Role of Interior Designers in Sustainable Environment

Abstract

The natural environment encompasses all living and non-living things occurring naturally. It is the environment that encompasses the interaction of all living species. It includes climate, weather, and all natural resources that affect human survival and economic activity. Due to development of industrialization and increase in pollution, our mother earth is facing many major issues such as global warming, ozone layer depletion, environmental degradation and many more for which the concept of sustainable development has aroused to make sure that we have and will continue to have the natural resources required for the survival of human health and preservation of environment. Sustainability creates and maintain the conditions under which human and nature can exist in productive harmony that permit fulfilling the social and economic requirement of present and future generation. With the passing time and increase in population, there is increase in constructions of residential and commercial spaces. Due to which sustainable Architecture has also come into existence. Interior design is a profession that serves for the human habitation in the environment. Need of sustainable environment is an obligation rather than a will, in order to survive. Construction can reduce its impact on nature by consulting experts on the environment. Sustainable development requires the implementation of environmentally friendly technologies which are both efficient and adapted to local conditions. This role can be very well justified by the upcoming interior designers who can motivate their clients to use eco-friendly materials and other technologist which can protect the environment from getting polluted. For this the interior designer needs to have good knowledge and has to be aware of the latest eco-friendly products available in the market which can be used in construction. The present study aims to discuss the interior design elements in the dimension of sustainability. The practice of interior design is also considered in the context of sustainability. The descriptive research design is selected for the present study. The questionnaire was used for the data collection. Newly practicing interior designers were selected as samples for the present study. Sample size for the study was 30. The main focus of the study was to find out the practices followed by interior designers in preserving environment. The present paper will throw light on the eco-friendly practices adopted by interior designers for sustainable environment.

Keyword: Sustainable Environment, Interior Designer, Eco-Friendly Materials

Role of Interior Designers in Sustainable Environment

Dr. SarjooPatel[1], Ms. KhyatiDoshi[2], Ms. Himani Shah[3]& Ms. Nidhi Gupte[4]

[1]Asst. Professor, [2]Teaching Assistant,[4]Teaching Assistant Department of Family & Community Resource Management, Faculty of Family & Community Sciences, The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India;

[3]Practicing Interior Designer & M.Sc. Scholar, Department of Family & Community Resource Management, Faculty of Family & Community Sciences, The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India;

Email Id: khyatidoshi23@hotmail.com

1.0 INTRODUCTION

India faces a truly formidable challenge in managing the rapid process of urbanization and the growth of its cities. It is the second-most-populous country in the world (Ballaney, 2008). For reasons of better wages, people tend to flock to the cities, not realizing that expenses in the city are higher and also, health-wise, they would have been better off to stay away from urbanization. This urban-mania is a common problem in many countries. There is a lack of proper sanitation, water drainage, safe drinking water, etc. Pollution is a major problem in cities. This problem is compounded by the fact that there is no exhaust for the polluted air to escape(Bhatt, 1999).Urban growth has a number of positive impacts on the environment and human well-being, i.e. higher population densities may lower per capita costs of providing energy, health care, infrastructure and services. Also, urbanization has historically been associated with declining birth rates, which reduces population pressure on land and natural resources. Despite all these positive impacts, almost all major cities are increasingly plagued by environmental problems. As a direct result of urbanization, great threat to health and safety in cities comes from water and air pollution, especially at the households and community levels. While ambient air pollution impairs the health of almost all urban residents in many cities, indoors air pollution is particularly hazardous for women and children of low-income households who are regularly exposed to higher concentrations of air pollutants from cooking and heating sources in poorly-ventilated housing. Waterborne diseases are found most commonly in low-income neighborhoods as a result of inadequate sanitation, drainage and solid waste collection services. The productivity of many cities is adversely affected by traffic congestion and water pollution. Uncollected and improperly handled solid waste can have serious health consequences. They block drainage systems and

