



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

# **Spatial Extent and the Regularization of Informal Settlements in Addis Ababa Ethiopia**

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# Spatial Extent and the Regularization of Informal Settlements in Addis Ababa Ethiopia

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A Dissertation Submitted to the Department of Urban and Regional Planning, School of Built Environment (SBE), College of Technology and Built Environment (CTBE), Addis Ababa University, Presented in Fulfilment of the Requirements for the Degree of Doctor of Philosophy in Urban and Regional Planning

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March, 2026



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### Approval Sheet

This is to certify that the dissertation prepared by Melaku Eticha Taye entitled: Spatial Extent and the Regularization of Informal Settlements in Addis Ababa Ethiopia and is submitted in fulfillment of the requirements for the degree of Doctor of Philosophy in urban and regional planning compiles with the regulations of the university and meets the accepted standard with respect to originality and quality.

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| Chairperson | Signature | Date  |

Solomon Benti (PhD, Assistant Professor)

|                              |           |       |
|------------------------------|-----------|-------|
| .....                        | .....     | ..... |
| Graduate Program Coordinator | Signature | Date  |

## **Dedication**

I have dedicated this dissertation to my family, whose love and relentless support made my entire academic journey a success. My appreciation in particular goes to my beloved wife, Ayantu Dejene, who has remained to be the source of happiness and strength throughout my endeavor. I am also blessed for having got a beautiful child, Abdiyu (Eba) Melaku, a precious gift of God during my PhD journey.

## **Declaration**

I, the undersigned, declared that this thesis is my own original work, and has not been submitted for a degree in any other university and that all sources of material used for the thesis have been duly acknowledged following the scientific guidelines of the university.

Name: Melaku Eticha Taye

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Date:.....

## Abstract

*Rapid urbanization, coupled with shortage of affordable formal housing, has contributed to the growth and persistence of informal settlements. Through time, these informal settlements have become part and parcel of the overall social and spatial fabrics of the given city, despite political changes, institutional restructuring, and land governance challenges. In this connection the aim of this research is mainly to identify the extent of informal settlements in the city of Addis Ababa, particularly after the restructuring of its boundary with Shaggar city. Secondly it tries to evaluate the regularization process of informal settlements ranging from registry to titling through investigation of spatial, legal and institutional setup. The study also interrogates the spatial layout, available regulations and identifies the actors involved at each stage of the regularization process. Thirdly, it examines implementation of the regularization process in relation to urban land use planning. Both qualitative and quantitative methods were used in undertaking the research. The study also reviewed the existing literature including policies, legal frameworks, regularization base maps, cadaster plans and available urban plan documents collected from different sources including city sectoral offices. Field observations and interviews were made with key experts in the field as well as with low-income community groups. Furthermore, observations were also made in pertinent offices on archived daily records and desk services so as to better understand the extent and context of the regularization processes of informal settlements. Data were analyzed by ArcGIS 10.8 software to identify the location of informal settlements by overlying the collected data and verifying this with field observation at selected areas using recent satellite images. It is observed that the existing data are fragmented, inconsistent, and difficult to access or retrieve.*

*The study results have shown that about 50 percent of settlements are informal. Moreover, findings related to regularization process show that the process is considerably slow and inefficient, often requiring residents to make multiple follow-up visits (on average up two years) and remains a challenging task to get title deeds because of spatial or land use plan mismatches, legislative gaps and fragmented institutional setup. Findings regarding institutions also revealed unclear roles and responsibilities of actors as well as an extended bureaucracy. Findings on legal aspects indicate inconsistency in the implementation of legal provisions resulting in inefficient execution. The findings related to spatial planning indicate that discrepancies often exist between approved urban plan framework and the actual layout of regularized informal settlements. Unlike the widely accepted categorization of top-down or bottom-up intervention on informal settlements, the case of Addis Ababa indicates a more complex scenario that does not fully align with either model. The city's regularization implementation appears to reflect a middle planning approach that neither regularize nor negates the totality of informal settlements. Therefore, appropriate reforms regarding spatial planning, institutional restructuring and legal amendment are required within a framework of proactive urban planning in order to enhance the effectiveness of the implementation of the regularization process. Moreover, well-organized digital data enhances the overall informal settlement planning, efficiencies and thus smoothens the decision-making processes. Addressing these issues innovatively and holistically fosters inclusive and sustainable urban development that balances growth with social equity*

**Key Words:** *Informal Settlements, Extent, Regularization Process, Titling, Urban Planning.*

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First and foremost, I thank the Almighty God for granting me the strength, wisdom, and perseverance to reach at this important stage of my academic journey.

