminaries 'item'	0.0	13.3	40.0	6.7	6.7	6.7	0.0	6.7	0.0	0.0	13.3	6.7	0.0
Detailed H&S preliminaries	0.0	35.7	21.4	21.4	0.0	7.1	0.0	7.1	7.1	0.0	0.0	0.0	0.0
H&S 'trade' / section	0.0	21.4	35.7	21.4	0.0	0.0	7.1	7.1	0.0	0.0	0.0	0.0	7.1

Table 3B indicates the basis on which contract documents have facilitated financial provision for H&S subsequent to the promulgation of the Construction Regulations (18 July 2003) according to KZNMB members.

33.3% of respondents maintain that provisional sums facilitated financial provision for H&S > 80% ≤ 90% of projects and 66.7% > 90% ≤ 100% of projects.

33.3% of respondents maintain that preliminaries items facilitated financial provision for H&S > 50% ≤ 60% of projects and 66.7% > 80% ≤ 90% of projects.

33.3% of respondents maintain that detailed H&S preliminaries items facilitated financial provision for H&S > 90% < 100% projects and 66.7% a 100% of projects.

33.3% of respondents maintain that detailed H&S 'trade' / section facilitated financial provision for H&S > 60% ≤ 70% and 33.3% a 100% of projects. 33.3% were unsure.

Table 3B: Basis on which contract documents have facilitated financial provision for H&S subsequent to the promulgation of the Construction Regulations (18 July 2003) according to KZNMB members.

Form of provision	Response per percentage extent (%)												
	Unsure	0%	> 0% ≤ 10%	> 10% ≤ 20%	> 20% ≤ 30%	> 30% ≤ 40%	> 40% ≤ 50%	> 50% ≤ 60%	> 60% ≤ 70%	> 70% ≤ 80%	> 80% ≤ 90%	> 90% < 100%	100%
Provisional sum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	66.7	0.0
Preliminaries 'item'	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	66.7	0.0	0.0
Detailed H&S preliminaries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	66.7
H&S 'trade' / section	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	33.3

Table 4 indicates the extent to which respondents concur with fourteen statements based upon a MS with a minimum value of 1.00, and a maximum value of 5.00, based upon percentage responses to a scale of 'strongly disagree' to 'strongly agree'. In terms of the mean, 9 of the 14 (%) statements have MSs > 3.00 which indicates that the respondents can be deemed to agree as opposed to disagree, whereas the converse applies in the case of MSs ≤ 3.00.

It is notable that the top three MSs are > 4.20 ≤ 5.00, which indicates that the degree of concurrence is between agree to strongly agree / strongly agree. Notable, as statements directly related to the subject of the study such as 'A detailed H&S section should be included in the Preliminaries' and 'A provisional sum should be provided for H&S in the preliminaries, fall within this range. In the case of the former, both the ACHASM and KZNMB MSs are > 4.20 ≤ 5.00.

MSs > 3.40 ≤ 4.20 indicate that the degree of concurrence is between neutral to agree / agree: 'Competitive tendering marginalises H&S'; 'Standard contract documentation generally makes cursive reference to H&S'; 'Appropriate contract documentation promotes H&S'; 'Contract document enabled financial provision for H&S promotes H&S', and 'H&S specifications are project specific'. Although the latter statement is positive in terms of practice, the concurrence relative to the other four statements reinforces the role of contract documentation in promoting H&S, the negative impact of competitive tendering on H&S, and the current inadequacy of standard contract documentation.

MSs > 2.60 ≤ 3.40 indicate that the degree of concurrence is between disagree to neutral / neutral: 'H&S specifications are included with tender documentation'; 'Contract documentation promotes H&S'; 'H&S specifications highlight hazards', and 'Contractors are afforded the opportunity to price H&S on an equitable basis'; 'Contractors are afforded the opportunity to price items included in H&S specifications on an equitable basis'. H&S specifications should be included with tender documentation and highlight hazards due to the necessity for contractors to make adequate allowance for H&S. Furthermore, the current inadequacy of standard contract documentation is further reinforced.

Table 4: Extent of concurrence with various statements.

