



Sustainable Construction and the Building Material

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ABSTRACT

Sustainability is the proper approach and method which can help to decrease the pollution from the environment. This approach can be applied on the construction process of building. For this reason, different sustainable materialism is also necessary. This will help to maintain the sustainability in the building construction. This paper will describe the proper method and the actual importance of the sustained buildings and the green construction.

Keywords: sustainable construction, Green Buildings, construction materials, Solar Power etc.

1.0 Introduction

The proper sustainable construction declares the environment friendly construction which is adopted by the different construction organizations. Sustainable construction is the most important approach to use of different types of renewable and recyclable type materials in the construction process. This will help to decrease the different impact of the construction process in the environment. In this report paper the overall sustainable construction and the different type materials which are necessary for the building of the construction will be declared and the importance of this type process for the development of the environment will be discussed. The construction industries create a huge amount of pollution in the environment. For this reason, air, water and soil are polluted. Different organizations adopt these to create a pollution free environment. There are different processes present which will help to maintain the sustainability in the construction process. This process will be declared in the discussion part.

2.0 Background of the study

The main source of Sustainable construction at the different type of renewable energy in this case it is observed that in different construction sites is solar power battery is used as a source of power supply in this case the battery is connected with the solar panels and during the sunlight these are charged and supplied the proper and appropriate amount of power to the battery during the charging time. Their differences enable materials like wood, natural gas and sustainable Steel. 20 can be used in the construction. Proper sustainable building materials will help to build a proper sustainable construction for the environment. This will help to reduce the pollution which is made by the chemicals and different types of materials of construction and other things. These are the most essential parts for sustainable construction. The sustainable concrete can act as an alternative for the plastic and other harmful things of the construction process.



Figure 1: Implementations of Green Buildings
(Source: academia.edu)

Different higher organizations adopt these approaches to gain a huge profit and to make the whole environment pollution free. In this case a proper management is necessary to track every activity of the construction. In previous days this technique was used in business. This process will promote the different environmental protection approach with the help of reuse of the define type of natural materials and the natural resources for the construction process. Green buildings are the common and popular example for sustainable construction. In the given buildings the rainwater is collected for the use as the toilet water and the whole power supply is driven by solar power energy. These are the most beautiful examples and the efficient approach for the upcoming generation to make sustainable things for the construction. The sustainability should be maintained for every work during the working days of the construction. This will help to increase the total efficiency of the process. For this reason this approach is used for the different upcoming construction processes. This will be declared in this part.

3.0 Method

Define organization and off different methods to make the construction process sustainable. In this way different construction forms recognize the actual importance of the building which is made in a sustainable process. The best method to maintain the actual sustainability in the construction process is the proper sustainable materials. In this new generation the technical development has been introduced which will help to increase the sustainability in the construction process. This advanced technology has to make sustainable material for the construction process.

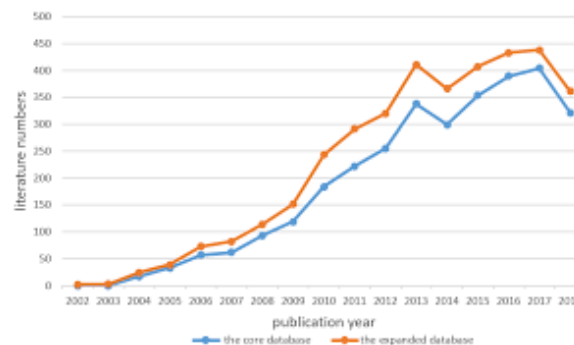


Figure 2: Green Building analysis
(Source: academia.edu)

This will help to increase the total efficiency of the green buildings. This is the most environmentally friendly approach for the different building organizations [4]. In this case they can use different type of ecological material [5]. This will help to increase the efficiency and reduce the overall footprint of the carbon from the material. For this reason, this can be an efficient material for sustainability.