contaminate groundwater at landfill sites. Most cities in the region are also unable to manage the increasing amounts of hazardous wastes generated by rapid industrialization. Conversion of agricultural land and forests, as well as, reclaiming of wetlands for urban uses and infrastructure, is associated with widespread removal of vegetation to support urban ecosystem and put additional pressure on nearby areas that may be even more ecologically sensitive. Urbanization does not have only local environmental impacts but also large so-called 'ecological footprints' beyond their immediate vicinity. Intensive and extensive exploitation of natural resources to support urban economy includes excessive extraction of energy resources (including fuel wood), quarrying and excavation of sand, gravel and building materials at large scales, and over extraction of water. These all contribute to degradation of the natural support systems and irreversible loss of critical ecosystem functions, such as the hydrological cycle, carbon cycle and biological diversity, etc. (Ichimura, 2003).Cities and towns are crucial to the economic well-being of India. For this, it is imperative that its cities and towns are transformed and pressures of new growth are dealt with so that they are more livable, efficient, and environmentally sustainable. Only then will the rapid pace of economic growth that India is undergoing be sustained and the targets of environmental sustainability of the world achieved (Ballaney, 2008).Urban Planning in India includes regulation of land use for residential and commercial purposes and construction of buildings. Interior design doesn't exist in a vacuum. It is an integral part of any building construction or renovation project. Building interiors are fitted with materials, products and systems from a network of raw materials that stretches around the globe. And the occupants of those spaces use energy and other resources in ways that are driven, at least in part, by the design of the space itself. Good interior design, and especially sustainable interior design, must be informed of all these interconnections and impacts.Sustainable design is a way of thinking that considers the impact of these issues on the environment and on human health in the context of building and construction.By taking an informed approach to the way design decisions are made, beginning with an understanding of how every choice affects the environment, interior designers can begin to help mitigate these impacts. Interior design is a key aspect of any green building process. It is the design discipline that is most explicitly concerned with how people will experience their built environments and therefore has huge implications for human health, well-being and productivity, all central tenets of sustainable design.Choices made in designing an interior space have environmental and human health implications that extend far beyond the space itself into the neighborhood, region and the whole planet. Sustainable design asks designers to expand their conventional thinking and to focus holistically on the occupants of the homes and other buildings. This approach requires the designer to address issues relating to the health and well-being of occupants, as well as issues of how design choices will affect the environment. (1)

The following are some principles of environmental stewardship: (2)

- Advocacy for safe products and services: Interior designers should advocate with their clients and employers the development of buildings, spaces, and products that are environmentally benign, produced in a socially just manner and safe for all living things.

- Protection of the biosphere: Interior designers should eliminate the use of any product or process that is known to pollute air, water, or earth.
- Sustainable use of natural resources: Interior designers should make use of renewable natural resources, including the protection of vegetation, wildlife habitats, open spaces, and wilderness.
- Waste reduction: Interior designers should minimize waste through the reduction, reuse, or recycling of products and encourage the development and use of reclaimed, salvaged, and recycled products.
- Wise use of energy: Interior designers should reduce energy use, adopt energy-conserving strategies, and choose renewable energy sources.
- Reduction of risk: Interior designers should eliminate the environmental risk to the health of the end users of their designs.

As interiors of any building affects the human health and the environment, the role of an interior designer becomes all the more vital. This role can be very well justified by the upcoming interior designers who can motivate their clients to use eco-friendly materials and other technologies which can protect the environment from getting polluted. For this the interior designer needs to have good knowledge and has to be aware of the latest eco-friendly products available in the market which can be used in construction. A descriptive study, focusing on finding out the practices followed by interior designers in preserving environment and the eco-friendly practices adopted by interior designers for sustainable environment will throw light on the same.

1.1 Statement of Problem

The present study aims to discuss the interior design elements in the dimension of sustainability by finding out the practices followed by interior designers in preserving environment.

1.2 Objective

To find out the awareness of the interior designers regarding different Eco-Friendly Building Materials available in the market and its implications in project.

1.3 Delimitation

The study was limited to 30 interior designers of Vadodara City.

2.0 METHODOLOGY

The present study was undertakento find out the awareness of the interior designers regarding different Eco-Friendly Building Materials available in the market and its implications in project. The descriptive research design is selected for the present study. A questionnaire was used for the data collection. Newly practicing interior designers were selected as samples for the present study. Sample size for the study was 30. The main focus of the study was to find outawareness of interior designers about different Eco-Friendly Building Materials available in the market and its implementation, the study throws light on the eco-friendly practices adopted by interior designers for sustainable environment.

3.0 FINDINGS

The major findings are as follows;

Background information of the respondent (Interior Designers), included, age, education, occupation, work experience and income per month.

Age of the Respondents: Age of the respondents ranged from 21 years to 35 years. Majority of the respondents belonged to the age group of 25-30 years.

Education of the Respondents: Education of the respondents was studied in terms of Bachelors in Interior Designing and Masters in Interior Designing. More than half of the respondents had done their Masters in Interior Designing.

