

INTEGRATING SOCIAL SUSTAINABILITY IN THE SOUTH AFRICAN CONSTRUCTION INDUSTRY: BENEFITS AND BARRIERS

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Abstract: The concept of social sustainability often appears to be neglected in the construction industry's quest to optimally mainstream sustainability. The paucity of studies on this concept, especially in the developing country context, is indicative of this neglect. Reasons adduced for this neglect include the inability of stakeholders to identify benefits associated with social sustainability and the opportunities available for its integration during project procurement and delivery. This observation makes this study, imperative. This phenomenological study set out to identify benefits associated with the integration of social sustainability into delivery of infrastructure projects from a client's perspective. Semi-structured interviews were used to collect data from a purposively selected sample of infrastructure clients. Subsequently, the data was analysed using thematic analysis. Findings indicate that social sustainability integration in projects had the potential to bring about significant benefits, such as increased respect for people, sufficient buy-in by community, hence enabling successful project performance. Also, it was discovered that opportunities for such integration was available throughout the project delivery life-cycle. However, a low level of awareness pertaining to social sustainability in the South African construction industry was observed. It is expected that the study's findings will contribute to engendering improved levels of awareness among infrastructure clients on the utility of such integration in their projects, especially within the South African construction industry context.

Keywords: Clients, Construction Industry, Infrastructure, Social sustainability, South Africa

1. INTRODUCION

The concepts of sustainability and sustainable development (SD) have remained central to policy and academic discourse in the 21st century. Whereas sustainability in itself has been ascribed the status of a desirable state for society (utopia), SD on the other hand consists of the developmental strategies or processes required to attain such state (Boström, 2012). Renewed interest in these concepts can be traced to the Brundtland report published under the auspices of the World Commission for Environment and Development, three decades ago. Since then, the uptake of ideals associated with the drive for a sustainable society has intensified.

Yet, buy-in into these concepts within the developing country context only attained significant proportions only after the United Nations World Summit on Sustainable Development (WSSD) in 2002 (Rydin, 2012). This summit bought about increased awareness among nations, especially African nations, concerning the imperative nature of sustainability and SD respectively. Significant frameworks like the millennium development goals (MDG) and its successor, the sustainable development goals (SDGs) have been developed and adopted. The latter is expected to govern the actualization of a sustainable society between 2015 and 2030.

Processes within economic sectors like construction have since been targeted, resulting in new taxonomies like 'sustainable construction', 'responsible sourcing', 'sustainable procurement', 'green construction' etc. This is premised on the industry's reputation for making adverse contributions towards society's quest to become sustainable, given its anthropogenic nature. Obviously, society requires the products delivered by the construction industry to attain and maintain sustainability (Sourani & Sohail, 2005). The relationship between infrastructure, improved productivity levels and economic growth has been reiterated in extant literature (Esfahani & Ramírez, 2003). Efforts are

continually being made by stakeholders within the industry to mainstream SD dimensions into industry practices. Whilst developed countries have taken a lead in this aspect, developing countries appear to be lagging behind.

In seeking to adopt global best practices associated with the SD agenda, construction industry stakeholders in South African have made spirited attempts to integrate SD dimensions (Du Plessis, 2002). On the surface, it would appear that the country has fared differently from its peers in the developing world by focusing immensely on the environmental, social and economic dimensions during the procurement and eventual delivery of assets. This is evident in the various preferential procurement practices which have remained prevalent in the country till date (Bolton, 2006; Watermeyer, 1999; Watermeyer, Gounden, Letchmiah, & Shezi, 1998). However, a paucity of studies exploring the implementation of these sustainability dimensions in the country's construction industry has been observed. This is particularly so for the social sustainability (SS) dimension; hence prompting this inquest.