This research emerged from my deep interest of understanding informal settlements, as an issue closely intertwined with housing and everyday human life in the context of rapidly urbanizing cities of Ethiopia. From the beginning of my PhD studies, I was motivated to explore informality both globally and locally, particularly within the urban context of Ethiopia and, more specifically, Addis Ababa. Based on my professional experience in urban development and planning, I have recognized that informal settlements in urban areas have ambivalent spatial and socio-economic impacts, due to their challenges and opportunities, that must be examined contextually. This research therefore aims to contribute to the academic discourse and inform policy development by investigating the spatial extent and regularization process of informal settlements by capturing the existing realities in urban contexts.

The successful completion of this PhD dissertation would not have been possible without the support and contributions of many individuals and institutions. In this regard, I would like to express my sincere and heartfelt gratitude to all those who guided and supported me throughout this research journey.

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Finally, I extend my deepest gratitude to my beloved family: my mother, sisters, and brothers for their unwavering support, patience, and encouragement. I am profoundly thankful to my wife, Ayantu Dejene, whose love, motivation and continuous support strengthened me throughout this academic pursuit. Her understanding and adaptability to the demands of my research allowed me to remain focused and achieve my goals. I am also immensely grateful to my adorable child, Abdiyu (Eba) Melaku, a precious gift of God obtained during my PhD journey.

Melaku Eticha Taye

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## Table of Contents

| Contents                                                            | Pages |
|---------------------------------------------------------------------|-------|
| Abstract .....                                                      | iv    |
| Acknowledgements .....                                              | v     |
| Table of Contents .....                                             | vii   |
| List of Figures .....                                               | xi    |
| List of Tables .....                                                | xii   |
| Lists of Maps .....                                                 | xiii  |
| List of Annexes .....                                               | xv    |
| Acronym .....                                                       | xvi   |
| Maps Spatial References .....                                       | xviii |
| 1. Introduction .....                                               | 1     |
| 1.1. Background Overview .....                                      | 2     |
| 1.2. Statement of the Problem/Rationale .....                       | 3     |
| 1.2.1. Urbanization and the Expansion of Informal Settlements ..... | 3     |
| 1.3. Objectives .....                                               | 9     |
| 1.3.1. General Objective .....                                      | 9     |
| 1.3.2. Specific objectives .....                                    | 9     |
| 1.4. Research Questions .....                                       | 9     |
| 1.5. Scope of the Study .....                                       | 10    |
| 1.6. Significance of the Study .....                                | 11    |
| 1.7. Research limitations .....                                     | 12    |
| 1.8. Ethical Considerations .....                                   | 13    |
| 1.9. Organization of the Document .....                             | 14    |
| CHAPTER TWO .....                                                   | 15    |
| 2. Literature Review .....                                          | 15    |
| 2.1. Theoretical Perspectives of Informal Settlements .....         | 15    |
| 2.1.1. Defining Informal Settlements in View of Local Context ..... | 15    |
| 2.1.2. Theoretical basis of Informality .....                       | 17    |
| 2.1.3. Spatial Extent and Interventions .....                       | 20    |
| 2.1.4. Spatial development of the Informal Settlements .....        | 27    |
| 2.2. Land Tenure Regularization of the Informal Settlements .....   | 30    |

