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FACTORS INFLUENCING THE IMPLEMENTATION OF SUSTAINABLE CONSTRUCTION IN INDIA

M. Yunus Khan, Research Scholar, Dept. of Civil Engineering, Al-Falah University, Haryana
Dr. S. K. Ahmad, Professor and Head of the Dept. Civil Engineering, Al- Falah University

ABSTRACT

This research paper examines the key factors that influence the implementation of sustainable construction in India. The aim of the study is to investigate the relationship between various factors such as perception and awareness, government interest, regulations and policies, material and resource availability, socio-cultural beliefs, and economic perspectives, and their impact on the implementation of sustainable construction practices. The methodology involved a comprehensive literature review and a quantitative analysis of survey data collected from construction industry professionals. Regression analysis was used to test the hypotheses and assess the significance of each factor. The analysis demonstrates that all five independent variables—Perception and Awareness, Government Interest, Regulations and Policies, Material, Resources and Technologies, Socio-Cultural Belief, and Economic Perspective—have a significant impact on the dependent variable, Implementation of Sustainable Construction. Perception and Awareness and Economic Perspective are identified as the next most important significant predictors of sustainable construction implementation, after Material, Resources, and Technologies. The paper highlights the importance of government intervention through fiscal incentives, regulations, and awareness campaigns to drive sustainable construction practices in the industry.

Key words*: Sustainable construction, Perception and Awareness, Government Interest, Regulations and Policies, Material and Resources, Socio-Cultural Belief, Economic Perspective.*

1. INTRODUCTION

The building and construction sector is essential to a nation's social and economic advancement [1]. However, the industry also has a significant environmental impact, contributing to resource depletion, greenhouse gas emissions and energy utilization [2]. The implementation of sustainable construction practices is essential to mitigate the negative environmental and social consequences of the construction sector.

Sustainable construction involves building design, construction, and operation in a way that minimizes the utilization of natural resources, lowers pollution and waste, and enhances the health of occupants and the surrounding community [2, 3]. The application of environmentally friendly construction practices in India faces various challenges, including lack of awareness, financial constraints, regulatory barriers, and socio-cultural factors. [1]. The implementation of sustainable construction practices is essential for driving sustainable development. The existing literature on sustainable construction highlights the multifaceted nature of the topic, with a range of factors influencing its implementation. Recent studies continue to support this view, highlighting that the successful implementation of sustainable construction requires a holistic consideration of various interrelated factors [1,3,4]. Previous research suggests that the key factors influencing the implementation of sustainable construction can be broadly categorized into five main areas: Perception and Awareness, Government Interest, Regulations and Policies, Material, Resources and Technologies, and Socio-Cultural Beliefs. [3,4, 5].

The significant challenge and criticality of addressing the environmental impact of the construction sector has driven increased research and policy efforts to promote sustainable construction practices. Understanding how critical elements such as government policies, industry awareness, and socio-cultural beliefs interact to influence the implementation of sustainable construction is crucial for effectively promoting sustainability in construction industry.

Academics have been studying the sustainable development and performance of sustainable construction, but empirical research on the implementation of environmentally friendly construction practices in the building sector in India is limited. The purpose of this paper is to address this gap by investigating the key elements that affect the implementation of sustainable construction in India and the relative importance of each factor.
The construction sector makes a substantial contribution to the overall development and economic growth of a nation, yet it also has a substantial environmental impact. This study provides empirical evidence from the Indian construction sector to determine the main influencing factors and obstacles in implementation of environmentally friendly construction practices and their influence on sustainable development.

