



ECONOMIC CHALLENGES & OPPORTUNITIES OF SUSTAINABLE CONSTRUCTION IN PAKISTAN: A LIFE CYCLE COSTING PERSPECTIVE

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KEYWORDS	ABSTRACT
Sustainable Construction, Economic Challenges, Business Benefit, Life Cycle Costing & Decision Making	Over the past decade, Pakistani policymakers, academics and few forward-thinking developers have focused more on sustainable development. Still more people know about the sustainable building technologies, they are underutilized. Sustainable building is exclusive, needs technical knowledge and lacks market incentives, thus many people do not care. The Pakistani developers & investors believe that sustainable building methods will make projects riskier, more expensive, take longer to approve, and tougher to fund, especially since banks do not encourage green construction. The life cycle costing (LCC) can highlight sustainable buildings' long-term economic, environmental, and operational benefits. This study examines the Pakistani sustainable building literature on life cycle costing's benefits, drawbacks & issues. Despite these cases, hesitation about extensive capital expenditures, long-term savings, market value premiums, and following the rules prevents people from using them. For developers and banks to invest in sustainable development, Pakistan green construction projects need economic viability assessments. These evaluations clarify long-term economic benefits, reduce anxiety as well as increase construction industry demand for the sustainable development approaches.
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INTRODUCTION

The sustainable construction can be considered as a central approach of construction industry to achieve sustainable development in environmental, social, and cultural levels (Zajemska, Wojtyto, Michalik & Berski, 2025). Since the first international meeting on sustainable construction in 1994 in Tampa, USA, many projects around the world shown that environmentally friendly buildings

that are also highly energy saving can offer healthier and more comfortable and efficient work and living conditions to the present and future occupants. It is still the young sector in Pakistan and has not made large part of national construction industry & technological advancement, contributing to the broader economic development (CIB, 1999). The assumption that green building practices increase the project risk and project start-up cost has significantly slowed execution of sustainable building practices in Pakistan (Barrett & Howard, 2000; Hill & Bowen, 1997; Keeping, 2000). As a result, ecologically sustainable standards of construction have been found to be cost-prohibitive to implement.

The main barriers to adoption concern the perception that the expenses are too high, the lack of awareness of the ultimate financial benefits, and the possibility of the market value premium of sustainable buildings to be not present in Pakistan. The life-cycle costing (LCC) is appropriate in depicting the economic and operational benefits of sustainable construction over the long term; it fails in proving the cost savings in the short term further raises expenses due to inefficiencies and extended project timelines (Salah, Elmasry, Mashhour & Amer, 2023). Furthermore, most clients, developers, and investors in Pakistan still prefer short-term financial reward over the long-term performance which is a tendency being influenced by the financial situation and the conventional way of developing which would dissuade long-term investment by taking risk-averse decisions and discounting (Shiers, 1999; Sánchez, Navarro & Yépes, 2022; Hussain & Hussain, 2023). This makes factors that touch on sustainability issues to often be overlooked in planning and feasibility stages of development projects as there is no specific and quantifiable market value attached to sustainable structures.

The purpose of the study is to examine available economic limitations of sustainable building in Pakistan and to determine possible financial gains which will result in an enhanced adoption of sustainability in practices by the decision makers, clients and developers. The report analyses the current literature on sustainable construction in Pakistan and the literature on issues of major challenges in the economy, including constraints of the life-cycle costing (Bogensatter, 2000). The conclusion underlines the need to train clients, developers, and professional consultants on long term financial, operational & environmental benefits of sustainable construction (Ebolor, Agarwal & Brem, 2022). Sustainable construction, which stresses environmental responsibility, resource efficiency, and long-term economic viability, is gaining attention in Pakistan as country grapples with rapid urbanization, environmental degradation, and resource constraints can support more informed policy-making, project design, and resource allocation. It also demands the creation of a more advanced green market in the built environment in Pakistan to facilitate the implementation of sustainable building.

LITERATURE REVIEW

Principles of Sustainable Construction

Hydes and Creech (2000) refer to sustainability as a complex construct that aims to establish a balance between social, economic and environmental aspects. The notion is still hard to explain because of its complexity and multidimensional character. Pearce (1989), Aye, Bamford, Charters

and Robinson (2000), there are over 200 different definitions of sustainability spread worldwide hence making it more difficult to involve making strategies that will contribute to sustainability in various national settings. Sustainable construction is a term that has been employed in order to highlight need of building industry to contribute towards sustainable development. International interest in green building increased significantly following the first world global conference on sustainable construction that was held in Tampa, Florida in 1994. Pilot studies that have been done around world have shown that buildings that are ecofriendly can enhance comfort, productivity and health of the occupants. Pakistan on the other hand has been lagging behind in putting these ideas into practice.