|                                                                                                   |    |
|---------------------------------------------------------------------------------------------------|----|
| 2.3. Informal Settlements as Affordable Housing Side Wing .....                                   | 31 |
| 2.4. Conceptual Understanding of Regularization .....                                             | 34 |
| 2.5. Toward Regularization of Informal Settlements: A Support Perspective .....                   | 41 |
| 2.6. The Processes of Regularization .....                                                        | 43 |
| 2.6.1. Spatial Aspects of the Regularization Processes.....                                       | 44 |
| 2.6.2. Legal Aspects of the Regularization Processes.....                                         | 45 |
| 2.6.3. Institutional Aspects of the Regularization Processes.....                                 | 46 |
| 2.7. Conceptual Framework .....                                                                   | 48 |
| 2.8. Methodological Review .....                                                                  | 50 |
| 2.8.1. Detection and Mapping of Informal Settlements .....                                        | 50 |
| 2.9. Research Gap .....                                                                           | 50 |
| CHAPTER THREE .....                                                                               | 53 |
| 3. Material and Methods .....                                                                     | 53 |
| 3.1. Description of the Study Area .....                                                          | 53 |
| 3.2. Administrative Structure .....                                                               | 58 |
| 3.3. Physical Aspects.....                                                                        | 59 |
| 3.3.1. Topography .....                                                                           | 59 |
| 3.3.2. Rainfall.....                                                                              | 61 |
| 3.3.3. Temperature.....                                                                           | 62 |
| 3.3.4. Wind Speed and Direction .....                                                             | 63 |
| 3.3.5. Vegetation Cover.....                                                                      | 64 |
| 3.3.6. Flood risk .....                                                                           | 65 |
| 3.3.7. Geology.....                                                                               | 66 |
| 3.4. Methods.....                                                                                 | 66 |
| 3.5. Methodologies for Research objectives .....                                                  | 69 |
| 3.5.1. Identifying The Spatial Extent of Informal Settlements .....                               | 69 |
| 3.5.2. Identifying the Process of Regularizing the Informal Settlements .....                     | 73 |
| 3.5.3. Investigation of Regularization of Plots in Relation to Urban Planning<br>Guidelines ..... | 77 |
| 3.5.4. Innovative Approach for the Proper Management of Informal Settlements..<br>.....           | 80 |
| CHAPTER FOUR.....                                                                                 | 81 |
| 4. Results .....                                                                                  | 81 |

|                                                                                                  |     |
|--------------------------------------------------------------------------------------------------|-----|
| 4.1. Introduction .....                                                                          | 81  |
| 4.2. Identifying the Spatial Extent of Informal Settlements in Addis Ababa Ethiopia .....        | 82  |
| 4.2.1. Examining the Extent and Areas of Informal Settlements in Addis Ababa .....               | 82  |
| 4.2.2. Urbanization and Informal Settlements .....                                               | 83  |
| 4.2.3. City Wide Existing Land Use Plan, Land Use Proposals & Informal Settlements .....         | 86  |
| 4.2.4. Addis Ababa Cadaster and Land Information Map .....                                       | 88  |
| 4.2.5. Addis Ababa condominium and real estate housing areas .....                               | 91  |
| 4.2.6. Kebele houses /public houses .....                                                        | 92  |
| 4.2.7. The Informal Settlement Extent Findings .....                                             | 94  |
| 4.2.8. Opinion of the Key Informants Regarding the Extent of Informal Settlements .....          | 97  |
| 4.3. Examining the Regularization Process of the Informal Settlements .....                      | 101 |
| 4.3.1. Regularization as an Intervention Mechanisms .....                                        | 101 |
| 4.3.2. The Process of Regularization and Its Management .....                                    | 103 |
| 4.3.3. Policies and Legal Frameworks on the Informal Settlements .....                           | 104 |
| 4.3.4. Responsible Institutions and their Interaction .....                                      | 106 |
| 4.3.5. Participation and Community Engagement .....                                              | 108 |
| 4.4. Regularization of informal settlements Vs Urban Planning Exercises .....                    | 110 |
| 4.4.1. Introduction .....                                                                        | 110 |
| 4.4.2. Relationship Between Structure Plan Land Use and Informal Settlement Regularization ..... | 113 |
| 4.5. Innovative Approach for Regularization of Informal Settlements .....                        | 128 |
| 4.5.1. Land Governance, Informal Settlements and Urban Planning Practices of Ethiopia .....      | 128 |
| CHAPTER FIVE .....                                                                               | 134 |
| 5. Discussion .....                                                                              | 134 |
| 5.1. Identification of Informal Settlements Coverage .....                                       | 134 |
| 5.2. Examining the Regularization Process of The Informal Settlements .....                      | 136 |
| 5.3. Regularization of Informal Settlements Vs Urban Planning Exercises .....                    | 139 |
| 5.4. Innovative Approach for Regularization of Informal Settlements .....                        | 149 |

