

# 11 SUSTAINABLE CITIES AND COMMUNITIES



Currently, 55% of the world population is living in cities of which 828 million people are living in slums [1]. The expectation is that by 2050 the urban population will rise to 68% [2]. Even though cities occupy only 3% of land, they are responsible for emitting 60-80% of all the greenhouse gases and use around 75% of energy worldwide [3]. Safe, inclusive, resilient and sustainable cities are key to solving many of today's problems.

## Wickedness Scale

The wickedness of the problem can be explained by its structural complexity. It manifests itself at micro, meso and macro level and affects politics, the socio-economic status of people and the health of the environment. We can conclude that there are many symptoms that affect different stakeholders. Therefore, it is hard to determine whether civil society, the market or the state is responsible for solving the problem. The communicative complexity of the problem is not too complicated, since there is a common understanding of the problem and sources of information can be verified. The multi-directionality of the problem can be explained by its interconnectedness to other SDGs.



## Interconnectedness



In the figure [4] one can see that almost every SDG is connected to a subtarget of SDG 11. A few examples:

- Almost a quarter of the urban population is living in slums. Target 11.1 focuses on adequate, safe and affordable housing and basic services. This can be linked with SDG 1 'No Poverty'.
- Due to densely populated areas there is a bigger risk in cities for pandemics like Covid-19. Over 90% of the cases were in urban areas. On top of that there were 4.2 million premature deaths due to air pollution in 2016. An important link with SDG 3 'Good Health And Well-Being' is seen here.
- Since 75% of all the energy is being used by cities, SDG 7 'Affordable and Clean Energy' is directly connected to SDG 11 as well.

## Trends

Globally, urban areas are expanding at a faster rate than their population, which returns in a decline of the urban density. This growth of land being used for urban purposes has an impact on environmental sustainability and needs to be managed better in order to achieve sustainable urbanization. According to the UN, the urban population of almost 4 billion people in 2015 will increase by 75%, thus the estimated urban population in 2050 is 6.3 billion people [5]. The amount of

people living in slums dropped from 46 to 23 percent (1990 - 2016). However, due to population growth the actual number of people living in slums didn't improve. In 2018 1 billion people were living in slums [1]. This number has only been increasing in the past two years.



## Societal Triangulation

The societal triangulation analysis, partnership challenges and frontrunner analysis are applied to India, since 6 of the 30 fastest growing cities are located there [6]. Furthermore, 14 out of the 20 most polluted cities worldwide are located in India. Rapid urbanization is a challenge for developing countries [7].

The first level is addressing failures. Currently, over 65 million people live in slums [8]. This is related to subtarget 11.1. The second level is dealing with negative externalities. Air pollution is a big problem in India. The level of dangerous particles in the air is so high, that pollution monitors in Delhi were not able to report these [9]. This is related to subtarget 11.6. The third level is creating positive externalities. The European Union, the French agency for development and the Indian government launched a program that encourages cities in India to become smart cities [10]. Which relates to subtarget 11.A. The fourth level, where market, state and civil society engage in collective action, is the most advanced. An example of this is the National Mission on Transformative Mobility and Battery Storage in 2015. This is a project that was launched by the government, where they work together with companies in order to provide sustainable transportation for citizens [11]. This is related to subtarget 11.2.

## Partnership Challenges

### Intra-sectoral

Profit maximization of companies has resulted in a 'self gain' culture. This prevents collaboration with competing firms.

### Bipartite

Few regulations from the government led to a lack of incentive for firms to behave more sustainably.

### Tripartite

As long as basic needs are not fulfilled, civil society will not prioritize urban sustainable development.

## Frontrunner

Shree Cement Ltd. is a leading cement manufacturer in North and Eastern India that is globally recognised as one of the most efficient and environment-friendly firms of its industry. Not only was Shree the first Indian cement company to join the Cement Sustainability Initiative (CSI), it also co-initiated first country-level SDG Roadmap initiative for the Indian cement industry (The Indian Cement Sector SDG Roadmap) and is a World Economic Forum 'New Sustainability Champion' [12;13;14]. In its production process, Shree practices waste-to-wealth conversion, utilizing community solid waste as fuel in their operations. Beyond using biomass and waste heat to supplement conventional electric generation, it has developed ways to make use of bed ash and lead zinc slag in cement production. Shree was the first company to convert low-quality limestone into gypsum for use in cement production. It has invited competitors to visit their plant in order to share and exchange ideas on energy efficiency and environmental processes, aiming to resolve partnership challenges [14]. Shree further gives back to the communities by providing free health benefits to people living within a 20 km radius of its factories.

Shree contributes to SDG 11 by focussing on targets 11.2 and 11.6; it contributes to more safe, affordable, accessible and sustainable transport systems, and reduces the environmental impact of cities by paying attention to waste management [13].

