

Innocent Musonda<sup>1</sup>, Theo Haupt<sup>2</sup> & John Smallwood<sup>3</sup>

## **Client attitude to health and safety – A report on contractor's perceptions**

*Peer reviewed*

### **Abstract**

The purpose of this article is to present findings of a preliminary survey on Contractors' perceptions of clients' attitude relative to health and safety (H&S) implementation in Botswana's construction industry and in a way that of the Southern Africa.

A questionnaire survey was conducted on construction projects to establish clients' attitude towards H&S. Interviews were also conducted with contractor's representatives on selected construction sites in and around Gaborone, Botswana.

Findings from the survey include: clients do not perceive H&S to be very important on construction projects, most clients do not address H&S adequately in contract documentation and H&S is rarely a major agenda item in progress meetings. Findings were also that clients are not fully committed to H&S implementation. The client sets the tone for H&S culture. Client attitude is therefore very important for H&S performance improvement as all stakeholders are compelled to act in line with the client's values.

The importance of the client to H&S performance improvement has been recognised by various researchers. The extent to which clients are involved in H&S implementation has however not been researched extensively especially in Southern Africa. This article therefore provides an insight into the clients' attitude towards H&S and in a way explains the reason for the current state of H&S in Botswana's construction industry.

Keywords: Attitude, Botswana, client, construction, health and safety

### **Abstrak**

Die doel van hierdie artikel is om bevindinge weer te gee van 'n voorafopname oor kontrakteurs se persepsie oor kliënte, houding teenoor gesondheid en veiligheid implementering in Botswana se konstruksie-industrie en op 'n manier ook die houding daarvan in Suiderlike Afrika.

---

<sup>1</sup> Innocent Musonda, Senior Lecturer, Department of Construction Management, University of Johannesburg, Johannesburg, South Africa. Phone: +27(0)11 559 6655, Fax: +27(0)11 559 6630, email: <imusonda@uj.ac.za>

<sup>2</sup> Prof. Theodore Conrad Haupt, Building Construction Science Department, College of Architecture, Art and Design, Mississippi State University, USA. Phone: +01662.325.5247, Fax: +01662.325.8872, email: <thaupt@caad.msstate.edu>

<sup>3</sup> John Julian Smallwood, Head of Department, Department of Construction Management, Nelson Mandela Metropolitan University, Port Elizabeth, South Africa. Phone: +27(0) 415042153, Fax: +27(0) 415049935, email: <john.smallwood@nmmu.ac.za>

'n Vraelysopname is saamgestel oor konstruksieprojekte om te bepaal wat kliënte se houding is teenoor gesondheid en veiligheid. Onderhoude is gevoer met kontrakteurs se verteenwoordigers van geselekteerde terreine in en om Gaborone, Botswana.

Bevindings van die opname sluit in: kliënte ervaar gesondheid en veiligheid nie as baie belangrik by konstruksieprojekte nie, meeste kliënte spreek nie gesondheid en veiligheid in kontrakdokumentasie aan nie en gesondheid en veiligheid is min 'n besprekingspunt op vorderingsvergaderings se agendas.

Die belangrikheid van die kliënt tot gesondheid en veiligheidsverbetering is deur verskeie navorsers erken. Die mate waartoe kliënte betrokke is in gesondheid en veiligheid-implementering is nog nie intensief in Suidelike Afrika nagevors nie. Daarom verskaf hierdie artikel insig tot die kliënte se houding teenoor gesondheid en veiligheid en in 'n mate verduidelik die rede vir die huidige stand van gesondheid en veiligheid in Botswana se konstruksie-industrie.