|                                                                                            |     |
|--------------------------------------------------------------------------------------------|-----|
| 5.4.1. Regularization and Use of Spatial Data .....                                        | 149 |
| CHAPTER SIX.....                                                                           | 152 |
| 6. Conclusion, Recommendation and Further Research Studies .....                           | 152 |
| 6.1. Conclusion .....                                                                      | 152 |
| 6.2. Recommendations.....                                                                  | 153 |
| 6.2.1. Spatial Extent of Informal Settlements and Data Related Policy<br>Implications..... | 153 |
| 6.2.2. Regularization Processes Related Policy Implications .....                          | 153 |
| 6.2.3. Urban Planning Related Policy Implications .....                                    | 154 |
| 6.2.4. Innovative and SMART Planning Approach for Informal Settlements .....               | 155 |
| 6.3. Further Research Studies .....                                                        | 156 |
| References.....                                                                            | 158 |
| ANNEXES.....                                                                               | 169 |
| 1. Checklists .....                                                                        | 169 |
| 2. Interview questions .....                                                               | 174 |
| 3. Data (Regulations) .....                                                                | 176 |
| 4. Maps.....                                                                               | 178 |
| Articles.....                                                                              | 182 |

## List of Figures

|                                                                                                          |     |
|----------------------------------------------------------------------------------------------------------|-----|
| Figure 1-1: Addis Ababa Population Trend (1962-2035) .....                                               | 5   |
| Figure 1-2: Informal settlement coverage in different years.....                                         | 6   |
| Figure 1-3: Conceptualization of the research question .....                                             | 10  |
| Figure 1-4: Spatial, Thematic and time frame of the study .....                                          | 11  |
| Figure 1-5: Organizational structure of Research .....                                                   | 14  |
| Figure 2-1: Addis Ababa strategic river side development practices, 2024 .....                           | 23  |
| Figure 2-2: Development stages of informal settlements .....                                             | 29  |
| Figure 2-3: Formation and Regularization of the Informal Settlement .....                                | 30  |
| Figure 2-4: Conceptual framework for sustainable- affordable housing .....                               | 34  |
| Figure 2-5: Ways of Treatment of Settlements .....                                                       | 36  |
| Fig. 2-6: Importance of Titling and Regularization .....                                                 | 42  |
| Figure 2-7: Conceptual framework of the importance regularization .....                                  | 48  |
| Figure 3-1: Slope category by percentage and area Coverage.....                                          | 61  |
| Figure 3-2: Rainfall Distribution of Addis Ababa.....                                                    | 62  |
| Figure 3-3:: Trends of Annual Rainfall in Addis Ababa .....                                              | 62  |
| Figure 3-4: Amount and Distribution of Temperature in Addis Ababa.....                                   | 63  |
| Figure 3-5: Summary of the Research methods.....                                                         | 69  |
| Figure 3-6: Rule based feature extraction method .....                                                   | 71  |
| Figure 3-7: Overlay of different data layers .....                                                       | 72  |
| Figure 3-8: Methodological Framework.....                                                                | 72  |
| Figure 3-9: Schematic frameworks of the Regularization processes.....                                    | 74  |
| Figure 3-10: Methodological Framework.....                                                               | 75  |
| Figure 3-11: Schematic frameworks of the Regularization and urban planning guides .....                  | 79  |
| Figure 3-12. Methodological Framework. ....                                                              | 80  |
| Figure 3-13: Schematic Frameworks of the Innovative Approach for Regularizing Informal Settlements ..... | 80  |
| Figure 4-1:: Informal Settlement Data for Policy Influences as a Framework.....                          | 98  |
| Figure 4-2: Conceptual schematic changes of informal settlements .....                                   | 102 |
| Figure 4-3: The Regularization Process.....                                                              | 104 |
| Figure 4-4: Organizational structure of Land development and management Bureau of Addis Ababa.....       | 107 |
| Figure 4-5: Feature of Institutional Interaction and Involvements .....                                  | 107 |
| Figure 5-1: The Regularization Process by steps.....                                                     | 138 |
| Figure 5-2: Regularization performance levels.....                                                       | 139 |
| Figure 5-3: Schematic Option for Informal Settlement Regularization.....                                 | 150 |