This study seeks to contribute to the emerging body of knowledge on SS dimensions within the construction industry and developing country context respectively by exploring its integration into the South African context. Furthermore, it is expected that findings from the study will elucidate the benefits, opportunities and barriers to the effective integration of social sustainability in the industry's project delivery pathways. However, this study seeks to focus only on the perspectives of relevant stakeholders within infrastructure client organisations (ICOs). This is in recognition of the critical role they assume in championing the sustainability agenda during infrastructure delivery.

To achieve its objective, the paper is structured into the following sections, namely; a review of relevant literature regarding the concept of SS and its application in the South African construction industry, as well as the role of ICOs in SS implementation. These will be followed by a brief description of the research methodology adopted in this study, a presentation and discussion of the findings as well as the conclusion.

2. OPERATIONALIZING SOCIAL SUSTAINABILITY IN THE SOUTH AFRICAN CONSTRUCTION INDUSTRY

The SS dimension evolved from the broadly accepted categorization of the sustainability into three pillars to enable the operationalization of the concept (Elkington, 1999). Prior to this categorization, sustainability as a concept had remained vague, being used by politicians and policy makers to score cheap political points(Christen & Schmidt, 2012; Sneddon, Howarth, & Norgaard, 2006). However, whereas the economic and environmental dimensions have been accorded significant attention by society, SS is only starting to get some attention (Boström, 2012; Peterson, 2016). Missimer, Robert, and Broman (2017) reiterate the non- integration of SS into the Framework for Strategic Sustainable Development (FSSD), a renowned framework for driving SD.

Defying any commonly accepted definition, SS has been considered context-specific unlike other pillars (Dempsey, Bramley, Power, & Brown, 2011; Littig & Grießler, 2005; McKenzie, 2004). Besides contributing to the attendant vagueness and interpretative flexibility associated with the concept, this indefinability has adversely affected its realization and operationalization in economic sectors like construction (Boström, 2012). In addition, the realization and operationalization of SS is deterred by attempts of scholars to present the three sustainability dimensions as standing alone, rather than being mutually supportive and compatible (Peterson, 2016; Weingaertner & Moberg, 2014). According to Abdel-Raheem and Ramsbottom (2016), practicing green construction (environmental sustainability), results in savings in the operation cost on the long run (economic

sustainability), and provide healthy work environment for the workforce (social sustainability). Scholars like Dempsey et al. (2011) have alluded to the dynamic and fluid nature of SS, insisting that what connotes SS within a particular context is likely to change over a particular duration. This makes for difficult comprehension of the concept. Boström (2012) categorizes these obstacles which exist in relevant literature into two broad categories namely; theoretical and practice-oriented obstacles. Whereas the theoretical obstacles encompass the notion of how to define and understand the concept of social sustainability, the latter is concerned with how to effectively operationalize and integrate the concept into projects.

Furthermore, scholars have evolved different ways of approaching SS. For instance, whereas Magis and Shinn (2009) view the concept from the human well-being, equity, democratic government and democratic civil society perspective, Murphy (2012) opines that SS rests on four dimensions, namely: equity, awareness, participation and social cohesion. Boström (2012) advocates for the consideration of SS as a conceptual tool for framing communication, decision-making, carrying out assessment of contemporary developments, among policy makers and stakeholders. Consequently, he categorizes SS aspects into substantive aspects- aspects dealing with what SS goals to achieve in a particular context; and procedural aspects- aspects dealing with SS elements that foster sustainable development. The challenges faced in the incorporation of SS has to do with the lack of attention by stakeholders to the extant synergy between these aspects. Whitton, Parry, Akiyoshi, and Lawless (2015) add that SS involves aspects such as community cohesion, human well-being, effective dialogue, and access of citizens to decision making levels within their respective communities.

