



Addis Ababa University
College of Technology and Built Environment
School of Built Environment

The Application of Smart Density in Urban Redevelopment Plans on Slum Areas of
the City Centers: The Case of Cherkos Sefer, Addis Ababa

By:
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Advisor:
Dr. Birhanu Girma

June, 2025
Addis Ababa, Ethiopia



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A Thesis Submitted to the School of Graduate Studies of Addis Ababa University,
College of Technology and Built Environment, in Partial Fulfillment of the
Requirements for the Award of Master's of Science Degree in Urban Planning

Advisor:
Dr. Birhanu Girma

June, 2025
Addis Ababa, Ethiopia

Declaration

I, Meseret Derebe, the undersigned declare that this thesis is the result of my own original work and has never been presented in any university/institutions for any degree or other purposes. All materials used from other sources other than my own idea in this study are duly acknowledged & properly cited.

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Approval

As members of the examining board, we have read and evaluated the Master's thesis submitted by Meseret Derebe, the topic entitled “**The Application of Smart Density in Urban Redevelopment Plans on Slum Areas of City Centers: The Case of Cherkos Sefer, Addis Ababa**” and recommend to the Collage of Technology and Built Environment, of Addis Ababa University to accept the thesis as it fulfilled the requirements for a Master's of Science Degree in Urban Planning.

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Abstract

This study analyses the current trends of urban redevelopments plans which are trying to solve problems such as, the rise of informal settlements and slum degradation. But this planning methods lack inclusive planning, affordable housing, accurate and comprehensive resettlement plan. This has caused problems such as community segregation, people mental and social health distress. This study analyses the current ongoing urban redevelopment plan at cherkos sefer, and justifies how it doesn't have inclusivity in any shape or form for the existing community. The study thoroughly collects data on how important the redevelopment plans are by assessing the characteristics of the study area with its current living conditions and what the community's concerns are on the redevelopment plans then proceeds to investigate the shortcoming of the current eagle hills redevelopment plan in the eyes of smart density principles and its applicability to the case of cherkos sefer. It also justifies how smart density planning is the best approach that ensures efficient use of space, better living conditions that is all community class inclusive, and sustainable infrastructure for areas with higher urban density without causing distress to the dwellers. This study based on the collected data discusses that urban redevelopment plan is indeed accepted by the community as necessary to solve the overcrowding, a lack of infrastructure and environmental degradation. But the community also expressed concerns when it comes to increased housing cost in new resettlement areas, risks of displacement from their homes and neighbors, unemployment and transportation challenges for accessing their city jobs. This study draws the conclusions that, redevelopment plans can benefit the community if it applies compact, well connected and thoughtful development that promotes sustainable, resilient and comfortable living. This study finalizes by recommending smart density implementation integrated with building codes and for policymakers and urban planners on how they can ensure a successful density planning that benefits the community while ensuring sustainable urban development planning.

Keywords: *Smart Density, Urban Redevelopment, Slum Areas, Inclusive Planning, Community Participation*

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Acronyms/ Abbreviations

ADB	African Development Bank
BRT	Bus Rapid Transit
CBD	Central Business District
CSA	Central Statistical Agency
GDP	Gross Domestic Product
GIS	Geographic Information System
ICT	Information and Communication Technology
ILO	International Labor Organization
IMF	International Monetary Fund
MDG	Millennium Development Goals
NGO	Non-Governmental Organization
PPP	Public-Private Partnerships
SDG	Sustainable Development Goals
TOD	Transit-Oriented Development
UN-Habitat	United Nations Human Settlements Program

CHAPTER ONE

1. Introduction

1.1 Background of the Study

The swift urban growth of cities worldwide has led to the rise of informal settlements, especially in central urban study areas, where population increase exceeds infrastructure progress (UN-Habitat, 2016). These communities often experience congestion, inadequate infrastructure, and restricted availability of vital services. Although they contain a large segment of the urban population, slums are frequently overlooked in planning activities. (Satterthwaite, 2010).

Urbanization has changed city environments globally, yet this expansion has frequently resulted in significant disparities. In numerous swiftly urbanizing areas, especially in developing countries, city centers that were once lively with trade and creativity have witnessed the rise of large slum communities. These informal settlements accommodate thousands, if not millions, of inhabitants but frequently experience insufficient infrastructure, inadequate sanitation, and social exclusion (UN-Habitat, 2016). Although they contain a large segment of the urban population, slums are often overlooked in planning activities.

Simultaneously, city planners confront the dual challenge of rejuvenating downtown districts while tackling the pressing demand for inclusive housing options. The conventional method of clearing slums and relocating residents has shown to be unsustainable, displacing at-risk communities and interrupting their means of living (Satterthwaite, 2010). Acknowledging these obstacles, urban planners have progressively embraced the idea of "smart density" to steer their redevelopment initiatives (Barakat, 2021)

Ethiopia, with an annual urban growth rate surpassing 23%, estimated to be 25% in 2026. The state holds a monopoly over land, resulting slum areas over populated with this low-income communities, A combination of high land prices and bureaucratic obstacles further complicates access to urban land. This growth is fueled by an expected increase in urban population, with projections estimating a rise of more than 20 million people in the next decade. Despite attempts at policy reform, implementation has been

weak, and ULUE has remained unsatisfactory. Overall, Ethiopia's urban land policies require a revaluation to improve efficiency, support sustainable urbanization, and address the needs of the growing population. (Global Green Growth Institute, 2025).

Addis Ababa (AA), the Capital city of Ethiopia, is rapidly developing as one of the “new dynamic African capitals” that are poised to become great cities of the world. As with many rapidly expanding metropolises, this growth comes at a cost, from challenges related to urban development and social inequalities. The Addis Ababa city administration measures about 430sq.km and comprises of 11 sub-cities. The estimated population of Addis Ababa in the metropolitan area is 5,957,000 in 2025. This represents a 4.44% increase from 2024. (CSA; 2013) (Macro trends, 2025)

The city continues to attract significant rural-to-urban migration from Ethiopia, largely driven by economic opportunities, education, and better services. This influx strains the city's infrastructure and housing, especially in terms of clean water and sanitation, as the city's population is projected to double within 15 years. (UN Habitat, 2018)

In order to inhabit the rapidly increasing population slum areas are degrading day by day, city planners are doing their best to do redevelopment plans to solve the issues but these plans are increasing socio-spatial gap in Addis Ababa. The city is experiencing a transition from a hybrid, inclusive community framework to a more evident inequality, establishing two separate social extremes. Slums, which make up approximately 85% of the city's housing, are central to redevelopment initiatives that frequently result in the displacement of current residents (Weldeghebrael, 2011).

At present, there are around 23 Local Development Plan (LDP) locations in the city, featuring significant redevelopment initiatives like Cherkos, Legehar, and the Eagle Hills Ethiopia venture (Weldeghebrael, 2011). The city administration of Addis Ababa has finished working on the Senga Tera-Fird Bet I project along with 14 additional urban redevelopment efforts. These initiatives seek to enhance the quality of life for residents, promote sustainable land use, and develop a more attractive spatial and physical representation of the city (Weldeghebrael, 2011).

But this conventional approaches to slum redevelopment have included tearing down buildings and mandating relocations, causing disturbances to livelihoods and community ties. Nonetheless, these methods have shown to be unsustainable, as displaced individuals often revert to informal housing because of insufficient support and limited housing options. Through the adoption of these strategies, urban redevelopment can tackle the issues of informal settlements and aid in sustainable city development, improving social, economic, and environmental results for all parties involved (UN-Habitat, 2016)

Here is when planning modern and advances planning approaches like smart density come on in handy. Smart density planning focuses on the effective utilization of scarce urban land by promoting vertical construction, mixed-use areas, and eco-friendly infrastructure while maintaining social unity (Beegom, 2020). This strategy not only enhances housing availability but also guarantees that public facilities, transportation systems, and retail areas are smoothly incorporated into the community. The use of intelligent density in urban renewal strategies for slum study areas provides a revolutionary answer. Through the use of cutting-edge technologies, collaborative planning, and creative architectural designs, cities can create dynamic, inclusive spaces where citizens prosper both economically and socially (Pacetti et al., 2012)

Applying smart density concepts can convert slums into vibrant urban centers while ensuring that current residents are not displaced. The effectiveness of this method relies on implementing inclusive housing policies and making sure that economic and environmental considerations are in harmony with social equity objectives. The incorporation of smart density in plans for slum redevelopment showcases a progressive mindset where inclusivity, sustainability, and economic development intersect. By focusing on human-centered design and utilizing cutting-edge technologies, cities can create lively, fair, and sustainable urban settings (UN-Habitat, 2016). Participatory planning plays a vital role in smart density, engaging residents in the decision-making process to guarantee that the redevelopment efforts address their requirements. (Pacetti et al., 2012).

1.2 Problem Statement

Urbanization significantly affects the lives of urban dwellers, shaping their way of living, economic conditions, and social connections. Although urban redevelopment initiatives usually foster modernization and expansion, they often disturb the lives of economically disadvantaged people in cities. Such initiatives can exacerbate social stigma and compel middle-class neighborhoods near slums into comparable displacement scenarios. (Z wang, 2020)

In numerous developed nations, urban renewal initiatives include thorough relocation strategies that offer displaced individuals access to better living conditions and contemporary facilities. Yet, in numerous developing areas, relocation efforts continue to be difficult and profoundly distressing for displaced families. Individuals frequently form deep bonds with their previous residences and community ties in slum study areas, making the shift to different surroundings both emotionally challenging and socially unsettling. The psychological and social impacts of such displacement frequently exceed mere alterations in housing circumstances. (G Abebe, J Hesselberg, 2013).

Urban redevelopment efforts frequently result in the displacement of low-income communities, exacerbating socioeconomic inequalities and reinforcing spatial segregation, this leads to major emotional and social upheavals that go beyond simple changes in housing. Relocation remains difficult, causing distress for displaced households. Strong attachments to old homes and social networks make transitions difficult. The effects go beyond housing, deeply affecting emotional and social well-being. (Weldeghebrael, 2011).

In the case of cherkos sefer, Addis Ababa, the eagle hills redevelopment plan is currently undergoing with unplanned settlement plan for the dwellers of cherkos sefer and curving the promise to give affordable housing with in the local development plan. Instead, people are now getting eviction notices and because of their low-income generation of losing their jobs and homes, most people now live in shera houses with a treat to immediate eviction. The kebele house dwellers are now suffering from unreliable water and electric supplies because most of the area is undergoing construction and demolition causing the infrastructure lines to get cut very often.

As the problems of the community is visible to anyone who passes by the village, it should be noted that these problems could have been solved with a comprehensive resettlement plan if not for the inclusive planning. It shows that the community has been fooled with fake promises and losing their homes and social lives, living poorly and exposed to unsanitary, health degrading condition despite a redevelopment construction Buring next-door.

A lot of researches have been made to show the issues of the redevelopment plans and the impacts on the low- and middle-class community and it has been mainly devolving around settlement plans, compensation methodologies etc, but nothing about an inclusive planning that considers this groups inside the redevelopment plans as they are the main owners and clients of the redevelopment plans.

This study paper studies how the above issues can be solved with the appropriate planning approach to tackle the issue, which is smart density planning that incorporates compact, well-connected and thoughtful development that promotes sustainable, resilient and comfortable living. Which integrates Open Space, improved technology, infrastructure Amenities and Opportunities, mixed-use development. (Beegom, 2020).

1.3 Objectives of the Study

1.3.1 General Objective of the Study

Thoroughly study and understand what the society goes through because of the urban-redevelopment phenomenon and with the involvement and participation of the people to come up with a constant and long-lasting solution for smartly densified settlement at city centers.

1.3.2 Specific Objectives of the Study

This study has the following specific objective

- To assess the current state of urban redevelopment plans in slum areas, focusing on Cherkos Sefer.
- To investigate how smart density principles can be applied in the redevelopment of slum areas.
- To explore the potential benefits and challenges of implementing smart density in Addis Ababa's urban redevelopment plans.

1.4 Research Questions

Given the objectives, the following questions were addressed in the research:

1. What are the key characteristics of Cherkos Sefer as a slum area in Addis Ababa?
2. How can smart density be applied to urban redevelopment plans in slum areas?
3. What are the potential social, economic, and environmental impacts of implementing smart density in Cherkos Sefer?

1.5 Significance of the Study

The primary aim of the project is to create a comprehensive urban redevelopment planning system based on the principle of smart density. It has applicability to other slum redevelopment projects with emphasis on coordinated function and verification, by incorporating advanced technology and design methodologies. The importance of this study is discussed below:

Environmental Impacts: The redevelopment project, by means of the idea of smart density, is able to achieve a sustainable solution for the locality's resource management. With its optimal use of land and its adaptation of sustainable infrastructure, the project will stimulate green development among impoverished communities.

Economic Benefits: The successful execution of the redevelopment plan, aided by intelligent density solutions, can resuscitate local economies through investment attraction, enhancing public amenities, and the creation of employment opportunities.

Social Progress: With smart density, the project will densify housing, create mixed-use areas, and expand public services without compromising social cohesion. With improved infrastructure and accessibility to amenities, the residents' quality of life will be upgraded and new prospects for social mobility and community building will be initiated.

Technological Innovations: The study presents the use of smart density technologies in urban planning, enabling effective utilization of land, coordinated transport systems, and sustainable provision of services. The innovations will tackle major issues in slum upgrading, including congestion, inadequate infrastructure, and insufficient basic services.

The study offers an integrated urban regeneration model, prioritizing environmental sustainability, economic development, social prosperity, and technological innovation through the adoption of smart density in slums.

1.6 Scope of the Study

This study is limited to a study that analyzes the currently on progress redevelopment plan proposed and undergoing by eagle hills in the context of the respective effects on societies who are settled on the area. This study will be based on reviewing the impacts of such redevelopment plans in relation to creating smart city and smart density planning Practices supported by international and local case studies. This study studies gathers qualitative and quantitative data to analyze the chosen site (being in the case of cherkos sefer).

In addition to interviewing, questioning, and observing the affected area dwellers on their current problem caused by redevelopment plans introduced in their living villages. Then systematically reviewing case studies on previous redevelopment plans and condominium housing issues to support the base problem statements and proposing facts which in turn will lead to solutions for responsible stake holders.

1.7 Limitations of the Study

In this study, there are limitations, time being the main constraint since delays to start have caused to our thesis shortage of necessary time and the amount of time left to gather all the data that is input to the research work. The other limitations include lack of full and straight forward data from the company (eagle hills) since this project is only approved by the government as a Local Development Plan and is still in progress which as a result brings most of the information on details of the project in the confidential data category. But I will give it my at most attention and time in order to organize the available data and come with a complete research and recommendation by the end of this dissertation.

1.8 Organization of the Thesis

This thesis research has the following 5 contents. The first chapter of the paper introduces the back ground history content of the topic and related areas, problem statement, objective and purpose and limitation with scope. The second chapter then reviews literatures which help understand the study and help on reflection of the studies interpreted. The third chapter deliberates research methodology which consists description of the study area, current approach, research design, research data (approach), type and source of data, sampling techniques, data collection, and data analysis methods. The fourth chapter consecutively explains the collected data results and analysis then discussions raised from the collected data. The last and fifth chapters consists of conclusions and recommendations drawn from the collected and analyzed data.

CHAPTER TWO

2. Literature Review

2.1 Introduction

In 1900, less than 20 percent of the total population of the world lived in cities, in 2007 less than slightly more than 50 percent of the total population of the world lived in cities. In 2050, it is estimated that more than 70 percent of the total population of the world (around 6.4 billion people) will live in cities. There is more pressure being placed on cities through this increase in population. (UN, 2018).

This implies that unless there is a modern, smart and technological planning system to go by this densified and continuously growing population size, many cities have been expanding uncontrollably on urban land use level causing urban sprawling with extremely poor living conditions. Through time such cities will be categorized unlivable and not suitable to accommodate the growing living standards of the community leading to being ghost cities. If not, those cities become Mega cities, then with their continuous expansion towards nearby small cities and suck them into their orbit. (UN, 2018).

Many metropolitan cities have emerged over the centuries with their advanced technologies, high rate of economic and physical growth, industrialization expansion leading to high scale of productivity but this is the story of the usual developed countries' metropolitan cities. On the contrary of these successful cities, there are others which are struggling to use the urban advantages and cope with the physical and financial pressures resulting from growing populations and the associated crowding, pollution, vehicular traffic, shortages of housing and services, increasing poverty and ine quality, spread of slums, and environmental degradation. (Shahid Yusuf, 2013).

That is why professional in disciplines of urban and study areaal planning, architecture, and urban designers are coming up with design solutions, technological approaches to their designs and planning systems in order to accommodate the changes on urban cities. The Major targets are density control, environmental sustainability and technological advancement and its integration with the life of the community. (Seema Dave, 1978)

As density control is one of the major topics of interest, it is important to understand what it is. It is not a simple term that can be defined one way or can be explained in simple terms since it holds meaning in different dimension. Density could represent a measure of the relation of objects, which can include, among others, residents, buildings, dwellings or jobs and a reference area upon which these objects are located. (Angelika Krehl, Stefan Siedentop, Hannes Taubenböck and Michael Wurm, 2016).

This generally suggests that in order to be able to control density using a defined and systematic approach for understanding the changes of urban density pattern and understanding why these changes are existent is also very useful in future urban planning and planning ahead of time by understand the pattern of the change and its variables. But solving the urban expansion problem is still greater than estimating future density, there has to be a planning approach methodology, both systematically advanced and technological supported. (Roy W. Bahl, Johannes F. Linn, Deborah L. Wetzel, 2013).

Here is when new urban planning approaches started to emerge, like smart density, smart city, sustainable city, ecofriendly cities, forest city, etc. In the context of this research, I have read and compiled about smart density planning and smart city.

2.2 Definition and Concept

2.2.1 Smart Density

Smart density means a smart and planned growth with an adaptable density taking into consideration the efficient distribution of public spaces and services in urban regeneration areas. (Seher B. Mahmut, 2022).

Smart Density is a healthy development in economic, environmental and social aspects in respective to a smartly densified area with a proportionally smaller area coverage. The basic concept of Smart density is, mixed land use, A compact, effective and efficient building design in a city, an environmental facility that can be achieved by walking, that have a strong sense of place, with preservation of open spaces, development by the needs of the society, have some choices of transportation, the decision for development is fair, cost effective and can be measured and Development decision is based on the people agreement and other stakeholders. (Turner, 2007; Song, 2005).

2.2.2 Smart City

Smart cities bring together infrastructure and technology to improve the quality of life of citizens and enhance their interactions with the urban environment. In general terms, the smart city can be defined as “a local entity - a district, city, study area or small country which takes a holistic approach to employing information technologies with real-time analysis that encourages sustainable economic development”. (Effendee, 2019)

Smart City is both medium and outcome of state-of-the-art smart solutions, a web of sensors, real-time data, ICT integration and coordination between public and private institutions. define smart cities as city initiatives that aim to “provide more efficient services to citizens, to monitor and optimize existing infrastructure, to increase collaboration amongst different economic actors and to encourage innovative business models in both private and public sectors”. (Samuel Idowu, 2012)

Future smart cities with smart density solutions will likely improve many aspects of people's quality of life, services, and sustainability. There are many opportunities, but since optimized/personalized services require personal data, utilizing them may also involve Significant ethical considerations regarding sensitive personal information.

