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Tactics of Slum Upgradation in Urban Area

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ABSTRACT
In developing country, a slum is becoming real threat having numerous adverse effects. As urbanization grow, the slum continuous to enlarge. People in slum live with unsanitary conditions which are unfit for human habitation. To improvise basic service like appropriate housing, electricity, water supply, sanitation, health and educational services, it's imperative to upgrade slum. This paper focuses on sustainable slum development to enhance potential and capability of slum dwellers. Guiding them about "learn to earn program" which will help them to induce income and turning slum into catalyst for economy instead of burden on it. The study aims to provide some sustainable methodology for improvement of slum area to advance the living condition of slum dwellers and also suitable ideas for developing affordable housing for preventing slum from arising.

KEYWORDS: *Slum, Multiple Housing Problems, Slum Improvement Strategies, Vernacular Method, Zero Waste.*

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I. INTRODUCTION

India is undergoing rapid growth of population as well as urbanization which leads to increase in slum population. Urban inequality is directly connected to human development, including health, nutrition, gender equality, employment opportunity and education.

Globally, 30% of population lives in urban area and by 2050, 66% of population will in urban areas. It's expected that India account for 37% of urban growth and that will add around 404 million urban dwellers[i]. There is huge rise in inter and intrastate migration to urban area because cities are centers for investment, technology, innovation, agglomeration economics, economic growth and tertiary jobs. Unemployment, poverty, drought and lack of good medical and educational facilities force rural migrants to move in urban area. The rural migrants, who can't afford urban housing, settle in slum mostly in vacant plots or open area with canals, riverbanks, railway lines. Due to enlargement of slum, quality of housing decline. Other reason for climb in slum is failure to plan cities that accomplish the needs of people.

The government is in charge to provide basic services in slum. Some NGOs also helps in improvement of slum but it has turn down over time with reduction in association for slum improvement. In India the initial slum upgradation policy were focused on slum clearance. It was in 1972-1973 schemes that central sector has to provide services including water supply, sewage, drainage and street pavement. The World Bank provided funds for slum upgradation by conversion of service latrines, development of surface drainage faculties, connection of water tap, construction and widening of roads and pathways, providing street lighting and waste disposal facilities.

II. ZERO WASTE CONCEPT

Slum is becoming a real threat to the world and to developing countries. Slums continue to develop at an uncontrollable rate with growing deprivation and the unequal distribution of resources. The rapid development of informal settlements and slum communities is the most noticeable expression of urban poverty in developing cities. Nearly one billion people living today are slum dwellers, one out of every six human beings. People from the slums area are living in the unhygienic and unhealthy environmental and unproper living conditions as well as high level of illiteracy affects on their personal and also on the country's economy.people from the slum areas have lack of income and that's why they are facing the problems of housing and daily needs and it gives the image of poverty in the city.

Another major problem in the country is generation of solid waste and there is no proper waste management in the developing country. As defined from the handbook of solid waste management[ii], sources of solid waste generation are residential waste, commercial waste, institutional waste, construction and demolition

waste, municipal solid waste, industrial waste, agricultural waste and treatment plant wastes..There are many types of waste generate in the urban area like household waste, industrial waste, construction waste, agricultural waste, treatment plant wastes. Construction waste is one of the most shares in the solid waste. In Australia, 21 million tons solid waste generated and 40% form those are the construction waste and this percentage will be increased by 25% by 2025[iii]. Waste management, especially construction waste and the slum are two connected problem because of lack sustainability which provides us a beneficial and long term effects on the country's economy and environment. So, there is a major focus of the construction waste in a effective way, we can recycle the whole construction waste and produce a better quality of material that could be use in the slum upgradation process. Through this zero-to-waste process, we can provideemployment to the people who lives in the slum area to full their basics needs and the product generate through that construction waste is also used in their slum areas.

Marketable Construction Material: The Output

New materials are developed based on the recycling techniques of construction waste, which are used to serve two basic purposes:

- Construction materials used for slum infrastructure upgrades and construction works. The slum will be strengthened by these living conditions for dwellers and giving them a sense of belonging and ownership.
- New marketable building materials to be sold for money by the slum dwellers that help them produce Revenue and change in their working standards.

