

CLE2020

SOLID WASTE MANAGEMENT



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**J-COMPONENT PROJECT
REVIEW- 2**

**2 March , 2022.
(SCHOOL OF CIVIL ENGINEERING)**

**ROLE OF
PEOPLE IN
SOLID WASTE
MANAGEMENT**

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OBJECTIVES

This work investigates the different aspects-

- The importance of public participation in solid waste management
- Behaviour change for solid waste management
- Issues in solid waste management
- Case studies where solid waste management attracted people

METHODOLOGY

The main focus of this project is to acquire in-depth and comparative knowledge on the given topic.

Research papers are collected based on different strategies in solid waste management.

- Review 1 : Introduction to Solid waste management , policies provided by government for solid waste management
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- Review 2 : In-depth study of role of people in solid waste management. Case study of solid waste management in Indore city .
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- Review 3 : Comparing the case studies, and knowing the most appropriate strategy to attract people

ISSUES IN SOLID WASTE MANAGEMENT

- Lack of Public participation.
- Lack of infrastructure.
- Financial constraints
- Lack of people's awareness in solid waste management.
- Rapidly rising volume of waste generation.
- Continuous practice of mixing of wet and dry waste at source of generation.
- Increase of Plastic volume in waste.

DUTIES OF WASTE GENERATORS

- Every waste generators should segregate waste and store separately , and handover to Municipal workers or authorised waste pickers.
- Local authority shall prepare a solid waste management plan , time line and its implementation, segregation, processing of waste and disposal.
- Waste generators have to pay a "userfee" to the waste collector and a :"spotfine" in case of littering and non segregation.
- Participating residents pay a monthly fee, which is set by the waste management committees.

PRINCIPLES OF DESIGNING PEOPLES' PARTICIPATION

- Monitoring when people, witnesses, other residents dumping waste at an appropriate time or place, then they may call the attention of the organization to confront the resident.
- Sanctions individuals who are caught by other residents through their monitoring efforts may face sanctions. As well, individuals who do not participate in the system may be excluded from other communal activities. The execution may encourage other residents to participate.
- Minimal recognition of rights to organize people may be allowed to form their own local organizations for the purpose of solid waste management.

PLANNING FOR EFFECTIVE COMMUNITY PARTICIPATION THROUGH INFORMATION, EDUCATION AND COMMUNICATION

- Information, education, and communication (IEC) is a multilevel tool for promoting and sustaining risk-reducing behaviour change in individuals and communities.
- Awareness and education campaigns are essential to bring about a behavioural change among the citizens in managing their waste.
- Interpersonal communication involving persuasive dialogues and discussions with individual members of the household especially during door-to-door visits has been the most effective communication tool within the IEC framework.
- Sanitation workers involved in door-to-door collection have proven to be the most important link in sustaining the efforts for segregating waste.
- Awareness activities for school children bring about the longest impact and result in quickly visible and sustained changes in the society. Children are active communicators and have convincing powers. It is also easier to modify behaviour of children through information sharing, increasing knowledge base, and motivation.

एक कदमा स्वच्छता का आर

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प्रभात

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Case studies

INDORE CITY

INTRODUCTION

- Indore is the largest metropolitan city in Central India and it is known as the Commercial Capital of Madhya Pradesh.
- According to 2011 census of India, Indore is the most populous city in Madhya Pradesh with a population of 19,94,397.
- Indore city is distributed over a land area of just 530 sq. km, making Indore the most densely populated major city in central province.
- Indore has been ranked India's cleanest city under the Central government's annual cleanliness survey for the fifth time in a row.
- In the results of Swachh Survekshan 2021, Indore secured the top place by scoring a maximum of 5618.14 points out of 6000.



JOURNEY OF INDORE IN BECOMING THE CLEANEST CITY

- Indore started building their fleet of door-to-door garbage collection vehicles and began to strengthen their municipal workshops in early 2015, a couple of months after PM Narendra Modi launched the Swachh Bharat Mission.
- By the end of 2016, the Indore Municipal Corporation(IMC) was carrying out 100% door-to-door collection of garbage.
- In 2017, IMC focused on "reduce, reuse and recycle" while in 2018 they promoted home composting.
- In 2019, IMC closed all sewer connections to water bodies directly from residents.