A city can define itself as intelligent when investments in social and human capital, modernization of information, communication technologies (ICT), and transport infrastructure stimulate sustainable economic growth, combined with a high quality of life and sustainable management of natural resources from participative governments. Currently, the international organization for standardization (ISO) provides a set of indicators that measure progress towards a smart city. (Jacek Rudewicz, 2023)

The concept of a Smart City is evolving. Although historically it has been mainly associated to the use of technologies to improve the different areas of city management (mobility, administration, health, education,), being “smart” does not refer to a characteristic of the city itself, instead it refers to using technology as “a tool” to respond to the challenges that cities face. “Smart” is associated with the ability of a city to create well-being for its citizens, not only through the improvement of public services, but also through the involvement of citizens in decision making. Today, citizen participation, the creation of a city in collaboration with its citizens, is one of

the key issues that should characterize a Smart City if it wants to be called as such. (Jacek Rudewicz,2023)

2.2.3 Smart Density Planning in Smart Cities

Smart density in urban planning involves strategically organizing and maximizing land use within a city to enhance efficiency and sustainability. This approach utilizes technology, data, and a focus on mixed-use developments, public transportation, and green spaces to create livable and resilient communities. Key elements of smart density include: high-density residential areas, efficient infrastructure, and a focus on pedestrian and cycling networks. (Robert B. Binder,2019)

The key aspects of smart density in urban planning are, mixed-use developments which integrate residential, commercial, and recreational spaces within close proximity reduces the need for long commutes and promotes a sense of community. Public transportation prioritizing public transit options and creating walkable, bikeable neighborhoods reduces reliance on private vehicles and promotes sustainable transportation. Green spaces incorporating parks, green roofs, and urban forests improves air quality, reduces the heat island effect, and provides recreational opportunities. It relies on data-driven decisions to utilize data analytics to inform planning decisions and optimize resource allocation ensures efficient resource use. Technology integration, which implement smart technologies in transportation, energy management, and public services enhances efficiency and improves quality of life. (chao yuan,2018)

Benefits of smart density in urban planning are, reduced environmental impact, improved public health, enhanced economic growth with efficient land use and centralized infrastructure can stimulate economic activity and attract investment, increased social equity because integrating diverse housing types and amenities ensures access to opportunities for all residents. (Robert b. Binder,2019)

Smart cities planned with smart density introduce a variety of new practices and services which impact urban policy making and planning as they co-exist with urban facilities. And there are various ways that smart city framework can help city planners to meet the above-mentioned criteria and contribute to an urban life. (Samuel Idowu, 2012)

In general, the practices of smart density for smart cities in urban planning will help in solving above stated problems of excessive urban expansion and in the case of urban redevelopment plans to refurbish sprawling urban cores and urban slums.

2.2.4 Smart Density Planning and its Benefits

As we all know, the solution to urban planning is getting harder to find, especially in rapidly growing cities. Smart density is the planning approach that makes the most of urban space while addressing overcrowding, poor living conditions and urban sprawl. As cities grow, they push their urban centers outwards and we get high rise condos and suburban neighborhoods far from where we work and socialize. While this shift to the suburbs may increase housing supply, it brings new challenges like more car dependence, longer commutes and weaker community ties. Smart density is the more sustainable and balanced way to manage urban growth. (Arnab Chakraborty,2013)

2.2.4.1 Smart Density as a Tool to Control Urban Sprawl

Smart density can help control urban sprawl, which often happens in fast-growing cities. Urban sprawl means wasteful land use long travel times, and poor living conditions. These problems crop up when cities grow outward into areas that lack good infrastructure and services. But smart density planning can stop this by pushing for more compact and efficient land use in the city center. This means designing cities to pack in more people without making life worse for those who live there. High-density growth can mix homes, shops, and fun spaces in the same buildings. This cuts down on long trips and creates a city that's better for the environment (Cervero, 2004).

By using clever density strategies, cities can stop spreading out of control into less developed or countryside areas. This stops the creation of messy serviced urban sprawls. Instead, cities can use cutting-edge tech and data to make the most of land, cut down on traffic jams, and offer better public services. At the same time, they can keep green spaces and make life better for residents. By increasing the density of existing urban areas, cities can keep a lively well-connected, and eco-friendly urban scene. (Cervero, 2004).

2.2.4.2 Smart Density Planning as a Solution to Previous Urban Redevelopment Practices

The major failures of involuntary settlement that exposes relocates to these risk factors are lack of early planning, inadequate compensation, insufficient financing and lack of participation of the resettled population in the design and implementation of the process. (Weldeghebrael, 2011) In order to avoid this the United Nation, World Bank and other international agencies stipulates states to protect their citizens from forced eviction, to avoid resettlement as much as possible and involve affected groups and consider alternatives proposed by them. (Weldeghebrael, 2011).

Particularly in the case of slums or poorly defined settlements, urban redevelopment usually entails relocating or resettling residents from one place to another. But especially in the absence of consultation with the impacted communities, these initiatives often neglect the socio-economic effects of relocation. Many times, carried out with little respect for the emotional connection locals have to their houses and communities, resettlement initiatives cause great disturbance in their life. Moreover, if the new sites have less access to amenities, jobs, and social networks, the moved towns could face deteriorating living circumstances (Baker, 2012).

Without taking into account the larger effects of these alterations, past urban renewal projects may have depended on basic metrics like population density or economic activity. The intelligent density planning strategy uses cutting-edge technological tools and data analysis to maximize urban space, therefore exceeding conventional techniques. (Batty, 2013). This can include studying real-time traffic patterns, energy consumption, and social interactions to better understand the needs of people and create efficient and sustainable urban environments.

Moreover, smart city redevelopment planning seeks to address the issues that have plagued previous urban planning efforts, such as inadequate infrastructure, environmental degradation, and social inequality. Smart city planners may produce more livable and fair surroundings better suited to accommodate fast urban development by means of density control. This combined strategy not only guarantees cities stay socially connected and environmentally friendly but also enhances urban infrastructure. (Bev Wilson, 2013)

In Summary, smart density planning is a vital instrument for handling the problems of urbanization and guaranteeing that cities develop in a fair and sustainable manner. Cities can steer clear of the traps of unregulated expansion and build more resilient and habitable surroundings for all of their inhabitants by emphasis on intelligent use of space, effective transportation, and inclusive development.

2.2.5 Key Values of Smart Density in Urban Planning

Over half of the world's population is now urbanized. With that figure estimated to rise to 68 percent by 2050, urbanization is the globe's most revolutionary phenomenon. Cities already account for 70 percent of the world's waste and consume close to 80 percent of the world's energy. (UN, 2018). While this aggressive urbanization has been the impetus for creative solutions in so many areas, such as housing, transport, and infrastructure, but Urban sprawl is also taking place at the cost of nature resources and green spaces, subjecting urban communities to increased exposure to climate change. To create healthy sustainable cities for generations to come, we must rethink how our city's work. These are a couple of ways we can make cities healthier and greener. (F Rubiera-Morollón, R Garrido-Yserte, 2020)

2.2.5.1 A Local Development Plan

In the current urban renewal scene, it is nearly assumed that each project needs to begin with a Local development plan. A genuine local development plan is more than merely a document; it is a flexible, developing strategy that synchronizes different urban components with specific, implementable objectives (Harris, 2012). When the feedback you get from partners is fragmented or superficial, the LDP is deficient—it's not merely a collection of maps; it ought to serve as a collaborative framework that effectively aligns development (Roberts, 2014)

2.2.5.2 Sustainable Design

Sustainable design: - Reaching the design is one of the key components of any urban regeneration scheme. It's not merely a matter of ensuring the structures that people occupy for living and working are pleasant, but also considering how they relate to nearby infrastructure (i.e. highways and sidewalks) and planning places to support some activities (i.e. community centers for interaction). It must also look into the issue of the kind of lifestyle today becoming different tomorrow. The developers should

examine the possible changes to needs of the residents in the future and have solutions that allow developments to remain desirable to the generations ahead of time. (Bev Wilson, Arnab Chakraborty, 2001)

2.2.5.3 An Economic Base

One of the very basic objectives of urban renewal is to make the economic base serve the the affluent members of society which is achieved by the planning of areas where low-income housing facilities coexist with economic prospects for inclusion. Quality of life for all sections of society is what inclusive designs must aim at. The regeneration should first focus on providing affordable housing, public spaces, and services benefiting the interests of all socioeconomic classes, resulting in a more sustainable and resilient community (Turok, 2015). With inclusive economic strategies, urban regeneration can make opportunities for upward mobility for everyone, breaking down inequality barriers (Baker, 2017).

2.2.5.4 Partnership Working

Regeneration schemes are not one-off projects. Successful city regeneration is a collaborative input by a range of different interests, from private developers to state agencies, local businesses, and local community groups. But working in partnership is not always simple. It requires hours of bargaining, re-discussing things, and comforting people from different groups. There will typically be one or several "tough partners," and their blinkered vision, inhibiting progress within any regeneration project. These are necessary to ensure that all points of view are considered, establishing a more joined-up approach to regeneration that considers economic, social, and environmental factors (Healey, 2007). Effective partnerships will require constant discussion and a commitment to the longer-term good of the community.

The more that developers know when drawing up a regeneration scheme about what currently exists and its residents, the better. Public-private sector collaborations typically yield successful outcomes as local government can provide the specifics regarding what the community and its residents require. This enables schemes to be formulated that can provide tangible value and enhancement in the lives of residents already present. This makes it possible for the majority of people with an interest in the development to be able to offer any concerns and make suggestions for improvements to the plans. (Bev Wilson, Arnab Chakraborty, 2001)

2.2.5.5 Maintain Social Diversity

One of the largest concerns about urban regeneration schemes is that they tend to have the incidental effect of driving out existing residents. The new housing and new infrastructure that is constructed when a neighborhood is regenerated make the place more attractive and drive up the price of houses. More high-end stores and facilities arrive, and the current residents are pushed out of the neighborhood. It is essential to preserve the social mix already existing in communities that are being redeveloped. (Bev Wilson, Arnab Chakraborty, 2001)

The foundation of any successful urban regeneration project is the assurance that it is inclusive, equitable, and just. The regeneration attempts need to be designed to respond to the diversity of the population and try to create spaces that are inclusive and accessible to all without regard to their socioeconomic status, ethnicity, or status. Promoting diversity in housing, services, and public space leads to a sense of belonging and reduces social cleavages (Young, 2000). Also, promoting tolerance and equality through practice and policy is that regeneration schemes assist in building more harmonious, integrated communities.

Inclusivity is major nature of sustainable urban regeneration. Regeneration must reach all segments of the community, including low-income residents. One of the most widespread pitfalls in urban regeneration is the construction of housing and facilities that are out of reach for the majority of the population. Regenerating a district by means of expensive housing at the cost of affordable housing needs can lead to gentrification, pushing long-term residents out and increasing inequality (Atkinson, 2000).

It is, therefore, essential to make sure that regeneration schemes offer diverse forms of housing, promote mixed-use development, and offer economic benefits that are within reach of people from diverse socio-economic backgrounds (Dempsey, 2010). In line with inclusivity, sustainable urban regeneration also emphasizes the provision of choices for basic services and amenities to the entire population.

2.2.5.6 Community Engagement

One of the most crucial aspects of urban renewal is that the community is directly involved in the planning and decision-making process. Participation is extremely variable in scope and method. It can be at its lowest level a question of a series of public meetings at which residents can express anxiety and aspirations. However, even more inclusive engagement encompassing more structured types of participation, such as interviews, focus groups, and surveys. Listening to the voices of the directly impacted people by the regeneration programs ensures their needs and desires are heard and translated into the design and delivery of urban renewal programs (Arnstein, 1969).

Creating pleasant, well-lit spaces where people congregate and engage with each other regularly like local buildings such as leisure centers and libraries, park and other open spaces ensures that local residents are likely to engage with each other and will soon develop a sense of community. (Bev Wilson, Arnab Chakraborty, 2001)

2.3 Urban Redevelopment Plan Trends in Addis Ababa

According to UN Habitat 2004, half of the world's population lives in urban centers; one third (16.67%) lives in slums. Particularly in the developing world, slums are becoming an unavoidable feature of the urban landscape. Slum inhabitants make up 6% of developed areas out of 16.67% of the total urban population. In contrast, in developed countries the number rises to 43% and 78% respectively. According to UN Habitat (2002), this number is projected to rise by one billion over a decade and slums would expand at an accelerated speed, especially in underdeveloped nations.

Although urbanization benefits the underprivileged by providing them with better life possibilities, its complex problems in developing countries and the fragmented government reaction show a gap expanding at an alarming rate between the haves and the have-nots. Cities like Addis Ababa are beginning to experience the new trend of social divide fostered by the contemporary urban development efforts. Once a celebrated distinctive trait by residents and visitors alike, the hybridized socio spatial composition in Addis Ababa, Ethiopia's capital city, has changed. Maybe it is now changing from a solid hybrid to diversity—the two extremes on a continuum of informality.

The process of relocation from an urban slum is a highly upsetting and disturbing experience for the relocated households due to their strong attachment to the former slum residential area. Therefore, harmful effects of the uprooting experience on the relocated people and the difficulties of adjusting to and accepting new living environments may be far more serious issue than are changes in the housing status.

Urban redesign has become a crucial strategy for tackling problems like slum growing, insufficient housing, and urban sprawl as developing world's cities keep expanding quickly. Addis Ababa, Ethiopia's capital, is no different. The city's population has grown exponentially in recent decades, creating a pressing need for effective urban planning and redevelopment.

With over 60% of residents living in subpar conditions (CSA, 2017), almost 90% of Addis Ababa's housing inventory in 2017 was categorized as informal. Addis Ababa's urban infrastructure hardly meets the demands of its population, particularly in housing, sanitation, and transportation, given over 4 million people living there right now. Plans for redevelopment in such cities have to take into account not only the physical features of development but also the socio-economic dynamics of the people reside in these metropolitan study areas (Fekadu, 2015). Successful urban regeneration depends on striking a balance between development and social equity so that all residents—and especially those in informal settlements—benefits from the project.

Redistribution in Addis Ababa has combined market-driven projects with government-encouraged planning. Large-scale infrastructural initiatives as well as the informal economy, which occupies a major part of the urban scene, are influencing the city's growth. Still, schemes for urban regeneration frequently give affluent areas' commercial and residential growth top priority, which results in the dislocation of low-income locals and the breakdown of current social networks. Various redevelopment projects, including the city's "Addis Ababa Master Plan," which seeks to modernize the urban environment by building new housing complexes and upgrading infrastructure, have shown this phenomena.

Critics contend, however, that such initiatives usually fall short of offering enough answers for the poor, who most severely displaced (Zerihun, 2018). Oftentimes resulting from the exclusion of underprivileged groups from decision-making processes is inequality that aggravates social divides and long-term poverty.

Plans for redevelopment in Addis Ababa should also consider its varied and historically mixed character of urban setting. With official and informal spaces coexisting in a complicated socio-spatial system, the city has always been a patchwork of many cultures, customs, and business sectors. With informal settlements sometimes providing essential areas for low-income people to live and work, this hybrid character has helped to define the city. But as formal urban buildings gradually replace informal settlements, the fast growth of the formal city has caused tensions among various social groups. Rather than eliminating it totally, urban planners should include the informal sector into the redevelopment effort. Particularly the disenfranchised, strategies including low housing schemes, the improvement of informal settlements, and community-driven renovation projects can help guarantee that the redevelopment projects profit all people (Berhanu, 2017).

Furthermore, although Addis Ababa's renovations concentrate on enhancing infrastructure, developing commercial areas, and modernizing transportation networks, environmental sustainability urgently has to be addressed. Redevelopment runs the danger of aggravating the adverse environmental effects linked with rapid urbanization, including air and water contamination, deforestation, and waste build-up (Kebede & Woldemariam, 2019). The city might become a model for sustainable urban development in the study area, but this calls for prudent coordination between local governments, private developers, and the community.

Overall, urban redevelopment is crucial for cities like Addis Ababa to fit expanding populations and raise living standards, but it has to be handled with a whole perspective. This covers encouraging inclusiveness, guaranteeing social justice, integrating the informal economy, and giving environmental sustainability first importance. The city can have significant and sustainable urban regeneration only by resolving these interrelated problems, therefore transforming it into a more resilient, fair, and livable place for all of its occupants.

2.4 Conceptual Diagram of Smart Density

Here is the general concept this study depends on: -

Central Concept: "Smart Density" - Key Components of Smart Density

Efficient Land Use → Maximizing space without overcrowding.

Mixed-Use Development → Combining residential, commercial, and public spaces.

Sustainable Infrastructure → Eco-friendly transport, energy-efficient buildings.

Vertical Expansion → High-rise, compact housing instead of sprawl.

Public Spaces & Green Areas → Parks, pedestrian zones, and community areas.

Application in Urban Redevelopment of Slum Areas

Slum Area Challenges → Overcrowding, poor sanitation, lack of infrastructure.

Redevelopment Strategies → Upgrading housing, formalizing property rights,

Community Engagement → Inclusive planning with residents.

Government & Policy Role → Regulations, incentives, and public-private partnerships.

Outcomes & Benefits

Improved living conditions

Economic growth & job creation

Environmental sustainability

Social inclusivity & reduced urban inequality

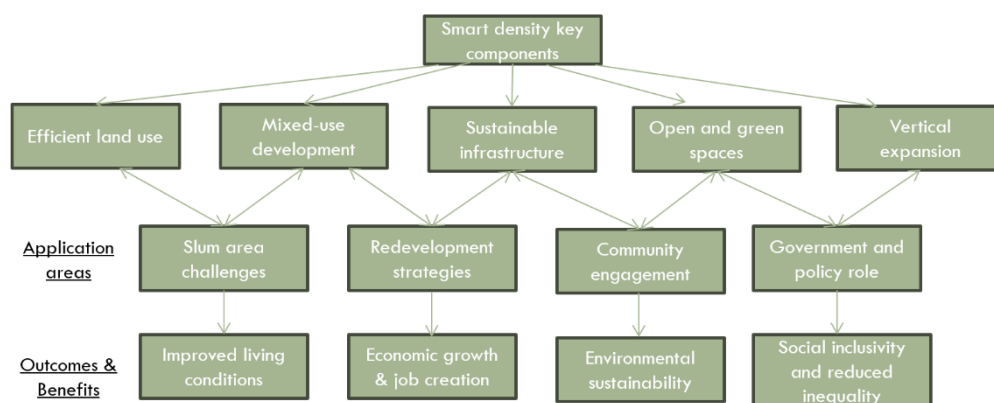


Figure 2.1. Structured conceptual diagram for smart density in urban redevelopment

(Source: Prepared by the Author, 2025)

2.5 Case Studies

2.5.1 International Case Study 1- Smart Density Application for Urban Redevelopment: The Case of Singapore

A superior and innovative example of intelligent density in urban regeneration is the case of Singapore. The urban renewal strategy of the city-state has become the global benchmark for the incorporation of intelligent density, green city planning, and advanced technology to contain the issues that come with accelerated growth in population, limited geographical area, and increasing environmental issues. With its special combination of dense urban development, advance technology, and social balance, Singapore has demonstrated how intelligent urbanization can reshape cities to make them more livable and sustainable for its people and solve the problems of urban expansion.