III. LEARN TO EARN MODEL

The Learn to earn model is considering as a human development model, which helps the people to learn new skills from that they can earn income to fulfill their needs. In this process, on the larger scale by employing the people from slum area on many activities that affects the country's economy as well as their living conditions. Therefore, number of slim development centers provide in the country. Their main goal is to help the slum dwellers to improve the human living standard byteaching some new skills. The center is teaching new skills to slum dwellers on the basis of the age, gender, and physical disabilities. Recycling of the construction waste and the basic techniques are the part of the slum development centers.The government should be responsible to co-fund this process together with investors through corporate social responsibility (CSR) concept as per ISO 26000.[iv]

WOMEN DEVELOPMENT

The development programme for women through LEM focuses on small tasks that can be carried out by women. In her place of residence is built to make it more comfortable for mothers and elderly as well as physically affected individuals.

Some of these activities include raising and selling rabbits for cash, roof top planting and selling. The local community's herbs, needle and beadwork, spinning and mushroom vegetation, all of which these are depend on easy tasks that require little preparation.

IV. NEW STRATEGY REGARDING SLUM UPGRADATION (VERNACULARAPPROACH)

Vernacular design is based on local conditions, local materials and local customs. It is what gives character to a community. Approved vernaculars evolve over time to live in local environment trends. The resources are local materials, the technologies are powered by their own muscles, but their purpose is to build emblems of cultural presence. When vernacular technologies include local materials and the touch of the hand, they differ from industrial production systems.

According to the survey, the elements have been put in into categories according to their priority of upgrading, whatever they are difficult or easy to be adopted.

There are 3 phase presenting the strategy for upgrading slum area in developing countries using vernacular trends"[v]. These phases are:

FIRST PHASE: PLANNING ADJUSTMENT

While this phase includes challenging physical elements, it is a primary stage for any required area to be updated.

1. Layout and building lines
2. Space networks
3. Town cramming and density
4. Street width
5. Form of urban tissue
6. Road hierarchy

SECOND PHASE: FACADES ADJUSTMENT
This stage would help to enhance the overall visual appearance by modifying the façades of the buildings
1. Openings
2. Materials and colors
3. Elevation width
4. Block size
5. Texture
THIRD PHASE: Urban Image Adjustment
A unique illustration for each area should be used when upgrading using an effective landmark, respecting the edges of the surrounding environment, and using roofs according to the activities needed.
1. Landmarks/ key buildings
2. Edges
3. Using roofs

In the informal environment areas, we can change certain urban elements to transform them into vernacular environments in three steps, which are Planning Adjustment, Adjustment of Facades and Urban Image Adjustment.

In this way, through the rapid rise in population growth, we might help governments find a way to address their housing challenges without facing the difficulties of informal areas and slums to achieve sustainable housing development based on the principle of self-building.

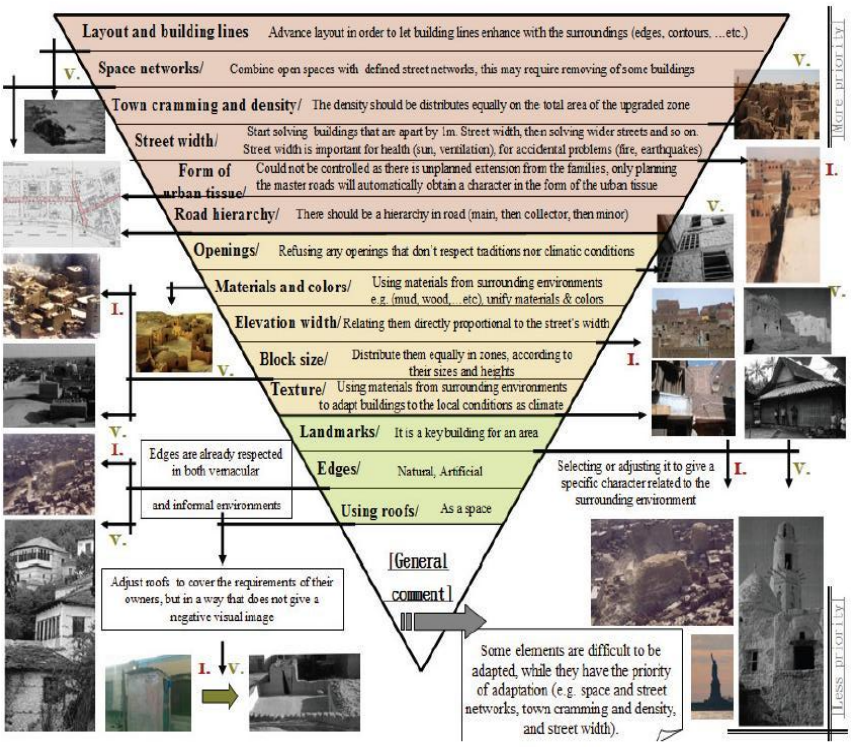

Figure1. Three phases of upgrading slum area in developing countries using vernacular trend[1]