Statement	ACHASM		KZNMB		Mean	Rank
	MS	Rank	MS	Rank		
A detailed H&S section should be included in the Preliminaries	4.47	2	4.63	1	4.55	1
Competitive tendering without reference to H&S marginalises H&S	4.69	1	4.13	5	4.41	2
A provisional sum should be provided for H&S in the preliminaries	4.06	4	4.50	2	4.28	3
Competitive tendering marginalises H&S	4.24	3	3.88	7	4.06	4
Standard contract documentation generally makes cursive reference to H&S	3.76	5	3.75	8	3.76	5
Appropriate contract documentation promotes H&S	3.19	6	4.13	4	3.66	6
Contract document enabled financial provision for H&S promotes H&S	3.06	7	4.25	3	3.66	7
H&S specifications are project specific	3.00	8	4.00	6	3.50	8
H&S specifications are included with tender documentation	2.71	9	3.63	9	3.17	9
Contract documentation promotes H&S	2.06	12	3.63	10	2.85	10
H&S specifications highlight hazards	2.12	10	3.50	11	2.81	11
Contractors are afforded the opportunity to price H&S on an equitable basis	2.06	11	3.38	13	2.72	12
Contractors are afforded the opportunity to price items included in H&S specifications on an equitable basis	2.00	13	3.38	12	2.69	13
H&S specifications include designer 'design and construction' method statements	1.53	14	3.25	14	2.39	14

Given that the MS relative to 'Contractors are afforded the opportunity to price items included in H&S specifications on an equitable basis' falls within the range $1.80 \leq 2.60$, the degree of concurrence can be deemed to be between strongly disagree to disagree / disagree. The current inadequacy of standard contract documentation is further reinforced.

Table 5 indicates the extent to which respondents' organisations compute the cost of H&S and the mean percentage H&S constitutes of tender and project cost.

It is notable that members of the KZNMB compute the percentage that H&S constitutes of tender cost and project cost to a lesser extent than ACHASM members do, even though they are not contractors. It is also notable that only 12.5% of KZNMB members compute the percentage that H&S constitutes of project cost. The absolute mean percentage that H&S constitutes of tender cost is 4.4 higher according to ACHASM members (6%) than KZNMB members (1.6%), and in terms of project cost is 2.7 higher according to ACHASM members (3.7%) than KZNMB members (1%).

Table 5: Extent to which respondents' organisations compute the cost of H&S and the mean percentage H&S constitutes of tender and project cost.

Cost type	Yes (%)			Mean (%)		
	ACHASM	KZNMB	Mean	ACHASM	KZNMB	Mean
Tender cost estimate	38.9	25.0	32.0	6.0	1.6	3.8
Project cost	33.3	12.5	22.9	3.7	1.0	2.4

Table 6 indicates the degree of importance of parameters to respondents' organisations based upon a MS with a minimum value of 1.00, and a maximum value of 5.00, based upon percentage responses to a range 'not' to 'very'. Given that all the MSs are > 3.00 the respondents can be deemed to perceive the parameters to be important, as opposed to not important. However, $MSs > 4.20 \leq 5.00$, indicate that the parameters can be deemed to be more than important to very important / very important. It is notable that in terms of the mean, project H&S is ranked fourth and that the absolute MS difference between first ranked project time and project H&S is 0.29, which indicates that project time is effectively 8.5% more important. Furthermore, it is also notable that project time, project cost, and project quality are ranked higher than project H&S.

Table 6: Importance of project parameters to respondents' organisations.

Parameter	ACHASM		KZNMB		Mean	
	MS	Rank	MS	Rank	MS	Rank
Project time	4.47	1	5.00	2	4.74	1
Project cost	4.40	2	5.00	1	4.70	2
Project quality	4.33	3	4.88	3	4.61	3
Project H&S	4.27	4	4.63	4	4.45	4
Environment	4.20	5	4.00	6	4.10	5
Construction ergonomics	3.40	6	4.00	5	3.70	6

Extensive comments in general regarding financial provision for H&S were received from respondents, which indicates that 'financial provision for H&S' is a topical issue.

ACHASM

14 Comments were received from members of ACHASM, some lengthy, which equates to a mean of 0.78 comments per respondent. The comments are presented verbatim:

- "Project management companies, architectural firms, quantity surveying firms need to make use of international 'best practice' and take the lead on this issue. Further research needed."
- "Financial provision for H&S has not been considered as contractual obligations by the client and the majority of contractors. Financing H&S is mostly perceived as a waste of project resources & time, not a priority it is. The cost of delivering a project must include H&S financials that shall not be negotiated between client and the designers who normally decide to drop it. The H&S agent must get the opportunity to estimate the cost of delivering a project in a safe manner. Prospective contractors must not be allowed to undermine their financial responsibilities in regard to H&S and hence their legal & contractual obligations on H&S."
- "In our opinion, tenderers should be instructed to provide a detailed budget, but the P&Gs should not have a price due to the liability exposures."
- "It is my opinion that when tendering on H&S, most clients do not understand the importance of measuring the cost for implementing SHEQ on construction sites. They leave it up to the contractor to decide how much money he wants to allow for H&S. This is often then neglected by the contractor to get the contract or to have the edge above others tendering for projects. Clients should drive the implementation of SHEQ on projects and should therefore manage the financial allocation for SHEQ on projects. In my opinion this happens on most big contracts (R80 000 000 and up) in South Africa, but when it comes to the smaller contracts (R1 000 000 – R25 000 000) clients neglect to implement this."