Even though, challenge of environmental issues, including air pollution, water shortage, excessive use of energy and bad indoor air quality require attention due to the high urgency of sustainability, the construction sector remains largely based on traditional, resource-intensive approaches. Thus, according to Kibert (1994), sustainable construction is described as construction development and guarded management of healthful built environment founded on resource-effective & ecological values, gave six principles of such approach (Miyatake, 1996; Addis & Talbot, 2001): minimization of resource consumption, resource reuse, use of recyclable and renewable materials, environmental security, development of safe and healthy built environments, and excellence in the construction pursuit. These tenets are based on fact that sustainability is operational with the help of a conscious designing, choice of materials and construction. Kibert framework still remains in Pakistan where wasteful use of resources, generation of construction wastes & degradation of environment remains a major challenge.

Although the propositions presented by Kibert formed the basis of international appreciation of environmentally friendly construction, they mainly focused on environmental and technological factors, thus ignoring the social and economic factors that are central in developing countries like Pakistan (Miyatake, 1996). Social sustainability in Pakistan aims at improving human welfare by focusing on the intergenerational equity, culture, health, and education. This interest is essential because of high levels of inequality in housing facilities, accessibility to healthy living conditions, and community health outcomes. In order to encourage resource efficiency, full-cost accounting and real-cost pricing systems are used to achieve economic sustainability in Pakistan. The long term is always an evasive economic performance because the short-term financial constraints and limited budgets play a critical role in the construction decision making process. Thus, biophysical sustainability involves green care, use of renewable resource, and less use of land, water, energy, as well as materials.

In Pakistan, the problems are acute because of poor electricity and water supply and poor systems of waste management. Technical sustainability measures the stability of building, the quality of construction and the performance of buildings. The deficiencies in terms of structural degradation, seismic vulnerability, and extreme weather resilience should be tackled in order to increase the lifespan and the resilience of the structures to rapidly urbanizing areas of Pakistan. Hill and Bowen (1997) take the idea of sustainable construction a step further and incorporates social, economic, biophysical, as well as technological sustainability. In spite of such multidimensional approach as

providing a more holistic picture, it is still constrained by a lack of attention to such soft issues as institutional relations, culture, and governance frameworks, which significantly shape construction practices in the countries such as Pakistan. In 1998, the International Council of Research and Innovation in Building and Construction (CIB) also came up with the agenda 21 on the Sustainable Construction suggesting the comprehensive model that aligns the sustainable development and construction industry.

The agenda 21 separated soft challenges (social equity, cultural issues, economic viability and institutional capacity) and hard challenges (material selection, technology and energy efficient design). An example of such soft challenges can be traced to Pakistan where culture heterogeneity, lack of technical skills and administrative barriers are a major hindrance to building of sustainable buildings. Since the enactment of Agenda 21, the global attention towards construction practices that were environmentally responsible has increased. [Bourdeau \(1998\)](#) conducted a survey of 14 countries and he found out that sustainable construction is an essential part of the comprehensive sustainable development and he suggested the necessity of a common model around the world. The building performance and integrated environmental technology are the two strategies, which can be used to improve building codes and standards ([Brochner et al, 1999](#)). The global developments notwithstanding, the studies and activities in Pakistan are still skewed towards environmental and technological issues, designing energy-saving structures, using alternative materials and better construction materials.

[Uher \(1999\)](#) cautioned that the improvement in the environmental performance can be countered by the population increase, high urban development as well as increase in the building demand-phenomena evident in large cities of Pakistan. The economic rationale of sustainable construction must be understood and encouraged to develop a sustainable building industry in Pakistan. The most important economic principles are relevant in terms of environmentally friendly construction are value for money, the future profitability of minimal resource expenditure and balancing the profitability in the short term with long-term sustainability. Also, it is necessary to create healthy relationships in the entire supply chain and transition to a resource-effective, cyclic model of the construction to unlock economic potential of sustainable construction ([Khalfan, 2001](#)). The above ideas are especially relevant in Pakistan where limited resources, high construction prices, and disjointed industrial operations are some of reasons why sustainable practices cannot be employed effectively. There is an urgent need thus to have a comprehensive and economically viable plan of sustainable construction.