Sleutelwoorde: Houding, Botswana, klient, konstruksie, gesondheid en veiligheid

## **1. Introduction**

The construction industry is an important sector to most economies and Botswana is no exception. In the United Kingdom (UK) for example, the construction industry contributes about 8% to the Gross Domestic Product (Bomel, 2001: 2.1). In Botswana the construction industry contributes about 7% to GDP (World Bank, 2008: Online). The construction industry has also been growing at a high rate with a development expenditure estimated to be well over hundreds of billions of Dollars at least for the next ten years. For the financial year 2008/2009, the construction sector recorded growth of about 12% (Benza, 2008: Online). What is notable as well on this part of Africa is that infrastructure is becoming more complex compared to the past years and inadvertently will cause many challenges for H&S.

The construction industry is said to be dominated by a large number of small and medium size contractors. This scenario is perceived to have arisen from an increasing reliance on subcontractors by larger firms (Bomel, 2001: 2.4). Research shows that small firms have proportionately more accidents and injuries than large firms (Bomel, 2001: 0.7, Smallman, 2001: 404). An increase in smaller contracting organisations and in complexity of infrastructure inadvertently pose as a challenge to manage health and safety in the construction industry. It is believed that risks to H&S increase with a low level of awareness and lack of training (Bomel, 2001: 8.42).

Research conducted in Botswana revealed that the level of H&S awareness in the construction industry is low, H&S legislation is not complied with, the management of contractors is not committed to H&S implementation, there is a lack of H&S management systems, procedures, and protocol, and clients and designers do not adequately participate in the implementation of H&S (Musonda & Smallwood, 2005: 61). A similar study conducted by Van Ooteghem (2006: 49) revealed that occupational accidents and fatalities continue to be recorded in Botswana. Between the period 2000 and 2003, a total of 251 occupational fatalities were registered with the workmen's compensation authority from all sectors (Van Ooteghem, 2006: 49). 96 accidents in the construction sector alone were registered with the workmen's compensation during the

same period. Allowing this status quo to continue considering the contribution construction makes to the economy, the amount of labour force that is at risk, the anticipated complexity of projects that are going to be implemented, the human suffering that has occurred and continue to happen and considering the people that continue to face H&S risks, is totally unacceptable and hence the motivation for this study.

The need to find solutions to improve the above picture and work at building a better H&S culture in the construction industry is now just as compelling as before.

In this article, a key proposition is that although safety is everyone's business, improving H&S performance would be realised with the right attitude by the client to H&S. Clients set the tone for H&S.

## **2. Background**

### **2.1 Client role**

Striving for a better H&S performance will remain elusive if the client is not seen to be actively involved in H&S implementation especially in Southern Africa. Huang & Hinze (2006a: 165) rightly argue that the involvement of clients (owners) is an essential requirement for the zero injuries objective. The importance of the client to H&S management is well documented. Construction H&S can be successfully influenced by clients (Smallwood, 1998: 182; Lingard, Blismas, Cooke & Cooper, 2009: 132; Bomel, 2001: 9.7)

Suraji, Duff & Peckitt (2001: 339) contend in their article on accident causation that construction accidents are caused by inappropriate responses to certain constraints and the environment. They observed for example that the client responses are the actions or omissions in response to constraints that emerge during the development of the project scope. According to them, these include for example reducing the project budget, adding new project criteria, changing project objectives and accelerating the design or construction efforts of the project. All of which are factors that impact negatively on H&S.

Clients have a positive role to play in lowering injury rates (Smallwood, 1998: 188; Huang & Hinze, 2006b: 180)

### **2.2 Client Attitude**

Clients' attitude can be deduced from the extent to which they are involved in the management of H&S. Until now, as Smallwood (1998: 185) observed, the major agencies of client influence have been prescriptive, regulatory or coercive measures as opposed to upstream proactive measures such as design, detail and specification and more importantly prioritisation.

Clients can be seen to be more involved by for example setting H&S objectives, selecting suitable contractors in terms of H&S and participating in H&S management (Huang & Hinze, 2006a: 165). Smallwood (1998: 182) outlines further responsibilities for clients and contend that they should:

- Provide financial support;
- Include H&S as a prequalification criteria;

- Schedule H&S requirements prior to bidding process;
- Structure contract documentation to allow for H&S and,
- Conduct audits in H&S.

