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Addressing urban happiness in the context of sustainable development goals through urban design interventions: A Case of Udhana, Surat.

Abordar la felicidad urbana en el contexto de los objetivos de desarrollo sostenible a través de intervenciones de diseño urbano: un caso de Udhana, Surat.

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ABSTRACT

Though urbanization is a desired and irreversible phenomenon, it also leads to multiple problems of quality of living and sustainability. People living in highly dense urban areas suffer from stress, insecurity, competition, fear and such other psychological issues. In 2015, Sustainable Development Goals (SDGs) were agreed upon by all 193 member states of the United Nations' (UN) Organizations. (United Nations 2017) The ambitious set of 17 Goals fall within the Global Agenda, addresses complicated issues and covers the majority of the persistent issues that the world is distressed with (Department of Economics and Social Affairs New York, 2017). According to Montgomery (2015), a Livable city is a happy one. To create a robust and sustainable city, the social and mental well-being of city dwellers is important (Montgomery 2015). This study aims to evaluate an urban environment in context of Sustainable Development Goals (SDGs) as well as various aspects of “Urban Happiness”, identify the issues lowering its rate of livability index and propose context specific solutions through planning and design interventions. The location has been chosen since it is characterized by a large migrant population in Surat, Gujarat's fastest developing metropolis. The intricacy of urban livability and happiness is exacerbated by migration, which necessitates equal consideration for everybody. After understanding basic literature regarding urban happiness in the framework of SDG and a relevant case study, an analysis matrix is developed to identify the design parameters. A detailed site study has been carried out, and based on identified issues, context specific solutions are recommended.

Keywords: Urban Happiness, Sustainable development goals, Livability, Urban Environment.

RESUMEN

Si bien la urbanización es un fenómeno deseado e irreversible, también genera múltiples problemas de calidad de vida y sostenibilidad. Las personas que viven en áreas urbanas muy densas sufren estrés, inseguridad, competencia, miedo y otros problemas psicológicos. En 2015, los Objetivos de Desarrollo Sostenible (ODS) fueron acordados por los 193 estados miembros de las Organizaciones de las Naciones Unidas (ONU). (Naciones Unidas 2017) El ambicioso conjunto de 17 Objetivos se encuentra dentro de la Agenda Global, aborda temas complicados y

cubre la mayoría de los problemas persistentes que preocupan al mundo (Departamento de Asuntos Económicos y Sociales de Nueva York, 2017). Según Montgomery (2015), una ciudad Habitable es una ciudad feliz. Para crear una ciudad sólida y sostenible, el bienestar social y mental de los habitantes de la ciudad es importante (Montgomery 2015). Este estudio tiene como objetivo evaluar un entorno urbano en el contexto de los Objetivos de Desarrollo Sostenible (ODS), así como varios aspectos de la "Felicidad Urbana", identificar los problemas que reducen su tasa de índice de habitabilidad y proponer soluciones específicas del contexto a través de intervenciones de planificación y diseño. Se ha elegido la ubicación porque se caracteriza por una gran población migrante en Surat, la metrópolis de más rápido desarrollo de Gujarat. La complejidad de la habitabilidad y la felicidad urbanas se ve exacerbada por la migración, que exige la misma consideración para todos. Después de comprender la literatura básica sobre la felicidad urbana en el marco de los ODS y un estudio de caso relevante, se desarrolla una matriz de análisis para identificar los parámetros de diseño. Se ha llevado a cabo un estudio detallado del sitio y, en función de los problemas identificados, se recomiendan soluciones específicas para el contexto.
Palabras clave: Felicidad urbana, Objetivos de desarrollo sostenible, Habitabilidad, Entorno urbano.

INTRODUCTION

Urbanization is a worldwide phenomenon. Rapid population expansion is leading cities to evolve into metro and megacities in a shorter amount of time. While urbanization provides opportunities, prosperity, and better infrastructure, it also creates heterogeneous, multicultural, constantly competitive, demanding, and unjust social environments in which the majority of people face issues such as scarcity of resources, performance stress, insecure futures, and struggle for survival. Here, the concern for the built environment equally matters, as the quality of the built environment directly impacts upon mental and physical well-being of individuals that ultimately are major governing factors of human happiness. Highly dense, congested, suffocating, dark urban areas certainly create a negative impact on the human mind, efficiency and cheerfulness. In contrast to that, open, green, naturally lit urban areas with qualitative public spaces helps in relieving stress and creates a positive impact on human health and happiness. Thus, the link between the built environment of cities and human happiness cannot be overlooked, and it is critical to acknowledge the importance of key indicators of urban planning and design in producing cities that are sustainable, safe, and joyful for people.