Pakistan's Policies & Practices for Sustainable Construction

Regulations

Sustainable construction is still somewhat of a combined practice that is yet to be embraced in the mainstreams in Pakistan, but it has still become a major concern in country. Construction business is also among key economic sectors in Pakistan that drives many jobs both formally and informally and contributes a significant percentage to GDP of Pakistan. However, there is great environmental burden caused by industry. Sustainable building practice is also starting to be a core consideration

due to the drastic nature of the problems facing Pakistan that involve high carbon emission, energy inefficiency, waste and overuse of water, amongst others. Millions of tons of solid waste are produced yearly by numerous constructions and demolition activities as observed by the planning agencies like Pakistan Environmental Protection Agency. The percentage of this content is large and cannot be controlled due to incorrect waste segregation system & absence of proper recycling facilities. The large-scale use of low-quality materials, inappropriate design technologies and inappropriate site maintenance will lead to unnecessary wastefulness, operation energy cost, and maintenance problems in long run.

In an attempt to capture these issues, the Pakistani government has embarked on a number of initiatives, legislations and policies in bid to incorporate sustainable practices in building industry. To bring such adverse environmental effects under control, the Pakistan Environmental Protection Act of 1997 requires preliminary environmental analyses (IEE) and environmental impact analyses (EIA) of large construction projects. Trying to enhance climate resiliency, the National Climate Change Policy (2012, updated in 2021) promotes improved urban design, construction with low carbon levels, and energy-efficient buildings. The National Energy Efficiency and Conservation Act of 2016 enhance the adoption of renewable energy technologies in new buildings, energy efficient building codes, and introductions of effective HVAC systems. The Pakistan Building Code ([NBC 2006](#), revised in 2021 with energy provisions) provides recommendations on environmental performance, structural integrity and energy efficiency. The Pakistan Green Building Council (PGBC) initiatives are directed at the spread of voluntary standards and regionally focused green building rating systems to encourage use of improved material choice, water economy and energy efficient design.

Provincial Projects

The KP Green Growth Initiative also lays an emphasis on green buildings as part and parcel of sustainable urban planning and Punjab and Sindh Building Control Authorities have introduced energy efficiency criteria in the new commercial complexes. All these are aimed at ensuring the sustainability of construction sector in Pakistan through improving energy efficiency, responsible use of resources as well as reducing environmental effects. With such attempts, sustainable building practices to a large scale are voluntary, not compulsory and most of the set requirements are not practical to achieve cost savings, market advantages, and economic growth. The government has also used different administrative and economic instruments to enhance the market incentives by introducing tax exemptions on take-up of solar energy, lowering the import duties on the energy saving appliances, providing financing schemes under Green Financing Facility of State Bank of Pakistan and supporting recycling industries of construction aggregates and materials. The purpose of these interventions is to make sustainable practices affordable & attractive to clients, developers as well as investors.

Procedures

Pakistan government promises have not only emboldened some of its sections like the building industry to test innovative ways of doing things in a sustainable manner but also to explore concept of sustainable development. To this, numerous initiatives, policies and assessment instruments have

been created to promote more sustainable practices, most notably, the release of the Energy Conservation Building Codes (ECBC) by Pakistan Energy Efficiency and Conservation Authority (PEECA) and introduction of rating systems by the Pakistan Green Building Council which have, to some extent, been informed by LEED and BREEAM. Energy-efficient designs are used in designs adopted in pilot projects organized by the Naya Pakistan Housing and Development Authority (NAPHDA). This comprehensive view encourages investment in solutions that may have higher initial costs but yield better economic and environmental returns over time. The urban resilience and green building programmes are being funded by the international agencies such as the World Bank and UNDP.

The private-sector innovation is observable in the example of large developers i.e., Bahria town, DHA and experimenting to use better water management, solar and high-efficiency glazing by large real-estate developers. In addition to policy and practice, an increasing number of literatures on the topic of sustainability in built environment have been witnessed in Pakistan. The heightened level of research on green buildings, energy performance, alternative construction materials (i. e. fly-ash cement and recycled aggregates), and water-conservation technologies can be credited to universities such as NUST, UET Lahore, and NED Karachi. The Green construction techniques have been adopted in a broad spectrum of building types, including educational institutions like NUST and LUMS, have been fitted with solar power, lighting efficiency and high-performance HVAC systems; energy efficient commercial buildings with double glazing, robotic building management systems and low energy facades in Karachi, Lahore and Islamabad; and residential development which have used the principles of passive design including thermal insulation, daylighting, and natural ventilation.