One of the areas where clients can show leadership and attitude to H&S is by conducting periodical audits. Auditing, if properly done, has many benefits for the implementation of H&S. According to Thompson IV (1999: 833), successful auditing provides a methodical and comprehensive approach to the H&S program analysis. Auditing also identifies new areas of concern as the program and project evolves. It is clearly an essential activity for the client to undertake and tells of their attitude to H&S in construction.

In order to show commitment, clients should input adequate resources into construction H&S instead of relying on contractors (Huang & Hinze, 2006b: 180). Successful implementation of H&S also depends on the extent to which construction-project clients participate and assign resources to the process.

H&S performance improvement depends on the extent to which construction-project clients provide leadership on H&S matters. Loosemore, Lingard, Walker & Mackenzie (1999: 884) identified the importance of this and contend that the lead must come from clients themselves. They maintain that without this, the construction industry has a long way to go in changing attitudes towards H&S. Levitt & Samuelson (1993: 215) also argued that monitoring which is one of the activities in providing leadership, makes a difference, and that excellent H&S performance can be obtained with the active participation of clients, even from average contractors. If the clients are taking the lead, they must know exactly what is required to develop a detailed comprehensive brief for the design team and to issue H&S specifications. Further, as suggested by Suraji, Sulaiman, Mahyuddin & Mohamed (2006: 55) clients have the moral if not the legal duty to take reasonable care to ensure safety to all workers on construction site. Further, the client should carefully consider H&S control in ordering works, exercising supervision, and providing instructions. As Huang & Hinze (2006b: 181) correctly put it, clients set the safety culture tone for a project.

### **2.3 Client interventions**

Successful implementation of H&S also depends on the extent to which construction-project clients participate in the process (Loosemore *et al.*, 1999: 884). Leadership on H&S must come from clients. Without this the construction industry has a long way to go in changing attitudes towards health and safety (Loosemore *et al.*, 1999: 884). Monitoring is one intervention through which the client can make a difference (Levitt & Samuelson, 1993: 215). Further, the client must take responsibility for preventing accidents He/she should carefully consider H&S control in ordering works, exercising supervision, and providing instructions (Watanabe & Hanayasu, 1999: 60).

Several ways have been identified through which clients could participate in the process. Thompson (1999: 835) identifies auditing as one such activity that the client could undertake in order to participate fully in the process of H&S implementation. The list below as suggested by Thompson (1999: 835) outlines some of the areas which the client could be involved in by auditing construction projects:

- Management commitment

- Includes management's demonstration of examples of safe and healthful behaviour and company resources allocated to the H&S program
- Employee involvement
  - An example is investigation of procedures for reporting injuries.
  - Interviews with employees could reveal this.
- Work site hazard assessment
  - Through observations of sites
- Hazard prevention and control
  - Evidence of PPE and control measures in place
- H&S training
  - Audits consider how, when, why and where it is done and whether employees understand why they do and practice H&S.

### 3. Research methodology

The study was quantitative and was aimed at determining contractors' perceptions of the clients' level of commitment to H&S in construction projects. The reason for using this method is that it is easier to formulate an opinion without bias on specific information that is under consideration because the quantitative study and paradigm is based on positivism (Sale, Lohfeld & Brazil, 2002: 44). Although this method does not accommodate respondents' opinions as they are restricted in the way they answer the questions, the method was deemed to be appropriate for the type of study at hand which was to measure contractors' perceptions of clients on H&S. The survey instrument was designed therefore to be able to capture clients' actions and contractors' perceptions of the clients' level of commitment to H&S. It was decided that questionnaires to contractors' project managers on construction sites coupled with physical observations constituted the best method to conduct the research because of the type of data that was to be obtained.

Questionnaires being one of the research tools used in quantitative research (Sale *et al.*, 2002: 45) were preferred to face-to-face interviews because respondents find it easier to answer questionnaires in privacy and their spare time. On the negative side, the response rate is said to be lower with questionnaires. Questionnaires are also a good way of obtaining information because it is relatively cheap and less time consuming.