## List of Tables

|                                                                                                                     |     |
|---------------------------------------------------------------------------------------------------------------------|-----|
| Table 2-1:Categories of informal settlements.....                                                                   | 17  |
| Table 2-2: Schools of thought regarding informality.....                                                            | 18  |
| Table 2-3: Comparison of informal and formal .....                                                                  | 20  |
| Table 2-4:Understanding issues .....                                                                                | 35  |
| Table 3-1: Slope classification of Addis Ababa city .....                                                           | 61  |
| Table 3-2: Wind Speed Data of Addis Ababa .....                                                                     | 64  |
| Table 3-3: Summary of the research methods.....                                                                     | 68  |
| Table 3-4. Informal settlements regularization selected areas .....                                                 | 75  |
| Table 3-5: Background information of the key informants .....                                                       | 76  |
| Table 4-1:Housing census of 1994, 2007 and forecasted for 2011 .....                                                | 91  |
| Table 4-2:Spatial extent of informal settlements in Addis Ababa.....                                                | 95  |
| Table 4-3: Summary of Key Respondents' Feedback.....                                                                | 99  |
| <b>Table 4-4:</b> Summary of Key Respondents' Feedback .....                                                        | 109 |
| Table 4-5: Comparison of Regularization site and Structure Plan Standards (2017-2027) .....                         | 117 |
| Table 4-6: Road network standards of the structure plan (2017-2027) .....                                           | 118 |
| Table 4-7: Regularization of informal settlements and Structure plan standards (2017-2027) gaps.....                | 123 |
| Table 4-8: Regularization of informal settlements and Structure plan standards (2017-2027) gaps.....                | 125 |
| Table 4-9: Projected housing needs of urban Ethiopia by regions.....                                                | 129 |
| Table 4-10:: Summary of urban land governances, informal settlements and urban planning practices of Ethiopia ..... | 131 |
| Table 5-1:Regularization performance levels .....                                                                   | 138 |
| Table 5-2: Density standard in mixed residence land Use .....                                                       | 144 |
| Table 5-3: Building Height Regulation by Zones .....                                                                | 148 |

## Lists of Maps

|                                                                                                                                           |     |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Map 1-1: Settlement densities of Addis Ababa and Shaggar city .....                                                                       | 8   |
| Map 1-2: Selected areas for the investigation of regularization and urban plan practices .....                                            | 11  |
| Map 3-1: Study area location map. ....                                                                                                    | 55  |
| Map 3-2: Administrative boundaries of the Addis Ababa and Shaggar city after demarcation.....                                             | 56  |
| Map 3-3: Old and New boundaries of the two cities .....                                                                                   | 56  |
| Map 3-4: Old Addis Ababa Administrative Structure (the Spatial extent was 51951.8ha) .....                                                | 57  |
| Map 3-5: New Addis Ababa Administrative structure (the Spatial extent is 43000.9ha) .....                                                 | 58  |
| Map 3-6: Addis Ababa Administrative tiers and boundaries by sub cities and Woredas .....                                                  | 59  |
| Map 3-7: Elevation categories of Addis Ababa .....                                                                                        | 60  |
| Map 3-8: Slope classification of Addis Ababa city.....                                                                                    | 60  |
| Map 3-9: Planned and existing green and recreational areas of Addis Ababa city (2017-2027).....                                           | 65  |
| Map 3-10: Drainage Network of Addis Ababa and the surrounding Shaggar city .....                                                          | 66  |
| Map 4-1: Addis Ababa's Urbanization processes .....                                                                                       | 84  |
| Map 4-2: Addis Ababa and the surrounding Shaggar City after demarcation. ....                                                             | 85  |
| Map 4-3: Addis Ababa Existing Land use map 2022 .....                                                                                     | 88  |
| Map 4-4: Addis Ababa's existing land use and cadaster maps .....                                                                          | 90  |
| Map 4-5: Sample details of the cadaster information of Addis Ababa city. ....                                                             | 90  |
| Map 4-6: Addis Ababa condominium housing locations (formal and informal side by side).....                                                | 92  |
| Map 4-7: Distribution of Kebele houses in the city .....                                                                                  | 93  |
| Map 4-8: Spatial extent of informal settlements in Addis Ababa .....                                                                      | 95  |
| Map 4-9: Informal settlement data for policy influences as a framework. ....                                                              | 96  |
| Map 4-10: Practical formation and growth of the Informal Settlements in Addis Ababa (Shed Locality, Woreda 10, Yeka sub city,.....        | 102 |
| Map 4-11: Addis Ababa Structure plan regulation, land use plan (2017-2027) .....                                                          | 112 |
| Map 4-12: Spatial extent of informal settlements in Addis Ababa .....                                                                     | 113 |
| Map 4-13: Yeka sub city -Woreda 10 Ancorcha locality Regularization of informal settlements of the NHD.....                               | 114 |
| Map 4-14: Structure plan proposal and Regularized areas overlay map .....                                                                 | 114 |
| Map 4-15: Overview of the regularized informal settlements of Woreda 10 Yeka sub city Ancorcha Locality.....                              | 115 |
| Map 4-16: Structure plan Road, Block and parcel form of the regularized informal settlements of the Ancorcha Locality/Yeka sub city ..... | 115 |
| Map 4-17: Shape of the Regularized plots of the informal settlements.....                                                                 | 116 |

