

## Urban Planning, Environment and Health Initiative

– P. S. Uttarwar\*

### Promote Healthy and Sustainable Cities

The Urban Planning is an important tool to make our cities Healthy for citizen, conserve Natural Environment and Initiate disease-free population based on scientific evidence.

The relation between the health of the population and the environment must be the foundation for the urban/city planning. Cities prosper which are designed to be healthy, sustainable and liveable. At present, more than half of the world's population lives in urban areas, and this proportion is expected to increase to between 70% and 80% over the next 20 years.



### Major killer is Air pollution

Historically cities have been centres of innovation and wealth creation, but they are also main sources for air pollution related diseases. There is a established relationship between poor urban and transport planning with harmful environmental exposures, low levels of physical activity, and ill health. Rapid urbanization has been accompanied by a fast increase in non-communicable diseases (NCDs), accounting for the large no of deaths by this disease worldwide. NCDs cause 68% of global mortality, and may cost a projected \$30 trillion between 2011 and 2030.

As per the estimates of World Health Organisation (WHO) air pollution alone is responsible for four million deaths a year. Ambient air pollution negatively affects health and, contributing to cardiovascular, cerebrovascular and respiratory disease. Thus a leading cause of death from heartdiseases (27%), lung cancers (36%), chronicobstructive pulmonary disease (COPD) (35%) and strokes (34%).

### Better Land use and Transport planning Prevents premature deaths

Inactivity or less Physical inactivity is considered to be one of the most significant health problems of this century, and is estimated to cause some 2.1 million deaths every year worldwide.

Air and Noise pollution has been associated with numerous negative effects on human health, including impaired cognitive function, sleep disturbance, cardiovascular disease, obesity and type-2 diabetics.

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Climate change and Heat islands, the result of the concrete and asphalt urban environments in cities, is resulting in increase in temperature and flooding which leads to increase in illness and related deaths.

Additionally, inequities in income, poor living conditions and inadequate access to health facilities, are often leading to poor health outcomes and a cycle of entrenched poverty.

Within the challenges posed by urbanization there are also significant opportunities for intervention. Strategies designed to increase access to blue and green infrastructure have been shown to have a positive impact on health by contributing to reductions in stress, mental health problems and cardiovascular disease.

### **Denting the diabetes epidemic**

The problem of diabetes is so huge and increasing so quickly that it can be labeled as an epidemic whose effects are felt in the long run, especially in terms of increasing costs of diagnostics, medicines, loss of productive days, and income. Focusing on increasing the physical activity levels of individuals is unlikely to counter this epidemic. Interventions at the population level are required, and this means an Indian way of imagining, building, and running our cities.

Making Indian cities more walkable with the creation of social zones would be a unique contextual way of inducing physical activity into the daily life of large populations of India and making a dent in the diabetes epidemic.

“Focusing on increasing the physical activity levels of individuals is unlikely to counter this epidemic. Interventions at the city and regional level are required. This means back to basic an Indian way of designing buildings & streets, and introducing social spaces like choupal/chowk to the cities.”

It has been found that over 100 million (11.4%) Indian have diabetes. Another 136 million are living with pre-diabetes (15.3%) as per 2023 ICMR-led study.

By the end of decade, the numbers may be doubled, leading to a diabetes epidemic. One major reason the explosion is a lack of physical activity in the daily lives of people. Therefore, cities through planned development must introduce physical activity in the public spaces, encourage open gyms, this may benefit people those who are at pre-diabetics stage. This is one of many ways of immediately tackling the impending diabetes epidemic.

### **The problem to make populations active**

Typically, we view this as a problem of making individual humans more active. There is, however, another side to this: people can be induced to become physically active by creating an environment that encourages activity in their leisure time through proper space making. Cities should introduce norms/bye laws to do this by giving them choices to plan an exercise regimen by walking to parking/bus stop/metro stations etc by introducing walking zones in their daily routines.

## What are some specific ways to make our cities more walking-friendly?

1. Develop parks or walking pathways within reach of all localities in the city, meaning that residents should be able to reach them within 10 minutes (about 1000 meters distance).
2. Eyes on the street principle may be followed while building streets, allow more activities along walking path to safety of users, provide water bodies and play equipment for children in parks, and landscape the walking paths. It has been found that children play more in parks with play structures, as compared to open fields. Parents bring children to parks if they are safe, toilets and drinking water is available, the park is well-lit, and shade-providing trees are present.
3. For vigorous physical activity, build courts and playgrounds for two or more localities, and sports complexes for five or more localities. Walking pathways should always skirt these as well.
4. Footpaths in all localities should be wide, easy to access, unobstructed pedestrian movement covered by trees or shades, street lights in the night and are seamlessly connected to shops and bus stops/metro stations. Well-maintained street crossings encourage children to walk.
5. Development of social ties in the locality should be encouraged, as this plays a crucial role in encouraging physical activity in the elderly, children, and women.