The questionnaire was designed to address among other areas, the clients' level of participation or commitment to H&S on construction projects. Both open and closed ended types of questions were used. Care was taken to avoid bias by providing for alternative responses by related and preceding closed questions. Respondents were asked to 'state or specify'. Closed questions were put before open-ended questions. Rating scales based on the five point Likert scales were used for respondents to mark the level of importance, frequency, or severity.

On the clients' level of commitment, the evaluation was conducted through the following questions:

- Evidence of clients' active participation and influence, as seen in the client project meetings, by establishing whether H&S was a major agenda item. The reasoning behind the question is that committed clients on H&S would ensure that H&S was at least a major agenda item in every project meeting that they attended;

- Respondents' view on how clients and designers regarded H&S in relation to other factors on a construction project;
- The purpose of the third question was to identify the respondents' opinion on how H&S could best be improved; client and designer participation is also included to assess whether respondents deemed it important, and
- The extent to which clients and designers address H&S in contract documents. The argument is that it is ultimately the client that has a final say on the type of contract and budget.

Apart from using questionnaires to collect information on the client commitment and thus their attitude, physical observations on projects in the sample were made. In order to determine site behaviour displays, in other words, the actions of people and by extension what the client condone, a checklist was developed to capture and learn about people's actions as well as visible signs of H&S implementation. According to Leady & Omrod (2001: 197), checklists and rating scales are used to facilitate both the evaluation and quantification of behaviours. A checklist was preferred to rating scales in that specific behaviours, characteristics and signs were identified in literature and from legislature and these were looked for on site. It is easier to check on whether each item on the checklist is observed, exhibited, present or true; or else not observed. The checklist was completed on all construction sites that were visited by the researcher.

The checklist's section that related to clients' commitment and attitude aimed at evaluating the implementation of legislature. The reasoning behind the foregoing is that if at all clients would be concerned about anything on H&S; it would be at least that all legal requirements are met on their projects. Visible signs that were looked for included the behaviour of workers on site and the artefacts at the construction sites, such as safety warning signs, housekeeping, et cetera.

This methodology was considered appropriate as the only way to check for consistency as well as provide a talking point on the relationship between responses from questionnaires and what was actually observed on construction projects.

### **3.1 Analysis of data**

Primary data that was obtained through questionnaires and physical observations by using checklists was analysed using MS Excel spreadsheet package and interpreted relative to secondary data obtained from the literature review. From observations and responses, inferences were drawn about the larger and general practice relative to client commitment and thus their attitude towards H&S.

The calculation of an importance index was also done to establish the perception on the order of importance of H&S relative to other aspects on a construction project. The importance index was calculated from computing the total of all weighted responses and then relating it to the total responses on a particular aspect. The weights were assigned to each response ranging from one to five for the responses of 'not important' to 'very important'. The weighting has been allocated as presented in Table 1. The weighting was developed based on the Likert scale of 1-5. Computation of the importance index was done from the following formula:

$$\text{Importance index} = \frac{5\alpha_1 + 4\alpha_2 + 3\alpha_3 + 2\alpha_4 + 1\alpha_5}{\Sigma\alpha} \quad (1)$$

Table 1: Opinion weighting on the level of importance

Opinion	Responses	Weighting
Very important	$\alpha_1$	5
Important	$\alpha_2$	4
Fairly important	$\alpha_3$	3
Slightly important	$\alpha_4$	2
Not important	$\alpha_5$	1

### 3.2 The population

The selection of the sample was based on the following:

- Number of registered building contractors that were undertaking projects in Gaborone, Botswana at the time of the study;
- Limitations of time and financial resources and therefore the study could not be extended to other regions in the Country.