2. LITERATURE REVIEW
2.1 Implementation of Sustainable Construction
The construction sector is mostly driven by its clients' need, and therefore, the adoption of sustainable construction practices by clients is an essential component in project level implementation. Increased awareness of green construction has led the primary stakeholders in the construction industry to incorporate sustainable practices [6]. However, the initial increased cost associated with sustainable construction, and the long-term benefits and returns on project investment over the project lifecycle have encountered significant setbacks in adopting green/sustainable construction and development. Generally, clients' lack of understanding of the long-term benefits from sustainable construction, including environment benefits and overall project life-cycle cost benefits. Consequently, most clients don't realize benefits of sustainable construction, and have more concerns on the initial higher expenses associated with sustainable development than on its long-term benefits.
Sustainable development aims to achieve a balance among societal, economic, and environmental factors, including providing affordable, secure, and healthy housing ([8]. Sustainable construction can be categorized based on three main concepts: human habitation design, life-cycle design, and resource management [8]. Implementing sustainable characteristics that reconcile environmental protection with societal goals and the economy faces numerous obstacles. Passive implementation of best practices in the construction sector for sustainable development is common due to the low quality of information available on the principles of sustainability, lax rules and guidelines, and lack of will on government side to enforce sustainable construction policies for compliance.
2.2 Economic Perspective: Sustainable construction can benefit the construction industry through consuming lesser resources for construction and operation, lowering adverse environmental effects, minimizing construction waste, and lowering risks associated with projects planning, extended building life and viability [6]. The economic benefits of sustainable construction may not be immediately apparent to clients, leading to a disconnect between their priorities and the industry's sustainable goals. The cost of sustainable construction may vary between 1% and 25% higher compared to the conventional construction [10]. Complex design and construction methodology, added provisions for higher energy efficiency, expensive construction materials for durability and sustainability, higher design standards and construction specifications with stricter testing requirements to meet environmental permitting conditions and approvals, along with modeling and other green practices, results in higher cost for green buildings [17]. According to Reddy, the price differential in cost between using conventional and sustainable building materials can be put at 3–4% [7]. Therefore, all stakeholders involved with green projects must be agreeable from outset for the sustainable project initiatives knowing that the initial construction cost to be more expensive than compared to traditional projects, though the long-term return on investment is much better for the project constructed with sustainable design approach [6].
H1: Economic Perspective (EP) can have a big influence on how sustainable construction is implemented. (ISC).

2.3 Perception and Awareness:

Awareness of sustainable construction and its long-term benefits to the society and the environment is critical for making sustainability a popular choice in construction industry. Perception of sustainable construction and green buildings make construction projects cost prohibitive, need to be changed. Stakeholders' ignorance of the principles and advantages of sustainable construction is a significant barrier to its widespread adoption [6, 7, 10] .This makes many stakeholders unfamiliar with the sustainable construction concept and are more concerned with the upfront costs rather than the long-term advantages[7, 10]. Awareness campaigns and educational initiatives targeting all stakeholders and the general public can help bridge this gap and promote the adoption of sustainable construction practices [1, 6]. Sustainability concept initiated through school education may prepare a society that can promote sustainable and green development in all aspects of the growth and developments.

H2: Perception and awareness (P&A) can have a big influence on how sustainable construction is implemented (ISC).

2.4 Government Interest, Regulations and Policies:

Governmental policies and mandates that offer a combination of incentives and penalties for sustainable development can drive a systematic change in the construction industry [11]. Governments at all levels and public owners can take the lead in green construction adoption, regulating their own operations and setting sustainability targets, which can then be enforced to be adopted by private owners and designers. However, lax rules, guidelines, and lack of enforcement of sustainability and environmental policies remain obstacles to the widespread implementation and adoption of environmentally friendly building techniques [9]. Having effective government regulations and policies that provide incentives and penalties are essential for driving the implementation of sustainable construction practices across the industry [12]. Recent studies have shown that well-designed policies and regulations are essential for the successful implementation of environmentally friendly building practices initiatives [13].

H3: Government Interest, Regulations and Policies (GIRP) may have a big influence on how sustainable construction is implemented. (ISC)

2.5 Material, Resources and Technologies:

Adoption of sustainable building design, use of innovative construction materials, resources, and technological delivery methods in construction in building industry is another critical factor in implementing sustainable construction [14]. Sustainable materials, including renewable, recyclable, and energy-efficient materials, can lessen the impact of construction projects on the environment [7]. Additionally, the use of innovative construction methods, Building Information Modeling, and other technologies to incorporate by-products or wastes from other sources into construction, prefabrication, can optimize resource use and enhance the overall sustainability of construction projects [15]. However, the higher initial cost of sustainable materials and technologies can continue as a barrier to widespread adoption of sustainable construction [16] .

H4: Material, Resources and Technologies (MRT) can have a big influence on how sustainable construction is implemented. (ISC).