Management of SHEQ is therefore not funded on the smaller contracts; the risks therefore increase and serious accidents often happen on these projects.”

- “There is inadequate financial provision for H&S in the primary contract document i.e. the BOQ. I suggest that H&S be identified as a provisionally measured BoQ trade item. An item by item (standard list) of H&S items should be inserted in this trade section e.g. heading (PPE) sub-heading (Excavations) “Allow for standard hard hats as per xy manufacturing Code 007” No. 10 price 200,000.”
- “There is an ideal opportunity for the JBCC to be amended to include provisions for H&S on a measured basis given that it is under review at present with date for finalization being November. The cidb is also involved in this process and could drive the requisite changes. This opportunity must not be missed as there is a willingness to consider the changes that need to be made. The challenge that they see is how to elevate H&S in terms of ‘compliance with legislation’ above other forms of regulation and legislation. Which do they exclude? Where do they start and where do they end? This is a significant challenge with some legitimacy.”
- “Quality is conformance to spec. Bad H&S spec bad (includes bastards that use generic) bad H&S performance on site which could lead to multiple fatalities. The so called construction professionals are seldom questioned by the Department of Labour unless there is a fatality. These same people cut, copy and paste specifications from one contract to another which does not deal with project specific H&S. Professional bodies-of these so called professionals do not educate their members who continually strive to be ‘not liable’.”
- “There is a very real problem in the construction industry. There has been little correlation between the Health and Safety Specification(s) and the actual bill of quantities when it comes to providing specific itemised issues to price. I feel that the Quantity Surveyors do not know where to start with this important process. Maybe one of the service deliverables of the appointed Health and Safety Agent should be to provide co-ordination of this process in the ‘Concept and Viability’ stage of the project.
- “Health and Safety and the Environment should be a direct cost to the contract and should always be included in the rates for design and rates for construction.”
- “Since the introduction of the H&S Regulations (2003) it has been a struggle to get the smaller SMME, BEE, BWO companies to accept the importance of working safely. Their H&S costs are only there now since we have forced them to comply otherwise they are very reluctant to add any cost. The H&S paradigm shift with the smaller companies is almost non-existent until they want to become a vendor for our company. Some how I believe the bottom line of the project should be separate to the H&S cost as we have contractors who do not qualify for the project due to H&S costs, yet they are the better contractor. The winning contractor has almost always come in on a shoe string H&S budget to win the work. I have rejected the lowest tender due to insufficient H&S plan documentation as this is a forerunner on what they will deliver in terms of project H&S if the documentation is incorrect and insufficient. This has been met with great resistance. They refuse to spend money on H&S consultants or H&S officers to run the company’s H&S. They believe in copying H&S plans or that regurgitating the H&S regulations will suffice. We have a standard line in our NEC for cost for the H&S plan and H&S file which they charge us, but still they seem to spend as little as possible in the field of H&S.”
- “On projects where financial provision for health and safety, contractors will save that money as their profits, or they will compromise on PPE. Financial provision for health and safety should be a priority and then be monitored.”
- “I believe that basic guidelines should be included in legislation. Further, that Quantity Surveyor must be made more aware of the importance of making provision. Client, employers and agents must be made responsible to ensure that provision is made and reported on at project meetings. NB Health and Safety costs are hardly ever reported on at site meetings. Incident statistics - numbers, extent, and cost are virtually never discussed either at project meetings or health and safety committee meetings. Clients and employers, as a general rule do not know what their COIDA assessment rates are, what-cost of claims are?”
- “Our company is in the H&S consulting business to help contractors to view H&S as a positive way of safe work procedures as well as reducing the amount of lost time causing injuries. However, we are faced with contractors who mainly approach us for service when they can only be given contracts if they also provide H&S for the project and it usually does not take long for us to realise that contractors are not really keen in the provision of H&S, and they usually view it as a hindrance and never mind to let us know that they either did not price for this H&S, and that they have been doing business for x-amount of years without this H&S. They normally view us as parasites who are affecting their profit margins. The few who are keen on promoting H&S in their projects. It is sad that some principal agents as well as client’s representatives (esp. in municipalities and private clients) will not take it upon themselves to ensure that the contractor complies despite the H&S reports providing proof that compliance is at an all time low; their sole goal is to see the project completed. The project units in the municipalities and other should take it upon themselves to include and make H&S requirements in the tender documents. The Department of Labour should also train their inspectors to assist contractors without intimidating them. A positive attitude towards H&S will go a long way to ensure that workers also view H&S as a positive way of doing work.”
- “Even in the rare instance when a detailed H&S section is included in the preliminaries, and, it has furthermore been made clear in the document / compulsory briefing that failure to price the items realistically will result in the tender being deemed non-responsive; tenderers tend not to utilise the opportunity; designers tend to recommend to the client the lowest tender / tenderer (regardless); clients tend to accept the ‘preferred tender / tenderer’ even if recommendations made relative to H&S are not supportive / assuring.”