A survey was conducted before the study and it was determined that there were about 47 active building construction sites in and around Gaborone. It is recommended that, for small populations of less than 100, there is little point in sampling (Leady & Ormrod, 2001: 221). Based on the above, it was decided therefore that the entire population should be included in the study. Anecdotal evidence from other studies shows that questionnaire response rate is about 50% to 70%. It was determined based on the above that at least 21 respondents would be realised.

The study excluded construction sites for private homebuilders and civil engineering contractors. The justification for this delimitation was the time limit, resources, and the difficulty in obtaining information, especially from private homebuilders. Private homebuilders usually have trades foremen as site managers and the directors also act as project managers. Collecting information from private home builders therefore was considered to be quite difficulty and would have required more time.

For the sample to be representative, it was determined that at least all categories of contractors should be represented in the study. The Public Procurement and Asset Disposal Board (PPADB) categorisation is based upon five categories: for projects worth up to USD100,000.00, between USD100,000.00 and USD200,000.00, between USD200,000.00 and USD800,000.00, between USD800,000.00 and USD2,000,000.00 and the last category is for projects worth more than USD2,000,000.00 also referred to as the unlimited category.

Although there were 47 active construction sites at the time of the study, questionnaires were only sent to contractors on 40 construction sites. The reason for this is that some contractors had more than one construction site and there was need to include at least all the categories of contractors as each category would have a different client profile. Four categories contributed eight contractors each. The only exception was the fifth and the lowest category which only had five building construction sites at the time. In order to make up the numbers, three more construction sites from other categories were randomly selected to the category to make eight contractors. Although some building contractors were working on more than one construction site, only one site was selected for each building contractor. Table 2 tabulates the summary of the sample stratum.

Questionnaires were addressed to project managers, site engineers, and site agents depending on whether they were the overall manager in charge of the construction site. These were deemed to be the right people as they are based on site and are able to relate what actually transpires on projects. This group was viewed as being of sufficient knowledge and impartial relative to top management and the actual practice on sites. It was also considered that this group would give an unbiased view of the client on their actions relative to their involvement in H&S implementation.

Site observations were conducted on all 40 construction sites. Checklists were used to record or tick off the observed elements on sites.

### 3.3 Response rates

In total, 40 questionnaires were distributed to building contractors. Of the 40 that were sent out, 25 questionnaires were completed and collected by the researcher. This equates to a response rate of 62.5%. Response rates for all categories are as tabulated below in Table 3.

Table 2: Sample stratum

Category	Value in USD	Construction Sites	Questionnaires distributed	Observations
OC	< 100,000.00	5	5	5
A	>100,000.00< 200,000.00	11	8	8
B	>200,000.00< 800,000.00	10	8	8
C	>800,000.00<2,000,000.00	8	8	8
D & E	>2,000,000.00	13	11	11
<b>Total</b>		<b>47</b>	<b>40</b>	<b>40</b>

Table 3: Questionnaire response rates

Category	Value in USD	Response (No.)	Response rate (%)
OC	< 100,000.00	1	20.0
A	>100,000.00< 200,000.00	3	37.5
B	>200,000.00< 800,000.00	8	100.0
C	>800,000.00<2,000,000.00	6	75.0
D & E	>2,000,000.00	7	63.6
<b>Total</b>		<b>25</b>	<b>62.5</b>

## 4. Findings



Respondents were asked in question one how frequently H&S audits and inspections were conducted by clients and other key stakeholders. With respect to clients, 56% of the respondents indicated that clients had 'never' conducted H&S audits and inspections, and 28% 'rarely'. The above compared to 40% of the respondents who indicated that contractors top management 'never' conducted H&S audits and inspections, 36% 'rarely', and 20% 'often' (Table 4) showed a little bit more commitment by contractors than clients. Results also show that about 24% of respondents indicated that contractors' top management conducted inspections compared to the 8% for the clients. Only 8% of the respondents indicated that clients 'often' conducted audits and inspections. None of the respondents indicated that clients 'always' conducted audits and inspections. Clients' leadership on H&S can also be seen through supervising consultants' conduct on H&S because supervising consultants are directly answerable to clients. From the results shown in table 4, it can be inferred that clients' leadership on H&S and thus their attitude is questionable as over 50% of the respondents indicated that supervising consultants never conducted H&S audits and inspections. It follows therefore that consultants who are appointed by clients and receive instructions from them do not conduct inspections or audits because the clients do not tell them or remind them to do so probably because H&S is not a priority to them. The above may probably confirm the respondents perception that clients consider cost, time and quality to be more important than H&S (Table 6).