Despite this, the adoption of green building in Pakistan has not happened as quickly as it has been in other regions of the world whereby green buildings have been more readily embraced. The new constructions underway are mostly not founded on the old and inefficient methods of construction and the implementation of sustainable housing is still less developed compared to the international standards. The increased cost belief, lack of awareness, availability of limited sources of funds and absence of market induced incentive programs especially on residential segment are some of the reasons why this adoption is slow thereby encouraging investments that support the sustainable development goals and economic resilience in the Pakistani construction industry among decision-makers impede widespread adoption. The imminent water crisis, environmental degradation and energy crisis in Pakistan are however raising consciousness about necessity of ensuring sustainable methods of architecture. What is anticipated is that the rate of adoption will have an upward trend as the developers realize the long-term functionality and environmental payoffs associated with sustainable buildings.

RESEARCH METHODOLOGY

This paper uses a qualitative research design based on documents to examine economic constraints and fiscal factors affecting use of sustainable construction in Pakistan. It is based on methodological approach that depends mainly on a comprehensive review of available national and international

literature that comprised academic journal articles, policy documents, government regulations, industry reports, and technical papers on sustainable construction, life cycle costing (LCC) and green building economics. It is hoped that, through synthesis of published evidence presented by various credible sources, study will determine common themes with gaps and contextual influences that influence the cost-related perceptions of and decision-making processes in the construction industry of Pakistan.

It is an appropriate method as sustainable construction in Pakistan is still developing, and there are not enough credible empirical databases, especially cost databases, performance logs and financial analysis of sustainable construction in the long term. Therefore, a literature-driven approach is a systematized way of bringing together the existing knowledge and making meaningful conclusions out of piece meal research. Thematic content review was followed, where literature was reviewed in systematic way so that it could extract significant topics concerning economic barriers, financial incentives, LCC limitations, and perceived cost-benefit dynamics. A selection of documents was done based on whether the studies were relevant to Pakistani construction setting and focus was placed on studies that talked about operational efficiency, market behavior, regulatory constraints and risks associated with investing in country. Foreign literature was used where it was required to put into perspective the global best practices and any potential similarities or differences with the situation in Pakistan.

This comparison lens assists in understanding why some myths are still believed in the economic sphere and how policy, financing structures, as well as industry potential, affect the possibility of sustainable construction. On the whole, the adopted methodology will allow obtaining a detailed view of the financial situation around the concept of sustainable buildings in Pakistan without resorting to primary data collection because of the restriction that is often imposed by the lack of access to reliable cost data on a project level. The analysis of qualitative document furnishes a solid basis of considering systemic, institutional & market related intolerance that impedes the broader implementation of the sustainability practices. It enables the study to bring to fore opportunities of fortification of economic decision-making by enhancing awareness, valid cost evaluation tool, and policy support systems, consequently providing an organized basis of the future empirical research and policy making.

RESULTS OF STUDY

Economic Issues in Sustainable Construction

Arguments on economic effects of sustainable construction have been going across the border with University of British Columbia example, holding a conference on cost and value of green buildings, in 1999 ([Cole, 2000](#)). Similar debates are apparent in Pakistan as the interested parties are showing concern not only in sustainable growth but on increase in construction spending, unpredictable market performance, and risks in investments. These debates raise two different points of view. One of them claims that sustainable buildings entail greater initial expenses whereas the other takes green building as ultimately less costly since the building has a longer lifespan, and it incurs less operational expenses. The long-term benefits of sustainable buildings, like efficiency in operations,

better durability, increased productivity & reduction in carbon usage, should be viewed as mainly applicable to the situation in Pakistan, where the inefficiency of the building industry, the increase in energy rates, and high costs of building maintenance are most widespread problems. However, such advantages do not eliminate fact that significant number of Pakistani contractors, developers, and clients continue to note the high initial investments and unpredictable financial returns as one of the most serious impediments to implementation of sustainable construction. As a result, this part evaluates cost-value ratio of sustainable construction in Pakistan, features that short-term market focus and long-term economic benefits should be considered to enhance national involvement in sustainable operations.