|                                                                                                                             |     |
|-----------------------------------------------------------------------------------------------------------------------------|-----|
| Map 4-18: Building permits of the regularized plot .....                                                                    | 116 |
| Map 4-19:: Informal settlements overlaid with the city structure plan (2017-2027).119                                       |     |
| Map 4-20: Existing blocks and parcels of the regularized informal settlements .....                                         | 119 |
| Map 4-21:: Sample title deeds for recognizing informal settlements .....                                                    | 120 |
| Map 4-22:Bole sub city -Woreda 07Gurdshola area locality Regularization of informal settlements of the NHD .....            | 121 |
| Map 4-23: Structure plan proposal and Regularized areas overlay map .....                                                   | 121 |
| Map 4-24: Regularized informal settlements Local roads and shape of parcels .....                                           | 122 |
| Map 4-25: Kolfe Keraniyo sub city -Woreda 02 Rephi locality Regularization of informal settlements of the NHD .....         | 124 |
| Map 4-26:Structure plan proposal and Regularized areas overlay map .....                                                    | 124 |
| Map 4-27: Nifas Silk Lafto sub city -Woreda 11 Hana Mariam locality Regularization of informal settlements of the NHD ..... | 126 |
| Map 4-28:Structure plan proposal and Regularized areas overlay map .....                                                    | 126 |
| Map 5-1: Distribution of informal settlements in Addis Ababa.....                                                           | 135 |
| Map 5-2: Land use of the structure plan provision (2017-2027) .....                                                         | 143 |
| Map 5-3:Structure plan land use regulation versus Informal settlement locations....                                         | 144 |
| Map 5-4:Detail overlay of regularized plot and land use plan (2017-2027).....                                               | 145 |
| Map 5-5: Overlays of the Regularized plots and the structure Road (2017-2027)...                                            | 147 |
| Map 5-6: Building Height Regulation (Structure Plan 2017-2027).....                                                         | 147 |
| Map 5-7: Addis Ababa Land grade map in relation to affordability for the lease payments. ....                               | 148 |

## **List of Annexes**

1. Checklists
2. Interview Question Guides
3. Data (Regulations)
4. Maps

## Acronym

|       |                                                                                  |
|-------|----------------------------------------------------------------------------------|
| AAU   | Addis Ababa University                                                           |
| AA    | Addis Ababa                                                                      |
| AAPDC | Addis Ababa Plan and Development Commission                                      |
| AAPDC | Addis Ababa Plan and Development Bureau                                          |
| AAWSA | Addis Ababa Water supply and Sanitation Authority                                |
| BPR   | Business Process Reengineering                                                   |
| CBD   | Central Business District                                                        |
| CSA   | Central Statistical Agency                                                       |
| Derg  | Name for the Socialist Government Ruling Ethiopia Between 1974 - 1994            |
| EIABC | Ethiopian Institute of Architecture, Building Construction, and City Development |
| EMA   | Ethiopian Mapping Agency                                                         |
| FDRE  | The Federal Democratic Republic of Ethiopia                                      |
| FFYP  | The First Five-Year Plan                                                         |
| FGDS  | Focus Group Discussions                                                          |
| GIS   | Geographic Information System                                                    |
| GOE   | Government of Ethiopia                                                           |
| GPS   | Geographic Positioning System                                                    |
| GTP   | Growth and Transformation Plan                                                   |
| Ha    | Hectare                                                                          |
| KDI   | Korean Development Institute                                                     |
| KIIS  | Key Informant Interviews                                                         |
| MDGS  | Millennium Development Goals                                                     |
| MUDH  | Ministry of Urban Development and Housing                                        |

