Review on Designing of Smart and Eco-friendly Housing Colonies by 3ds Max

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ABSTRACT

For centuries basic need of humans is Food, Shelter & Clothes. But due to profusion of population housing shortages is one of the most acute problems in developing countries like India. It has been seen that India needs additional 25 million prohibitive houses by 2030. Currently housing shortages in urban areas are around 10 million units & most of the housing shortages in economically weaker sections. By this, one must comprehend that this issue can't be solved alone. Seeking to solve this problem we are providing houses with new automation which will make them eco-friendly as well as well turned out. To fulfill the technological needs of People &connect them with nature we choose a plot (Plot No:-319 321) of in Kamalpur in Rupushpur road, an urban locality in Tripura State. In a 1 acre terrain a batir, we are demonstrating 28 raw houses with Freshwater harvesting systems & tankless water heaters, Solar collector, Energy-saving, ecological materials& easily available materials like red bricks, OPC & PPC cement, River stand, recycled &reusable aluminum & steel so that the cost can be minimized & economically weaker people can afford a standard & comfortable living. The basic principle of design of Smart and Eco-friendly society includes eco-friendly technology to affix one with another, with the help of 3DSMax Software. With this type of eco-friendly & low-cost Colony, we can surely put a dent in the growing housing shortage problem of India.

KEY WORDS: *Raw House, Housing Shortages, Smart & Eco-friendly Housing Colonies, Low Cost, 3DSMax Software.*

INTRODUCTION

Smart and Eco-friendly housing design is a notion aimed at achieving the solution for the housing shortage, which results in a reduction of carbon footprints and lowers its energy needs. The basic principle of the design of Smart and Eco-friendly society includes solar panel, wind turbine, insulation, Water conservation, and technology to connect one another, etc with the help of 3DSMax Software. As shown in Below Figure;

Fig1.1 Concept Smart-Eco-friendly Societies (I.C:https://images.app.goo.gl/uyq9Fp1v74pbm3Rm8) [16]

Today's smart and eco-friendly housing societies are constructed to tackle with social and environmental challenges. Smart and Eco-friendly cities was First envisioned 15-20 years ago, and throughout most of the 20th century was considered the technology of the future for sustainable city. The development of Smart and Eco-friendly housing has become increasingly popular in recent years. Smart and Eco-friendly housing design project have experienced renewed interest in the past decades due to their low cost, high reliability and sustainability. While cost and space are always significant factors in smart and Eco-friendly housing designs. The development of Smart and Eco-friendly housing has become increasingly popular in recent years. Smart and Eco-friendly housing design project have experienced renewed interest in the past decades due to their low cost, high reliability and sustainability. While cost and space are always significant factors in smart and Eco-friendly housing designs. The Design of Smart and Eco-friendly housing requires the accurate measuring, animating and rendering software. To achieve the desire design parameters of smart and eco-friendly housing society requires software with combination of 2D drawing, 3D modeling option. Presentation tools, scenario-based planning, script-based export, parametric model, panoramic 360 views and facade design option. AutoCAD and 3DSMax are the more convenient and user-friendly 2D and 3D design software than conventional methods and software. In Designing smart and eco-friendly buildings and urban systems we simultaneously consider synchronic and diachronic aspects. The synchronic view is represented with help of map and CAD Models and design data. It reveals the more persistent spatial and functional relationship elements and subsystem. Using the basic information of concepts of Smart, Eco-friendly housing society and 3DSMax software, in this paper design, animation and rendering of the design of Smart and Eco-friendly housing society of 20 Row Houses on 1 acre i.e. 4046.86 m2land with low-cost budget carried out.