## Creating social zones

Most important method to make Indian cities more -friendly is to divide all roads into i) Traffic zones and ii) Social zones. In practice, this would mean:

- The traffic zones would continue to be planned on the 3Es model: enforcement, education, and engineering. The underlying assumption is that traffic will flow smoothly if traffic rules are enforced, the public is educated, and roads are upgraded to standards in transport engineering/planning.
- In the social zones, vehicle movement, and walking would be combined.
- The combination would be based on Woonerf principles developed by Niek de Boer and Joost Vahl in the Netherlands. Concretely, this means that in social zones, street traffic would flow with pedestrian movements, children's play activities, and social activities. The four principles of a woonerf are:
  1. Visible Entrances are distinctly marked by a sign showing that people are given the priority.
  2. Shared and paved space are intended for all street users.
  3. Physical barriers slow car traffic.
  4. Landscaping and street furniture are incorporated into the space



# THE 4 PRINCIPLES OF A WOONERF

VISIBLE  
ENTRANCES

PHYSICAL  
BARRIERS

SHARED AND  
PAVED SPACE

LANDSCAPING  
AND STREET



- The guiding principle of social zones would be "paved streets with curves to slow down traffic and visible entrances" in street design. There would not be any warning signs, road markings, and traffic signals. Surface treatment, lightning columns, and junction corners would be squared-up. The purpose is to make the intersection resemble the center of the Indian town or to create a public realm.
- Shared space is another fundamental Woonerf principle that would be applied to transform busy traffic intersections. No mode of transport is given priority and pedestrians, buses, cars, and trucks used eye contact to negotiate the junction. Despite giving the impression of chaos and disorder, this is untrue, because different types of traffic mingle using eye contact and care for other types of transport. No police regulation or control is visible and traffic movement depends on informal convention and legibility.

The Woonerf principles were applied in Christiansfeld, Denmark, and the Friesland market town of Oosterwolde, as well as the "Home Zones" programme in the UK. Expectedly, the number of killed or seriously injured (KSI) during the last three years was reduced to zero. Moreover, traffic backups were reduced. Compared to junctions that have traffic signals, ambiguous junctions prevent accidents, reduce delays, and are cheaper to construct and maintain. In the city of Christiansfeld, the number of deaths or serious injuries during a three-year period was reduced to zero.

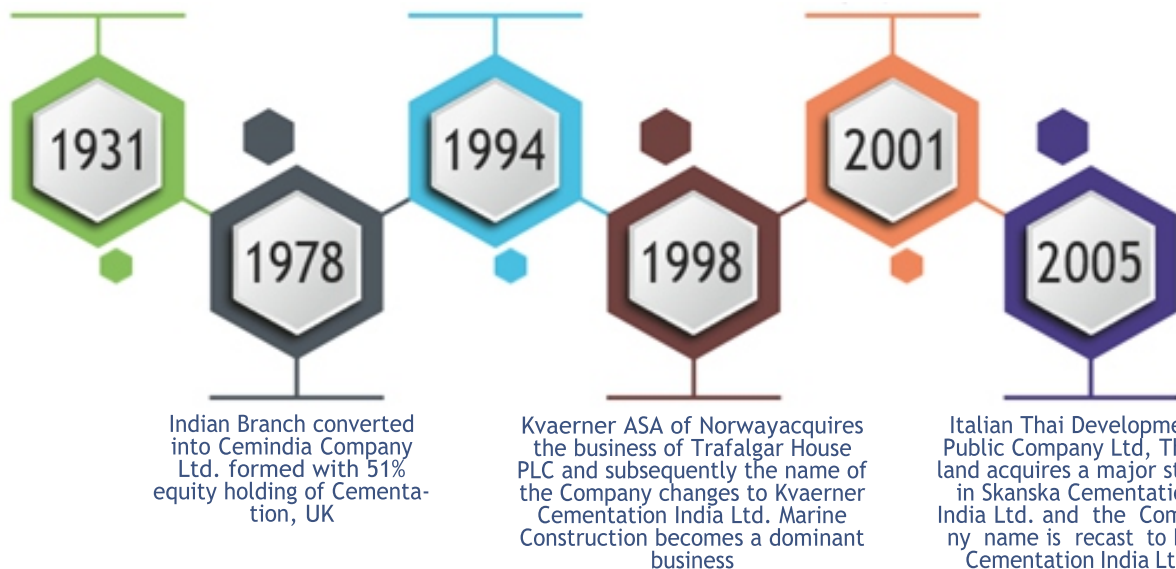
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