Table 4: Frequency of audits and inspections by all stakeholders

Entity	Response (%)				
	Never	Rarely	Sometimes	Often	Always
Contractor top management	40.0	36.0	0.0	20.0	4.0
Client	56.0	28.0	8.0	8.0	0.0
Supervising consultants	52.0	20.0	16.0	12.0	0.0
Factories Inspector	56.0	32.0	8.0	4.0	0.0
Civil organisations	84.0	4.0	8.0	4.0	0.0

Apart from inspections, site project meetings are important events where all issues regarding H&S can be raised and discussed. To indicate the extent of participation by clients and designers or supervising consultants, the position they accord to H&S on the agenda of project site meetings would be used for measurement. This is all the more true because they mostly visit the sites at the time of these meetings. Question two, therefore, sought to determine whether H&S was a major agenda item during client progress meetings. About 28% of respondents indicated that H&S was an important item on the agenda and 72% that it was not (Table 5).

Table 5: Status of H&S in progress meetings

Response	(%)
Yes	28.0
No	72.0
Unsure	0.0
Total	100.0

It was deemed that contractors would best describe clients' attitudes towards H&S. This would, in turn, explain the level of commitment by clients. Therefore, contractors were

asked to rate the importance of various aspects to clients on projects. According to contractors, they perceived that clients regarded remaining within budget as the most important, followed by contract period. Quality and avoiding litigation were ranked third and fourth, whilst H&S was identified as the least important (Table 6).

Table 6: Perceived importance of H&S according to clients

Aspect:	Response (%) 1 = not important, 5 = very Important					Importance index	Rank
	1	2	3	4	5		
Budget	0	0	4	16	80	4.76	1
Contract period	0	0	12	20	68	4.56	2
Quality	0	8	8	16	68	4.44	3
Avoid litigation	4	12	4	24	56	4.16	4
H&S	24	48	16	8	4	2.20	5

In an endeavour to further establish the extent to which clients participate in H&S, respondents were asked whether, in their opinion, contract documents always addressed H&S implementation. The reasoning behind this question was that one way in which clients would definitely participate in H&S implementation is through allowing and addressing it in the contract documents. About 71% of the respondents indicated that H&S was addressed and 29% said that it was not addressed. A follow-up question to check the validity of these responses was posed. The responses ranged between 'not being addressed' and 'being fairly addressed'. Only 4.2% and 8.3% of the respondents, respectively, indicated that H&S was 'addressed' and 'fully addressed' in the contract documents (Table 7).

Table 7: Extent to which H&S is addressed in contract documents

Scale	Extent	Response (%)
1	Not addressed	25.0
2	Slightly addressed	29.2
3	Fairly addressed	25.0
4	Addressed	4.2
5	Fully addressed	8.3
	No response	8.3
	Total	100.0

One of the other areas believed to be at least where clients could show commitment and leadership and thus their attitude towards H&S is in insisting and ensuring that contractors have safety programs in place. Respondents were therefore asked whether they had H&S policy, procedures, programs, meetings, representatives, and documented work procedures on their projects (Table 8). More than 50% of respondents indicated that they never had any of the above. Between 20% and 30% of respondents indicated that they had whilst less than 10% of respondents were not sure.

Table 8: Existence of H&S programme elements

Element	Response (%)			
	Yes	No	Unsure	No response

H&S policy	20.0	64.0	4.0	12.0
H&S procedures	28.0	60.0	0.0	12.0
H&S programs	4.0	64.0	8.0	24.0
H&S meeting	20.0	64.0	0.0	16.0
H&S representatives	12.0	68.0	4.0	16.0
Documented work procedures	32.0	56.0	0.0	12.0

Specifically, 64% of respondents responded in the negative relative to having the required elements of a management system.