According to our studies of literature review, urban happiness may be defined as a concept that offers individuals who live there, a favorable perception of the location and encourages them to stay there for a long time and/or choose to live there again with the same experience. If physical triggers of human happiness within urban spaces could be determined, then future spaces could be designed to foster happiness in lieu of producing spaces that evoke negative feelings in users.

The Sustainable Development Goals (SDGs), were adopted by the United Nations as a universal call for action to reduce poverty, safeguard the environment, and ensure that everyone lives in peace and prosperity by

2030 (United Nations 2017). SDGs are divided into 17 discrete categories that address exceedingly complex, interconnected concerns, arguing that progress must strike a balance between social, cultural, economic, and environmental sustainability. The city (i.e., any urban area) is a foundation and represents the emotional space of people. Therefore, it is increasingly important to emphasize urban happiness and relate it with SDG. Urban environments, city design and architecture sit at the crossroads of all goals as they are highly correlated.

The aim of this study is to create the physical triggers of urban happiness within urban spaces by understanding the key indicators of urban happiness and correlating it with sustainable development goals (SDGs) through possible interventions-both at policy and design level, in order to improve quality of urban environment that can help in achieving livable cities and enhance urban happiness.

Urban happiness is ideally a balanced outcome of tangible (Quality of physical living environment) as well as intangible (Measures defined in livability index and SDG) aspects. Though correlation of both is extremely important, this research emphasizes the tangible aspects i.e., the impact of improved built environments on urban happiness through design interventions. Intangible aspects, however, can be taken care of at policy framework level and under the broader perspective of livability index.

MATERIAL AND METHODS

The research was primarily conducted in three phases. To begin with, at first stage, the base for research was established through literature review of various theories of urban happiness, and parallel to that, SDG were reviewed in the framework of Urban Happiness. This helped in defining correlation between SDG and Urban Happiness. Indicators or design parameters are determined by analyzing the results of literature studies and case studies. These indicators laid the groundwork for an analysis of the study area, issues, and solutions to achieve Urban Happiness.

At the second stage, a specific study area was identified. The main focus was to evaluate urban livability in view of the indicators of urban happiness outlined in stage I, as well as to identify major barriers to reaching that goal. A dynamic, complex urban area was selected for the purpose and detailed documentation was carried out to map the existing conditions. The methodology of documentation included secondary data sources, on site survey and interaction with resident as well as working population, observation of day-to-day functional structure and mapping of all the layers of identified parameters i.e., Base plan, Land use plan, built v/s open, Building height, Land ownership, Road Network, Transport and mobility, Activity mapping. A detailed analysis of collected data was performed, based on that, issues at various levels specifically contextual, environmental and socio-cultural level were identified. Further, a sample survey was conducted considering people of different age groups, income groups, different occupation, living conditions in residential areas. Whereas in industrial areas, hierarchy of people, gender and typology of industry was taken into consideration. Total 100 samples were collected, out of which 50 samples were from industrial areas and 50 were from residential areas.

At third and last stage, based on the identified issues, a comprehensive proposal was made both at policy and design level. The main aim, however, was to recognize the physical interventions that could be made in the existing built environment. An area of the site was chosen to demonstrate how the relationship between SDGs, urban happiness components, and contextual needs, as well as constraints, influenced design decisions.

RESULTS AND DISCUSSION

Stage: 1: Literature and Case study inferences:

Literature reviews of various theories explain multiple dimensions of Urban Happiness. Global Happiness Policy report & World Happiness Report highlight social dynamics & urban environment as two overarching aspects of urban happiness (Sustainable Development Solutions Network, 2019). According to Mcleod (2007), Abraham Maslow in his research paper – "A theory of human motivation", 1943, recognizes the "Hierarchy of Needs" as base for happiness (Mcleod 2007). According to the report by Lewis (2016), the Happy City Measurement Policy, defines four domains of Happiness i.e., General Well-being, BE (emotional well-being), DO (behavioral wellbeing) and CONNECT (social wellbeing) (Lewis 2016). Montgomery (2007) mentioned that happy cities could capitalize additional resources into covering their citizen's basic requirements that includes creating a strong sense of community, freedom of mobility and movement, provision of self-fulfillment and opportunities. (Montgomery, 2013). Urban happiness can also be perceived as a place designed around the elementary concepts of human connection and social interaction. The design of urban landscape and the built-environment influences well-being. (Ministry for the Environment, 2005). The 17 Sustainable Development Goals (SDGs), at the center of 2030 Sustainable development agenda, adopted by all United Nations Member States in 2015, addresses the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice. (United Nations 2017) Hence it is essential to establish correlation between urban happiness and sustainable development goals to achieve a better urban environment in any area.

The matrix portrayed in Fig.1 depicts the correlation as well as highlights design parameters that've been derived for further study. Indicators of Urban Happiness and identified SDG associated with leads to key essentials of design, which ultimately leads to four design parameters and sub-parameters. Four major design parameters to attain urban happiness through SDG oriented approach are – Health, Urban Environment, Society and Human Potential.