SLUM UPGRADING APPROACH ACROSS THE WORLD

- **SINGLE FAMILY HOMES:**

The slum upgrading project in Salvador, Brazil, was Cities Alliance project which was focused on upgrading slums with single family homes. The project is known as PATS (Technical and Social Support Project). It was collaboration between Cities Alliance, the Italian Government, and the World Bank. The main objective of the project was slum elimination in the area. This was to be accomplished by shifting the families from their informal settlement into single family homes in a newly developed area. Another objective of the project was community engagement and education. This program was arranged to incorporate educational programs which would teach the residents how to improve their health, education, and economic status. Another

aim was to improve the resident's access to services. In this model the program gives the families access to utilities such as garbage collection, connection to water, electricity, and sewage.

- **MULTI FAMILY HOMES**

The Most Clearing House organization in Agadir, Morocco implemented the Marins Pecheurs project. The goal was to shift families living in slums with minimal social disruption. Since it was an urban environment in a country with land scarcity, this project had to operate within the land limitations of the region. Single-family homes were not a choice because of land problems, and multi-family homes were seen as a safer alternative. Small row houses and apartments for sale and rent to squatters near their current site in Agadir were created by the project. This was to be achieved by helping the families of the squatters to demolish their shacks and shift their belongings to the new site. Since Morocco has no community involvement in the renting culture, it has been brought into the planning process so that residents can better understand the reasons and benefits of choosing

V. SLUM UPGRADING IN INDIA :

In 2009, government aimed to improve the slum condition in India. There are some approaches done for slum upgrading. The government had planned to invest huge amounts of money in the development of affordable housing. Thus, the government focused on building entirely new homes for the urban poor rather than developing the area. One key concept that deals with the idea of slum upgrading is this concept of constructing new homes for the homeless.

The percentage of slums with the majority of pucca houses tends to increase with improved tenure protection, which is expressed by a higher percentage of notified slums located on private property. In states where the number of slums located in fringe areas is higher, the percentage of slums with most pucca houses is lower. Slum-improvement projects also have a positive effect on improved housing. Improving road connectivity has a positive effect on better housing. Urban poverty has a negative effect on better accommodation.

Slum road developments are more noticeable in states where household electricity conditions have improved over the past five years, but less so in slums located in fringe areas. Increased political would be expressed in improving the electricity condition of households, leading to road improvements within slums. As greater efforts have been made to improve the living standards of slum dwellers in low-income states, the electricity condition has improved as improvement of electricity could lead to improvement of other basic services and general quality of life. In states where household electricity conditions have improved over the last five years, and in states with a higher percentage of registered slums, street light conditions have improved to a greater extent. In states where urban poverty is greater, street lighting conditions have improved less.

In slums situated on private land, water supply conditions have improved further. Improvement in the supply of water therefore appears to be positively linked to tenure protection. In slums situated in fringe zones, it has also improved. Around 2008-2009 and 2011-2012, the water supply situation improved further.

In slums where the drainage situation has improved over the last five years, the latrine condition has improved to a greater extent. The slums associated with development, where as urban poverty is higher, it has improved less. In states where the drainage condition has improved, the sewerage condition of slums has improved more. In slums situated in fringe zones, it has changed more.

Garbage collection in slums where there is an alliance for slum improvement has developed further. In reported slums, and over the last 10 years, it has changed to a greater extent.

Tenure security has a positive impact on housing conditions and on improving the availability of water, streetlights and the collection of garbage. As far as the peripheral areas are concerned, housing conditions are worse off and comparatively less improved within the slum road, whereas conditions for electricity, sewerage and water supply show greater improvement? This means that, due to lower de facto protection, private investment in pucca housing may be less in the fringe area, but public investment in many basic services may be higher due to urbanization and land growth. The improvement of electricity conditions has a beneficial effect on the improvement of other facilities, including slum roads and streetlights. Improved electricity conditions therefore serve as a precursor to the growth of other basic services. More focus has therefore been put on developing electricity in fringe slums area and poorer states.

VI. PROBLEM AND CHALLENGES OF SLUM UPGRADATION :

One of the significant challenges of slum improvement is indistinct or absence of property rights. Informal sector growth possibilities are lower unless business economies are legitimized. This may be one of the reasons that slums appear as a pit for poverty. Property rights will allow assets to be converted into money.Tenure protection facilitates private investment in one's house and other essential services.[vi]The reinforcement of property rights in urban slums has contributed to higher residential investment. The

relationship between security of tenure and ability to engage in collective action for basic services is positive and meaningful. Titling also has a beneficial effect on the labor market and human growth.