Weingaertner and Moberg (2014) explore SS from the urban development, companies and products perspectives and conclude that there seems to be a common understanding of what SS entails across these sectors. They provide, three themes for developing such understanding, namely: social capital, human capital and well-being. Also, Vallance, Perkins, and Dixon (2011) attempt to provide clarity in the description of SS by proposing three paradigms namely, development, bridge, and maintenance sustainability respectively. Development sustainability focuses on the satisfaction of tangible or intangible needs of humans whilst bridge sustainability focuses on transforming negative societal behaviour towards the environment and bringing about stronger environmental ethics. Maintenance sustainability pertains to understanding how the social and cultural preferences and features are maintained over a certain duration in a certain context. From the foregoing, it is evident that a lack of consensus concerning the SS concept still persists in the extant body of knowledge. No doubt, this has further affected the development of a concise set of indicators for measuring the performance of SS integration in projects and thus, its optimal integration.

The construction industry, both globally and locally, is by no means immune from the import of the vagueness associated with SS. Valdes-Vasquez and Klotz (2013) attest to this, decrying the absence of a comprehensive and empirical framework for defining SS within the context of construction projects owing to its indefinability. Herd-Smith and Fewings (2008) propose that SS in construction be used to refer to the engagement among employees, local communities, clients, and the supply chain to ensure meeting the needs of current and future populations and communities. Yet, Valdes-Vasquez and Klotz (2013) observe that an understanding of this definition was contingent on stakeholder type and the project's lifecycle phase. They posit that one perspective of SS entails the estimation of the impact of construction projects in relation to where users habit, work and engage in various activities, a perspective usually catered for during environment impact assessment. Also, the application of corporate social responsibility (CSR) objectives by construction firms and client organizations was identified as another approach to SS. Other perspectives highlighted therein bother on design initiatives for engendering social inclusion for under-represented groups, and elimination of safety hazards from the work site, impact of temporary users like workforce and vendors as well as extant social interactions etc. Furthermore, they insist that SS was process-oriented, reiterating six

key themes for exploring the incorporation of SS processes in the planning and design phase of the construction process. These key themes include stakeholder engagement; user considerations; team formation; management considerations; impact assessment, and; place context. Similarities were observed between the themes provided by Valdes-Vasquez and Klotz (2013) and those espoused by Sourani and Sohail (2005), Abdel-Raheem and Ramsbottom (2016), Herd-Smith and Fewings (2008). See Table 1.

Table 1: Social Sustainability Dimensions in Construction Themes

Stakeholder engagement	<ul style="list-style-type: none"> Determine the expectations of the owner, designer, and public early in the project; Respond quickly to community concerns and perceptions; Engage local governments in design so that decision makers can understand and anticipate their needs; Generate a stakeholder management plan that encourages interaction, integration, and collaboration among Stakeholders; Inform stakeholders of the project constraints (e.g., budget, schedule, location, size, design, and construction standards); Ensure participation of final users in design so that decision makers can understand and anticipate their needs; Establish partnering strategies for resolving interpersonal conflicts among project stakeholders; Educate the public about the planning/design progress; Encourage neighborhood engagement in the design; Document and share the lessons learned during the planning and design phases with all stakeholders; Communicate the deliverables and intended project outcomes with each stakeholder group; Communicate the rationale for the commissioning process to the stakeholders.
User considerations	<ul style="list-style-type: none"> Use an evidence-based design process, basing decisions about the built environment on valid and reliable research; Adopt designs that increase the wellness and productivity of the final users; Establish a plan to evaluate progress on zero harm or zero accident targets for the project; Include security considerations for the final users in the project design; Establish requirements to assess the impact of the project on the health and safety of the final users; Provide a plan to minimize disruption caused by the construction process (e.g., traffic congestion, dust, and noise); Design to consider the job skills of the women, young people, unemployed, disadvantaged, racial, and ethnic minority groups in the area; Monitor and respond to incidents of corruption.
Team formation	<ul style="list-style-type: none"> Select a diverse design team including participants from various professions, genders, races, and firm sizes; Include health professionals in the design team to help analyze health impacts on the final users and the community; Select design and construction firms with a sustainability focus; Use local designers and professionals; Use an integrated design-construction process.
Management Considerations	<ul style="list-style-type: none"> Design to enable the use of local construction labor; Train designers to help them address future hazards during the construction and maintenance phases of the project; Establish zero harm or zero accident targets for the project; Incorporate safety prevention techniques that prevent or minimize occupational hazards and risks during construction (e.g., the analysis of the sequence of construction activities and the use of prefabrication techniques); Require a management plan for improving construction worker productivity; Require education, training, counseling, prevention, and risk-control programs to assist workforce members and their families or community members regarding serious diseases; Use local material/product suppliers for the project;
Impact assessment	<ul style="list-style-type: none"> Conduct a social impact assessment of the project; Conduct a social life cycle analysis of construction products and materials that considers workforce safety and health; Conduct a health impact assessment; Analyze the effect of the project on cultural, historical, and archeological resources; Incorporate social considerations (e.g., health, productivity, and quality of life) into a return on investment analysis (ROI); Assess the impact of introducing new social classes into the surrounding community (e.g., a community in which low-income housing is proposed might perceive the new social class as a threat based on stereotypes and misconceptions); Analyze new/additional community infrastructure needs resulting from the project (e.g., water, power, and emergency responders); Assess the results from post-occupancy evaluation of similar projects; Analyze the impact of the project on the cultural and ethnic identity of the surrounding community; Assess seasonal population changes in the surrounding community and their effect on employment patterns, business practices, and community infrastructure; Analyze the impact of the project location on access to public transit, biking opportunities, safe walking routes, and green spaces;