Figure 2.2. Singapore smart nation initiatives

(Source: <https://sptel.com>)

The Role of Smart Density in Managing Urban Growth in Singapore

Singapore, with its limited space and fast-growing population, has long adopted the principles of smart density to optimize land use and prevent urban sprawl. The government's strategy is a mix of high-density, mixed-use developments and seeks to balance the demand for residential, commercial, and recreational space.

The most striking example of this strategy is the Marina Bay Development, which has reshaped the waterfront area into an alive, mixed site with housing area, office complex, recreation complex, and park in easy accessibility (Chin & Lee, 2014). With the aggregation of various functions within dense areas, Singapore minimizes the demand for commuting long distances, promotes mixed development, and prevents urban sprawl.

For resolving the issue of urban congestion, the government has planned an intensive land use so that minimal land is utilized optimally and the quality of urban life is ensured. Through vertical integration, Singapore urban planning features high-rise apartments, pedestrian promenades, and multi-tiered community spaces, minimizing the requirement for horizontal expansion to its lowest level (Chin & Lee, 2014). This vertical urban planning approach enables Singapore to establish high-density communities that provide citizens with the fundamental services like schools, healthcare, and shopping outlets in walking distances from their residences. These measures of density control prevent urban sprawl and enable provision of essential services without taxing the city infrastructure.



Figure 2.3. Recreational areas integrated

(Source: <https://career-advice.jobs.ac.uk>)

Smart City Technologies in Urban Redevelopment

At the heart of Singapore's smart city push is the extensive use of information and communication technologies which have been integrated into the urban fabric. The city is at the forefront of smart nation collaboration across sectors which is improving urban management in transport, energy use, waste management, and security we see real time

play out of data, sensors and analysis (Lee, 2013). Also Singapore is able to in real time assess and improve traffic, public transport, energy use, and air quality with the help of smart sensors and data analytics which also is very much at the moment's service.

The Intelligent Transport System (ITS) is a prime example of what Singapore is doing in the smart city tech space. The ITS which uses real time traffic data collection puts together data analysis, forecasting, simulation and traffic signal optimization to regulate traffic signals, manage congestion and improve public transport. What we have seen from the ITS is that it has achieved reduced travel time, improved public transport performance and also traffic congestion has gone down which in turn has created a more pedestrian and bicycle friendly environment (Goh Kwek, 2012). Also in the area of smart mobility we see the roll out of the Mobility as a Service (MaaS) platform. MaaS is seeing private vehicle use go down while at the same time improving access and efficiency. MaaS is a model which looks at integration of ride sharing, bike sharing and public transport services.

Another important element of the smart density model built around sustainable architecture and smart buildings relates to the issuance of the Green Mark Scheme, which supports the public in encouraging private sector developers to build energy-efficient buildings (Goh & Kwek, 2012). Many of Singapore's high-rise buildings are being developed today with solar panels, rainwater harvesting systems, and energy efficient lighting and cooling systems, helping the city advance its environmental sustainability and overall reduce the stress on urban infrastructure, especially energy and water usage.

Socio-Economic Impact and Inclusivity in Urban Redevelopment

Singapore focuses on smart density applied to infrastructure while considering the well-being of all its inhabitants, particularly the least fortunate. Since the city carries out rapid redevelopment, it is genuinely important for every individual to feel that he or she is included in the plan. Beyond any doubt, public housing has been gentled by the Singapore government for many years. Indeed, about 80% of the present population employs these public housing estates that were built to be affordable and come with social facilities (Lee, 2013).

The Public Housing Scheme is very important because it gives affordable housing to people at different income levels, preventing the vulnerable ones from being displaced due to urban change. Furthermore, Singapore's urban redevelopment ensures that local people are involved in the decision-making process meaning the residents may voice their opinions on development projects.

This collaboration ultimately assures that these projects do not only make the best use of available space but also cater to the varied needs of the community. For example, the Estate Upgrading Program organizes consultation sessions where residents give feedback on plans to upgrade public spaces and infrastructure. Through such engagement, the government can ensure urban development ultimately benefits a broad spectrum of social groups (Chin & Lee, 2014).

Environmental Sustainability in Smart Density

Environmental sustainability is one of the basic pillars of Singapore's urban planning ideology. The city emphasizes smart density complemented by programs to reduce carbon emissions, save resources, and create more green spaces. Singapore has stringent regulations for green building design under its Green Building Master Plan, and all new buildings are to be erected according to energy-efficient norms (Lee, 2013). The objective, therefore, is for the urban renewal to support Singapore's vision as a low-carbon and green city.

The environmental sustainability feature of Singapore consists of creating green corridors and urban parks, so as to integrate that big "N." into the city. These green spaces mitigate the urban heat island effect, improve air quality, and offer recreational conveniences to the city dwellers. Gardens by the Bay, a key attraction in the ecological sphere of the city, is a clear example of how Singapore has succeeded in melding nature with intense urbanization (Goh & Kwek, 2012). The gardens add to the well-being of its citizens and also join hands towards the environmental agenda at the city stage.

Besides that, Singapore has developed waste management facilities so as to minimize waste generation within the city. Under the Zero Waste Masterplan, Singapore is committed to improving recycling rates and reducing the amount of waste sent to landfills.

Conclusion: Lessons from Singapore's Smart Density Approach

Singapore's successful smart density scheme stands as a successful example parallel to others trying to regulate urban growth in an environmentally viable, sociologically inclusive manner (Gehl, 2010). By incorporating high-technology-ticket systems, mixed developments, smart mobility solutions, and community participation into its planning, the city provides an example of how urban space can be exploited for high-density living while maintaining its quality of life. This model demonstrates that smart density-driven urban redevelopment can indeed be a sustainable and inclusive process, with the well-being of its people in terms of their physical, environmental, and social domains at its center. As urbanization poses challenges becoming more common in urban areas, the experiences gained through the successes of Singapore would surely provide the much-needed insight to implement smart density effectively for the sustainable development of urban areas worldwide.

2.5.2 International Case Study 2- on Smart Density Application for Urban Redevelopment: The Case of Copenhagen, Denmark

Copenhagen, Denmark, the capital, is another global center in smart density application for urban redevelopment. Being among the most sustainable cities in the world, Copenhagen has since embraced the smart density concepts to mitigate sprawl, issues of climate change, and population growth (Gehl, 2010). By bringing solutions into the picture of its urban planning, the city became a paradigm for the sustainable urbanism," where green technologies, efficient public transport, and mixed-use development were integrated to use land on value maximization and yet provide a very good living environment for all its people. The Copenhagen approach to smart density is an example to all other cities trying to develop without hurting the environment and social equity (Gehl, 2010).

The Role of Smart Density in Managing Urban Growth in Copenhagen

Copenhagen's idea of smart density intends to oppress urban sprawl while maintaining better living standards for its citizens. Achievement with transit-oriented developments ensures a mix of neighborhoods where residential, commercial, and recreational spaces are clustered around well-connected urban corridors (Gehl, 2010).

The City Ring, a newly established light-rail system, serves as an excellent example of sustainable transport-mode choice linking major urban areas while discouraging car usage. In this, densification should ideally pass through improved accessibility and land use and should not create a relevant problem of traffic congestion or environmental degradation.

Further emphasizing public transport in their systems has enabled Copenhagen to hold down the extent of road networks and parking spaces and at least maintain the city in one compact efficient system. Also, comprehensively sustaining bicycle infrastructure factors significantly into the city's smart density approach, boasting over 390 km of bike lanes and often ranked among the most cycling-friendly cities worldwide (City of Copenhagen, 2016). Altogether, through commitment to bike-sharing systems and the construction of dedicated cycling highways, Copenhagen offers a working example of how cities may build intermodal systems in a high-density environment to provide sustainable transport alternatives that restrict urban sprawl.

Copenhagen's strategy of mixed-use development also encourages high-density living while enhancing social cohesion. By blending residential, commercial, and recreational spaces in high-density urban areas, the city reduces the need for long commutes and promotes a vibrant urban atmosphere (Gehl, 2010).



Figure 2.4. Sustainable city Copenhagen

(Source: <https://www.istockphoto.com>)

Smart City Technologies in Urban Redevelopment

In Copenhagen, smart density is a key application of mechanisms that underlie smart city technology. Considered a front runner in the use of digital technologies and data analytics in urban planning, it aims to provide more efficiency and sustainability to urban systems. Some examples include the smart lighting system that senses through traffic flow and weather conditions to reduce energy consumption and improve street safety. Then, Copenhagen is also running smart waste management strategies whereby bins fitted with sensors indicate when they are full to optimize waste collection and avoid unnecessary trips.

The other innovative solution in terms of smart grid electricity distribution system supports energy consumption management of the city in real-time. The system integrates renewable energies of wind and solar into the grid in such a way that energy is efficiently and sustainably used throughout the urban area. By installing smart grids, the energy waste can be reduced, energy supply reliability can be improved, and energy requirements of the ever-expanding population can be met in an environmentally friendly way (Sustainable Cities, 2018).

The Copenhagen Solutions Lab, a government-backed initiative, serves as the city's innovation hub, experimenting with smart city technologies and helping scale up successful solutions across the urban landscape. By using open data and collaborating with citizens and businesses, the city is continuously improving the integration of technology into its urban systems, making it a model for smart density in practice (City of Copenhagen, 2016).

Socio-Economic Impact and Inclusivity in Urban Redevelopment

The smart density of Copenhagen is considered exemplary, not only for environmental and technological proficiencies but also due to its social inclination. The environment that provides affordable housing and fair urban development sees to it that its redevelopment projects benefit all social groups. For example, the Copenhagen Affordable Housing Program looks to have a sizable share of new housing developments put aside for low and middle-income families, preventing gentrification from displacing residents and ensuring that the city's growth truly benefits everyone, irrespective of their income or social background (Gehl, 2010).

It also allows communities to participate in the planning and decision-making processes of urban redevelopment. The city empowers its participants by honoring their input in designing and envisioning their neighborhoods, which goes far in creating ownership and bonding among its inhabitants. For example, Superkilen Park, a public park in the Nørrebro district, was designed and laid out with the full engagement of the local residents, who contributed with ideas about the design and the kinds of facilities they wished to see in their community. In doing so, inclusive urban planning safeguards against the uneven distribution of benefits from smart density and simultaneously fosters social ties within the city.

Environmental Sustainability in Smart Density

The principle of climate sustainability has been fundamental to the implementation of the smart density policy in Copenhagen. To achieve the goal of making Copenhagen the globe's first carbon-neutral capital by 2025, various strategies and organizations have been established to decrease carbon emissions and promote sustainable urban growth. The city implements multiple initiatives aimed at sustainability, including green roofs, the creation of eco-districts, and the installation of solar panels on homes and commercial properties (Sustainable Cities, 2018) .



Figure 2.5. Copenhagen, Denmark, dense settlement with open public spaces

(Source: <https://www.colourbox.com>)

Formerly a pure industrial setting, the harbor has been modernized into a mixed-use district with green specs, with energy-efficient buildings, parks, and sustainable transport options. The redevelopment shows how smart density can take limited and polluted areas of the cities into fully green, resilient neighborhoods, which actualize the bigger sustainability goals of the city (City of Copenhagen, 2016). Waste reduction and resource efficiency have also been given priority in the urban planning process of the city. These waste-to-energy plants form a nexus with the circular economy and the urban development theme of Copenhagen city. Amager Bakke Waste-to-Energy Plant, which doubles as a recreational facility for an urban ski slope, is an example of the idea of smart density intertwining functionality and environmental sustainability (Sustainable Cities, 2018).

Conclusion: Lessons from Copenhagen's Smart Density Approach

Copenhagen offers an inspiring case of how smart density can be integrated into urban redevelopment projects to create a more sustainable, livable, and socially inclusive city. Through its emphasis on transit-oriented development, smart technologies, public participation, and environmental sustainability, Copenhagen has proven that high-density urbanization can be achieved without sacrificing quality of life. The city's comprehensive approach to smart density demonstrates how other cities around the world can address the challenges of urban sprawl, climate change, and socio-economic inequality while maintaining

2.5.3 International Case Study 3- Urban Redevelopment Plan Ahmedabad, India

Ahmedabad, the largest city in the Indian state of Gujarat, has emerged as a significant example of urban redevelopment with a focus on smart density. With a rapidly growing population, limited land resources, and increasing urban sprawl, Ahmedabad has adopted smart density strategies to address the challenges posed by these factors. The city's commitment to sustainable urban planning, efficiency, and inclusive growth is reflected in its various urban development projects, making it an insightful case study for understanding how smart density can be applied to urban redevelopment in a developing country context.

Urban Growth and the Need for Smart Density in Ahmedabad

Urbanization in Ahmedabad is setting a fast pace in view of population projections of over 9 million by 2030 (Ahmedabad Urban Development Authority, 2016). The numbers have brought along their load of problems, such as congestion, informal establishments, and poor infrastructure. In the past, the city had been growing through uncontrolled expansions, especially in areas like Narol, Bapunagar, and Maninagar, which were characterized by a lack of adequate public transport, poor sanitation, and cramped housing conditions.

Given those circumstances, the city began considering smart density, which aims to make maximum use of available land in pursuit of sustainable development. High-density housing, transit-oriented development, and efficient upgrading of urban infrastructure are among the key strategies under the larger framework of urban

development strategy pursued by Ahmedabad in order to check urban sprawl, ease infrastructure burden, and develop livable neighborhoods (Jana, 2018).

Key Smart Density Strategies in Ahmedabad

One crucial element in Ahmedabad's smart-density approach is its emphasis on mixed-use and transit-oriented developments (TOD). The city's urban planners realize that high-density areas should not only provide residential units but rather feature the commercial, recreational, and public service offices within one and the same development, thereby improving accessibility and sustainability. This reduces time wasted on traveling, reduces dependency on private vehicles, and rejuvenates urban space for vibrant, multifunctional uses.

Along the lines of the Sabarmati Riverfront Development Project, the city has taken a stretch of the Sabarmati River and given it a high-density, mixed-use character, interspersed with residential apartments, commercial shops, and public amenities such as parks, promenades, and recreational facilities. This has melded modern housing and green public spaces, encouraging an active and community-centric urban life (Ahmedabad Urban Development Authority, 2016). It further reflects the city's method of smart density, as the development caters to an increasing population without compromising on necessary public spaces or environmental sustainability.



Figure 2.6. Redevelopment plans in Ahmedabad India

(Source: <https://timesofindia.indiatimes.com>)

Sustainable Transport Infrastructure and Smart Density

Sustainable transport is really important in urban development. Hence, Ahmedabad has adopted the principles of smart density and transportation planning. Ahmedabad has witnessed the operation of India's first BRT, which serves as an efficient, affordable, and environmentally sympathetic mode of transport for a rapidly growing population. The BRT has helped connect residential areas with high densities to important economic areas and commercial areas, thus providing a good alternative to private vehicles from becoming a major cause of congestion.

Further, the under-construction Metro Rail Project in the city shall further enhance and improve connectivity between high-density locations and central business districts. By promoting public transport over the car, Ahmedabad grows its city but also adds to the reduced carbon footprint of the city, which is in tune with global trends in green urban development (Bhatia & Sharma, 2017).

Affordable Housing and Inclusivity in Smart Density

A key aspect of Ahmedabad's smart density approach is its very commitment to affordable housing and inclusive urban redevelopment. The city, in its spurt of expansion, sees a government that has placed slum development projects and low-income housing projects on top of its agenda. Meanwhile, the Housing for All scheme is aimed at providing affordable housing to the economically weaker sections of society under the broader Pradhan Mantri Awas Yojana (PMAY) of India. It covers areas in Ahmedabad, like Vastral and Bapunagar areas, where high-density residential buildings are said to be constructed, replacing thousands of informal settlements housing low-income families.

In addition to this, a slew of slum rehabilitation programs aim to uplift marginalized communities with better living conditions. A hallmark of these programs is to construct vertical housing right up front in central locations, so that these communities don't have to relocate far from sources of employment, education, and other social services. This falls well within smart density principles of efficient land use and social inclusivity (Gujarat Urban Development Mission 2019).



Figure 2.7. Ahmedabad city

(Source: <https://www.gettyimages.com>)

Environmental Sustainability and Smart Density in Ahmedabad

Environment sustainability comprises an essential element of its smart density paradigm of urban regeneration that Ahmedabad has been concentrating upon. Ahmedabad has gone far towards implementing green-building technologies; the use of solar panels and energy-efficient materials for development being prominent among these. Considering this, Ahmedabad enjoys an enviable status of being designed greenly, with many green buildings and a few eco-friendly residential complexes up and running.

Gandhinagar, a planned satellite city of Ahmedabad, focuses on putting up energy-efficient houses that have a low carbon footprint. The IGBC rating system is widely adopted to assess and certify buildings based on sustainability considerations, effectively ensuring that all new projects uphold the spirit of eco-friendly urbanization of the city. Sewage disposal and recycling in the city, on the other hand, contribute to reducing environmental damages resulting from rapid urban growth (Sharma & Bhardwaj, 2018).

Smart Density and Socio-Economic Impact in Ahmedabad

Smart density, when applied to Ahmedabad, does produce some thorough effects on its socio-economic fabric. Trying to go for inclusive urban development, employment opportunities are sought to be provided for all sectors of society, including the low-income groups. Since a lot of emphasis is placed on mixed-use developments, the residents of high-density areas get to work, go to school, and avail healthcare facilities all without too long a commute. That greatly improves their quality of life and helps develop resilient communities.

In addition, such setups ensure ample public utilities like parks, schools, and health centers are well integrated into residential neighborhoods, thereby making them accessible to citizens of all walks of life. The government's slum redevelopment thrust is another big contributor in raising the living standards of people in the most deprived areas by supplying them with good shelter, potable water, and sanitation facilities (Jana, 2018).

Conclusion: Lessons from Ahmedabad's Smart Density Approach

Ahmedabad is a perfect example of what smart planning can do to a city. It uses the ideas of smart density to improve cities. They develop spaces where residents live, work, and play together. The city focuses on affordability in housing, creating green spaces, and enhancing ways of transportation.