2.6 Socio-cultural Belief:

Cultural beliefs and social norms can also influence adoption of sustainable and green construction into practice [18]. The construction industry is often resistant to changes to old construction techniques and work methodology, and traditional ways of thinking and working can be difficult to change [9]. Sustainable construction may be perceived as a deviation from the norm, leading to resistance from industry stakeholders. Changing the mindset and behavior of construction stakeholders, industry experts, and the general public is crucial for the widespread adoption of sustainable construction [19]. Changing old ways of looking at issues to the concept of sustainability and environmental importance can be achieved through rigorous sustainability education and knowledge sharing initiatives that can have a balance in real sense. Also, in emerging nations, there may be differences in the cultural and societal attitudes towards environmental sustainability. This may cause people to be reluctant or resistant to using green building techniques [20]. Sociocultural barriers are regarded as the second-biggest barrier to environmentally friendly building practices [21].

H5: Socio-cultural Belief (SCB) may have a big influence on how sustainable construction is implemented. (ISC).

H6: Implementation of Sustainable Construction (ISC) plays a major role in Sustainable Development (SD)

3. RESEARCH METHODOLOGY

Survey questionnaires related to sustainability were distributed to consultants, engineers, managers, contractors, architects, and construction personnel in order to gather data from different construction organizations. In all 451 respondents were sent the questionnaire. The questionnaire was e-mailed to various target respondents in Delhi-NCR. Given the apprehensions of an online survey, adequate measures were taken to ensure the genuineness of the respondent. Providing personal/contact details were made mandatory and were randomly cross verified for almost all of the responses received online. 412 of the total 419 survey responses received were determined to be legitimate and complete for analysis.

Internal consistency was assessed using the reliability coefficient Cronbach's alpha “α”. To validate the constructs, in this study, the EFA was carried out first for conforming constructs using a PCA model. The reliability analysis was carried out using SPSS 20 software to empirically evaluate the proposed model of construction equipment productivity variables.

4. RESEARCH ANALYSIS AND RESULTS

4.1. Demographic Profile

The survey instruments were disseminated via databases of construction industry entities. Several aspects were taken into consideration, including the respondents' prior expertise in the construction industry, to ensure the accuracy and consistency of the questionnaire replies. Of the 450 surveys that were distributed, 412 of them (91.56%) were valid because some survey responses were incomplete or inaccurate information. Job experience of the respondents and their positions at the corporations, however, validated the accuracy and dependability of the data despite the sample size being rather small. Respondents’ background check was used to choose the volunteers knowledge and expertise. Table 1 provides socio-demographic details about the individuals. Of the 412 respondents, there were significantly more men (351, 85.2%) than women (61, 14.6%); the majority of the men, 176 (42.7%) had been professional contractors and were having experience of more than 11-15 years (153, 37.1%).

Table1.DescriptiveStatisticsofDemographicProfile

		Frequency	Valid %
Gender profile	Male	351	85.2
	Female	61	14.6
Designation	Project Managers	50	12.1
	Engineers	114	27.7
	Contractors	176	42.7
	Other	72	17.5
Experience (years)	<5	90	21.8
	5-10	143	34.7
	11-15	153	37.1
	>15	26	6.3

4.2. Exploratory Factor Analysis

The EFA technique was used to establish the validity. The values of 0.50 or more are regarded as highly significant. For this study, a factor loading of at least 0.50 serves as the cut-off point.

The significance of the KMO factor analysis for the data is shown by values between 0.5 and 1.0. The outcomes of Bartlett's Sphericity test reveal that the components of the variables are correlated. The degree of relevance indicates the test's outcome. A significant correlation between the variables is probably present if the numbers are less than 0.05. If the value is more than or equal to 0.10, factor analysis cannot be carried out on the data. Table 2 is suitable for the information given, taking into account the findings of the factor analysis.