|            |                                                           |
|------------|-----------------------------------------------------------|
| MoUI       | Ministry of Urban and Infrastructure                      |
| NGOS       | Non-Governmental Organizations                            |
| ORAAMP     | Office of Revision of the Addis Ababa Master Plan Project |
| SC         | Shaggar City                                              |
| SCA        | Shaggar City Administration                               |
| SDGS       | Sustainable Development Goals                             |
| SBE        | School of Built Environment                               |
| UDP        | Urban Development Policies                                |
| UNECA      | The United Nations Economic Commission for Africa         |
| UN-Habitat | United Nations Human Settlements Program                  |
| UNIDO      | United Nations Industrial Development Organization        |
| USGS       | United States Geological Survey                           |
| USP        | Urban Spatial Plan                                        |
| USPP       | Urban Spatial Planning Performance                        |
| UTM        | Universal Transverse Mercator                             |

## Maps Spatial References

1. Name: Adindan UTM Zone 37N
2. GCS: GCS Adindan
3. Datum: Adindan
4. Projection: Transverse Mercator
5. Central Meridian: 39.0000
6. Latitude Of Origin: 0.0000
7. Longitude Of Origin: 0.0000
8. Latitude Of Center: 0.0000
9. Longitude Of Center: 0.0000
10. False Easting: 500,000.0000
11. False Northing: 0.0000
12. Scale Factor: 0.9996
13. Azimuth: 0.0000
14. Map Units: Meter
15. Authority: EPSG
16. WKID: 20137

17.

## **Dissertation Write up Type**

According to the Addis Ababa University Dissertation and Thesis Write-up guide line 2021, a PhD dissertation can possibly be submitted in two formats such as, article-based or monograph-based. This dissertation is therefore prepared in the monograph format. Likewise, the PhD write-up also incorporates the relevant articles and publications. Accordingly, this monograph is organized and presented in a sequence of coherent chapters, as outlined below:

# CHAPTER ONE

## 1. Introduction

Informal settlements in urban areas are among the key issues both in developing and developed countries (Battisti & Tortora, 2016). Such issues are considered even on the global agenda of Sustainable Development Goal (SDG), as is stated under Goal 11, that advocates urban centers and human settlements to be “inclusive, safe, resilient and sustainable.” Of course, the issue of informality is complex in its nature, and so far various studies have been made regarding informal settlements as the problem is found to be severe mainly in developing countries. Here context-based and integrated solution is needed for healthy urban development because the contexts of Ethiopian urban informal settlements are complex in the absence of policy direction to appropriately guide or solve such urban problems.

Sources indicate that due to rapid urbanization process across the world, over half of global population is reported to have been living in cities; and as the result the problem of affordable housing has reached critical stage. According to reports, currently some 3 billion people worldwide are striving to afford settlement places in urban areas of whom about 1.12 billion are living in slum areas or informal settlements without having basic urban infrastructures and facilities.<sup>1</sup>

This study tries to identify the spatial extent of informal settlements and also examines the regularization process of informal settlements in Addis Ababa. In this regard, it has investigated the implementation regularization in relation to city urban planning practices. Likewise, it has also examined the approaches employed by the city administration in addressing such settlements, with particular emphasis on the regularization process and the challenges associated in the course of its implementation. Here issues are assessed based on empirical evidence so as to highlight the existing research gaps. In line with the main focus of the study, this chapter presents the objectives, research questions, scope, significance, limitations, and ethical considerations of the research work. Moreover, the chapter also outlines the overall organization of the study.