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PUBLIC PARTICIPATION IN CLEANING OF INDORE

- The most important aspect of the entire program was the segregation of waste because their value addition and capacity to recycle increases.
- Public plays an important role in source segregation of waste. Indore started with two types of segregation, which today has increased to six types.
- Residents carry dustbins in their cars to avoid littering at public places.
- Many localities adopted the composting method to keep the area clean. Wet garbage is separated and is used for compost making.
- Teachers in schools and parents at home, made it a point to make their wards aware of the dangers of littering.

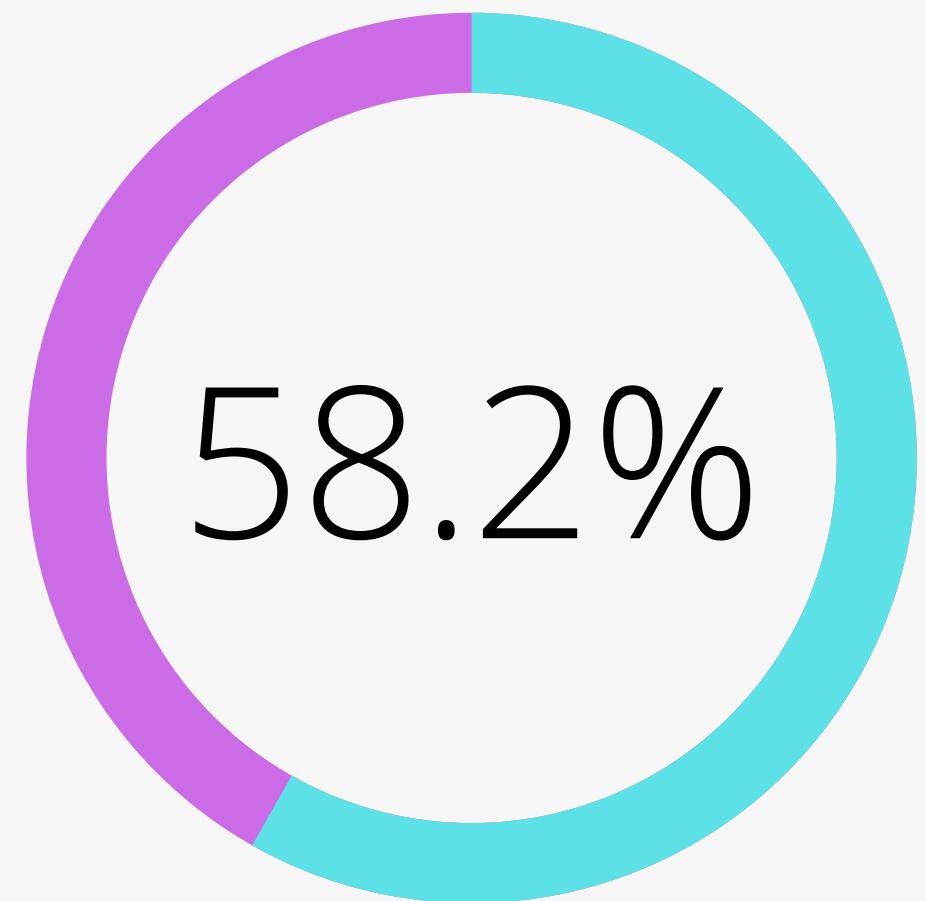


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नगर निधि

WASTE GENERATION AND COMPOSITION

- Indore is divided into 85 wards and 19 zones as the operational area for solid waste management (SWM).
- Total waste generation in Indore: 1115 metric tonnes per day.
- Wet waste generated is 650 MTPD (58.2%)
- Solid waste generated is 465 MTPD (41.8%)
- Accuracy of waste segregagation is 99.54%