KZNMB

6 Comments were received from members of ACHASM, some lengthy, which equates to a mean of 0.75 comments per respondent. These comments are also presented verbatim:

- “A provisional sum for H&S should be given to all contractors tendering, thus preventing contractors from under budgeting for H&S in order to win tenders.”
- “Each project has its own specifications. A lot of ‘cut & paste’ is taking place, because I have noted several specifications that are totally irrelevant to the specific project. Projects differ vastly with regard SHE requirements, which have a major impact on costs. Example is that a number of companies do not carry out medicals (entry & exit) if it is not a requirement from the client. In our case we do it regardless because we care and want to ensure that our employees go home as well as when they have been when they became our employees or even better. Hazards are not always clear in tender documents and place extra cost on you as a contractor because you only become aware of it later during the contract. This also goes as far as environmental assessment studies, which are not always addressing the impacts. In my opinion the client should do a complete HIRA with all the relevant role players (principal and subcontractors) led by the client or his qualified representative. This will eliminate a lot of confusion and unnecessary costs.”
- “The requirements for Health & Safety should be itemized as are normal bill items such that all competitors price the same legal requirements.”
- “Contract value 3% for H&S should be a must to all companies to keep up standards as required by the MBA and Department of Labour & NIOSH.”
- “Clients with assistance from his consultants should specifically indicate what Health and Safety requirements to personnel etc. are required on the project to ensure all tenders match provision at tender stage.”
- “The client does not normally take the cost of implementing & maintaining H&S for the project into consideration when awarding tenders. This then also filters down to the subcontractors appointed by the principle contractor and has an overall effect on the H&S for the projects.”

4. CONCLUSIONS AND RECOMMENDATIONS

Contract documentation, documents, and other references do not address H&S to the requisite extent. Therefore, it can be concluded that the originators are not committed to H&S, do not view H&S as a project value, and that the overall construction environment is not conducive to optimizing H&S. The aforementioned is reinforced by the finding that contract documents have not facilitated financial provision for H&S subsequent to the promulgation of the Construction Regulations on 18 July 2003, H&S specifications included. The committees responsible for the development of contract documentation should commit themselves to raising the profile and status of H&S through the inclusion of appropriate H&S related clauses, which reflect the requirements of the OH&S Act and the Construction Regulations. H&S specifications should be project specific, record residual hazards, be included in contract documentation, and be linked to the facilitating of financial provision for H&S. Adequate financial provision for H&S should be facilitated through the inclusion of a detailed H&S section in the Preliminaries, or at the very least the inclusion of a provisional sum for H&S.

The mean percentage H&S constitutes of tender and project cost is 3.8% and 2.4% respectively, but according to KZNMB members is 1.6% and 1% respectively. Given that $\leq 33.3\%$ of respondents' organisations compute the percentage H&S constitutes of project cost, it can be concluded that their project cost or cost reporting system does not facilitate the recording of H&S costs. Contractors should determine the cost of H&S. Furthermore, the mean percentage constitutes a dilemma as the percentage is dependent upon a number of variables, inter alia: project cost; duration; sector of construction; type of construction; type of building; number of floors; floor area; structural frame; number of workers, and degree of subcontracting.

Despite the intimate involvement of the members of ACHASM in H&S and the H&S achievements of the KZNMB respondents, the traditional project parameters of cost, quality, and time are more important than H&S. This finding leads to the conclusion that H&S is not a value in the overall construction environment nor is the latter conducive to optimizing H&S. Built environment councils and voluntary associations should raise the status of H&S within their constituencies.