Occupation of the Respondent: Occupation of the respondents were categorized into two categories: Practicing Interior Designers and Employed Interior Designers. Majority of respondents were practicing interior designers.

Work Experience of the Respondent: Majority of the respondents were practicing from last 4 to 5 years. Employed interior designers were doing job from last 3 to 4 years. Very few of the respondents had work experience of more than 8 years.

Income per Month: Monthly Income of the respondents was ranged from Rs. 20,000 to Rs. 50,000 and above.Little less than half of the respondents had their income in between the range of Rs. 10,000 - Rs. 20,000. Little less than one fourth of the respondent's monthly income was Rs. 70,000 and above.

Awareness about different Eco-Friendly Building Materials available in the market

Awareness of the respondents regarding the different Eco-Friendly Materials available in the market included, Ordinary Portland Cement / Blended Cement, Ready Mix Cement Concrete, Gypsum Plaster, M. S. Re-Bar, Sand, Bricks, Fly-Ash Based Bricks, Ceramic Tiles, Marble / Granite, PVC Sheet Plain / Corrugated, Aluminium Sheet Plain / Corrugated, A. C. Sheet Plain / Corrugated, G. I. Corrugated Sheet, G. I. Pipe (100mm Diameter), A. C. Pipe (100mm Diameter), C. I. Soil / Rain Water Pipe (100mm Diameter), P. V. C. Pipe (100mm Diameter), Bamboo, Bamboo Based Particle Board & Ply Board, Bamboo Matting, Bricks Sun Dried, Precast Cement Concrete Blocks, Lintels, Slab. Structural And Non-Structural Modular Elements, CalcinedPhospho-Gypsum Wall Panels, Calcium Silicate Boards And Tiles, Cellular Light Weight Concrete Blocks, Cement Paint, Clay Roofing Tiles, Water, Polyurethane And Acrylic Based Chemical Admixtures For Corrosion Removal, Rust Prevention, Water Proofing, Epoxy Resin System, Flooring, Sealants, Adhesives And Admixtures, Ferro-Cement Roofing Channels, Fly-Ash Sand Lime Bricks And Paver Blocks, Gypsum Board, Tiles, Plaster, Blocks, Gypsum Plaster Fibre Jute/Sisal And Glass Fibre Composites, Laminated Wood Plastic Components, Marble Mosaic Tiles, MDF Boards And Mouldings, Micro Concrete Roofing Tiles, Particle Boards, Polymerised Water Proof Compound, Portland Pozzolana Cement Fly-ash / Calcined Clay Based, Portland Slag

Cement, RCC Door Frames, Ready Mix Cement Concrete, Rubber Wood Finger Joint Board, Stone Dust, Water Proof Compound, Adhesive, Polymer, Powder, Paver Blocks

Table 1: Awareness of Interior Designers regarding the different Eco-Friendly Materials available in the market.