Table 2. Results of Exploratory Factor Analysis

Variable	**Statement**	**Factor loadings**	**KMO Measure of Sample Adequacy (>0.5)**	**Bartlett's Test of Sphericity**		**Items confirmed**	**Items dropped**	**Cum % off-loading**
				Chi Square	**Sig. (<.10)**			
Perception and Awareness (PAA)	PAA-1	0.920	0.732	2680.681	0.000	5	0	85.006
	PAA-2	0.929						
	PAA-3	0.901						
	PAA-4	0.932						
	PAA-5	0.928						
Government Interest, Regulations and Policies (GIRP)	GIRP-1	0.739	0.727	300.274	0.000	4	1	43.146
	GIRP-2	0.757						
	GIRP-3	0.123						
	GIRP-4	0.753						
	GIRP-5	0.675						
Material, Resources and Technologies (MRT)	MRT-1	0.822	0.859	803.946	0.000	5	0	62.864
	MRT-2	0.812						
	MRT-3	0.769						
	MRT-4	0.785						
	MRT-5	0.774						
Socio-Cultural Belief (SCB)	SCB-1	0.836	0.745	372.910	0.000	4	0	56.680
	SCB-2	0.794						
	SCB-3	0.629						
	SCB-4	0.736						
Economic Perspective (ECP)	ECP-1	0.876	0.836	1185.154	0.000	5	0	68.687
	ECP-2	0.885						
	ECP-3	0.869						
	ECP-4	0.800						
	ECP-5	0.700						
Implementation of Sustainable Construction (ISC)	ISC-1	0.849	0.796	574.441	0.000	4	0	65.333
	ISC-2	0.824						
	ISC-3	0.765						
	ISC-4	0.793						
Sustainable Development (SD)	SD-1	0.823	0.865	832.669	0.000	5	0	63.697
	SD-2	0.815						
	SD-3	0.774						
	SD-4	0.804						
	SD-5	0.773						

4.3. Reliability Analysis

The questionnaire can be verified by computing each internal consistency of the factor using the consistency co-efficient Cronbach's alpha. An evaluation is considered appropriate if the cut-off score is 0.60 or higher. The range of 0.7 to 0.8 encompasses both usability and internal consistency. The study used a value of 0.7 as its Cronbach's alpha cutoff because it was determined to be both greater than the permitted range and inside the cutoff value of 0.70. The validity of the questionnaire as a research tool is demonstrated by the coefficient of Cronbach's alpha in Table 3.

Table3.Results of Reliability Analysis

Variable	**Cronbach alpha**	**Variable**	**Cronbach alpha**
Perception and Awareness (PAA)	0.956	Government Interest, Regulations and Policies (GIRP)	0.712
Socio-Cultural Belief (SCB)	0.737	Material, Resources and Technologies (MRT)	0.852
Economic Perspective (ECP)	0.885		
Implementation of Sustainable Construction (ISC)	0.823	Sustainable Development (SD)	0.857

4.4. Correlation Analysis

Following EFA and reliability analysis, the controlled variables are coded for correlation analysis and the mean value is suitably scaled. The Pearson's correlation coefficient (r), which examines the linear connection between components, is used to examine the link between quantitative data. Since relation between the dependent and the independent variables demonstrates the existence of statistical significance, a multitude of statistics can be utilized to examine the relationship between the variables. Further evidence against the presence of the multi-collinearity problem comes from the correlation coefficient levels. An analysis of linear regression can be performed on the variables if the independent and dependent variables have a substantial link with one another. r's magnitude can be used to determine the degree of rigidity in a linear connection by looking at its absolute value. If "r" value is closer to 1 the stronger the link between the two variables, and vice versa.

Table 4: Results for Correlation Analysis (N=412)

	PAA	SCB	ECP	GIRP	MRT	ISC	SD
Perception and Awareness (PAA)	1						
Socio-Cultural Belief (SCB)	.826**	1					
Economic Perspective (ECP)	.929**	.847**	1				
Government Interest, Regulations and Policies (GIRP)	.679**	.766**	.714**	1			
Material, Resources and Technologies (MRT)	.898**	.862**	.914**	.703**	1		
Implementation of Sustainable Construction (ISC)	.887**	.827**	.903**	.700**	.949**	1	
Sustainable Development (SD)	.901**	.859**	.917**	.701**	.997**	.952**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4 shows that, for all the parameters considered, there was a significant correlation found between some variables. The variables pertaining to Material, Resources and Technologies (MRT) and Sustainable Development (SD) exhibited the strongest link (0.997), followed by MRT with ISC (.949), while the variables pertaining to Government Interest, Regulations and Policies (GIRP) and Perception and Awareness (PAA) demonstrated the least significant correlation (0.679).