In order to further determine whether requirements of the legislation were being complied with, respondents were asked to state whether they had a copy of the Factories Act and whether an abstract of the Act was displayed in a prominent place on site as per the Act's requirement. The responses were that 52% of respondents indicated that they had a copy of the Act, but only 23.1% of the 52% indicated that they had displayed the abstract in a prominent place on site. This equates to 76.9% of respondents not following the requirements of the Act. 32% of the respondents indicated that they did not have a copy and 16% indicated that they were not sure.

However, physical observations concerning the above revealed that only one contractor, representing about 2.5% of the 40 sites, had displayed the Act. This indicates untruthfulness on the part of respondents even though it was clear that the Act was not displayed on sites. It was also thought that if clients had a right attitude towards H&S, they would have picked up this basic requirement. Notwithstanding the above untruthfulness, even the 23% response is an indication of what the general practices in construction are and is also reflective of the clients' attitude towards H&S. Results of the physical investigations conducted reveal that all health, safety, and welfare provisions of the Act are not adhered to.

On almost 70% of the sites, slightly less than half of the workers on site were working in hazardous areas without hard hats. On 96% of the sites workers were working without eye protection whilst working in areas or on tasks that needed eye protection, and 91.3% of the sites had no protection against falling objects and or persons.

## 5. Discussion

Given the aforementioned, it can be concluded that the contribution by non-contractor stakeholders specifically clients, is not significant. Such stakeholder input and commitment is cardinal and essential to H&S performance improvement and describes the clients' attitude towards H&S. The respondents' ratings of the perceived importance of H&S to clients reveal the extent to which the client is committed and attitude to H&S. Relative to cost, time, quality, and avoiding litigation, clients view H&S to be the least important aspect on a construction project. The attitude seems to be wrong here and it can be argued that this influences H&S performance in construction.

Based upon clients' attitudes and actions, respondents perceived that clients considered H&S not to be important. Responses relative to whether H&S was a major agenda item in client progress meetings validates the perception rating - almost 71% of the respondents said that H&S was not a major agenda item. Client progress meetings are an important event during a project as all stakeholders are required to attend such meetings on site. It is also a forum where progress is evaluated and problems on site

are discussed. If clients had the right attitude and were committed to H&S, H&S could have been a major agenda item. Standard contract documentation also does not reflect commitment by clients to H&S. Although 70% of the respondents said that H&S was addressed in contracts, only 8% indicated that it was extensively addressed. On average, 26% said it was either not addressed, slightly, or fairly addressed. A positive attitude towards H&S by the client would have influenced a different perception by respondents especially regarding the rating of H&S among other traditional project parameters.

## 6. Conclusion

It can be concluded that participation and commitment by clients to H&S is low and thus in a way describes their attitude towards H&S which is seen to be negative because of the following:

- Clients and even designers never or rarely conduct H&S audits and inspections;
- H&S is not regarded as a major agenda item in clients' progress meetings; about 72 % of the respondents indicated this, and only 28% indicated that H&S was regarded as a major agenda item. Clients influence project progress meetings. With the right attitude therefore would have seen higher percentages of respondents indicating that H&S was a major agenda item and;
- According to contractors, it was found that clients and their agents, designers, regarded H&S to be the least important aspect on a construction project. It follows that, if clients perceive the importance of H&S to be low it is because their attitude is not positive towards H&S. In fact, avoiding litigation and quality was rated higher than H&S.

Clients set the H&S tone for construction projects. Their attitude therefore has great influence on the performance of H&S especially among smaller national contractors. Improving or addressing clients' attitude would greatly contribute to the improvement of H&S in the sector. However the question is how can that be achieved?

