

## Role of Sustainable Neighbourhood in Urban Built Environment

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**ABSTRACT:** The neighborhood is a basic planning entity in modern residential planning theories. Each Neighbourhood is Designed and Managed to Complement and Enhance Performance of Surrounding Land Uses, Including Adjacent Neighbourhoods and The Region as a Whole. Neighbourhoods are Designed and Operated to Minimise Crime, and to Provide Residents and Visitors with a Safe, Secure Environment. However open spaces as a vital constituent of the neighborhood's physical structure, have an important role to play to enhance the urban built environment. They are the arena of both, neighbors' outdoor interactions consequently building the neighborhood's sense of community. The paper aims to investigate the roles of neighborhoods- in urban built environment to achieve sustainability goals and objectives. However it follows an approach based on both the social and ecological neighborhood's ability to tackle sustainability issues. In this paper we are dealing with to understand the role of neighbourhood in a larger scale to elevate urban built environment from architectural point of view.

**Keywords:** Physical structure, SustainableNeighbourhood, SustainableEnvironment, Urban Built Environment.

### I. INTRODUCTION

Due to rapid urbanization, people are getting attracted towards the city and urban areas where they are hoped to get more and more facilities and amenities to survive in better living conditions. As a result of this trend, the limits of the city increase day by day. For proper planning and proper management in urban areas, the concept of neighbourhood planning is coming as a new trend now a days.

#### Role Of Sustainable Neighbourhood

1.introduction: Nagpur is the largest city in central India and the winter capital of the state of Maharashtra. It is a fast growing metropolis and is the third most popular city in Maharashtra after Mumbai and Pune, and also one of the country's most industrialized cities. With a population of 2,405,421. Nagpur is the 13th most popular city and 13th largest

urban agglomeration in India. Therefore, development of city is generally accepted to be a process that attempts to improve the living conditions of people. 'At the heart of sustainable development is the simple idea of ensuring a better quality of life for everyone, now and for

future generations.' (source: Planning Policy Statement 1: Delivering Sustainable Development Communities and Local Government (2005)). And hence the Sustainable neighbourhood is an appropriate solution for enhancing a built environment & Nagpur is taking steps towards a sustainable growth.

#### 1.1 Role of Neighbourhood In Town Planning

Any town made up of number of neighborhood sectors. And this neighborhood concept was originally comes from America. (Source- Town planning book by Hiraskar). Neighbourhood is the place where



Fig 1 : Map of India Showing Location Of Nagpur

not only residential facilities are provided but also recreational facilities, commercial educational and health facilities are accommodated within a walking distance in a single campus.

**1.2 Traditional neighborhoods**

Traditional neighborhoods have specific sizes usually based upon walking distances equivalent to a quarter-mile radius. When the neighborhood combines with other traditional neighborhoods, it becomes a town. Neighborhood size has been defined throughout planning history. This graphic created by Clarence Perry is entitled “Neighborhood Unit of the 1920 New York Regional Plan”.

Clarence Perry defines the neighborhood as a component of a town and defines its size based upon a five-minute walking radius. The radius is measured from the center, and the center holds the cultural uses such as a school. A five-minute walking distance is approximately 160 acres. Clarence Stein expanded the definition of neighborhood center.

The definition of the five-minute walking radius neighborhood is part of the American Institute of Architects Architectural Graphics Standards which is an industry standard for dimensional criteria for buildings and site planning.

In the early 1990’s, the firm of Duany Plater-Zyberk reproduced the Clarence Perry diagram to demonstrate how the diagram is still effective in planning today.



Fig 2 : clarence perry 1920 neighbourhood unit



Fig 3 : clarence stein 1942 neighbourhood unit

**1.3 Neighbourhood**

Neighbourhood are nothing but a group of people coming and staying together . it can be defined as clusters of households and dwellings, with both residential and non-residential functions, often with buildings and amenities offering choices for recreation, work, shopping, and education. Their built environment interconnects and allows neighbours and neighbouring dwellings to share infrastructure and services. The reason for this may range from staying together for social security, sharing skills to have a complete and contained area, helping each other for production of food, protection from invaders , etc.



Fig 5 : Neighbourhood unit examples

**2. Concept of sustainability**

The Brundtland definition states that "sustainable development is development that meets the needs of present without compromising the ability of future generations to meet their own needs."

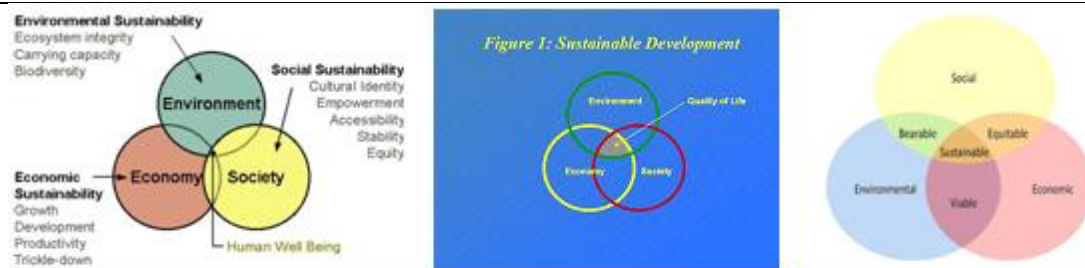


Fig 6,7,8 : The three principles and values for sustainable communities (source: Kasim, et, al. 2005) **Balanced and Mixed Community** Society Environment Economy

As three interlocking circles, representing the social, economic and environmental domains are (a) human creations and (b) dependent upon the natural environment:

As the three circles below, showing "sustainable space" as the area where the three domains overlap. In this view, the further communities advance toward sustainability (i.e., bring the three domains into Harmony with each other), the larger the "zone of sustainability" becomes.