Economic Advantages of Sustainable Construction

The environmental and economic issues faced by Pakistan are significantly in line with sustainable construction goals that aim at minimizing energy consumption, preserving natural resources and improving quality of the living conditions in urban areas. Economic added values of sustainable construction are tremendous and do not necessarily rely on the environmental issues. Although in Pakistan the construction industry has always been inclined towards the attainment of acceptable building quality at minimum cost possible, lifecycle costs, i.e., maintenance, energy consumption and operating cost are frequently neglected. It has been invariably debated in the international studies ([Castillano, Hurley & Dobrovolny, 2000](#); [Citex, 1999](#)) that the initial construction costs constitute a very small fraction of total building costs over a number of decades, and in Pakistan the disparity is even greater because of the large electrical power and maintenance expenses. Thus, the green building systems extend the financial cost definition to include human and environmental capital, which includes the energy and water use, indoor air quality, as well as the productivity of building occupants.

According to [Johnson \(2000\)](#), a properly designed green building can provide greater economic payoffs than the traditional buildings in the way they can increase operational efficiency, decrease utility costs, and improve occupant performance. It is an argument backed by the international experience, and it is gaining ground in Pakistan, whereby, energy saving commercial buildings in cities like Lahore and Islamabad are demonstrating lower operating expenses and better property performance. Other researchers such as [Heerwagen \(2000\)](#) and [Yates \(2001\)](#) also point out the favorable effects of sustainable building on organizational performance, operational expenditure, investment returns and capital costs. Combined, these results suggest that sustainable construction has a substantial long-term economic advantage on developers, building owners and the economy at large in Pakistan.

Economic Challenges Associated with Sustainable Construction

In spite of the obvious merits, sustainable construction in Pakistan still has to cope with such a lot of economic issues. According to [Bon and Hutchinson \(2000\)](#), the demand of the buildings is affected by the overall economic conditions and tastes of consumers, and the developers are frequently under pressure to build projects on a tight schedule and with minimum cost. This pressure prejudices the attention paid to the long-term performance of buildings, and it often leads to the unwillingness

to use the approach of sustainable design. Sustainable construction at project level needs financial planning over the long term whereas the developers in Pakistan desire shorter investment cycles and quicker returns. Such difficulties are enhanced by informal contractors and constrained sources of financing that limit sustainable decision making. The cost of sustainable buildings is another misperception that acts as a hindrance. The perception is that a sustainable building is much more costly mostly because the design costs might rise when the consultants are not familiar with green practices and most of the green materials are imported since some locally produced materials are thus not available.

[Landman \(1999\)](#) contends that an increase in the costs can be as a result of the lack of familiarity as opposed to the actual cost of sustainable design- a trend that is quite evident in the emerging green construction sector in Pakistan. Furthermore, developers have few reasons to invest in sustainable building because green buildings are not yet being able to fetch a premium resale, or higher rental rates. The clients have only a preference towards lower initial costs without any apparent financial gains or any confirmed long-term performance data. The contractors and consultants also face lack of knowledge, lack of pricing databases and lack of experience in sustainable cost estimation that means they estimate either under or over estimating costs that puts off clients. Furthermore, the sustainable building is viewed as a risk because of the lack of the technical competence, unstable supply chains, untested new technologies, and the possibility of delays. The sustainability is not yet viewed as a lucrative opportunity by the market environment, and the current interest rates, the instability of the market, and short run financial demands only decrease the appeal of long-term investments. Such economic obstacles keep dragging the increased implementation of sustainable construction in Pakistan.

Limitations of Life Cycle Costing (LCC)

The Life Cycle Costing (LCC) is a concept that is well known in determining the cost efficiency of sustainable construction on long-term basis, as a result of measuring cost of acquisition, operation, maintenance, and end stages of a construction. According to studies conducted by [Citex \(1999\)](#) and [Castillano et al. \(2000\)](#), capital costs contribute to overall cost of lifecycle and LCC is particularly useful in such countries as Pakistan where inefficiency in operations is prevalent. But even with this potential there are number of limitations that LCC has that prevent its use in the local construction industry. The lack of local data on maintenance trends, material durability, building performance, and energy consumption is one of the most important challenges, as it cannot be trusted and is not available in full. This has been reported in Sweden ([Sterner, 2000](#)), but the situation has been worse in Pakistan where the construction is not formal and records are limited. Also, Pakistani consultants and developers rarely use LCC as clients are more focused on initial costs, financial limitations do not favour long-term analysis, and deadlines of project do not offer many opportunities of complex assessment techniques.