These developments aim to make Ahmedabad a better, sustainable, and pleasant place to live. With increased urbanization of the city, smart density will guide its evolution. The rest of India and other cities globally might take a leaf or two from Ahmedabad, especially those that are growing fast, becoming congested, and plagued by social and economic maladies.

2.5.4 Key Themes Across All Three Case Studies

1. **Sustainability:** All three cities strive for environmental sustainability via green technologies, energy-efficient infrastructure, and eco-sensitive urban planning.
2. **Smart Mobility:** A focus on granting the public transport system, converting areas into pedestrian-friendly ones.
3. **Affordable Housing:** Ensuring inclusive growth and offering affordable housing to the economically weaker section is a major shared focus of city redevelopment efforts, thus addressing social inequities.
4. **Mixed-Use Development:** High-density developments that mix residential, commercial, and recreational functions are the crux of urban planning strategies to improve urban livability and cut down on long distance commuting.
5. **Community Participation:** There is an insistence from all cities on the inclusion of local communities in the planning process, so redevelopment needs will make sense to the community, and foster ownership and belonging.

2.5.5 Conclusion

Such case studies show that smart density is not only about the optimal use of land, but also about creating urban environments that are sustainable, inclusive, and livable. Be it in developed Singapore and Barcelona or the fast-evolving Ahmedabad, the tenets of smart density offer a way out for urban areas all over the world to tackle the problems of population influx, climate change, and socio-economic inequality. They show that cities, by embracing new forms of urban design, can directly walk the line between developing their economies, conserving the environments, and promoting equity in urban redevelopment.

2.6 Research Gap

The research fills the gap of the previous researches only considering resettlement plans which in return end up creating another slum area just in a different location, since the problem is not solved from the root, and the solution is not sustainable for long term planning. Meanwhile this paper reviews a more smart and modern design and planning approach that is most beneficial to the community. The case study area is also one of the latest urban redevelopments plans going in Addis Ababa, and this thesis paper gives a futuristic approach that can be used on a bigger scale plan as this one, without disrupting the urban regeneration process.

CHAPTER THREE

3. Research Methodology

3.1 Description of Study Area

The main study area circles around the recent redevelopment plans that are being designed in Addis Ababa city core/center, by showcasing the Local Development Plan of eagle hills Ethiopia which covers up to 39 ha of Cherkos Sefer on the vicinity of Legahar train station (former main train station).

Even though the entire site area construction is not finished this site used to be and still is home for many low-class citizens and their way of life is on the edge of complication with housing replacement, relocation, and some other social problems. On the other hand, some of the existing housing units have problems of being eligible enough for good housing condition in addition to some of the settlements being are informal and majority of them are of kebele owned houses. The new urban redevelopment plan for this site is a complete redevelopment of the given site actually keeping the Legehar train station as a cultural and historical heritage and it is just given a functional adaptation for services of the redevelopment site where part of it is a Tomocca coffee shop and the other is head office for eagle hills.

In my studies, I have read about the different types of research methods, and in accordance to the behavior of my research, the case study_method is more preferable regarding the fact that my research questions are of “how” and “what” Answering questions to my objective (Vicki Knight, 2014). This paper studies the case in its real-world context, especially to avoid ambiguous information by coming to a general conclusion describe a present data if needed.

3.2 History of the Site

I have chosen a site that is currently impacted by the urban redevelopment process which made it easy for the local study and getting firsthand experience on how this could have been done better. Cherkos sefer is a very historic area for its compact life style with a lot of social history, which they are known for. Currently eagle hills, an Arabic based investors have prepared a plan to redevelop the area and recently, the area has now expanded and they wish to extend their plan. Which made the site the perfect study area to investigate the impact and benefits.

3.3 Site Location

Location – Addis Ababa, Cherkos Sefer (9°0'15.12"N 38°45'31.28"E)

Action Area – Eagle Hills Ethiopian investment project and its surrounding area

The site is 6 KMS (20 minutes) from the Addis Bole International Airport in the center of the city in an area called La Gare area. The 360,000 sqm brownfield land for development belongs to the Government. It was previously a train yard. Existing residents are planned to be relocated by the government. Metro line runs along the northern edge of the site and a metro station with a pedestrian bridge is connected to the Northwest quadrant of the site. Existing streets border the site on three sides.

Central location in close proximity to: African Union Headquarters (AU H.Q) - 1 km.
United Nations Economic Commission for Africa (UN ECA) - 1.5 km • Prime Minister's Office/ the palace - 2.5 km

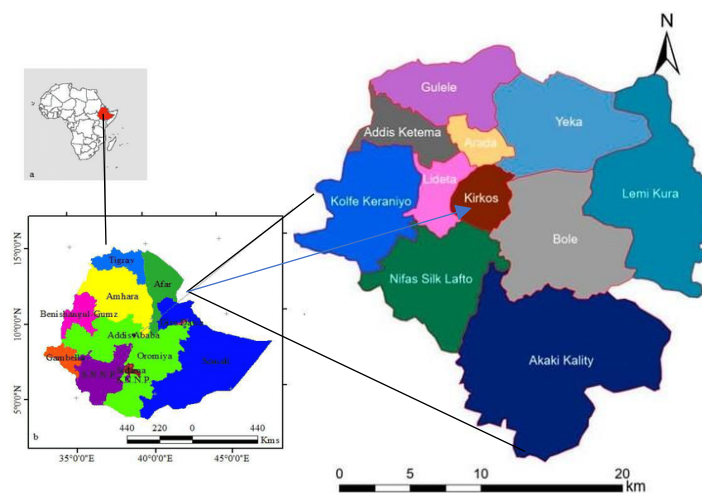


Figure 3.1. location map for Kirkos, Addis Ababa, Ethiopia

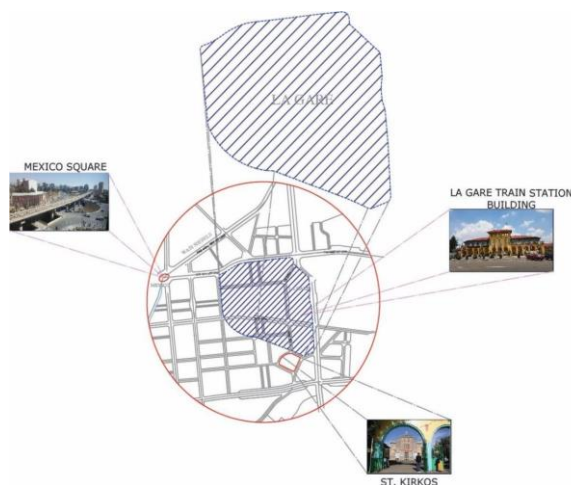


Figure 3.2. location of study area with landmarks
(Source: Prepared by the Author, 2025)

3.4 Methods and Source of Data Collection

3.4.1 Selection of Case Study Area

Eagle hills' Cherkos Sefer redevelopment strategy is suitable for case study of the application of smart density within city center urban redevelopment strategies for slum settlements due to:

Relevance as a Slum Area: Cherkos Sefer is a poverty-stricken, overcrowded area, traditionally speaking, and so it is the ideal candidate to be redeveloped through innovative urban planning solutions. As it is a slum, it suffers from usual issues of large populations, degraded infrastructure, and limited resources and is therefore an important location to be transformed using innovative urban renewal.

Solving Economic and Social Issues: Cherkos Sefer, like most slums, has a marginalized population with economic and social issues. Redevelopment of the area around smart density offers a chance to not only improve physical infrastructure but also social equity through sustainable solving of housing, employment, and education issues.

Smart Infrastructure and Technology Integration: The regeneration of Cherkos Sefer will be facilitated through the integration of smart technologies such as efficient energy systems, improved transportation infrastructure, and improved public services. With the incorporation of technology-driven solutions, the area can be transformed into more of a modern, efficient urban center.

Community-Oriented Redevelopment: Perhaps the most crucial aspect of the Cherkos Sefer redevelopment plan is that it needs to be centered around the local community's needs and wants. By using smart density, this redevelopment will be centered around community engagement, ensuring that the redevelopment of the area will enhance the quality of life for residents while providing affordable, sustainable housing.

Briefly, Cherkos Sefer is the perfect location for applying smart density to urban renewal. The challenges the area is currently facing, as well as the promise of sustainable technology-oriented solutions, offer a prime target for a project that marries social, economic, and environmental growth in the heart of a city.

3.4.2 Data Collection Methods and Tools

I used qualitative research methodology for samples which are not measurable and quantifies. This study methodology type helped me describe and analyze my research subject without limiting scope of the research and the nature of the participant's response and have a contextual understanding of the concern (Collisa & hussy, 2003).

I used quantitative research methodology so as to classify Characteristics of cherkos sefer, count them, and construct statistical model, graphs and tables to describe results and used both primary and secondary data.

Primary Data Source used for data Collection

The first data collection method I used is observation and personal survey of the site, captured by photography and notes taken at time of my site visit. The pictures help describe in an elaborative way than words to explain the physical situation of the area.

The second primary data collection is semi structured interviewing with the people in and around the area, to identify participant's emotions, feelings, and opinions regarding my research subject by having some basic question I have prepared to ask but open for the interviewee to answer as vastly descriptive and flexible as they can. The direct contact between me and the interviewees helped me on eliminating non- response rates.

The third primary data collection tool is a questionnaire that is prepared with a combination of close ended and open-ended questions by categorizing my sample questionnaires as direct users, eagle hills staffs, stakeholders, so as to differentiate and direct the person being asked to give her answers based on his/her context of their awareness for a more accurate data. The questionnaires' I have given for the sample groups I have chooses would be enough was very helpful to understand people's opinion and existing situation description they can share with me.

Lastly, Group Discussions with dwellers gathering around us while giving way questionnaires.

Secondary Data Source used for data Collection

As a secondary data, I reviewed case studies and literature review and web researches about my topic to help me best describe and explain my topic in regards to support my objective and its applicability.

3.4.3 Sampling Methods

Data sampling is selecting a sub-set of whole population. Mostly done for reason of reducing cost and practicality (Hitesh Mohagatra, 2018). As this is a school thesis project, sampling plays a vital role in order not to struggle with set-budget for the project and also to insure I collect the data in the most reliable way.

In the case of data sampling plan, there are three different types, which are, sample random sampling, stratified and cluster sampling (Brooks/Cole, 2005). And here I have found the stratified random sampling to be more suitable because it is used when we want to obtain a data by separating the population into mutually exclusive sets or strata then after the division, I can use simple random sampling to draw the data collected at each exclusive set or strata (Brooks/Cole, 2005).

3.4.3.1. Sampling Strategy

This thesis is based of application of smart density in the case of cherkos sefer. Cherkos sefer being the target area, as of 2011, Kirkos had a population of approximately 235,441. More recent estimates from 2022 suggest that the population has increased to around 311,765.

The population is of cherkos sefer in the redevelopment boundary is estimated to be 200,000 with no exact number specified so I used the formula used for an estimated population size that is not known to be exact. Which is the Cochran's formula. This formula is generally more accurate and can be used when you have an estimated proportion (p) of the population that possesses the characteristic you're interested in.

I estimated that 65% of the population has the characteristic am studying, and want a 95% confidence level with a margin of error of 5%, then used the formula:

$$n = (z^2 * p * (1-p)) / e^2$$

n is sample size, z is the z-score, 1.96 for 95% confidence, p is the estimated proportion of the population that possesses the characteristic (65%). e is the margin of error (5%).

$n = 3.8416 \times (0.65) \times (1-0.65) / (0.05)^2$, Results= 349.586 ~ 350 people sample size.

The 350-sample size is divided with in my target population as, Residents (50%) = ~185, Businesses (30%) = ~100, Key Community Members (15%) = ~50, Eagle Hills Staff/Developers: Project administrators and planners = Eagle Hills Staff (5%) = ~15.

3.5 Data Analysis and Presentation

3.5.1 Data Analysis

I will be using the data collected from the target group to achieve my objectives, which are, first Assessing the general characteristics of Cherkos Sefer as a slum area from the perspective of the people with supporting data of my physical observation of the area. Then analyze the impact of Eagle Hills development on local residents, then proceed to evaluate the application of density planning and people's perception of development plans in relation to understanding changes and risks, then Evaluating satisfaction with commercial spaces and amenities, the finalize by Analyzing how the social, environmental, or economic effects of the ongoing redevelopment plans can be corrected with smart density supported by the literature studies and case studies on smart density application and benefits for Cherkos Sefer.

The quantitative data analysis is used for descriptive statistics to summarize the data collected and find a pattern that the study area has in its slum characters and ensure the hypothesis of need for urban redevelopment plan. And also, quantifiable results to confirm how smart density application will help the redevelopment plans with our impacting the existing community. The qualitative data analysis is used for showing my perception of physical conditions supported my photography in collaboration from quantitative data.

3.5.2 Data Presentation

I used both qualitative and quantitative data collecting methodologies so I presented the outcomes of this collected data through the following data presenting elements, I used tables to present all data precisely in row and column for a clear comparison insight and pie chart to show the data collected as a percentage of the whole, this will be useful to show results simply with proportions also bar chart to will help me show data in separate rows then describe scale of the different categories also show related research. (Alison picking, 2015).

3.5.3 Conclusion

By depending on the current on-going redevelopment plan of eagle hills redevelopment plan, I will be using the methodology above to access, investigate and explore the application impacts and the current situation of the undeveloped part of the site and the people who live around it.

CHAPTER FOUR

4. Result and Discussion

4.1 Introduction

This section covers the data collected on case study area and the analysis of their LDP plan to redevelop the slum area of cherkos sefer and of the results collected from the community of cherkos sefer about the impact of the development plan and their perception of what will be better for them for future.

4.2 Design Analysis of the Current Redevelopment Plan at Cherkos Sefer

The case study area of the eagle hills area is currently undergoing municipality approval processes for the unconstructed blocks, but there are a few undergoing constructions and one completed project, which is the one Legahar luxury apartment, now ready for sell. For this apartment Block to be built, they have demolished the old shipping building and a lot of people were frustrated about that, since the building was in a great condition and was one of the most harmonies and iconic building in the city in architectural context and significance of the function the building inhabited, which was the Ethiopian shipping and logistics services head office. This function is now moved across the road to the new building the corporation had built.



Figure 4.1. The earlier, now demolished Ethiopian shipping and logistic building

(Source: Addis fortune, 2019)



Figure 4.2. The constructed luxury apartment in the place of the shipping headquarters.

(Source: Prepared by the Author, 2025)

The historically significant heritage found in the area is now been has totally changed by function and renovated internally and adopted to inhabit the head of eagle hills head office for the project supervisions and also serves as a show room for the physical scaled model of the proposed 3D plan, the sells center for the apartment units is also found inside for the current and the future to be developed blocks, and other related tasks. It also has the show room of the proposal presentation and Tomocca coffee shop.



Figure 4.3. Legehar train station building from exterior



Figure 4.4. The Tomocca coffee shop added inside



Figure 4.5 Legehar train station interior of the show room area and sells office, in the time of proposed 3D plan presentation to the Ethiopian PM

(Source: <https://addisstandard.com>, 2018)

4.2.1 LDP Design Process of Eagle Hills

Eagle Hills company has projects related to 11 Cities Getting a facelift, 14 Waterfront Destinations, 17 Mixed-Use Projects, 28 Luxury Hotels all over the world. And is now investing in Ethiopia as part of its concerted focus on unlocking the true potential of such different locations (Eagle hills Ethiopia, 2018). Which will permanently change the zoning road type urban land use of the cherkos sefer area and related villages. meanwhile, relocation of the locals is thought to be arranged by the government with the expense paid by eagle hills. The LDP is completed to Concept level of detail so the approval of the complete plan is going parallel with this La Gare Residence and currently they have submitted a 39acres of area covered LDP for approval at plan commission of Addis Ababa.



Figure 4.6. Proposed Site Plan = 360,000 sqm, now increased to 390,000 sqm

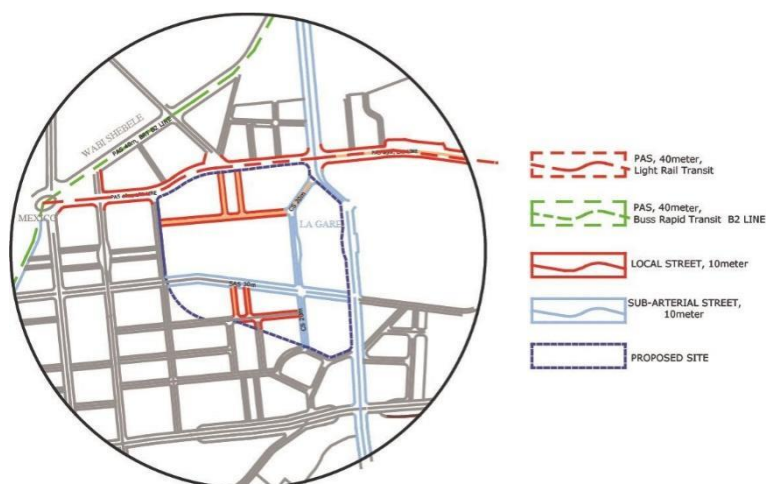


Figure 4.7. Road map of the existing site and surroundings

(Source: Prepared by the Author, 2025)

From the data collected from eagle hills staff members on their proposed plan study, it is shown here that, the slum areas of cherkos sefer are to be demolition and replaced with the land use proposed as blocks with functions like, luxury branded hotels, residences, apartments, shopping areas etc.

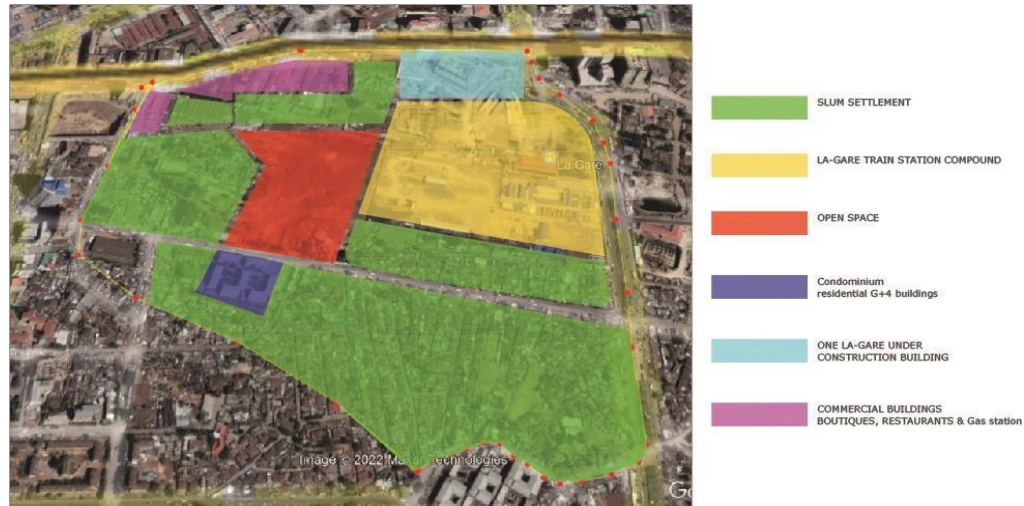


Figure 4.8. Zoning of the current state of the site (urban land use)



Figure 4.9. The functions assigned to the blocks after the demolition of the slum areas of cherkos sefer.