Wet waste composition



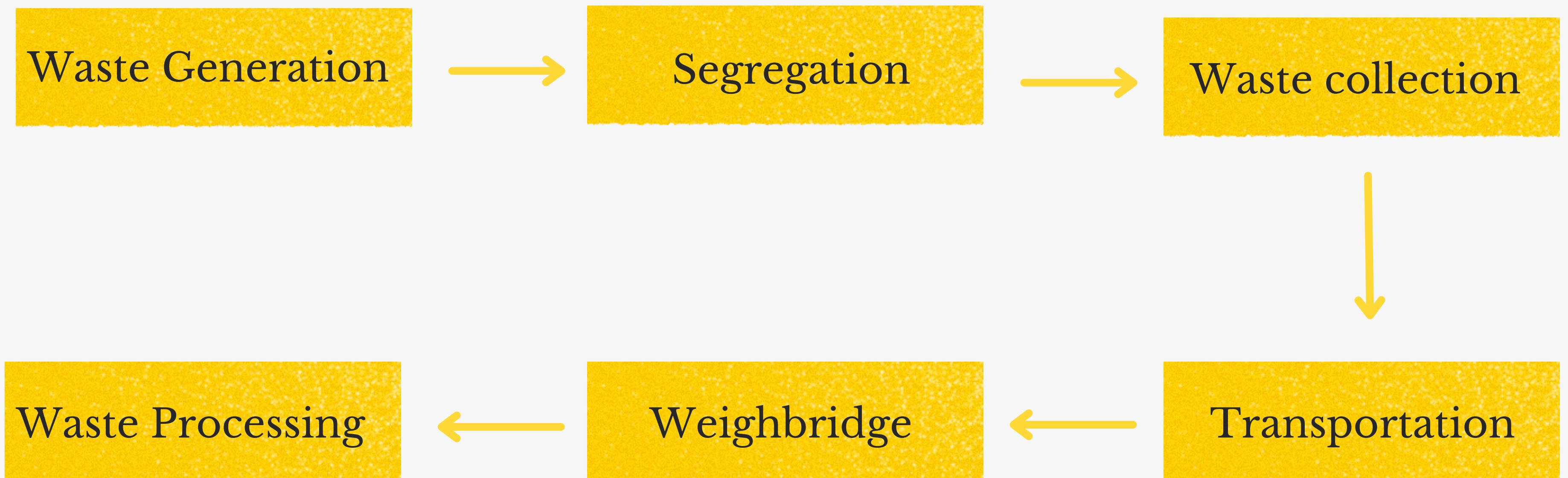
HOW INDORE BECAME THE CLEANEST INDIAN CITY , STRATEGIES IT USED

- Door to Door collection of waste (Daily)
- Salary of cleaning staffs
- In the sweepers , 80% are women . Workers can opt their shift , mostly night workers have their residence within 1 km.
- Concentrate on infrastructure, this attracted people participation.
- A control cum command center was set up to track movement of garbage vehicles from neighborhood level to processing centre.
- Workers welfare is also concentrated.

 INTEGRATED SOLID WASTE MANAGEMENT
CONTROL & COMMAND CENTER
I.S.W.M.



WORKFLOW









Behaviour Change Communication for Solid Waste Management

This is a beautiful botanical garden, if i
found someone plucking a flower then I am
also free to pluck one , it's human nature.



It's Human Nature



- Here is a person driving throwing out the used paper napkin, he's being privately smart, he wants his car to be clean and he's not worried about the road.
- The car is private it is his own it must be clean but he doesn't care about the road since it is public .



- You find this lady throwing waste on street, if you catch hold of her you talk to her she would say trust me I was not the first one to throw my waste here, many people have already thrown.
- These behavior is called Theory of broken windows in social psychology. The broken window is a metaphor for how behavior norms breakdown in a community