As three concentric circles, showing that both the social and economic domains.

### 3. CONCEPT OF SUSTAINABILITY NEIGHBOURHOOD

#### 3.1 Sustainable Neighbourhood

A sustainable neighbourhood is place where people want to live & work now & in future its a mixed used area with a feeling of belonging for community which provides an environment with high quality of life includes safe and inclusive, well planned, built and run, and offer equality of opportunity and good services to all. The component of sustainable neighbourhood may vary according to the need of the particular society but the whole concept of sustainable neighbourhood aims to accomplish long term socially, environmentally feasible community by focusing on various sustainability indicators.

#### 3.2 Neighbourhood Sustainability Framework

An outcome of a sustainable neighbourhood built environment.

The built environment maximises neighbourhood satisfaction through housing quality, durability and low levels of dilapidation, street safety, low noise disturbance, opportunities for casual social interaction, and opportunities for enclave living.

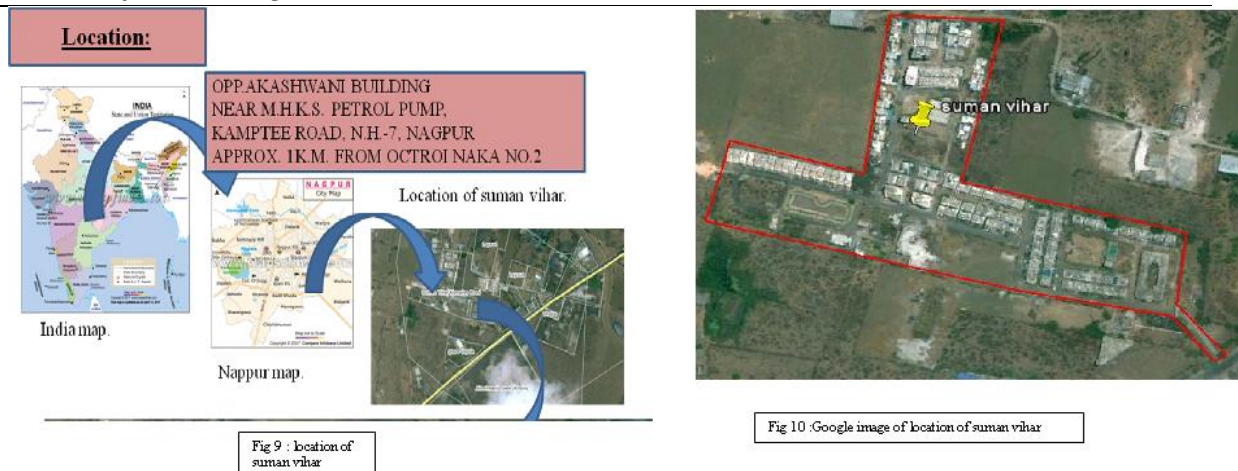
It minimises the direct and indirect costs for households and cities associated with travel, land and dwellings, maintenance and repair, infrastructure, and facilities & encourages resource efficiency, conservation and sustainable resource use in dwelling performance, land consumption, transport, energy sources, water consumption and life cycle impacts.

It also protects and enhances the environment by reducing negative impacts on air quality, aquatic health, biodiversity and soil quality.

## II. CASE STUDY

### Suman Vihar:

Location: Opp.Akashwani Building Near M.H.K.S. Petrol Pump, Kamptee Road, N.H.-7, Nagpur Approx. 1km. From Octroi Naka No.2 Basic concept behind this neighbourhood is not just building structures, but a whole new way of living, not just living but a quality living. with affordable rates to common people to this effect, They had a strong foundation, strengthened by the interpersonal bond they share with all their people, associates and customers.



Another feature is understanding of the needs of an evolving society and using their skill and expertise to fulfil these needs, thereby creating a better quality of living, a better society, a better environment and a better world for the users of suman vihar.

Suman vihar is developed in 3 phases. Fully developed neighbourhood with well connected road, water and electricity and plantation on road site. Atmosphere is very pleasant with pollution free environment and ample amount of vegetation on site.

This neighbourhood is well connected through the internal road which provide ease for approach. at the same time it is well connected to the city bus service to central location of sitabuldi, all together provide street safety for the users. As it is away from main road low noise disturbance to the neighbourhood. Open spaces are provided in the form of landscape ,play ground & social gathering space with temple..open spaces are strongly used for social gathering & interaction.

Firstly its location it self provide security to the neighbourhood & secondly it is well protected & secured by . The Main gate with watchman cabin with 24 hrs presence of security guard.. totally covered with compound wall. & street lights in 20 acres. Provision of the sewage treatment plant helps to contribute to the sustainability. Hence suman vihar serve as a beautiful example which comes out as a sustainable neighbourhood in Nagpur city.



Fig 11: The picture includes Road network(road safety) Openspaces(parks)  
Township Security Water supply, Sewerage treatment plant.

### III. CONCLUSION

Sustainable neighbourhood is one of the primary parameter in urban planning. The paper explained that sustainable neighbourhood planning is not only essential in city level ,national level but majorly affected at global level. There for we can say that green city Nagpur stepping forwards for achieving a sustainable goal by the concept of sustainable neighbourhood for enhancing the urban built environment which ultimately contributes in global arena.

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