(Source: eagle hills planning representative committee, 2025)

As observed in the attached images, the scale of the area coverage it as currently and the target demography of the redevelopment plan is nowhere near to the current situation of the site and life status of the dwellers, which will discussed in the next section.

4.2.2 Strategy of Eagle Hills on Implementation of the Redevelopment Plan

The empress Taitu settlement plan, 1878 which is now 147 years old might not have much to say for the zoning description of cherkos sefer as the business district but later in the years was defined with in city core from biherawi to Meskell square and the closest radius by the Le Corbusier LDP, 1986, the 39-year-old Addis Ababa LDP. (Techeste Ahdrom, 1987). Cherkos sefer is still part of the city core business district boundary in the new 2017- 2032 LDP. (EsayasTeshome, 2022). With this base plan, the leading financial sector players are marking and finalizing construction of their luxury villages within walking distance of the La Gare Eagle Hills project. The area is anticipated to be established as the most prominent high-end location in the coming decade. (eagle hills Ethiopia, 2018).

One of the largest of its kind integrated lifestyle communities in Ethiopia, La Gare features more than 4,000 residences set in an area of over 390,000 sqm. Adding to the lifestyle choice of residents and catalyzing the economy are commercial, hospitality, retail and leisure attractions – all set in a gated community around a green park. (eagle hills Ethiopia, 2018).

Planning Ideologies and strategy of eagle hills which align with smart density planning

1. Ground water resource proposed for future use of the village
2. Walking distance and cycle friendly roads proposed
3. Mixed use planning that makes sure all facilities are available with waking distance in the village.

Planning Ideologies and strategy of eagle hills which do not align with smart density planning

1. The social segregation after construction between the low-class community is plainly thought to be covered with landscape gap and planting.
2. The relocation of the current settlers of kebele housing and private houses including any commercial building is to dealt with the government and finances are funded by eagle hills.
3. No proposed plan to include affordable housing and subsidize housing plan to include the cherkos sefer dwellers,
4. No comprehensive resettlements proposed plan to compensate for the exclusive planning they have, even after the broke the promise to give people homes here.

Even though this was what was approached with for the people, the current implementation shows otherwise, they are now getting eviction notices to move from their current location within a given short period of time, which is why we need to understand the right way of implementing urban redevelopment and smart density. All these points will be reasoned with by the collected data from the people.

4.3 Data analysis of Current state of Cherkos Sefer as a Slum Area and Study of Redevelopment Impacts

From the sample size of 185 residents and 50 important elder members of the community, 100 business owners inside the area, including 15 eagle hills staffs who view the expectances and struggles of the people in the area are included. These people's opinion computed from questionnaires and open interviews, suggestions and recommendation of the people, photographic inquiries, has been used to analyze current state of cherkos sefer as a slum area and the redevelopment plan of eagle Hills's impact on the community.

4.3.1 Land Use Classification

Due to the informal nature of the settlement, there are no proper land use zonings, but a large portion of the land in Cherkos Sefer is primarily residential, with informal and dense housing settlements dominating the area. These houses are often built on small plots with not much distance between the houses, often times without regard to legal zoning or adhering to city planning regulations. (M. Moisa, I Dejene, Z. Roba · D. Gemeda, 2022)

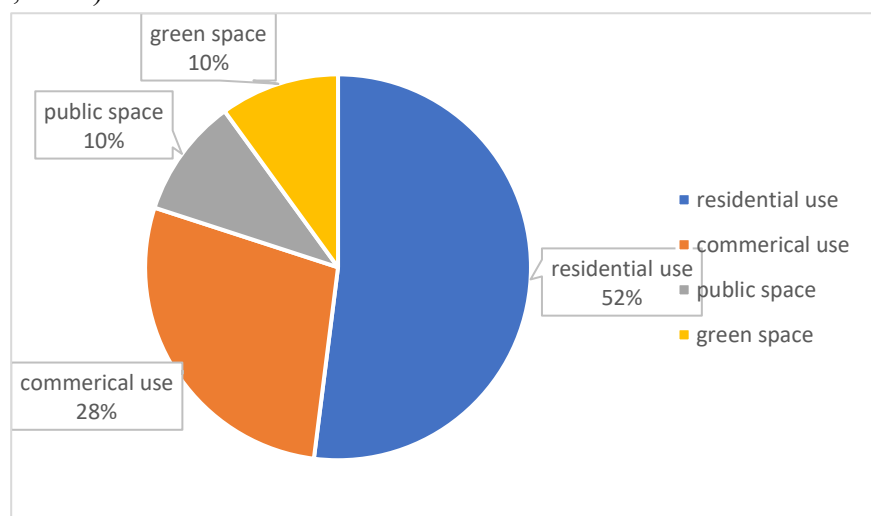


Figure 4.10. Land use of cherkos sefer

(Source: Prepared by the Author, 2025)

On the street sides, attached with the residential sections, informal enterprises and small businesses can be found in the whole area facing the main street. These include small shops, food stalls, and street markets that are the primary source of livelihood for man. These businesses occupy mixed-use premises and contribute to the economy but also result in the study area's overcrowding.

From field observation, public spaces and parks are limited, with almost no green cover or public space for recreational purposes and social congregations. Lack of publicly demarcated space lowers the living standards of the people further and also inhibits the ability to implement urban interventions for improving people's lives within the community.

4.3.2 Demographic and Socioeconomic Data

This section provides an overview of the population structure, income levels, and living conditions in Cherkos Sefer. It includes an assessment of the socio-economic challenges faced by residents.

Population Structure

The data collected shows that the highest number of respondents (43%) are 18-29 years old, with balanced distribution of male and female. Education is not equally distributed, but a majority (30%) have a diploma or above, which shows a better-educated population capable of evaluating development programs. Notably, unemployment stands at 31%, which may contribute to economic concerns about redevelopment.

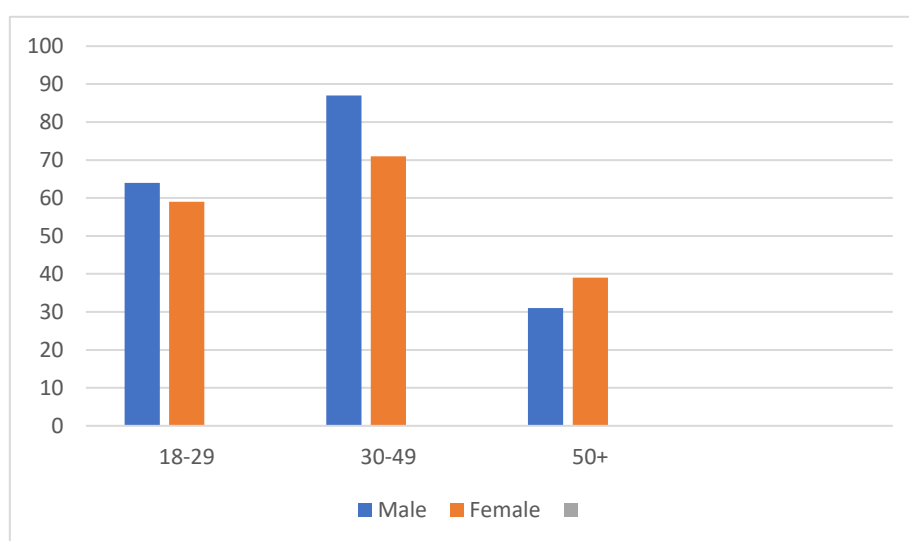


Figure 4.11. Age of respondents: with gender

(Source: Answers from questionnaire, 2025)

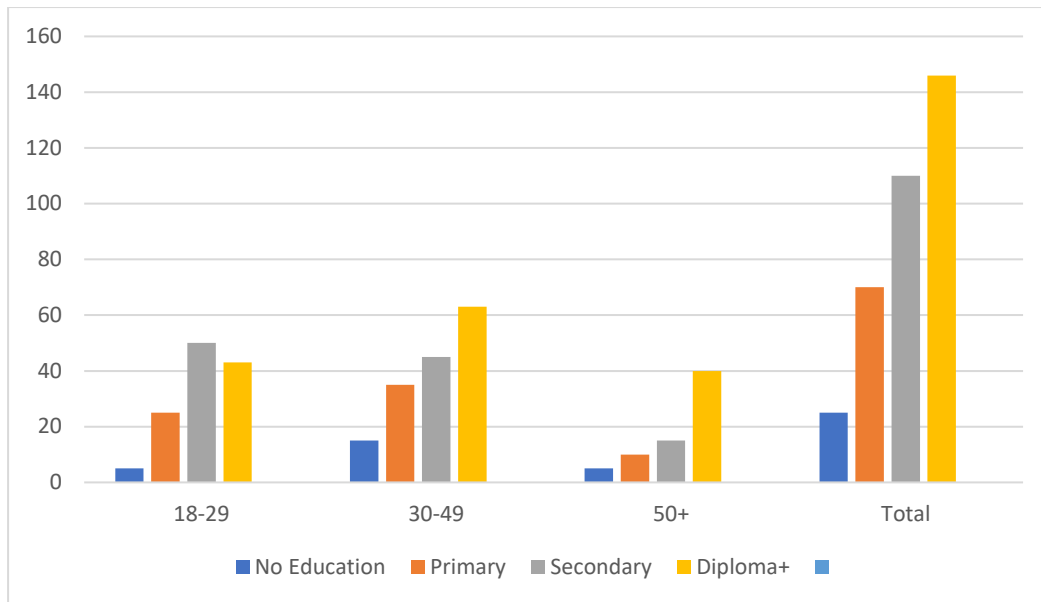


Figure 4.12. Age: with educational Level

(Source: Answers from questionnaire, 2025)

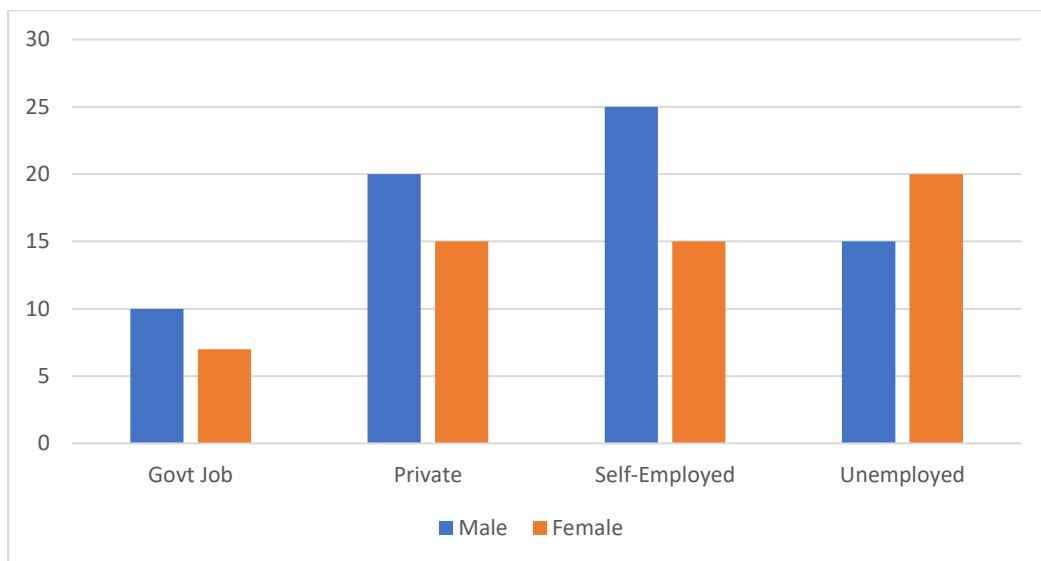


Figure 4.13. Gender with employment status

(Source: Answers from questionnaire, 2025)

In the age group 18-29, most people have Secondary education but a large percentage also have Diplomas+. In the age group 30-49, the Diploma+ category sharply increases with higher educational level by age. For the 50+ years age group, most people have Primary or Secondary education but a higher percentage of people have no education.

Table 4-1. Demographic Information

Category	Option	Count	Percentage (%)
Age	18-29 years	150	43%
	30-49 years	105	30 %
	50 years and above	63	18%
	Below 18	32	9%
Gender	Male	182	52.0%
	Female	168	48.0%
Education	No formal education	53	15%
	Primary school	105	30%
	Secondary school	88	25%
	Diploma or higher	105	30%
Employment	Government employee	98	28%
	Private sector	42	12%
	Self-employed	98	28%
	Unemployed	109	31%
	Other	17	5%

The study area has a broad income disparity. While some households may enjoy access to low-scale formal work, the majority earn very little, and the incomes are irregular. This deep income inequality disempowers residents from investing in better housing, education, and healthcare. The study area economy is restrictive due to poor credit access, limited employment opportunities, and high living costs. Additionally, most residents are caught in poverty traps, and thus upward mobility is complicated.



Figure 4.14. Commercial with in the insides of the area



Figure 4.15. Car washes integrated in the housing study areas

(Source: Taken by Author, 2025)



Figure 4.16. Informal enterprises and small businesses with residences in the back
(Source: Taken by Author, 2025)

The dwellers have taken initiatives to resolved unemployment's and low-income levels by supporting themselves with such commercial amenities. Tea houses, car washes, small wood workshops are one of the many things they have integrated in their own backyards.

4.3.3 Living Quality in Cherkos Sefer

4.3.3.1 Current Living Condition

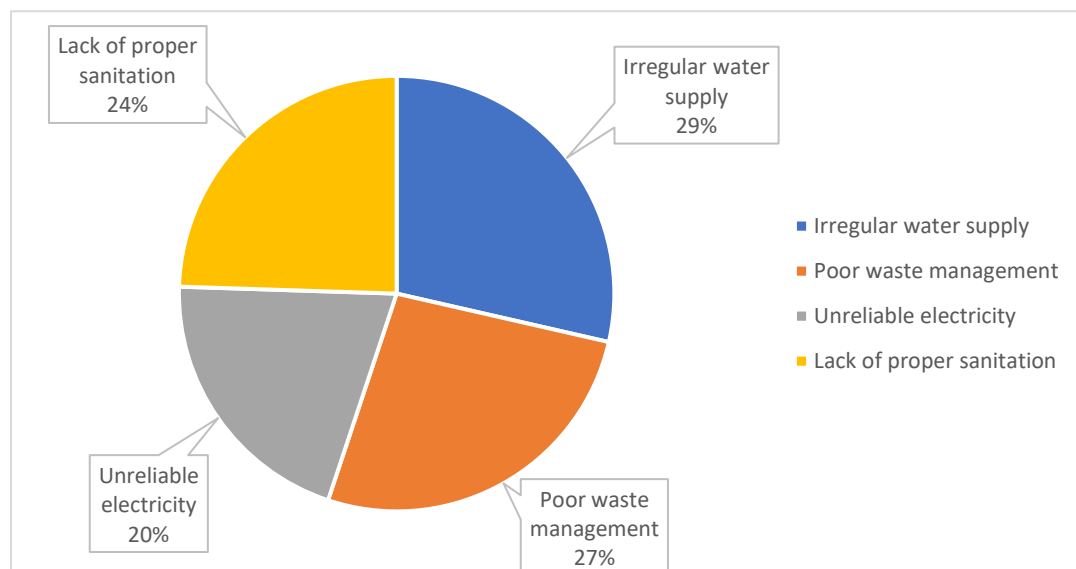


Figure 4.17. People's response to challenges in the area

(Source: answers from questionnaire, 2025)

The area suffers from inadequate infrastructure, including poor road networks, insufficient water supply, and a lack of sanitation services. The quality of housing in Cherkos Sefer is rated poorly by respondents, with 40% indicating "very poor" housing conditions and another 35% marking it as "poor." Major challenges include irregular water supply (70%) and poor waste management (65%), highlighting serious deficiencies in public infrastructure.

There is inadequate infrastructure, insufficient water supply, and a lack of sanitation services. The quality of housing in Cherkos Sefer is rated poorly by respondents, with 24% indicating "very poor" housing conditions and another 55% marked as "crowded." Major challenges include irregular water supply (29%) and poor waste management (27%), highlighting deficiencies in public infrastructure. Even in this condition of the listed issues, many were discussing their concerns of living the area and relocation treats are very high.



Figure 4.18. Drainage lines between houses and garbage collection

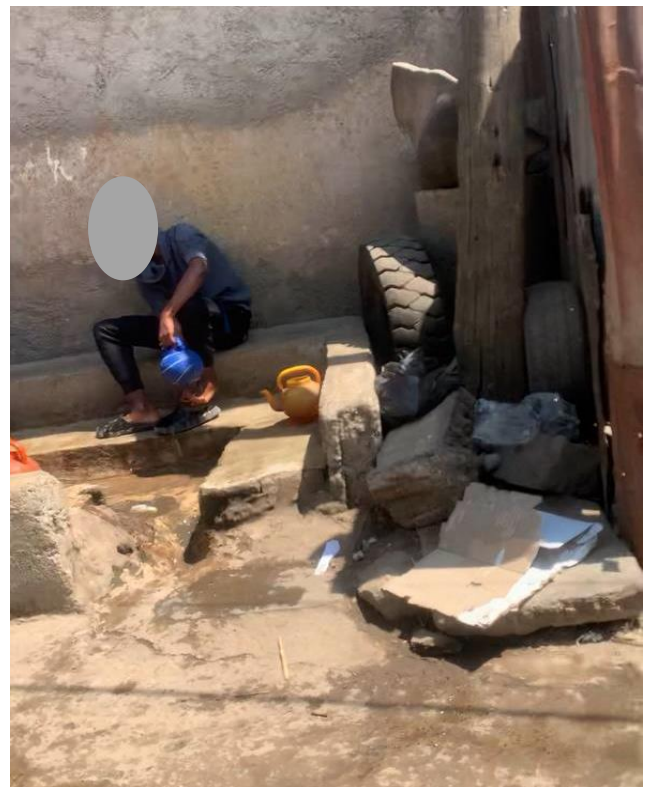


Figure 4.19. Common washing area for the mosque

(Source: Prepared by the Author, 2025)



Figure 4.20. Drainage line covered by dwellers to avoid smell



Figure 4.21. Drainage line at internal roads

(Source: Prepared by the Author, 2025)

Drainage issues at every corner of the houses, causing kids to get sick every day which leads to health issues like respiratory diseases, cholera, malaria, etc. to spread widely cause of poor sanitation, overcrowding, and the lack of basic healthcare infrastructure. Which is sad while leaving in a city center. In cherkos, their homes do not have access to their own toilets or waste disposal systems. So, residents use public toilets or open spaces for sanitation, which leads to contamination and the spread of diseases. Drainage issues at every corner of the houses, causing kids to get sick every day.