4.5. Regression Analysis

4.5.1 Implementation of sustainable construction as dependent variable

Regression analysis shows that the independent factors—Perception and Awareness (PAA), Government Interest, Regulations and Policies (GIRP), Material, Resources and Technologies (MRT), Socio-Cultural Belief (SCB), and Economic Perspective (EP)—are all significant predictors of the implementation of sustainable construction (ISC). Based on Table 5a's highest R square values of 0.910, it is possible that 91% of the influence on the implementation of sustainable construction can be attributed to these variables. ANOVA findings for the regression model at a 95% confidence level are displayed in Table 5b. The coefficient summary in Table 5c indicates that the factor's Beta values are 0.735 and 0.147, which are generally indicative of the impact on Implementation of Sustainable Construction. Socio-Cultural Belief (SCB) has a negative value, which suggests that they are not handled well enough to take advantage of sustainable construction.

Table 5a: Regression model summary for *ISC as dependent variable*

Model	Predictors	Dependent variable	R	R Square	Adjusted R Square	Std. Error of the Estimate
3	ECP, GIRP, PAA, SCB, MRT	ISC	0.954	0.910	0.909	0.237

Table 5b: Regression ANOVA table for *ISC as dependent variable*

Model	Predictors	Dependent variable		Sum of Squares	df	Mean Square	F	Sig.
3	ECP, GIRP, PAA, SCB, MRT	ISC	Regression	231.683	5	46.337	823.929	0.000
			Residual	22.833	406	0.056		
			Total	254.516	411			

Table 5c: Regression coefficients table for *ISC as dependent variable*

Model		Dependent variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
3	Constant		0.074	0.056		1.331	0.184
	PAA		0.079	0.035	0.096	2.257	0.025
	GIRP		0.065	0.029	0.052	2.215	0.027
	MRT	ISC	0.728	0.041	0.735	17.611	0.000
	SCB		-0.050	0.033	-0.050	-1.494	0.136
	ECP		0.134	0.043	0.147	3.098	0.002

4.2.2. Sustainable development as dependent variable

Based on regression analysis, the Implementation of Sustainable Construction (ISC) is significant predictors of Sustainable Development (SD). The variable may account for almost 90.7% of the influence on Sustainable Development, according to Table 6a's maximum R square value of 0.907. Table 6b displays the ANOVA findings for regression model validation at a 95% confidence level. As can be seen from the coefficient summary in Table 6c, the factor's Beta value is 0.952, which is indicative of the impact on Sustainable Development.

Table 6a: Regression model summary for SD as dependent variables

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.952[a]	.907	.907	.243

a. Predictors: (Constant), Implementation of Sustainable Construction

b. Dependent Variable: Sustainable Development

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Table 6b: Regression ANOVA table for SD as dependent variables

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	236.602	1	236.602	4008.635	.000[b]
	Residual	24.199	410	.059		
	Total	260.801	411			

a. Dependent Variable: Sustainable Development

b. Predictors: (Constant), Implementation of Sustainable Construction

Table 6c: Regression coefficients table for SD as dependent variables

Co-efficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.124	.042		2.940	.003
	Implementation of Sustainable Construction	.964	.015	.952	63.314	.000

a. Dependent Variable: Sustainable Development

5. DISCUSSION ON HYPOTHESES TESTING

5.1 Discussion on Hypotheses Testing of Implementation of Sustainable Construction (ISC)

All five of the independent variables—Perception and Awareness (PAA), Government Interest, Regulations and Policies (GIRP), Material, Resources and Technologies (MRT), Socio-Cultural Belief (SCB), and Economic Perspective (ECP)—have a significant impact on the dependent variable, Implementation of Sustainable Construction (ISC), as demonstrated by the analysis of the hypotheses testing results. Perception and Awareness (PAA), is also considered to be a significant predictor of sustainability in the construction sector, and Economic Perspective (ECP) is seen as the next most important significant predictors of the implementation of Sustainable Construction (ISC) in India, after Material, Resources, and Technologies (MRT). Even if it has a negative influence, respondents believe that the independent variable Socio-Cultural Belief (SCB) has a substantial impact on the implementation of SCI. Table 7 shows the verified correlation between the five research variables.