Theory of Broken Windows

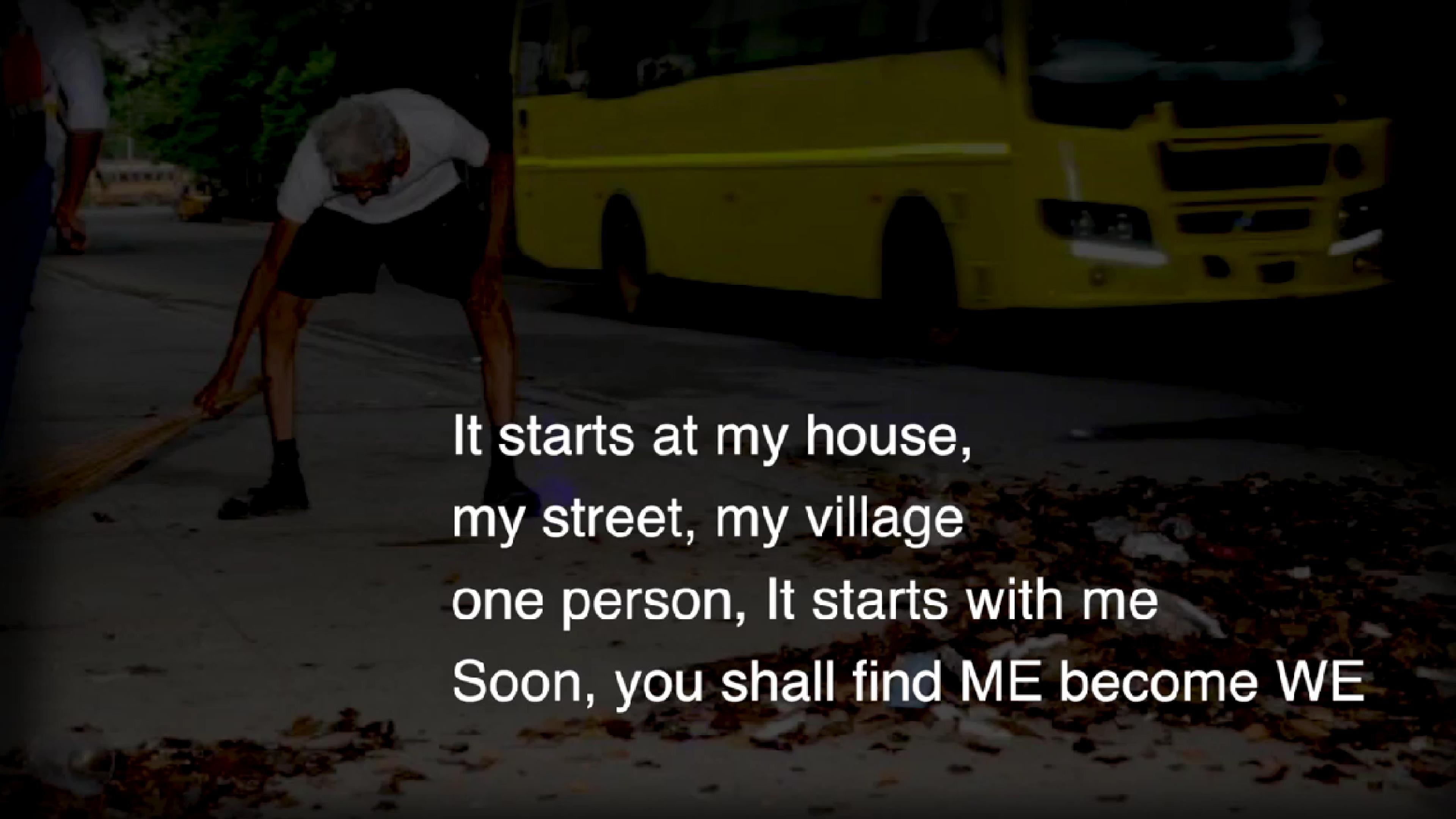
- The broken window is a metaphor for how behaviour norms breakdown in a community.
- Once people begin to disregard the norms both order and community loosen up. As days go by people feel less shy and less reserved about things getting from bad to worse. From bad to worse it gets very fast.
- The question is does it belongs to somebody or it belongs to nobody like the car you saw belong to one person and the road belongs to nobody , that's the mindset we have developed.



- You take a piece of cloth and try to tear it , it is difficult. But once it gets unstitched in one place it goes opening out until it can go to the worse.
- So the first tear that we are trying is difficult and first one it goes then it goes on so once a place is spoiled and soon it becomes worse.
- This is what we call theory of broken windows , once it starts getting bad in one place soon it becomes worse.



If an attitude is rational for me,
it is rational enough for everyone else



It starts at my house,
my street, my village
one person, It starts with me
Soon, you shall find ME become WE

REFERENCE

- <https://www.youtube.com/watch?v=-0kRXiT6sPE&list=WL&index=3>
- <https://www.youtube.com/watch?v=z0OaQW8mmpI>
- <https://www.youtube.com/watch?v=ZkRckWGRF3o&t=97s>
- sbmurban.org

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