Place context	Include privacy considerations for the final users; Create design features that instill pride in ownership of the users and the surrounding community; Include human interaction (connectivity) considerations for the final users in the project design; Perform an asset-based design analysis of the surrounding community so that design solutions can convert social liabilities into assets; Assess the planning and zoning decisions of organizations/institutions with jurisdiction over the proposed project area; Develop a plan for ongoing evaluation of the impact of the project on surrounding communities once it is in operation; Maintain and/or restore natural habitat important to the final users and the surrounding community;
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Source: Adapted from Valdes-Vasquez and Klotz (2013)

It is pertinent to note that this particular study aligns itself to these views as espoused by Valdes-Vasquez and Klotz (2013) pertaining to SS as consisting of a set of processes required to improve on the construction industry's contribution to the SD agenda. In addition, it concurs with the categorization proposed by Vallance et al. (2011) wherein an integration of the pillars is deemed to be essential to understanding the nature of SS as it applies to the need to sustain the interaction between humankind and the bio-physical aspects of society in manner that guarantees improved well-being and social equity. The contents of Table 1 further affirm the interwoven nature of these pillars.

South Africa is renowned for its apartheid struggles in the pre-1990 era. In the post-apartheid era, which also marked the escalation of the SD mantra, efforts have been made to achieve improved levels of social inclusion of hitherto under-represented groups in the country. Cross-sectoral efforts have led to promulgation of policies by government and stakeholders to curb agitations for social inclusion. Such policies have sought to provide economic emancipation for certain groups, provide increased access to employment opportunities, skill development, social housing, education, healthcare, etc. (Bolton, 2006). In the construction industry, the use of preferential procurement practices and the integration of social benefits in the decision making processes for new projects has been noted (Jacquet, 2002; Rogerson, 2012; Watermeyer, 1999). However, these agitations have continued unabated, hence prompting this exploratory study into the integration of SS in the construction industry's processes. Additionally, the assets delivered by this sector have contributed in shaping the nature of society and can be applied towards transforming societal values (Hawkins & Wells, 2006). However, the influence of stakeholders such as ICOs in bringing about such transformation through the successful integration of SS into the project delivery processes in the industry cannot be underestimated (Adetunji, Price, Fleming, & Kemp, 2003; Awuzie & McDermott, 2016). This was the major consideration in the decision of the authors to ascertain the perception of this group of stakeholders concerning this particular phenomenon.