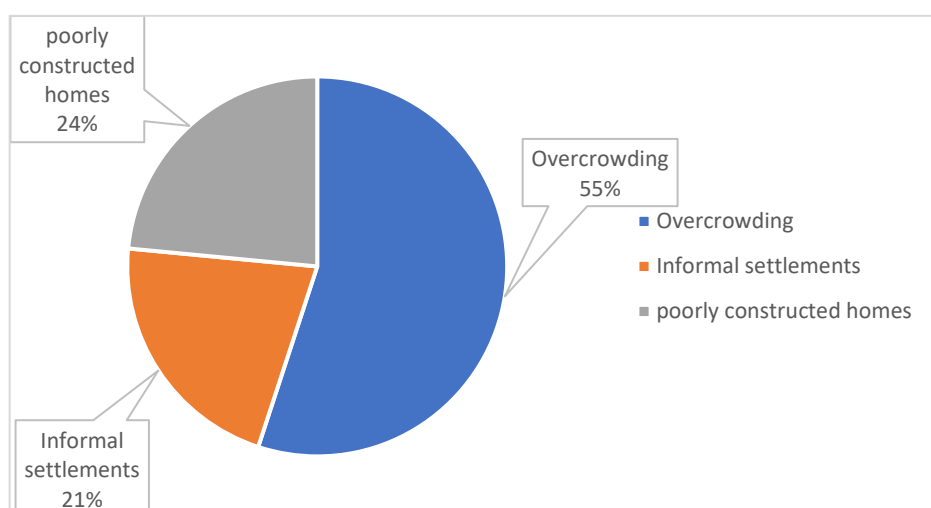


Figure 4.22. Housing Condition in the area

(Source: answers from questionnaire, 2025)

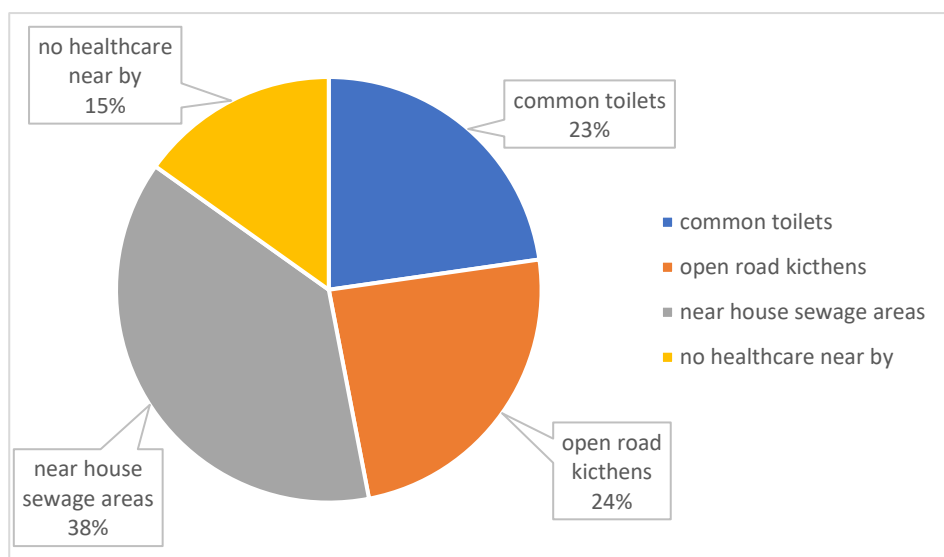


Figure 4.23. Health and sanitary situation of the area

(Source: answers from questionnaire, 2025)



Figure 4.25. Houses inside cherkos sefer

(Source: Prepared by the Author, 2025)



Figure 4.24. Shera houses inside cherkos sefer

The houses are overlapping on top on each other and poorly constructed with metal sheets and shera, and commonly previously existing housing are made of mud (chika).

The living conditions in Cherkos Sefer leads to health issues like respiratory diseases, cholera, malaria, etc. to spread widely cause of poor sanitation, overcrowding, and the lack of basic healthcare infrastructure. Which is sad while leaving in a city center.

In cherkos, their homes do not have access to their own toilets or waste disposal systems. So, residents often resort to using public latrines or open spaces for sanitation, which leads to contamination and the spread of diseases.

Table 4-2 Living Conditions

Challenge	Count	Percentage (%)
Irregular water supply	102	29%
Poor waste management	94	27%
Unreliable electricity	70	20%
Lack of proper sanitation	84	24%

(Source: computed by author from questionnaire, 2025)



Figure 4.26. People washing cloth outside



Figure 4.27. Food preparation right next to the sewage line

(Source: Prepared by the Author, 2025)

Even though most of the close by area from the redevelopment is hidden by fence from the construction companies, here is what we have been able to capture from the soon to be demolished part of the area.



Figure 4.28. Temporary settlements inside the site



Figure 4.29. Housing at the edge of the road where the road serves as food Dring as well,



Figure 4.30. Housing made of just metal sheets

(Source: Prepared by the Author, 2025)

It is observed that the waste management of the cherkos sefer is very poor, the sewer lines pass the houses edge, will extremely unpleasant smell even for someone passing by let alone for people to live and dine and sleep next to it. A few public toilets are visible in the area, showing most people use this public bathrooms and also common water supply faucets for those who don't have private water supply line.



Figure 4.31. Common toilet for multiple houses holds near homes, with no separating mechanism from the houses.



Figure 4.32. Open sewer line for rain water and sewage waste is located adjacent to or near every housing edge with heightened bad smell

(Source: Prepared by the Author, 2025)

4.3.3.2 Road and Commercial Conditions in Cherkos Sefer

Most of the roads are cobble stones and mainly used as a commercial edge and the housings are also placed facing the roads and joint with the shops mostly. The main road is also a commercial zone that is connected with living houses behind it.

The lack of public spaces (85% of respondents indicate "High availability") But poor public transport access (15% report it as "not accessible") further illustrate the area's infrastructural shortcomings.



Figure 4.33. Small Mother Bet on the internal road sides



Figure 4.34. People using the internal roads as shops for daily needs



Figure 4.35. Wood workshops



Figure 4.36. People using the internal roads as kitchen, washing areas etc.

(Source: prepared by the author)

4.4 Community Perception of Application of Redevelopment Plans and its Impact

Awareness of redevelopment projects is not as limited, with 11% of respondents being unaware of any initiatives. People mainly stating a no to redevelopment is high, with 40% strongly opposing and another 60% supporting the process and some neutral. Their Concerns center around displacement (40%) and loss of social connections (32%). While residents acknowledge potential benefits like better infrastructure (40%) and improved housing (30%), the risks of displacement and increased living costs (28%) weigh heavily on their opinions.

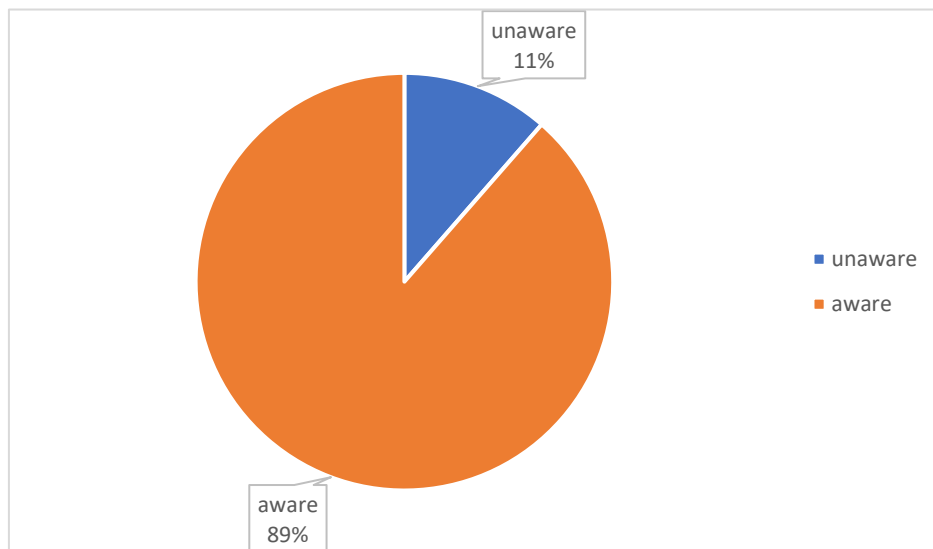


Figure 4.37. Awareness of Redevelopment in the area

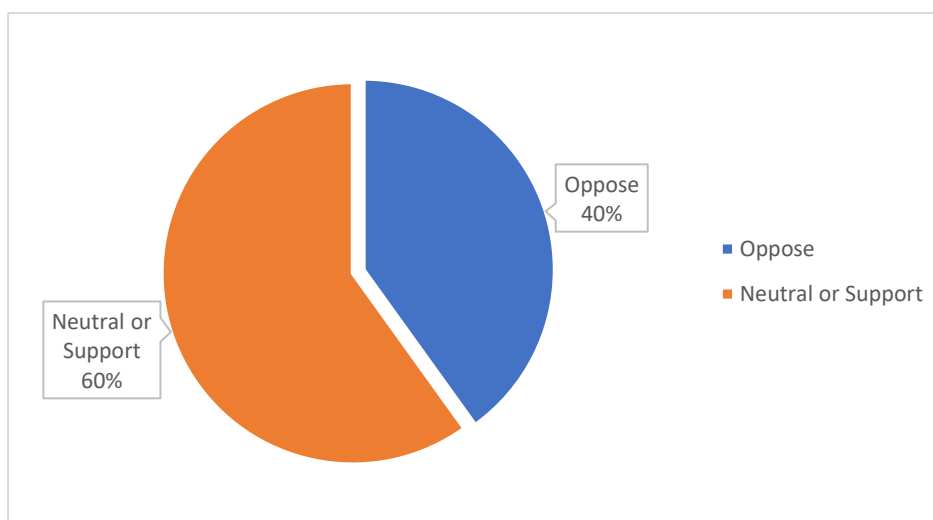


Figure 4.38. Opposition to Redevelopment response

(Source: Answers from questionnaire, 2025)

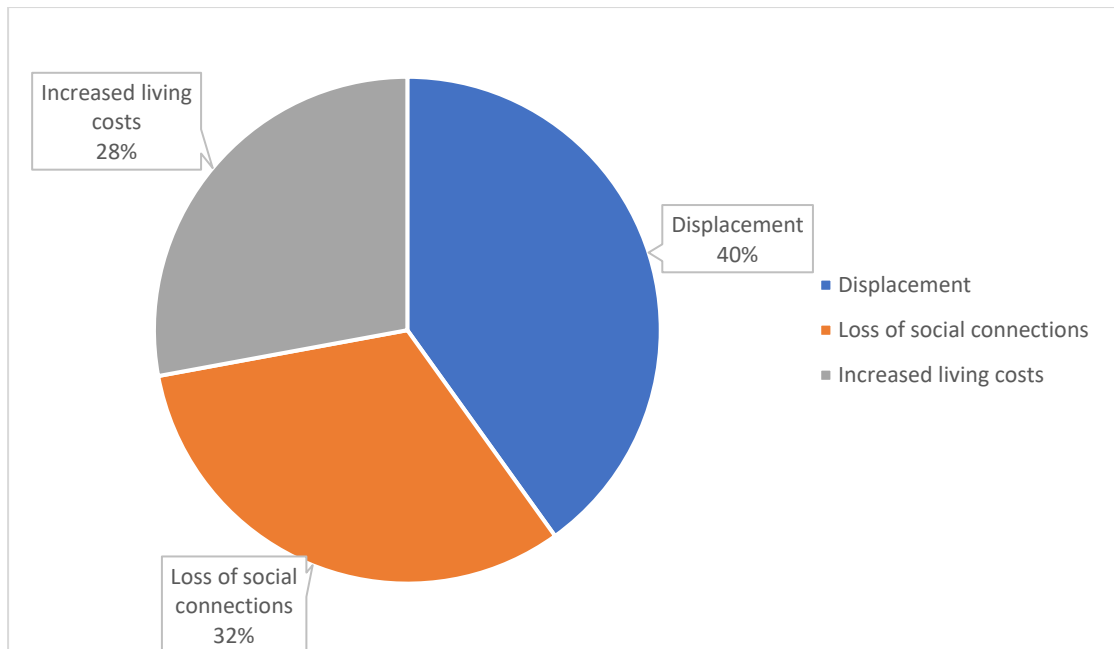


Figure 4.39. Concerns of displacement
(Source: Answers from questionnaire, 2025)



Figure 4.40. Fenced part of the construction area after people have been evicted from their homes and displaced in a different area.



Figure 4.41. The remaining materials from the demolished houses are being sold on the streets as a means of income

(Source: Prepared by the Author, 2025)

The community believes that redevelopment plans can be useful when it comes to solving their living condition struggles on the above issues but their concerns are aligned with the fact that the previous resettles plans and relocation risks are not in their side

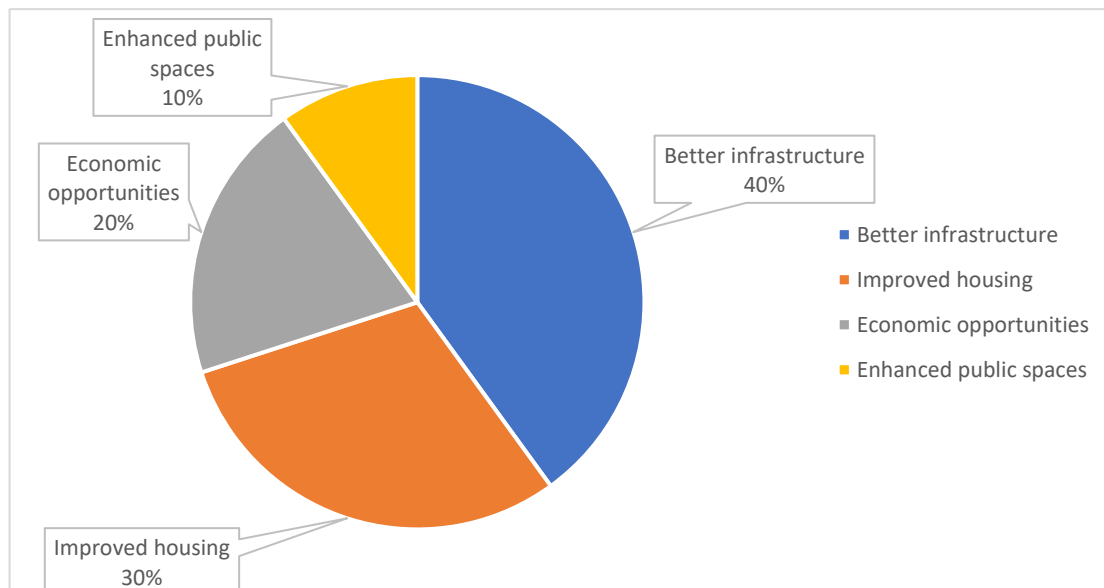


Figure 4.42. Benefits of redevelopment

(Source: Answer from Questionnaire, 2025)

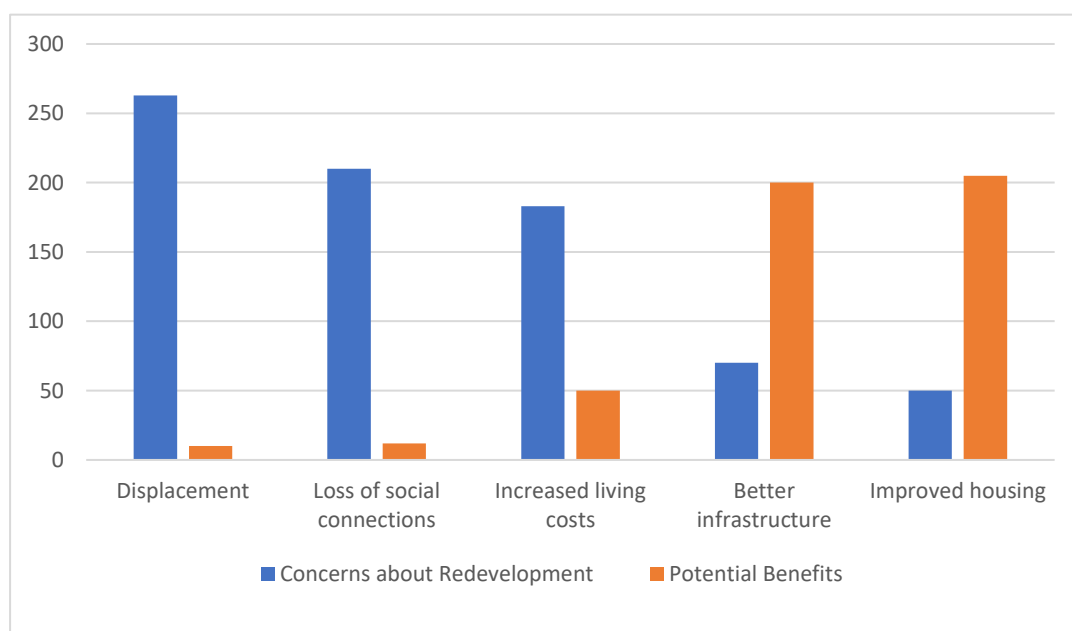


Figure 4.43. Connections b/n the people who are concerned with people who see the potential

(Source: Answer from Questionnaire, 2025)

Table 4-3. Perceptions on Redevelopment

Category	Option	Count	Percentage (%)
Awareness of Redevelopment	Unaware	39	11%
	Aware	311	89%
Opposition to Redevelopment	Strongly oppose	87	25%
	Oppose	105	30%
	Neutral or Support	158	45%
Concerns about Redevelopment	Displacement	140	40 %
	Loss of social connections	122	32%
	Increased living costs	98	28%
Potential Benefits	Better infrastructure	140	40%
	Economic opportunity	70	20%
	Enhanced public space	35	10%
	Improved housing	105	30%

(Source: Computed by the author, 2025)

The perception of redevelopment plan has become distorted in the eyes of the community because of the urban redevelopment trends people have experienced, heard off and listened on the news. The resettlement plan isolates the people from the community they have lived with for years where they have developed great bond of social life.

4.4.1 Perception of the Community about Participation on Redevelopment Planning Process

The key value of smart density planning notes that the community is the main part of the solution since they are the first-hand experiencers of the problems and issues of slum are and its negative impacts on their life and general wellbeing. International organizations advocate for protecting citizens from forced evictions and promoting participatory redevelopment strategies. Involving residents in participatory planning, has shown Improvement Program, fosters inclusive development and sustainable urban settings, showcasing the possibilities for lively, fair cities (Pacetti et al., 2012; Greenberg, 2019; Merrett, 1979).

Table 4-4. Community Engagement

Category	Option	Count	Percentage (%)
Participation in Meetings	Yes	70	20%
	No	280	80%
Importance of Involvement	Not important	12	5%
	Somewhat important	87	25%
	Very important	245	70%
Preferred Role in Redevelopment	Providing feedback	182	52%
	Attending meetings	143	41%
	Participating in decision-making	245	7%

(Source: computed by the author, 2025)

80% believe that community involvement is "very important." Preferred roles in redevelopment include providing feedback (52%) and attending meetings (41%). There have been plans of inclusion and promises when the plan first was told to the dwellers of the area but those promises have not yet been implemented.