Land titling would not boost core facilities in slums automatically. The intermediate tenure system is one that can fulfil the needs of the poor and provide them with social legitimacy instead of the traditional land title approach. Rising property prices make slum dwellers prone to forced eviction. The high demand for urban land, driven by anti-poor and pro-powerful governments, has incited slum demolition and land grabbing.

Political will is also a significant factor in the upgrading of slums. There was no political will for settlement formalization and slum up gradation. Due to clienteles, programmers managed at lower levels of government are likely to be under-provided. Infrastructure development funds available at local level, such as MLA or MP grants in India, are either used to serve the nexus between slum dwellers, politicians, bureaucrats, contractors and NGOs or to dry up when it comes to upgrading slum infrastructure. Against this, collaborations at the slum level are vital for two reasons: one, the challenge of gentrification of original residents and two, through collective efforts, to develop basic infrastructure. In maintaining documents, determining eligibility requirements and resource mobilization in slum upgrade projects, these community organizations may also play a key role.

Slum notification is made in India by the respective municipalities, companies, local authorities or development authorities to formalize land tenure that varies from traditional titling programmers that include full title to property. It guarantees only occupation and the right to basic services, but not the right to create, inherits, sell, rent or mortgage houses.[vii] There is better de facto protection and therefore better infrastructure in the slums situated on private property. After some basic investment is made, the infrastructure expands exponentially as one form of infrastructure prepares the land for investment in another type of infrastructure. Improving streetlights, for instance, prepares the land for road improvement inside the slum. After improvement of the approach road to the slum, the road inside the slum will be constructed as the latter is more significant. Once water supply and drainage are available, people can invest in latrines. It is inevitable that poor slum dwellers will be more able to endure market pressure and forced eviction.

VII. CONCLUDING REMARK

This paper aims to define the important determinants of slum upgradation. To enhance the quality of life in urban areas, the slum upgradation is necessary tool. After notifying the climb in growth of urbanization, it's expected that the slum will also rise to a great extend. If needed action won't be taken it could lead to denial of basic services, shelter and protection, growing poverty and delaying the Gross Domestic Product (GDP) potential of urban areas.

This paper discussed various approaches for slum upgradation. Slum development through zero waste concepts is a comprehensive solution to the current slum development problem and waste accumulation problem. With the support of the government, that provides incentives for slum dwellers to facilitate improved waste management and recycling systems in return for land ownership, will be one of the potential alternatives to encourage this model. This solves two concerns all at once by providing the slum dwellers with job opportunities, improving the waste management system and reducing the waste sent to landfills, thereby moving towards the realization of the concepts of zero waste and at the same time encouraging the feeling of belonging of the slum dwellers and solving the issue of land ownership.

Through vernacular trend could assist governments find a way to solve their housing concerns by exponentially large population growth without facing the problems of informal areas and slums, achieving sustainable housing production based on the self-built model.

Slum warning has also emerged as one of the significant determinants of improvement of streetlight, water supply and drainage. Government action also enhances basic facilities, including shelter, water supply, sanitation, electricity and waste disposal, through slum development programmes.

REFERENCE

1. [i]WUP (2014). World urbanization prospects. 978-92-1-151517-6 Published by the United Nations.
2. [ii]Tchobanoglous, G. and Kreith, F. (2002). "Handbook of Solid Waste Management, 2nd edition", Mc Graw-Hill Handbooks.
3. [iii]Infrastructure sustainability council of Australia, Australian Construction Site waste Management statistics,(NA), retrieved from http://www.csustain.com.au/construction-site-recycling
4. [iv] ISO 26000, International Organization for standards, Guidance on social responsibility, retrieved from http://www.iso.org/iso/discovering_iso_26000.pdf
5. [v]Tamer Abdel Aziz, Indjy M. Shawket,New strategy of upgrading slum areas in developing countries using vernacular trends to

achieve a sustainable housing development,EnergyProcedia,Volume 6,2011

6. [vi]De Soto, H. (1989) The Other Path: The Invisible Revolution In The Third Worlds' (New York: Harper and Row)
7. [vii]Nakamura, S. (2015) Tenure Security Premium in Informal Housing Markets: A Spatial Hedonic Analysis, World Bank Policy Research Working Paper, no. WPS 7526 (Washington, DC: World Bank Group).