2.1 Social Sustainability and Infrastructure Client organisations

(Paragraph) The fragmented nature of the construction industry and infrastructure delivery systems in particular, contributes significantly to the difficulty in implementing policy objectives during various phases of the project delivery lifecycle. The dynamics of power experienced during these stages among stakeholders further aggravates the levels of extant tension hence resulting in poor implementation of construction projects. However, scholars have attested to the powerful nature of clients in championing the implementation of project objectives during project delivery (Vennström & Erik Eriksson, 2010). Yet, this study is not oblivious of the difficulty surrounding client identification, especially within the realm of public infrastructure delivery systems (Boyd & Chinyio, 2008). Client status has been ascribed to the users of the infrastructural facility in some instances

whilst the owners have been described as project owners or sponsors. In this particular study, the ICOs are referred to as project clients.

An ICO's ability to drive SS integration is evident, especially through their procurement strategies. According to Valdes-Vasquez and Klotz (2013), this can take place through consultation with the users, engagement of other stakeholders, formation of the appropriate team, conduct of impact assessment exercises amongst others. In consideration of the influence wielded by such entities in this regard, this study seeks to ascertain their perception regarding the integration of SS into their projects.

3. RESEARCH METHODOLOGY

This qualitative study adopts a phenomenological research design. The choice of this design was an afterthought as a qualitatively driven case study research design had initially been proposed. This was based on the case study's pre-eminence in the conduct of context dependent studies such as this (Stake, 2005; Yin, 2013). Furthermore, its reputation for engendering an in-depth investigation of a phenomenon within its natural context is legendary. The authors identified an ICO- an infrastructure and engineering services directorate, nested within one of the metro municipalities in the country. Organizational consent was sought through a letter to the head of the directorate. Although consent was readily obtained, attempts to assemble the various project teams proved onerous for focus group interactions, initially and one-on-one interviews, eventually proved unsuccessful. Although the authors initially agreed to rely on case studies of ICOs in South Africa and as it were, study their approach to SS integration the eventual choice of the phenomenological research design did not detract from validity of the study's findings.

The authors had to rely on the experiences of certain staff of this organization and other organizations who indicated willingness to be interviewed, when approached. In total, thirteen semi-structured interviews were conducted with such individuals between August, 2016 and November, 2016 in Port Elizabeth and Bloemfontein. These interviewees consisted of project managers and a head of directorate who shared a total of 142 years' experience in infrastructure procurement and delivery in the public sector between them, suggesting an average of 17.75 years' experience. The choice of semi-structured interviews was predicated on its provenance as a reliable data elicitation technique which provided the interviewer with considerable levels of flexibility in his/her desire to explore the worldviews of interviewees concerning a particular phenomenon (Bernard & Ryan, 2009). Such flexibility was reflected in the use of similar and not identical questions thus enhancing the interviewer's ability to take the interviewer's level of experience into consideration in the choice of questions. The font size and style of the heading of the conclusion and references section is similar to first level heading font size and the styles. Leave two single spaces between the paragraph of the previous section and the conclusion heading.

These interviews held in the interviewees' offices, spanning an average of thirty minutes, each. The interview sessions were recorded with express permission of interviewees and subsequently transcribed, verbatim. Questions asked during the interviews were centred on their understanding of the SS concept as applied in infrastructure delivery systems and their perceptions of the barriers, benefits and opportunities derived therefrom. Thematic analysis was applied in making sense of the data (Kulatunga, Amaralunga, & Haigh, 2007). The emergent data is presented and discussed in subsequent sections.

4. PRESENTATION AND DISCUSSION OF FINDINGS

The presentation and discussion of the study's findings will be presented concurrently under the various themes and subthemes. Although a diverse set of subthemes were identified, only a few of them are reported in this section.