Awareness of the respondents regarding different Eco-Friendly Materials available in the market						
Sr. No.	Eco-Friendly Building Material	Aware		Not Aware		Total
		f	%	f	%	
1.	Ordinary Portland Cement / Blended Cement	12	40	18	60	30
2.	Ready Mix Cement Concrete	16	53.33	14	46.66	30
3.	Gypsum Plaster	21	70	09	30	30
4.	M. S. Re-Bar	25	83.33	05	16.66	30
5.	Sand	30	100	-	-	30
6.	Bricks	30	100	-	-	30
7.	Fly-Ash Based Bricks	30	100	-	-	30
8.	Ceramic Tiles	30	100	-	-	30
9.	Marble / Granite	30	100	-	-	30
10.	PVC Sheet Plain / Corrugated	30	100	-	-	30
11.	Aluminium Sheet Plain / Corrugated	30	100	-		30
12.	A. C. Sheet Plain / Corrugated	30	100	-	-	30
13.	G. I. Corrugated Sheet	30	100	-	-	30
14.	G. I. Pipe (100mm Diameter)	30	100	-	-	30
15.	A. C. Pipe (100mm Diameter)	28	93.33	02	6.66	30
16.	C. I. Soil / Rain Water Pipe (100mm Diameter)	30	100	-	-	30
17.	P. V. C. Pipe (100mm Diameter)	30	100	-	-	30
18.	Bamboo, Bamboo Based Particle Board & Ply Board, Bamboo Matting	30	100	-	-	30
19.	Bricks Sun Dried	27	90	03	10	30
20.	Precast Cement Concrete Blocks, Lintels, Slab. Structural And Non-Structural Modular Elements	30	100	-	-	30
21.	CalcinedPhospho-Gypsum Wall Panels	24	80	06	20	30
22.	Calcium Silicate Boards And Tiles	30	100	-		30
23.	Cellular Light Weight Concrete Blocks	27	90	03	10	30
24.	Cement Paint	19	63.33	11	36.66	30
25.	Clay Roofing Tiles	24	80	06	20	30
26.	Water, Polyurethane And Acrylic Based Chemical Admixtures For Corrosion Removal, Rust Prevention, Water Proofing	22	73.33	08	26.66	30
27.	Epoxy Resin System, Flooring, Sealants, Adhesives And Admixtures	13	43.33	17	56.66	30
28.	Ferro-Cement Roofing Channels	08	26.66	22	73.33	30
29.	Fly-Ash Sand Lime Bricks And Paver Blocks	12	40	18	60	30
30.	Gypsum Board, Tiles, Plaster, Blocks, Gypsum Plaster Fibre Jute/Sisal And Glass Fibre Composites	17	56.66	13	43.33	30
31.	Laminated Wood Plastic Components	27	90	03	10	30
32.	Marble Mosaic Tiles	30	100	-	-	30
33.	MDF Boards And Mouldings	30	100	-	-	30
34.	Micro Concrete Roofing Tiles	26	86.66	04	13.33	30
35.	Particle Boards	30	100	-	-	30
36.	Polymerised Water Proof Compound	21	70	09	30	30
37.	Portland Pozzolana Cement Fly-ash / Calcined Clay Based	11	36.66	19	63.33	30

38.	Portland Slag Cement	11	36.66	19	63.33	30
39.	RCC Door Frames	30	100	-	-	30
40.	Rubber Wood Finger Joint Board	20	66.66	10	33.33	30
41.	Stone Dust	08	26.66	22	73.33	30
42.	Water Proof Compound, Adhesive, Polymer, Powder	21	70	09	30	30
43.	Paver Blocks	30	100	-	-	30

Majority of the respondents were aware about half of the materials. Half of the respondents were aware about few materials only. It was found that the respondents who had less experience of the practice were knowing more about different Eco-Friendly material as they feel more responsible towards the sustainable environment. The Interior Designers who were having experience of more than 8 years were more sticking to their design methods and techniques rather than experimenting new products. The newly practicing interior designers have awareness of different Eco-Friendly Materials and have apply these products in their designs as well.

4.0 CONCLUSION

Interior design is an integral part of any building construction or renovation project. As an Interior Designer, to have awareness about the different Eco-Friendly materials is a necessity. It was concluded that mostly newly practicing interior designers were more aware about the Eco-Friendly materials and were applying these materials in their designs. It is important for all the interior designers to have awareness about the different Eco-Friendly materials and they should implement best practices to sustain the environment. They should follow the sustainable technology to protect the environment. Designing energy-efficient buildings and interiors helps alleviate dependence on industrially produced power. An ecofriendlyinterior enables you to reduce energy consumption due to the use of energy efficient design, materials and building techniques, while some types of green building enable energy production on-site eliminating the energy bills completely.Reduced energy consumption automatically reduces their carbon footprint and helps reduce the human impact on the environment.Although the impact of any one building is small in relation to overall energy use, when these practices become commonplace, the impact of thousands of sustainably designed, energy-efficient interior will result in significant energy savings and greatly reduced air pollution.

5.0 REFERENCES

1. Ballaney, S. (2008). The Town Planning Mechanism in Gujarat, India. Retrieved August 16, 2010, from www.siteresources.worldbank.org: http://siteresources.worldbank.org/CMUDLP/Resources/townplanning2008_lores.pdf

2. Bhatt, P. (1999). Landscape and the Environment. In T.K.Bose, Floriculture and Landscaping. Kolkata : Naya Prokash.

3. Ichimura, M. (2003). Urbanization, Urban Environment and Land Use: Challenges and Opportunities. Retrieved August 29, 2010, from www.apfed.net: http://www.apfed.net/apfed1/pdf/APFED3_EM_doc5.pdf

4. Childs, K., Argeles, C., Henderson, H., Horst, S., Malin, N., (2006). Beyond Interior Design: Interior Design and Global Impacts. Massachusetts Ave., NE, USA.

5. ASID (2008). ReGreen: Residential Remodelling Guidelines. Massachusetts Ave., NE, USA.