## References

Benza, B. 2008. Non- Mining has greater GDP. *Mmegi online* [online], 25(175). Available from: <

<http://www.mmegi.bw/index.php?sid=31&sid2=4&aid=16&dir=2008/November/Wednesday26> > [Accessed: 15 January 2009].

Bomel. 2001. Contract research report 387/2001: Improving health and safety in construction: phase 1: data collection, review and structuring. London, Health and Safety Executive.

Hinze, J. 2005. A paradigm shift: leading to safety. *In: Haupt T.C and Smallwood J. J. (Eds.) Rethinking and revitalising construction health safety, environment and quality*, Port Elizabeth, 17-20 May, Walmer: CREAT

Huang, X. & Hinze, J. 2006a. Owner's role in construction Safety. *Journal of construction engineering and management*, 132(2), pp. 164 - 173.

Huang, X. & Hinze, J. 2006b. Owner's role in construction Safety: Guidance model. *Journal of construction engineering and management*, 132(2), pp.174 -181.

Leady, P.D. & Ormrod, J.E. 2001. *Practical research: Planning and design*. 7<sup>th</sup> ed. New Jersey: Prentice Hall.

Levitt, R.E. & Samelson, N.M. 1993. *Construction safety management*. 2<sup>nd</sup> ed. New York: John Wiley & Sons.

Lingard, H., Blismas, N., Cooke, T. & Cooper, H. 2009. The model client framework: Resources to help Australian Government agencies to promote safe construction. *International journal of managing projects in business*, 2(1), pp. 131-140.

Loosemore, M., Lingard, H., Walker, D.H.T. & Mackenzie, J. 1999. Benchmarking safety management systems in contracting organisations against best practice in other Industries. In: Singh, A., Hinze, J.H. & Coble, R.J. (Eds.) *Implementation of Safety and Health on construction sites*. Rotterdam: A.A. Balkema.

Musonda, I. & Smallwood, J.J. 2005. Construction health and safety awareness and implementation in Botswana's construction industry. In: Haupt T.C & Smallwood J.J. (Eds.) *Rethinking and revitalising construction health safety, environment and quality*, Port Elizabeth, 17-20 May, Walmer: CREAT.

Sale, E.M.J., Lohfeld, L.H. & Brazil, K. 2002. Revisiting the quantitative-qualitative debate: implications for mixed-methods research. *Quality and quantity*, 36(1), pp. 43-53.

Smallman, C. 2001. The reality of "Revitalizing health and safety". *Journal of safety research* 32(4), pp. 391-439.

Smallwood, J. J., 1998. Client Influence on contractor health and safety in South Africa. *Building Research & Information*, 26(3), pp.181-189.

Suraji, A., Duff, R.A., & Peckitt, J.S., 2001. Development of causal model of construction accident causation. *Journal of Construction Engineering and Management*, 127(4), pp. 344-344.

Suraji, A., Sulaiman, K., Mahyuddin, N, and Mohamed, O. 2006. Rethinking construction safety: an introduction to total safety management. *Journal of construction research*, 7(1&2), pp. 49-63.

Thompson, W.G. 1999. Auditing for excellence – The value of safety program audits. In: Singh, A., Hinze, J.H. & Coble, R.J. (Eds.). *Implementation of Safety and Health on construction sites*. Rotterdam: A.A. Balkema, pp. 833-836.

Van Ooteghem, P. 2006. Work related injuries and illnesses in Botswana. *International Journal of Occupational and environmental Health*, 12(1), pp. 42-51.

Watanabe, T. & Hanayasu, S. 1999. Philosophy of construction safety management in Japan. In: Singh, A., Hinze, J.H. & Coble, R.J. (Eds.). *Implementation of Safety and Health on construction sites*. Rotterdam: A.A. Balkema, pp. 55-64.

World Bank. 2008. World development Indicators, Botswana - Country Brief. [online].  
Available from:  
<<http://web.worldbank.org/WEBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/BOTS>>  
[Accessed: 4 March 2009].