Barriers

The corpus of sustainability/SS/SD literature is replete with references to various factors which have served to undermine the effective mainstreaming of SS in various sectors of the economy, particularly construction and infrastructure delivery. The authors identified these impediments and relied upon them as subthemes for coding the interview transcripts.

Limited understanding of social sustainability

Several authors appear to concur that the lack of awareness concerning SS adversely affects its integration in on-going SD efforts (Littig & Grießler, 2005; Valenzuela Musura & Albarosa, 2017). Such low levels of awareness have been attributed to the inability of practitioners and policy makers and academics to arrive at a consensus concerning the definition of the concept. Herd-Smith and Fewings (2008) posit that such low levels is responsible for its neglect during the delivery of construction projects, when compared to other pillars. In the context of the South African construction industry, this statement holds through. From the interviews, a limited understanding was discovered regarding what SS connotes within the industry. The interviewer had to explain SS aspects to the thirteen interviewees during their interview sessions as most of them feigned ignorance of them.

For most of the interviewees, SS entailed improving access to employment for underrepresented races, widen communal sources of livelihood and providing skills for persons hitherto deemed economically inactive. Whilst these can be described as salient SS aspects as shown in Table 1, no mention was made of other SS aspects of such as improved safety conditions on work site, fair labour conditions for workers; effective mainstreaming of women and foreign (migrant) workers as well as other underrepresented groups besides racial groups during construction etc. When the second author prompted some interviewees on their approach towards these issues, especially health and safety (H&S) related issues, they affirmed that adequate consideration was accorded to H&S issues on their projects. This further affirms the notion that there is a limited understanding among stakeholders on the nature and composition of SS. Also, the responses obtained from these interviewees, unintentionally indicate the presence of a nexus between economic and social sustainability dimensions without regard for the environmental dimension as the latter is treated as being separate.

Absence of standardized set of indicators for measurement

Another obstacle confronting SS integration is the absence of a universally accepted set of indicators for measuring implementation performance. Due to this, it is difficult for integration proponents to convince project owners to proceed champion integration unlike the case with the environmental and economic dimensions which have concrete indicators. The interviewers sought to know if the

interviewees had applied any indicators in measuring the impact of SS aspects which had previously been explained to them by the interviewers, on project performance. Interviewees stated that they were not aware of any tools or set of indicators for measuring the impact of SS on project performance besides eliciting the reactions of the host community on the utility of the project during the various phases of the project delivery exercise through consultation exercises with residents of the host community where such projects were (being) situated. This does not come as a surprise as the interviewees had earlier showed limited awareness concerning SS and therefore not be able to provide indicators associated with SS integration besides the example rendered above.

Benefits

Although a plethora of benefits have been identified in the literature and the interview sessions as accruable from the effective SS integration and other SD dimensions in the construction industry, only a few of these benefits would be discussed herein.

Improved job creation opportunities for locals through alignment of contracting strategies to SS objectives

Contracting strategies have been described as enablers of the SS integration in construction projects and the construction industry in general (Hawkins & Wells, 2006; Watermeyer et al., 1998). The choice of which contracting strategy to utilize in the realization of a construction project should be aligned to the SS criteria being sought to be achieved by the project owners and end users. Evidence of this abounds within the South African context wherein the use of targeted/preferential procurement policies and work packages such as unbundling has been used in getting hitherto underrepresented communities in the construction industry. Interviewees regaled the interviewers with scenarios where they had applied preferential procurement strategies to assist contractors who were members of a particular community to tender, win and execute work packages in their respective organizations. The interviewers were further inundated by an interviewee (HoD) on how his department had initiated training programmes for a select group of novice contractors from the local area. Such programmes which were referred to as Vukuphile (wake up and live) and Mangaung Community plumbers respectively were meant to develop technical, administrative and financial management competencies among contractors. In the aftermath of their tutelage, these individuals are availed opportunities on work packages owned by the directorate. It is beyond the scope of this study to ascertain the success of these schemes. However, it is pertinent to note once more that this instance highlights the nexus between social and economic sustainability from the client's perspective.