LITERATURE WORK

1. Filip Biljecki et. al, states that 3the D city models app can be used for Routing, Forecasting Seismic Damage, Flooding, Forest Management, Volumetric Density Studies & other climate changing detection.This study shows that 3D city models app can be used for Routing, Forecasting Seismic Damage, Flooding, Forest Management, Volumetric Density Studies & other climate changing detection.[1]

2. Maulik G et .al, states that the HFH model gives us a sustainable model which is a good starting point. System which incorporates the advantages of each part of the model with clear cut roles and responsibilities is the most likely solution.•The article analyses different construction techniques which will be fast and low in cost with HFH model (proposed model).•It tries to propose a accessible and sustainable model to alleviate the housing needs problem speacially for the migrant students & workers which area major part of housing societies in India.[2]

3. AYaranet.al,states thatthis project implies housing shortages in cities due to overpopulation & unsustainable development but by monitoring & sustainable development of small cities, urban & regional areas .we can minimize the housing problems as well as economic & environmental problems.•According to the studies by the below flow chart sustainable development can be occupied. Housing Developments☐ Urban Development ☐Small City ☐Regional Development.[4]

4. Ali Yaran et.al, states that the purpose of this article is to provide strategies for proper housing development, considering the role of these cities in balancing with their daily lifestyle in the codification process for a comfortable & sustainable housing development plan. •This project concludes that people want a house which match their daily needs & with environmental touch as well as modern touch.[3]

5. Liufang et.al, states that this paper introduce the method of reading the file generated in 3DS MAX software as a file extension of.3DS•Open GL tool is mainly used for animation and rendering of file •Various steps of reading and publishing the 3ds files are studied successfully .•steps Simulation of file is studied •author introduce the concept of borehole operation model •format and manipulation of .3ds file is successfully studied trough open GL. •Various chunks and its data structure is studied .•recursion rule is implemented for reading file.[12]

6. Evelin Priscila Trindade et.al, states that dependability between smart city and environmental sustainability is studied.• Composition factors of smart and Eco city is introduced and evaluated.• goals are coined regarding smart and sustainable city development. Various modes of computation of smart city is analyasized..•Computation models like eco-city model , elite cities model are studied to evaluate the smart city •Models referred the ICT and index of smart cities for evaluation and study of smart-eco city.[13]

7. Ahmet Emre et.al, states that 3ds MAX software is used for enhancement and fulfilment of mass housing design process.•Author coined the term regarding modularity, configuration and mass customisation. Two models namely ACM and CDSM models are mentioned in paper. •Cellular auto model which is part of CDSM model requires set of rules for its operation. •various stages of design like site planning, Space Planning, Facade design etc are studied and evaluated with help of CA. •importance of Co-ordination between human designer virtual design tool reflection

in action approach is evaluated. [9]

8. Paolo Neirotti et.al, states that concept of smart city is elaborated with help of factors like natural resource and energy ,transport, mobility ,people etc.•Dissemination of smart initiative studied with the help of ratio of domains cover to the total potential domain of SI.•Analysis and study of various factors affecting the planning of creating smart city. Factors are geographical variables, ICT ,etc•Concept of coverage index (CI)is implemented to study impact of various domains on smart and eco city initiative.•effect of various variables on CI checked with Regression analysis.•ANOVA analysis is performed with the help of SPSS tool to study the trend of smart city development.[10]

9. Johanna I. et.al,states that this research shows the importance of smart cities and Eco-cities for the urban future of the nation. •Studied the consequences of the concept of green urbanization and smart-new technology on Smart-ecocity. •Various features of India's and china's urbanization is studied with the help of India's smart city mission and china's All in one eco-city project. •Five process dimensions are implemented for the Analysis and study of smart-eco cities. Five dimensions are project initiation, organization, implementation, governance, and embedding. [15]

CONCLUSION

House is considered as one of the best determining characteristics of living standard. Housing shortages are one of the most acute problems in developing countries like India. It has been seen that Tripura has a housing shortage of over 3.7 million homes which is more compare to other states in India. To minimize this rate we are providing the house with new techniques/gadgets which will make them eco-friendly as well as smart. On 1acre we are providing 28 raw houses with Rainwater harvesting systems & tankless water heaters, Solar panels & solar tiles, energy-saving equipment, sustainable building materials, garden, pool & indoor sports facilities comparatively at low cost. Why a row house should be preferred because Expanding of space as per requirements, Gardening, Increasing the storey, Let your imaginations flow design it yourself, Community living, lower maintenance. Using the basic information of concepts of Smart, Eco-friendly housing society and 3DSMax software, in this paper design, animation and rendering of the design of Smart and Eco-friendly housing society of 28 Row Houses on 1 acre i.e. 4046.86 m2 land with low-cost budget carried out.

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