Methodological challenges (i.e., no standardized practices, unpredictability of the long-term building performance and the problem of the choice of the discount rate) also contribute to the low viability of LCC in Pakistan, considering the unstable energy prices and inflation in the country. The lack of expertise is an obstacle to successful application of LCC because not many professionals

are sufficiently trained to include it in project planning and design. Also, a ductal mismatch amid people who incur initial expenses and individuals who enjoy long-term savings on their operations. The builders normally sell buildings once they are built, and as such, they do not gain advantages of lower operating expenses as would otherwise explain greater capital outlay. Such disconnection reduces the motivation to add sustainable qualities that do not translate to the price of property. Thus, these issues taken together prove that LCC has a great potential to help build Pakistan in a sustainable way, but major obstacles need to be overcome in order to facilitate its successful and widespread promotion.

DISCUSSIONS & CONCLUSION

Sustainable construction is also slowly becoming popular in the building industry of Pakistan despite all challenges highlighted in the previous sections. The challenges of sustainable building, which include long-term resource security, economic growth, environmental protection, and good governance are the problem of Pakistan and many other developing countries. The idea is too broad and complex to be explained in one and comprehensive way. The four sustainable construction pillars which include technological, social, economic and ecological are all important in Pakistan. The effective and clear use of resources is the key to maximizing the built environment. UK is not an isolated country that has come up with rules, policies & incentives that encourage environmentally friendly construction initiatives. Moreover, they have performed profound research and generated new ideas. Pakistan has also made early steps such as developing building energy consumption laws, initiating Pakistan Green Building Council programs and limiting the use of green grading schemes. Nevertheless, the demand of the environmentally friendly construction techniques is still low on the market.

This inconsistency shows the fact that standards are not entirely followed and that the developers, consultants, and end users do not acknowledge the financial benefits of sustainability in the long term. The benefits of sustainable construction, to Pakistan in terms of economy, have been well explained in the world literature. A few of these benefits include less energy and water use, better building performance, lower cost of care, higher productivity of workers, better organizational performance, better brand image, and benefits to local economy by means of creation of jobs and technological improvement. These merits are especially important in a country where water and energy deficit are a major problem and number of people moving to cities is growing. Nevertheless, sustainability in building sector in Pakistan continues to have long-range economic problems and, as such, it is difficult to use sustainable building methods. Main goal has always been to accomplish construction projects in schedule, within budget & at elevated standard in Pakistan. Both domestic and foreign investors in the country do not like taking risks and are not ready to pay huge amounts of money upfront.

Most people feel that instead of being long term investments to pay out dividends, environmental enhancements are not a must but an expensive luxury (Boughey, 2000). It is a notion that saving the environment and growing the economy are incompatible. This is especially so in Pakistan where the economy is on the rise. The misconception about the Pakistani market is notion that responsible

construction is pricier. Financial benefits realized in the long run, including lowering operation costs and sustainable buildings, are sometimes frustratingly unavailable to the developers, contractors, and even consultants. The absence of institutional support, financial incentives & market premium to green-certified buildings increases problem further. Investors will not care about sustainability unless stipulated by law. Despite the fact that concept of life cycle costing (LCC) is an established approach of determining the long-term economic performance, it is not as common as it should be in Pakistan. This is largely connected with the absence of professional knowledge, the inadequate number of local cost reliable data as well as experience in utilizing LCC to the design and project review procedures.

Thus, the short-term goals still determine decision-making process instead of wealth development long-term. To deal with these problems, construction industry in Pakistan should focus on building capacity, knowledge, passing favorable laws. Clients, investors, and knowledgeable consultants must understand long-term financial benefits of construction in environmentally friendly manner. Also, green building practices could be implemented in the local market with the help of local cost databases, pilot projects, and government incentives. With a strong market of sustainable building, everyone involved will be in position to balance short term financial gains and long term economic and environmental gains. Finally, sustainability is not an easy task when it comes to constructing buildings in Pakistan as there are many institutional and economic problems. However, the possible advantages are enormous and they go with development objectives of country. Provided that the suitable mix of skills, legal reforms, funding, and industry dedication is adopted, then construction industry in Pakistan could be resource-efficient, environmentally friendly & responsive to changes in the economy.

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