Stage:2: Study area identification and assessment of urban living conditions

Growth and development trends of four major cities- Ahmedabad, Vadodara, Surat and Rajkot, in Gujarat were observed in the initial stage of research. Considering significant parameters like decadal growth, economic opportunities, population density, population heterogeneity, cultural vibrancy upcoming future development plans, the city of Surat- ninth large metropolitan of the country, with population of 44,67,797 as per census 2011, (density 6768.04 per sq.km) was selected to address the concern. (SMC, n.d.) (SMC, 2011) Based on the study of Surat city

on multiple layers, Udhana, an area of the south-east zone of the city having a high level of urban dynamics & complexities was chosen for the purpose of this research. The area is majorly characterized by industrial land use-housing more than 700 major and 6000 small scale industries of textile, stone, chemical, pharmaceutical and metal, and migrant population mainly working in these industries as labor force. (SMC, n.d.) (SMC, 2011) Fig. 2 analysis explains the urban conditions of the area based on our observations and research. Originally a residential neighborhood with some of the residential clusters five to six decades old, the area at present is completely engulfed by industries and has become densely congested mixed land use area. Exponential population growth has resulted into multiple issues like lack of affordable housing, efficient urban services, social infrastructure, qualitative recreational spaces, urban flooding etc. The complexity of urban dynamics is very obvious in this area due to heterogeneity of people, class, culture, extremity of employment, living conditions, lifestyle standards and other socio-cultural issues. On-site study reveals that the majority of the area's migrant population lives in shared accommodation, with 6 to 8 individuals sharing a modest room of 100 square feet. The industries that have been established in residential structures are gloomy, oppressive, and depressing. In these regions, there are numerous antisocial acts. The bulk of workers, particularly the migrant population, have poor health and hygiene standards. A similar source of worry is the lack of quality public spaces, recreational areas, and social infrastructure.

Fig 1: Correlation between indicators of urban happiness and SDG. (Source: Author)

The results and analysis of all the primary & secondary surveys clearly present a typical urban condition with multiple problems and where physical, social, emotional and cultural wellbeing of people are threatened by poor quality of built environment as well as by increasing rate of urbanization. Urban happiness is certainly a question and challenge here. Thus, it is necessary to rethink the quality of the urban environment through policy as well as design

interventions. In the next stage of research, Issues and needs are outlined for each design parameter – Health, Urban Environment, Society and Human potential.

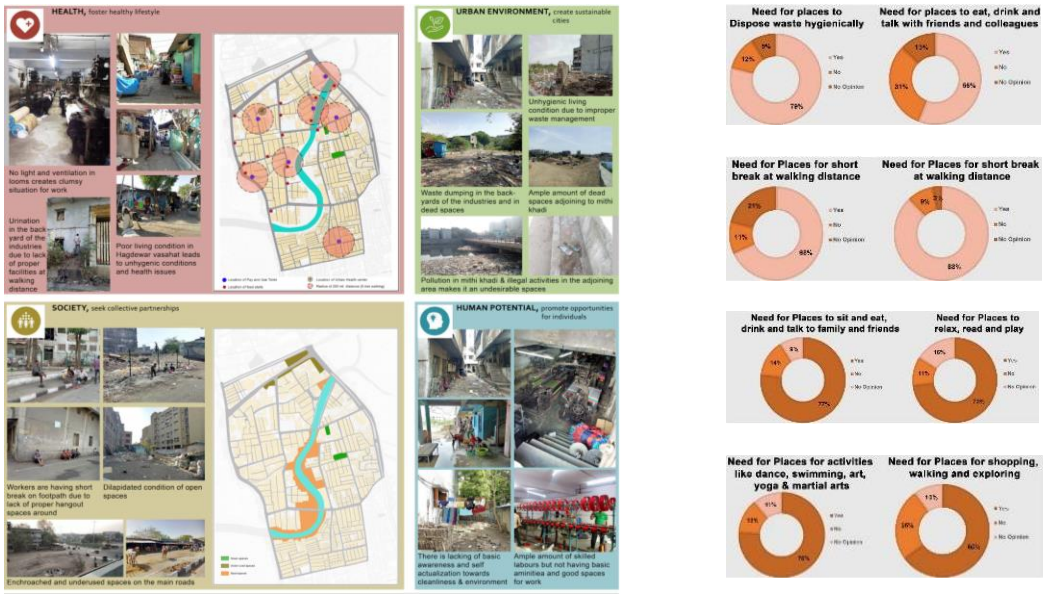

Fig 2: Issue Identification in Demo Area for Each Design Parameter and Percentage of Sample Survey Questionnaire (Source: Author)

Stage: 3: Suggested Interventions

The research findings present the fact that Urban Happiness is a multidimensional concern. In order to make cities more livable, it's necessary to understand the integrity of these multiple dimensions, as improvement or enhancement of one aspect will certainly impact upon others. Based on this, various policy and design interventions are proposed at three levels: neighborhood or area level, block level, and plot level, with four major parameters keeping in mind which are identified through analysis depicted in Fig. 3. However, policy level interventions are generic for similar situations, whereas design interventions are context specific. The master plan discusses four context-specific suggestions and their relationship to health, urban environment, society, and human potential, which together create a cohesive environment and also contribute to the area's urban happiness (Fig 4).