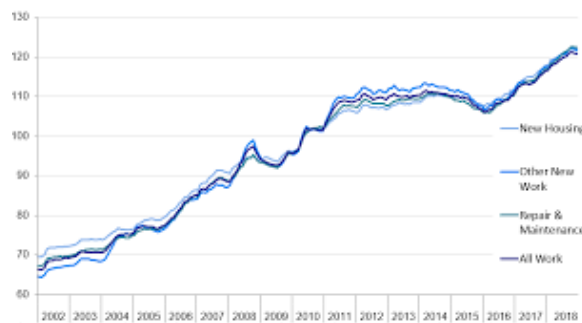


Figure 3: Monthly Statistics for building material
(Source: academia.edu)

For this reason, every person has to be aware about the uses of the materials; this will help to reduce the number of waste from the material. Implementations of the different green buildings are the other most important approach to promote sustainability in the construction.

4.0 Analysis

In this part the sustainable construction will be analyzed properly. In this future generation different advanced method is developed for the proper maintenance of the sustainability in the construction process [6]. The number of green buildings has been increased from 2019 to 2021. This will help to reduce the effective cost for this type of green building and the manufacturing cost also has been reduced. This will help in the public economy.

Name of rating tool	Developer, Year	Categories	Versions	Source
BREEM	BRE or Building Research Establishment in 1990	1. Energy Use 2. Transport 3. Water 4. Ecology 5. Land Uses 6. Materials 7. Pollution 8. Health and other well beings	1. Offices 2. Housing 3. Health Care system 4. Prisons 5. Retail 6. Multi Residential 7. Schools 8. Courts	http://www.breem.org
LEED	USGBC in 1993	1. Atmosphere and energy 2. IEQ 3. Innovation 4. Sustainable Sites 5. Water Efficiency	1. Offices 2. Retail 3. Schools 4. Health Care 5. Neighbourhood Development	http://www.usgbc.org/LEED
Green Star	GBCAUS in 2003	1. Transport 2. Energy 3. Emissions 4. IEQ 5. Management 6. Innovation 7. Use and Ecology	1. Retail 2. Offices 3. Schools 4. Mixed uses of Residential 5. Mixed Use	http://www.gbcaus.org

Figure 4: Table of Green Building rating tool
(Source: self-made in MS-Word)

5.0 Importance

There have huge benefits to a prison to implement the sustainable construction in the construction process. It is also helpful for human beings. This approach will reduce the different diseases which are caused by the air pollution and the other toxic materials which come from the construction. This is helpful for the conservation of energy [3]. Solar power is the most common example of the conservation of energy because in this case electricity is produced by solar energy. The impact of global warming is huge. For this reason every organization needs to adopt this technique in their building construction process even in their organization also. These are the most cost efficient approaches for the construction process [3]. By this approach future generations can lead a healthy life. This will also help to maintain the wildlife habitats. Approach any type of natural source will not be affected and the efficiency will be increased. This will also help to increase the efficiency and decrease the overall cost. In this approach the material cost will be reduced and the durability of the building will be increased. For this reason, this is necessary to implement in every construction site.

Innovation	OECD (2005) Classification	Why innovation was developed or used
Design and construction focused on sustainable practices	Process	Better way to develop houses
Improved design to suit sustainable construction and energy efficiency	Product	Client requirement; improve productivity
Retrofitting solar passive principles to older buildings	Process	Personal interest
Comprehensive sustainable housing package	Product	Need to demonstrate leadership in this area
Adoption of new building materials to improve environmental efficiency	Product and process	Committed to sustainable practices
Use of polystyrene blocks as substitutes for other materials as they are insulating and do not emit dust when cut	Product and process	Seemed good practice
Use of new engineered products such as laminated veneered lumber (LVL) beams as substitutes for timber beams	Product and process	Improve productivity and efficiency

Figure 4: Table of sustainability design for construction practice
(Source: academia.edu)

6.0 conclusion

This overall project is all about sustainability and sustainable construction. This report will describe the maintenance of sustainability in the construction process. For this reason, a fast background of this topic is delivered. After these the appropriate methods which will help to construct the sustainable building are also declared. Appropriate materials for the construction of sustainability are also declared in this project. This will help to the appropriate sustainable construction for the future generation. The proper importance of sustainable construction is delivered for the proper understanding of this project. This will help to develop the future construction process and the materials which are used in the construction. This is essential for the development of the future Technology.

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