Participation in the community meetings is minimal, since 80% of respondents indicating they have not participated. However, 70% believe that community involvement is "very important." Preferred roles in redevelopment include providing feedback (52%) and attending meetings (41%). The opinion when it comes to participating in decision making is low because people do not believe their opinions and suggestions are going to be implemented.

4.4.2 General Suggestions and Feedbacks from the Respondents

Common themes from participants suggested that there have been about the false plans of inclusion and promises when the plan first was told to the dwellers of the area and now their biggest concerns are how unreliable the redevelopment plans are. Since those promises have not yet been implemented is why people have mainly pointed it out in their suggestion and feedback lines. The summarized points are: -

1. Avoiding of displacement risks with clear relocation and compensation plans.
2. More inclusive community engagement in decision-making processes.
3. Improved housing designs that consider affordability and family sizes.
4. Enhanced public services and infrastructure, particularly sanitation and transport.

4.5 Discussions

The major findings from the above data analysis are described below accordingly, this discussion are based on the literature review and Global case studies of this paper.

4.5.1 Design Analysis of the Current Redevelopment Plan at Cherkos Sefer

From the critical analysis of the eagle hills LDP, the major take away that the redevelopment plan is lacking in principle of smart density planning is the clearance of highly packed community of cherkos sefer in order to serve the high-class community who will be renting, buying and using the amenities of the eagle hills village.

The cherkos sefer community is left on air because of lack of a comprehensive resettlement plan and no inclusive planning means to adapt the life style and scale of the low-income community in cherkos sefer. The green buffer they have thought to cover the new village to differ it from the rest of the slum area of cherkos sefer, is a big planning mistake they can do.

Smart density planning key values and major beneficiaries are the existing community, even if new communities are to be added to the area, the planning committee is sought to consider ways of integrating the community instead of creating a social strata segregation and literal physical buffer.

4.5.2 Data Analysis of Current state of Cherkos sefer as a Slum Area and Study of Redevelopment Impacts

Based on the collected data, most of the dwellers are young, with a high proportion of individuals under the age of 30. This is a common demographic trend in urban slums, where young people move to cities in search of jobs but become unemployed or underemployed.

The majority of Cherkos Sefer's dwellers belong to the low-income bracket. Residents typically work in the informal sector mostly businesses, with many being street shops, casual laborers, small-scale traders, or involved in heavy load jobs such as construction or domestic work. Most families with many members live together in small spaces due to economic difficulties, making it difficult for individuals to own their own dwelling units.. High unemployment and underemployment rates are common in the area. unlike the fact that the proximity to the city center was supposed to give access to more job opportunities, many individuals still struggle to secure stable, well-paying work.

There is a visible income disparity within the area because of the ongoing development. While some households may have access to modest formal employment, the majority earn very little, with inconsistent wages. This deep income inequality shows residents' inability to invest in better housing, education, and healthcare. Their economy shows that credit, limited employment opportunities, and high living costs. Additionally, many residents are caught in cycles of poverty, making upward mobility difficult.

Although Cherkos Sefer is located in close proximity to the central business district, it lacks essential public services like waste collection, reliable electricity, and public transport networks. This contributes to poor living conditions and further hinders residents' ability to improve their economic situation. The absence of proper waste management systems has resulted in high levels of pollution in the area. Improper disposal of solid waste, such as plastic bags and other non-biodegradable materials, clogs drainage systems and further exacerbates flooding and sanitation issues.

Cherkos sefer is analyzed to fall under the highly slum, overcrowded and detreated areas of city cores according to the research results so it is inevitable that redevelopment plans need to be implemented. In order to understand their opinion the study followed to ask questions on their perception on the need for redevelopment plan, the analysis results are discussed below.

4.5.3 Community Perception of Application of Redevelopment Plans and its Impact

After understating how the Cherkos Sefer and its area has all the slum area characters which show the need to implement redevelopment plans, it now comes down to analyzing which redevelopment planning approach is more valuable and beneficiary to the community. According to this study, smart density planning has the benefit of the community at its most priority to satisfy, so I analyzed people's opinion on how they perceive redevelopment plans and what they think is the potential benefit and risk of the redevelopment plans, in relation to the current ongoing redevelopment plan and the impact it has on their lives.

It is stated that their biggest worry about redevelopment plans from their current experience is the displacement risks, loss of their social connection and increased cost in the new settlement they will be forced to go to etc. Which has now clouded people opinion and perception about future redevelopment plans, thinking the output of the planning will impact them the same way.

I have analyzed that the people do think the rejuvenation plan is important and that the slum area does impact their day today life, the issue is the redevelopment plans are ending their lives in every aspect of their social life. But the community does understand that redevelopment plans which are well planned and considered the community will be created and give them improved housings, affordable housing, better infrastructure, enhanced public spaces and economic opportunities by creating employment opportunities for the vast majority of the youngsters in the community.

The study analyzed another major aspect of smart density planning is including the community and ensuring the community participation in order to understand where the people stand in the sense of redevelopment planning. They have well pointed out, the people would like nothing more than to know what is planned for them and to give their voices and ideas because they are the once who know the detailed gap behind closed doors and their day to day lives. They definitely appreciate being a part of the change since the change is for them, as long as it is inclusive of their lives and needs.

4.5.4 Conclusion

By analyzing the results from the people from questioners, observations, interview and group discussion from the community, the integration of smart density and its values has stand out in favor of satisfying people need and improving their life's, while the slum area regeneration plan is undergoing.

CHAPTER FIVE

5. Conclusion and Recommendations

5.1 Conclusion

It has been analyzed that the urban redevelopments trends in Addis Ababa have a gap in their implementation of comprehensive inclusive plans for the existing community while regenerating the target area, also not have a proper resettlement plan to make sure the specified community stays together to keep the social life going, which will help ease the relocation process and help the community adopt to their new homes. The inability of these plans in lacking sensitivity to the lives of the existing community has created hopelessness in the urban redevelopment plans in the face of the community.

This study has studied the application smart density principles to be very useful to restore the trust of the community in times of planning and making sure the wellbeing of the community and safeguarding a healthy inclusive plan. The urban redevelopment plans must take advantage of innovative planning and design techniques of smart density by populating the existing community with vertical density and growth in their plans and creating integration to the new settlers of the area, which will help nurture the already existing social life.

It has been analyzed that, the current (ongoing) development plan by eagle hills is criticized by the community in its application and planning of the redevelopment plan, because it lacks basic principles of smart density. eagle hills development plan had the potential to do the smart density planning approach but missed the main point of the redevelopment plan, which is to assure the benefits to give security of housing, infrastructure, inclusive design etc. for the existing community before caring for the financial benefit of its company.

It has also been drawn attention in a related context that Insufficient funding for the resettlement plan is a major barrier to carrying out extensive slum redevelopment initiatives because they prioritize their financial gain before the benefits of the low-income community. The inclusive planning needs Effective density implementation requires innovative funding methods via public-private partnerships (PPPs), global financial support, and land-based financing systems.

The results from the data shows that by using core principles of smart density, the main challenges can be targeted since smart density aims to optimize the use of available land while improving livability, sustainability, and access to services. It focuses on high-density development that is balanced with quality infrastructure, environmental sustainability, and the creation of vibrant, mixed-use communities. For the redevelopment of Cherkos Sefer, these principles can offer significant improvements to the area's overcrowded and informal settlement.

It has been analyzed that most of the community work near where they live with their small businesses like informal market sells, mother bet houses, wood workshops, and grocery shops etc. which means resettlement plan without considering their means of income in the new houses they have will not consider their ability to afford living. The community has shown great concern to this, because their lives depend on it. Which is why it is essential to know what every house hold is going through.

The research highlights the critical role of community involvement in realizing effective urban redevelopment plans using smart density projects. The success of long-term social sustainability initiatives relies on how well redevelopment plans align with the needs and preferences of the local population. It has been discussed with the dwellers of cherkos sefer that their opinions were neglected in the redevelopment plans by eagle hills development planning committee and been betrayed by the false promise they had given them.

It has been analyzed that a compact planning for the low-income community can be affordable without hurting the business of the redevelopment planners, which also puts into account offering affordable housing options, and engaging community members in decision-making processes. Redevelopment efforts without resident participation can face resistance and may lead to displacement or division within the community.

This study concludes that with the right planning tools of smart density, a sustainable, modern and redeveloped city cores plans can go smoothly and the lives of the people wouldn't have to be disrupted for sake of getting smart city. The people will accept redevelopment plan which put their wellbeing's in consideration, help them be part of the solution, creates improved living conditions, enhanced public spaces, healthier and refreshed environment and secured life for their future generation.

It has been analyzed that SWOT analysis cherkos sefer and studying the condition of the redevelopment application area is very important for implementing smart density planning. This will help in considering the strength of the slum area for redevelopment plan, studying its weakness to help understand which problem should be given priority, then identify its potential in making the redevelopment plan feasible, and determine main treats of the area in times of application.



Figure 5.1. SWOT Analysis from Research Findings

(Source- prepared by the author, 2025)

It is concluded that based on the research's literature reviews on application trends of smart density planning that, it is important to do a detailed analysis and study of the area to extensively understand the condition of the action area before heading to implementation. Doing that will create a less disruptive redevelopment plan that will be useful for every member of the community.

5.2 Recommendations

This section provides recommendation on how to implement smart density planning in urban redevelopment plans. Based on the literature reviews, case studies and data collection results, this chapter outlines the recommended core principles of smart density that are most relevant for the redevelopment of Cherkos Sefer.

Inclusive planning frame work in redevelopment plans

First and fore most there needs to be a study plan which collects all the necessary demographic, house hold size and home to home data collected of the existing area in time of redevelopment plan. That way every house hold, every single individual is accounted for when it comes to the resettlement on the new design area. An over generalized statistics is the big issue in settlement plans because of the neglecting behavior of redevelopment planning trends. Which is why it is best to count toughly.

Then it is important to have a land use and zoning plan to create the social strata that integrated, low-, middle- and high-class communities. When density planning, to maximize land use and accommodate a larger population, urban redevelopment should focus on high-density, multistoried housing with active mixed-use communities. The promotion of construction of multi-story buildings creates more residential area with an even smaller surface area, making more land available.

It is recommended to have mixture of affordable housing with mid-price apartments for the different income levels in terms of building stability and affordability. Buildings should be constructed from durable, low-cost materials such as prefabricated or modular units that can be installed more quickly and cheaply. Since most of the cherkos sefer community is categorized as low income and they fear the increased living costs.

It is recommended from the study of application smart density that, workforce housing have helped to provide low-income households to live close to their jobs, which in turn reduces working hours. So, it is important to create commercial amenities to help support their lives and afford living in the redeveloped area.

Community Participation in the planning process

I recommend as per my data findings and detail study, that urban renewal programs encourage public participation through establishing systematic channels for periodically involving citizens in planning and decision-making. The community of cherkos sefer have shown their interest in participating to be part of the solution and to work with planning committee in the case of the regeneration plans, this way they can enlighten the planners in core issues, day today issues they face, rather than the generalized implications of the planners without a proper study.

This mainly creates sympathy and accountability to the planners and the solution can be more effective and less disruptive to the population. Redevelopment efforts without resident participation can face resistance and may lead to displacement or division within the community. Public participatory planning meetings will guarantee that housing, public space, and services are tailored to respond to residents' social and cultural values.

Policy Recommendation for smart density planning implementation

In order to make the application of smart density implementation, rules and regulations must be included in the policy revisions of urban plan approvals. This scanning process will be help in providing revision to plans which do not follow the required inclusive plans and comprehensive resettlement plans. For effective smart density programs, there should be a regulatory & legal framework to support effective implementation of the initiatives. There must be an effective monitoring and evaluation mechanism. Ongoing review must track redevelopment progress and determine policy effectiveness, infrastructure performance, community satisfaction, and environmental sustainability.

A majority of informal settlements lack legal ownership of land and therefore live in uncertainty of being evicted. There should be legal systems that grant legal ownership or long-term leases, which will not only anchor housing for current residents but also encourage property upgrading and long-term tenure stability in neighborhoods. This is most important because the cherkos sefer communities discussed that the people most disadvantaged in the compensation plans and resettlement plans are those who had shera houses and no legal form of residency in the area. Developers tend to take these loopholes in their compensation plans and this can be resolved by legalizing slum area dwellers before the redevelopment plans come to life.

Subsidized guarantees for affordable housing should be incorporated in the plan of redevelopment. Some of the new housing units should be set aside for existing dwellers to prevent them from being displaced as it is the biggest concern of the community and pillars the community health and wellbeing. Affordable housing subsidized leasing, and rent-to-own options can enable low-income households to stay within the redeveloped community. To abate the danger of displacement, comprehensive relocation and compensation schemes should be put in place to provide for displaced residents and limit displacement.

As per Smart density planning schemes mixed-use developments and common green spaces can be set as a building code regulation so that urban life is fostered in a sustainable walking and lively manner without sacrificing the quality and integrity of communities and low income communities can create their means of income in the commercial divisions of the mixed-use developments.

Once redevelopment plans are approved according to the above requirements, there should be a Smart Density Planning Unit of the city planning commission to ensure coordinated redevelopment in sectors like transport, housing, utilities, and protection of the environment. The unit would coordinate long-term planning, integration of smart technology, and sustainable urban development.

Redevelopment should be driven by community participation to guarantee that smart density strategies are responsive to the needs of residents. Community participation through participatory planning workshops, surveys, and for instance, public space, community facilities, and public transport design participation by local residents fosters ownership and social cohesion.

Nevertheless, the careful implementation smart density planning will call for meticulous preparation, adequate funding, with civil participation, and the establishment of a strong institutional and policy framework stated above. In doing so, Addis Ababa can lead the change with an example for other cities caught in similar urban issues.

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Annexes

Annexes I. Notable Finds in the study

The currently on going eagle hills construction and how it has transformed the face of the area. Here are some pictures to show the impact.



Figure 6.1. The currently the only finished portion of the master plan, high apartment building



Figure 6.2. Fenced and green part of the cleared area



Figure 6.3. The ongoing construction site
(Source: Taken by the researcher, 2025)

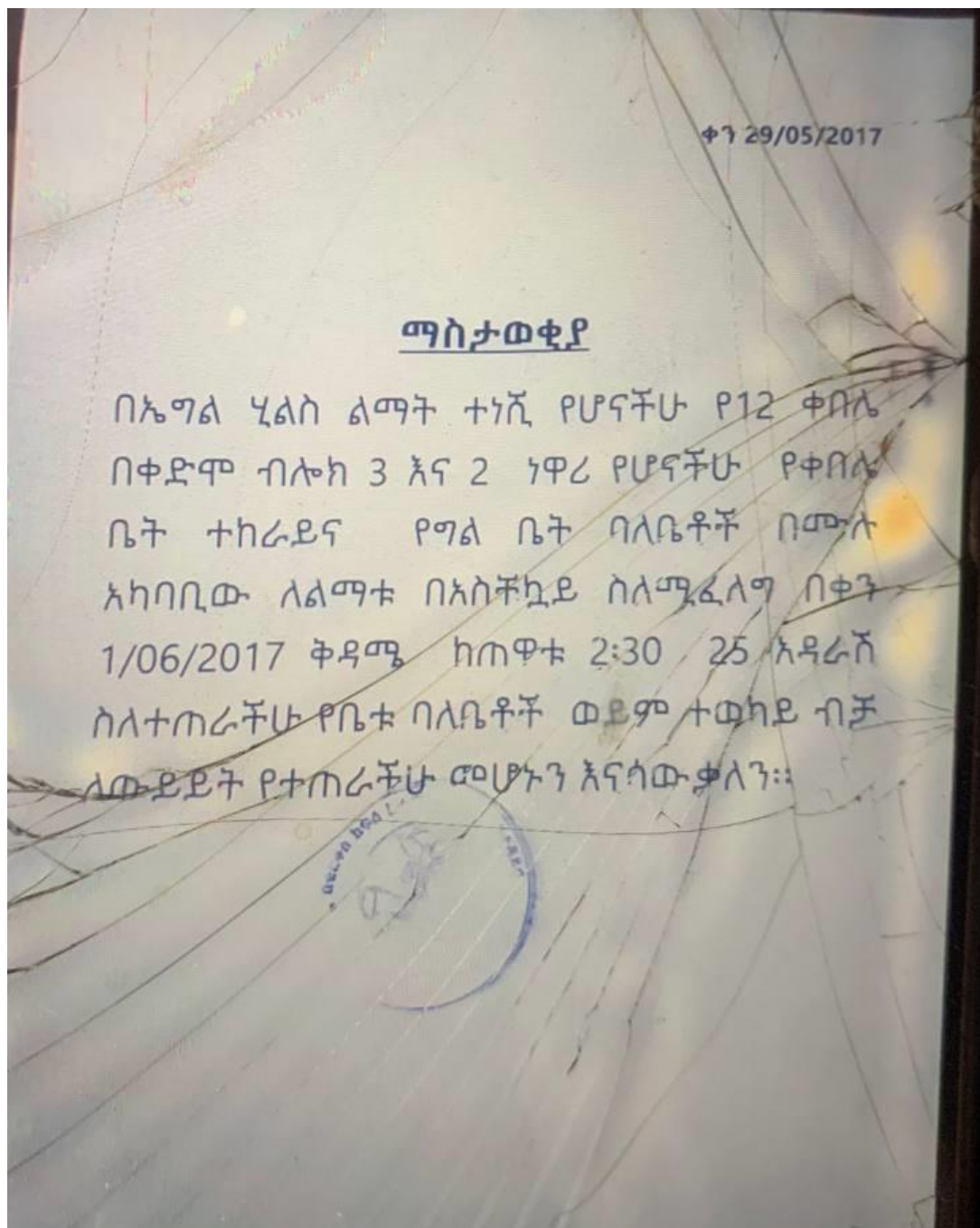


Figure 6.4. the eviction notices dwellers shared with the researcher

(Source: Prepared by the Author, 2025)

Annexes II. Tables

Table 4-1. Demographic Information

Category	Option	Count	Percentage (%)
Age	18-29 years	150	43%
	30-49 years	105	30 %
	50 years and above	63	18%
	Below 18	32	9%
Gender	Male	182	52.0%
	Female	168	48.0%
Education	No formal education	53	15%
	Primary school	105	30%
	Secondary school	88	25%
	Diploma or higher	105	30%
Employment	Government employee	98	28%
	Private sector	42	12%
	Self-employed	98	28%
	Unemployed	109	31%
	Other	17	5%

Table 4-2. Living Conditions

Living Challenge	Count	Percentage (%)
Irregular water supply	102	29%
Poor waste management	94	27%
Unreliable electricity	70	20%
Lack of proper sanitation	84	24%

(Source: computed by the author, 2025)

Table 4-3. Perceptions on Redevelopment

Category	Option	Count	Percentage (%)
Awareness of Redevelopment	Unaware	39	11%
	Aware	311	89%
Opposition to Redevelopment	Strongly oppose	87	25%
	Oppose	105	30%
	Neutral or Support	158	45%
Concerns about Redevelopment	Displacement	140	40 %
	Loss of social connections	122	32%
	Increased living costs	98	28%
Potential Benefits	Better infrastructure	140	40%
	Economic opportunity	70	20%
	Enhanced public space	35	10%
	Improved housing	105	30%

Table 4-4. Community Engagement

Category	Option	Count	Percentage (%)
Participation in Meetings	Yes	70	20%
	No	280	80%
Importance of Involvement	Not important	12	5%
	Somewhat important	87	25%
	Very important	245	70%
Preferred Role in Redevelopment	Providing feedback	182	52%
	Attending meetings	143	41%
	Participating in decision-making	245	7%

(Source: computed by the author, 2025)

Annexes III. Questioner

These research-based thesis project questioners are to keenly study the main problems in redevelopment plans in Addis Ababa and give recommendations on what to do better.