Increased societal acceptance of infrastructure projects

The incorporation of the views of stakeholders as well as the ensuring that tenets relating to respect for people is achieved during the early stages and subsequent stages of an infrastructure asset delivery lifecycle has been described as capable of inspiring high levels of societal acceptance by such stakeholders (Raven, Mourik, Feenstra, & Heiskanen, 2009; Suopajarvi et al., 2016; Whitton et al., 2015). They state that such levels of acceptance served as an operating capital for client organizations to proceed with their delivery exercise without hindrance hence resulting in improved levels of productivity and project performance. Furthermore, they affirm that effective management of social acceptance for new projects prevented the rise of potential problems. During the interview sessions, interviewees shared their experiences regarding how the consultation processes which are

an essential part of the environmental impact assessment processes in South Africa for potential infrastructure projects enhanced the relationship between the local community, relevant stakeholders and the project delivery team. According to an interviewee, community participation in the early stages of their projects culminated in optimal project performance. The interviewees were unanimous on the pros of effective consultation processes, a significant SS aspect, yet when they were asked to identify processes for participant selection for these consultation exercises, they became hesitant to provide answers. Rather, they cited the Integrated Development Plan (IDP) and the Spatial Development Framework (SDF) prepared by different municipalities in South Africa as encapsulating the opinions expressed by stakeholders in the communities where relevant infrastructure and social housing were (being) situated. Owing to the reliance on the perspective of ICOs- a major shortcoming of this study, ascertaining the democratic nature of selection process becomes difficult. However, it is hoped that this shortcoming would be improved upon in subsequent studies into the same phenomenon.

Improved Working Conditions

The construction industry is renowned globally for the prevalence of poor working conditions (Lawrence, Gil, Flückiger, Lambert, & Werna, 2008). Workers in the industry have been exposed to long working hours with below market remuneration packages, especially for labourers. Also, the safety standards on site is often subject to incessant neglect by relevant stakeholders hence undermining health and safety issues on sight. Issues pertaining to access for disabled persons are often overlooked during site preparation. These are recurring issues within the construction industries in Sub-Saharan Africa, a community which South Africa forms an integral part. Upon further explanation of this benefit to the interviewees, they all acquiesced to the beneficial impact effective SS integration would have in restoring better working conditions in the construction industry and the construction sites in particular.

5. CONCLUSION

This study explored the mainstreaming of SS in the South African construction industry with emphasis on infrastructure delivery. To achieve its objective, it relied upon the worldviews of ICOs' representatives concerning their understanding of SS, their perception of barriers to optimal SS integration and the attendant benefits.

Findings corroborates extant literature concerning neglect of SS during SD implementation. Also, the indefinability of the concept and its context driven nature continues to pose significant obstacles to optimal integration. Furthermore, the consideration of the pillars of SD as distinct from one another was identified as a major barrier as all pillars were discovered to be mutually supportive and interdependent. However, within the context of the South African construction industry, much of the interdependence between the pillars was discovered to be between the social and economic sustainability dimensions leaving out the environmental dimension. Perhaps, this has contributed to the suboptimal SS integration. But, reasons can be readily adduced for this observation. The country's quest for unification and social inclusiveness has been predicated on economic empowerment of hitherto underrepresented groups, hence the relationship.

Summarily, the study highlights some salient barriers and benefits associated with SS integration in the South African construction industry. The study contributes towards developing the scant literature on SS integration in construction projects in developing countries. It is expected that its findings would raise stakeholder consciousness concerning the imperative nature of SS in sustaining

the other pillars within SD implementation frameworks. Further studies will seek to explore the perspectives of all stakeholders in a systemic manner, and such information utilized in the development of a common definition for SS within the South African context. This, it is hoped will enable optimal integration.

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