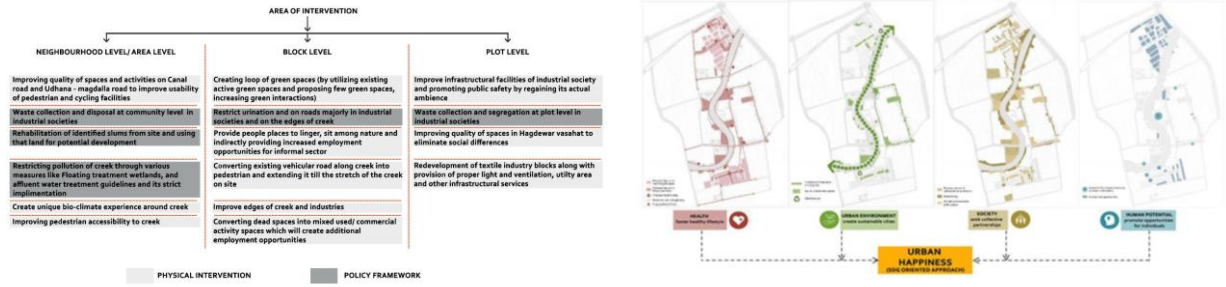

Fig 3: Levels of Interventions and Maps displaying spaces for each design parameter that leads to Urban Happiness (Source: Author)

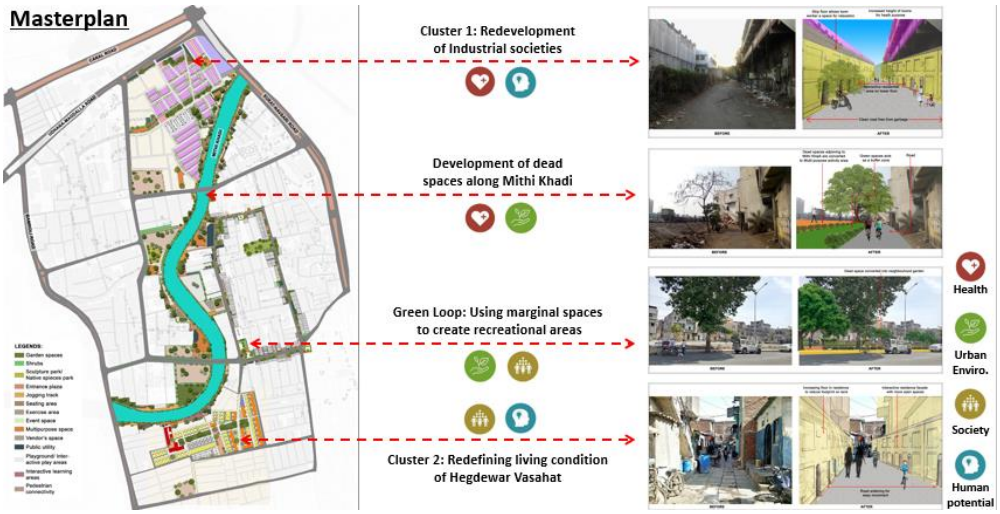

Fig 4: Proposed Master Plan (Source: Author)

As conclusion custling metropolitan cities of the present time offer a high hope for employment opportunities and access to better infrastructure facilities. But unfortunately, most of the time urban development leads to “sick cities”, where people are suffering from issues of Physical health, emotional well-being and social security. While sustainable Development Goals strive to provide equal opportunity and better living to all, it is vital that cities are designed for society, where quality of living is at prime concern, the role and significance of built environment matters more on livability and happiness index, apart from other intangible aspects like income, affordability, culture, tradition etc. The case presented in this research attempts to resolve issues of urban conditions in existing fabric majorly through design interventions at multiple scales – from building to block to area level, also features the significant elements of urban design necessary to improve livability index and in turn, urban happiness. Health, Urban Environments, Society and Human Potential are the core design indicators, aligned with the SDG. The findings of the study reveals that Provision of better infrastructure facilities, efficient urban services, design of well-lit and well ventilated built spaces, and development of green buffer spaces in marginal areas are some of the basic aspects that can contribute to achieve better living conditions. Urban Happiness is the challenge of time and Urban planning and Urban Design must consider that as a key pointer for development.

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