ይሄ ጥናትን መሰረት ያደረገ የመመረቂያ ፕሮጀክት መጠይቅ የተዘጋጀው በከተማ አድራሻ እና ማልማት ስራዎች ላይ ያለውን ድካሞች እንዲናስተካከል የሚያግዙ መንገዶችን ለመዳሰስ ነው፡፡

Research questions

1. How can the existing practices be issues for the redevelopment areas density planning?
2. To what extent density related major problems have affected the Cherkos District redevelopment
3. How do the current negative and positive effects of the relocations create impacts on the planning for redevelopment?
4. To what extent has the relocation affected the social and economic group of the area?
5. How can alternative solutions for smart density be solutions for the Cherkos Redevelopment area?
6. How would the new project and relocation area be integrated?
- 7.

Section A: Demographic Information

የህብረ መረጃ

Tourist Local ☐ Foreigner ☐ Dweller ☐

ጎብኝ የሃገር ውስጥ ጎብኝ የወጭ ሃገር ጎብኝ የከተማው ነዋሪ

Gender A. Male(ወንድ) ☐ B. Female (ሴት) ☐

ፆታ

Age A.<18 ☐ B.18-29 ☐ C.30-49 ☐ D. >50 ☐

እድሜ

Education A.<8 ☐ B.9-12 ☐ C.Degree/ድግሪ ☐ D. ☐

Above/በላይ

ትምህርት

Employment A. Government ☐ B. Private ☐ C. self made ☐

D.Other/የተለየ

ሥራ

የመንግስት

የግል

የራስ ስራ

Section B: Current Living Conditions

የአሁኑ መኖሪያ ሁኔታ

Q.1 How long have you lived at cherkos sefer?

ለምን ያክል ጊዜ ጨርቆስ ሰፈር ኖረዋል?

A. <1 year B. 5-10 years C. >15 years D. Other/የተለየ

Q.2 How would you rate the quality of housing in Cherkos Sefer

በጨርቆስ ሰፈር ያለውን የቤት ጥራት እንዴት ታዩታላቸው?

A. poor/ዘቅተኛ B. fair /በቂ C. good/ጥሩ D. excellent/ እጅግ በጣም ጥሩ

Q.3 What challenges do you face regarding basic services?

A. poor sewerage system C. Lack of infrastructure
ደካማ ቆሻሻ አውግዶ የመሰረተ ልማት እጥረት
B. poor settlement D management issues
የአስፋፈር እቅድ ስህተት ደካማ አስተዳደር

Q.4 Are there adequate public spaces (parks, recreational areas) in your community?

በአካባቢው በብዛት ያለው የማህበረሰብ ስፍራ (መናፈሻዎች, መዝናኛ ቦታዎች) አሉ?

A. Yes/ አዎ B. No/አይደለም

Q.5 How accessible are public transport services in Cherkos Sefer?

የህብረተሰብ ትራንስፖርት አገልግሎት በጨርቆስ ሰፈር እንዴት እንደሚገኝ ትረዱታላችሁ?

A. Very accessible C. Not accessible
በበቂ ተደራሽ ተደራሽ አደለም
B. Somewhat accessible D. None /የለም
በከፊል ተደራሽ

Section C: Perceptions on Urban Redevelopment and Smart Density

ስለ ከተማ ልማት ስራዎች እና ጥቅም ያላቸው አስተያየቶች

Q.6 Are you aware of any ongoing or planned redevelopment projects in Cherkos Sefer ?

በጨርቆስ ሰፈር ላይ በአሁኑ ወቅት ወይም በቀጣዩ እቅድ ውስጥ ያሉ የከተማ ልማት ፕሮጀክቶች እንዳሉ ያውቃሉ?

A. Yes/ አዎ ☐ B. No/አይ ☐

Q.7 Do you think this area should be redeveloped?

ሰፈሩ መልሶ መልማት አለበት?

A. Yes/ አዎ ☐ B. No/አይ ☐

Q.8 If yes, what are the main reason for the area to need redevelopment?

አዎ ከሆነ, አካባቢው እንደገና ማሻሻያ የሚያስፈልገው ዋናው ምክንያት ምንድን ነው?

A. Water service / የውሃ አጥረት ☐ C. sanitation /ንዕህና ☐
B. Electricity /መብራት አጥረት ☐ D. low life quality /የኑሮ ጥራት ማነስ ☐

Q.9 Estimate your support for the redevelopment

A. Strongly oppose / በጣም እቃወማለዉ ☐ C. neutral /ግድ የለኝም ☐
B. oppose /እቃወማለዉ ☐ D. support /እደግፋለዉ ☐
E. strongly support /በጣም እደግፋለዉ ☐

Q.10 What do you think is the benefit of redevelopment?

የልማቱ ጥቅም ምን ይመስልዎታል?

A. improved housing / የተሻለ ኑሮ ☐
B. economic opportunities / ኢኮኖሚያዊ አጋጣሚዎች ☐
C. better infrastructure / የተሻለ የመሠረተ ልማት ☐
D. enhanced public space/ የተሻለ የሕዝብ ቦታ ☐

Q.11 Do you have concerns regarding redevelopment?

በአሁኑ ወቅት ወይም በቀጣዩ እቅድ ውስጥ ያሉ የከተማ ልማት ፕሮጀክቶች ያሳስቦታል

A. Yes/አዎ ☐ B. No/አይ ☐

Q.12 if Yes, why?

A. Displacement of residents ☐ C. Increased cost of living ☐
የነዋሪዎች መፈናቀል የኑሮ ውድነት መጨመር
B. Loss of social connections ☐ D. Environmental impact ☐
ማኅበራዊ ግንኙነት ማጣት ደካ የአካባቢ ተፅዕኖ

Section D: Community Engagement and Participation

የማህበረሰብ ተሳትፎ እና ተሳትፎ

32 Do you believe implementing smart density principles which could improve living conditions in Cherkos Sefer?

በጨርቆስ ሰፈር የኑሮ ሁኔታን ሊያሻሽሉ የሚችሉ ብልህ ጥልቀት ያላቸው መርሆዎችን ተግባራዊ ማድረግ ያምናሉ?

A. Yes/ አዎ ☐ B. No/አይደለም ☐

4.3 would you participate in community meetings?

በማህበረሰባዊ ስብሰባዎች ላይ ትሳተፋላችሁ?

A. Yes/ አዎ ☐ B. No/አይደለም ☐

4.6 how important do you think is the community involvement

የማህበረሰቡ ተሳትፎ ምን ያህል አስፈላጊ ነው?

A. Not important/ አስፈላጊ አይደለም ☐ C. Very important/በጣም አስፈላጊ ☐

B. Somewhat important/አስፈላጊ ☐ D. other/የተለየ ☐

Q.5 what is your Preferred Role in Redevelopment Initiatives

በዳግም እድገት ተነሳሽነት የእርስዎ ሚና ምንድን ነው?

Providing feedback ☐ C. Participating in decision-making ☐

አስተያየት መስጠት

በውሳኔ ላይ መሳተፍ

B. Attending community meetings ☐ D. others _____
በማህበረሰባዊ ስብሰባዎች ላይ መገኘት ሌሎች

Q.5 what is your Preferred Communication Methods

የእርስዎ ምርጥ የሐሳብ ልውውጥ ዘዴዎች ምንድን ነው ?

Community meetings ☐ C. . Flyers/posters ☐

የማህበረሰብ ስብሰባዎች

የበራሪዎች/ፖስተሮች

B. Social media ☐ D. Phone calls/SMS ☐

ማህበራዊ ሚዲያ

የስልክ ጥሪ/ኤስ ኤም ኤስ

Section E: Suggestions and Feedback

ጥቆማና አስተያየት

What additional suggestions do you have for improving living conditions in Cherkos Sefer?

በጨርቅስ ሰፈር የኑሮ ሁኔታ ማሻሻል ለማድረግ ምን ዓይነት ጥቆማ አስተያየት አለዎት?

Any additional comments or concerns regarding urban redevelopment and smart density strategies?

ስለ ከተማ ልማት ጥቅም እና ስራዎች ተያይዞ ተጨማሪ አስተያየት ካለ እትም ይመሉ፡፡

Annexes IV. Interview Questions

Addis Ababa University College of Technology and Built Environment

Interview Questions for Data Collection

Title: The Application of Smart Density in Urban Redevelopment Plans on Slum Areas of City Centers: The Case of Addis Ababa, Cherkos Sefer

Introduction:

I am Meseret Derebe, a Masters student at the Collage of Technology and Built Environment. I am conducting a study to analyze the effect of urban redevelopment in Cherkos Sefer, more so in terms of housing, basic facilities utilization, socio-economic standing, and community participation. The aim of this study is to assess the implications of redevelopment on the local residents and stakeholders. Your insights hold immense value in understanding the challenges and opportunities posed by these redevelopment projects.

All information you provide will remain confidential and will be used only for the purposes of academic research. I am very appreciative of your cooperation and time.

For Dwellers (Residents of Cherkos Sefer)

1. General Background

1.1 Can you tell us about yourself (age, occupation, and how long you have lived in Cherkos Sefer)?

1.2 How would you describe the general living conditions in this area?

2. Housing and Infrastructure

2.1 How would you rate the quality of housing in Cherkos Sefer before and after the redevelopment plans?

2.2 What are the biggest challenges you face regarding housing and infrastructure (e.g., water supply, electricity, sanitation, roads)?

2.3 Have you or anyone you know experienced displacement due to redevelopment? If so, what were the circumstances?

3. Awareness and Perception of Redevelopment Plans

3.1 Are you aware of the redevelopment plans for Cherkos Sefer? How did you learn about them?

3.2 Were residents involved in discussions or decision-making about the redevelopment? If so, how?

3.3 What are your thoughts on how the redevelopment is being implemented?

3.4 Do you believe the redevelopment has improved or worsened living conditions? Why?

4. Socioeconomic Impact

4.1 Has the redevelopment affected job opportunities, businesses, or economic activities in the area?

4.2 How has the cost of living changed since the redevelopment began?

4.3 Have any support programs (such as financial aid, housing assistance, or job training) been offered to affected residents? If so, were they helpful?

5. Community Engagement and Participation

5.1 How would you describe the level of community participation in redevelopment projects?

5.2 What challenges prevent residents from being actively involved in decision-making?

5.3 What improvements would you suggest for better community engagement in future redevelopment efforts?

6. Recommendations and Final Thoughts

6.1 What changes would you like to see in the redevelopment process to better support residents?

6.2 How can the government and developers ensure that redevelopment improves the quality of life for all residents?

6.3 Any additional comments or concerns you would like to share?

For Stakeholders at Eagle Hills (Developers, Planners, and Officials)

1. Role and Involvement

- 1.1 Can you describe your role in the redevelopment of Cherkos Sefer?
- 1.2 What are the key objectives of the redevelopment project from your perspective?
- 1.3 How is Eagle Hills working with government agencies and local authorities to execute the project?

2. Planning and Execution

- 2.1 What factors were considered when designing the redevelopment plan for Cherkos Sefer?
- 2.2 How are housing, infrastructure, and public services being integrated into the redevelopment?
- 2.3 What challenges have arisen during the implementation of the project, and how are they being addressed?

3. Community Engagement

- 3.1 What steps have been taken to involve local residents in the planning and decision-making process?
- 3.2 How has feedback from the community influenced the redevelopment plans?
- 3.3 Are there specific initiatives in place to ensure minimal displacement of existing residents?

4. Economic and Social Impact

- 4.1 How does the redevelopment plan aim to balance economic growth with the social well-being of residents?
- 4.2 What measures are in place to support affected businesses and job seekers in the area?
- 4.3 How is affordability being ensured in housing and services for existing residents?

5. Future Outlook and Recommendations

- 5.1 What are the long-term goals for the redevelopment of Cherkos Sefer?
- 5.2 How can the project be improved to better align with the needs of residents and stakeholders?
- 5.3 What lessons have been learned from this redevelopment project that could be applied to future projects?

For Wereda Officials (Local Government Representatives)

1. Government Role and Policies

- 1.1 What is the role of the Wereda administration in the redevelopment of Cherkos Sefer?
- 1.2 What policies are in place to ensure fair and inclusive urban redevelopment?
- 1.3 How does the Wereda coordinate with Eagle Hills and other stakeholders to implement the project?

2. Community Impact and Displacement

- 2.1 How does the Wereda address concerns about resident displacement due to redevelopment?
- 2.2 Are there compensation or relocation programs for affected residents?
- 2.3 What steps are being taken to ensure that redevelopment benefits the existing community rather than pushing them out?

3. Public Services and Infrastructure

- 3.1 How is the Wereda involved in improving public services (water, electricity, roads) to support the redevelopment?
- 3.2 What measures are in place to prevent the overburdening of infrastructure in Cherkos Sefer?
- 3.3 Are there initiatives to develop new public spaces or facilities as part of the redevelopment?

4. Transparency and Community Engagement

4.1 How does the Wereda ensure transparency in decision-making for the redevelopment?

4.2 What platforms exist for residents to voice their concerns and contribute to planning?

4.3 What improvements can be made in government-community collaboration for future projects?

Thank you for your time and valuable insights.

Publishable Article

The Application of Smart Density in Urban Redevelopment Plans on Slum Areas of the City Centers: The Case of Cherkos Sefer, Addis Ababa

Abstract

This study analyzes urban redevelopment trends addressing informal settlements and slum degradation, highlighting deficiencies in inclusivity, affordable housing, and comprehensive resettlement plans. These gaps have led to community segregation and mental health distress. Focusing on the Cherkos Sefer redevelopment plan, the study shows a lack of inclusivity for the existing community. It evaluates the area's characteristics and living conditions while gathering community concerns regarding redevelopment. The investigation critiques the Eagle Hills plan against smart density principles, advocating for smart density as the optimal approach to ensure efficient space use, improved living conditions, and sustainable infrastructure in densely populated areas, preventing distress to residents and revitalizing slum areas. The collected data reveal community acceptance of redevelopment as necessary to address overcrowding, inadequate infrastructure, and environmental degradation, but also highlight concerns about increased housing costs, displacement risks, and transportation challenges for accessing city jobs. The study concludes that redevelopment can benefit the community when it incorporates compact, well connected, and thoughtful development that fosters sustainable and resilient living. Recommendations emphasize implementing smart density strategies aligned with building codes for policymakers and urban planners in Addis Ababa and similar contexts to ensure that density planning serves community interests while promoting sustainable urban development.

Keywords: *Smart Density, Urban Redevelopment, Slum Areas, Inclusive Planning, Community Participation*

1. Introduction

As cities rapidly undergo urbanization, informal settlements mushroom, mainly in the core urban area population being faster than infrastructure growth (UN-Habitat, 2016). Approximately, 90 percent of inhabitants in inner-city areas of Addis Ababa live in informal settlements (CSA, 2013). Traditional slum redevelopment interventions like forced relocations have proven unsustainable, displacing the vulnerable (Satterthwaite, 2010). This study, on the contrary, seeks to explore smart density as a feasible alternative, emphasizing optimized land use, mixed-use developments, and sustainable infrastructure.

2. Methodology

A mixed-methods approach was employed, incorporating both qualitative and quantitative data collection. Surveys and interviews were conducted with residents of Cherkos Sefer to assess their perceptions of redevelopment. Additionally, urban planning documents and case studies from Singapore, Copenhagen, and Ahmedabad were analyzed.

The population of Cherkos Sefer in the redevelopment boundary is estimated to be 200,000 with no exact number specified so I used the formula used for an estimated population size that is not known to be exact. Which is the Cochran's formula. This formula is generally more accurate and can be used when you have an estimated proportion (p) of the population that possesses the characteristic you're interested in.

I estimated that 65% of the population has the characteristic I am studying, and want a 95% confidence level with a margin of error of 5%, then used the formula:

$$n = (z^2 * p * (1-p)) / e^2$$

n is sample size, z is the z-score, 1.96 for 95% confidence, p is the estimated proportion of the population that possesses the characteristic (65%). e is the margin of error (5%).

$n = 3.8416 \times (0.65) \times (1-0.65) / (0.05)^2$, Results= 349.586 ~ 350 people sample size.

The 350-sample size is divided within my target population as, Residents (50%) = ~185, Businesses (30%) = ~100, Key Community Members (15%) = ~50, Eagle Hills Staff/Developers: Project administrators and planners = Eagle Hills Staff (5%) = ~15.

3. Results & Discussion

3.1 Challenges in Cherkos Sefer

Data Analysis Results indicate that informal settlements face issues such as inadequate housing, poor sanitation, and social marginalization. Community members expressed concerns about displacement due to urban redevelopment projects.

3.2 Smart Density as a Redevelopment Strategy

The research highlights several benefits of smart density:

Vertical Expansion: High-rise affordable housing solutions can maximize land use efficiency.

Mixed-Use Development: Integrating residential, commercial, and public spaces improves accessibility.

Community Participation: Inclusive planning ensures that redevelopment meets local needs (Pacetti et al., 2012).

3.3 Comparative Case Studies

Lessons from Singapore and Copenhagen demonstrate how integrating smart density principles can transform urban landscapes without displacing communities. Singapore's use of mixed-income housing policies and sustainable transit solutions offers a model for Addis Ababa (Chin & Lee, 2014).

4. Conclusion & Recommendations

The study further concludes that smart density can be an urban regeneration tool for Addis Ababa. In facilitating implementation, I recommend an inclusive affordable housing schemes provided by the government to avoid displacement. There should be collaboration between urban planners, policymakers, and developers to implement the new plans. Residents should have an opportunity to provide feedback during the process of redevelopment for it to be socially equitable.

By integrating these strategies, Addis Ababa can achieve more sustainable and inclusive urban growth, reducing the negative impacts of redevelopment on marginalized communities.

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