Table 7: Summary of Hypotheses Testing of Implementation of Sustainable Construction

S. No:	Dependent Variable	Independent Variable	Hypotheses Code	Beta Coefficient	t-value	Sig Value	Status of Hypotheses
1	Implementation of Sustainable Construction (ISC)	Economic Perspective (ECP)	H1	0.147	3.098	0.002	Accepted
2		Perception and Awareness (PAA)	H2	0.096	2.257	0.025	Accepted
3		Government Interest, Regulations and Policies (GIRP)	H3	0.052	2.215	0.027	Accepted
4		Material, Resources and Technologies (MRT)	H4	0.735	17.611	0.000	Accepted
5		Socio-Cultural Belief (SCB)	H5	-0.050	-1.494	0.000	Accepted

5.2 Discussion on Hypotheses Testing of Sustainable Development

The significance of Implementation of Sustainable Construction (ISC) on the dependent variable Sustainable Development (SD) as previously explained, the hypotheses linking this variable has been deemed valid. In India, the most important and significant predictor of sustainable development (SD) is considered to be the implementation of sustainable construction (ISC).

Table 12: Summary of Hypotheses Testing of Sustainable Development

S. No :	Dependent Variable	Independent Variable	Hypothe -ses Code	Beta Coefficie nt	t-value	Sig Valu e	Status of Hypothese s
1	Sustainable Developme nt (SD)	Implementatio n of Sustainable Construction (ISC)	H6	0.952	63.314	.000	Accepted

6. CONCLUSION

Elements influencing Sustainable Development (SD) with respect to the construction industry in India were found in this study. It also looked at the significance of Implementation of Sustainable Construction (ISC) on Sustainable Development as a whole. Based on recent researches this study focused on participant data collection to establish relation between the independent variables ECP, PAA, GIRP, MRT, SCB and dependent variables ISC and SD, a novel analysis approach was created. Experts in the field participated in a survey that was employed in the model's validation. EFA was employed to assess the validity and reliability of the survey data collected for this study. The study's conclusions suggested that the most crucial elements influencing the implementation of sustainable construction start with Material, Resource and Technology (MRT) followed by Economic Perspective (ECP), and then Perception and Awareness (PAA) and Government policies and Implementation. With respect to the construction industry in India, the study's finding appears to be in line with the known challenges coming in way of general adoption of the Sustainable development. The study also shows implementation of sustainable construction has over 90% influence on sustainable development. Therefore, it is evident that all factors influencing Implementation of Sustainable Construction become critical for the successful adoption of the Sustainable Development (SD) for the better interest of the construction industry and the society as a whole.

7. LIMITATIONS

Despite assurances of secrecy, the present study encountered obstacles in the data gathering procedure, such as participants' unwillingness to talk about how their company uses sustainable building approaches and tools in interviews, which may have influenced outcome of the study. Furthermore, it's possible that a framework built on international standards and research bias affected the findings, failing to adequately capture the particular context of the construction industry. In this work, an analysis model was created using survey data gathered from a specific area—India. Since different nations recognize different benefits of sustainable construction and general awareness of sustainable development varies between western countries and the rest of the world, comparable studies might be helpful. This paper aimed at looking at the factors influencing implementation of sustainable construction in context of construction industry in a smaller area around New Delhi in India, larger scale study can be helpful to comprehend the structural interactions between these aspects. Large-scale studies may be used in future study to quantify these interrelationships. For the evaluation of the model, more study with a bigger sample size is recommended.

8. RECOMMENDATIONS

As per the study based on empirical analysis of construction industry survey responses, sustainable development (SD) as a dependent variable relies more than 90% on factor implementation of sustainable construction (ISC) practices. And, in turn, ISC itself is influenced by over 91% by a group of factors including – Material, Resource and Training (MRT), Economic Perspective (ECP), Perception and Awareness (PAA), Government Interest, Regulations and Policies (GIRP), and Socio-cultural Believe (SCB). MRT coming out as one single biggest influencing factor in implementation of sustainable construction and it points to the direction that for sustainable development, construction materials manufacturing sector need to focus on innovative construction materials and techniques, and sustainability adoption requires participation of design consultants incorporating in project designs various recyclable construction materials and energy efficient building design. Secondly, governments at all levels can help make sustainable development implementation more popular through incentive programs to help builders to mitigate initial high construction cost generally associated with sustainable construction. Government regulations and policies are required to help implementation of sustainable development through enforcement of policies as well as through education, public awareness program for promotion and adoption of sustainable construction practices. This can also help reducing socio-cultural believe that exists today and it prevents or comes in the way of implementation of sustainable construction.

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