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<sup>1</sup> <https://unstats.un.org/sdgs/report/2025/goal-11/>

## 1.1. Background Overview

Although the level of urbanization in Ethiopia is found to be at a lower stage, evidently rapid growth rate has been witnessed since the last two decades, and the trend is expected to continue at the prevailing pace (World bank, 2014). Besides natural population growth, increasing trends in industrialization, commercialization, technology and associated employment opportunities have greatly contributed to the ongoing growth of urbanization in Ethiopia. The demand for modernization and social benefits are among the contributing factors for the shift from rural to urban living, which increases concentration of the human population in cities. Moreover, cities attract both public and private investments due to their locational values and market advantages they offer, and the subsequent rural migrants who are attracted in search of better employment opportunities and/or better quality life (MUDC 2015). The first major problem which is associated with the growth of cities is lack of adequate housing as it is one of the critical components of urbanization which is deeply linked to all other urban services. Thus, lack affordable housing is the major driving force behind the proliferation of informal urban settlements in developing countries, including in Addis Ababa (Jenkins et.al., 2007).

Addis Ababa, the capital city of Ethiopia, has a share of 15% of the total urban population of the country (MUDC, 2014). The city was established in 1886 without any prior planning and since then expanded largely in unplanned manner. Formal urban planning efforts began for the first time in 1935, and since then the city has undergone through successive planning processes and currently experiencing its tenth urban plan. All urban plans of the city have generally been prepared and implemented without adequately considering the issue and dynamics of informal settlements. Of course, the proliferation and persistence of informal settlements have been driven by multiple factors, the most significant being shortage of affordable housing for low-income groups.

This study focuses on the city of Addis Ababa, where informal settlements are severely complex. Being the primate city of the country, Addis Ababa serves as the political, economic, and diplomatic hub of Ethiopia and hence the continent. It is the seat of the African Union and also hosts numerous international organizations, which boosts its socio-economic and political significance. Despite its importance in many

respects, the city faces serious challenges related to informal settlements in both inner-city areas and its peripheries. Chronic shortage of housing has further created favorable conditions for the proliferation and expansion of informal settlements.

Addis Ababa was therefore selected as the study area for several reasons. First, it is the country's primary city with a large and rapidly growing population, where informal settlements comprise of considerable proportion of the urban area. Second, the city is now surrounded by the newly established Shaggar City of Oromia Region, and the government's move to establish an administrative boundary between the two cities introduces new spatial and governance dynamics. This situation in particular makes the research work timely, relevant and interesting.

Understanding the spatial coverage and distribution of informal settlements within the newly defined administrative boundary is important, as this issue has not yet been sufficiently studied. Such a study is essential not only for academic purposes but also informs future policy directions and decision-making processes. In addition, the study also examined the nature of regularization processes of informal settlements hitherto applied in the city. Although past urban plans often overlooked informal settlements, the Addis Ababa City Administration has recently introduced regularization directives emerged from the mounting necessity or policy interest. These directives aim at integrating informal settlements into the formal urban system through regularization measures. This policy shift further strengthens the relevance of the present research work, as discussed in detail in the subsequent chapters.

## 1.2. Statement of the Problem/Rationale

### 1.2.1. Urbanization and the Expansion of Informal Settlements

Informal settlements are unstoppable and can be found everywhere in urban areas because of rapid urbanization. Rapid urbanization has become one of the most significant challenges facing many cities in developing countries (UNHS, 1996). In Addis Ababa rapid growth of the urban population has placed considerable pressure on land, housing, infrastructure, and urban services. The mounting demand for affordable housing, coupled with limited access to formal land and housing markets, has contributed to the proliferation and expansion of informal settlements in many parts of the city. These settlements have become a major component of the urban landscape, accommodating a large proportion of low-income residents who cannot

access formal housing systems. For instance the growth of urban population of Ethiopia dramatically shows increasing and projected to 40% by the year 2037 (MUDC, 2015). As it is indicated below the official data from the Ethiopian Central Statistics Agency (CSA) projected the population of Addis Ababa, to be 3,945,000 and projected it to reach 4,530,000 by the year 2030 (CSA, 2013). But the Addis Ababa wastewater sanitation master plan study documents show that it is much higher than the CSA projection. According to the document, the population of the city in 2022 was about 4,675,548 and will reach 6,008,466 by 2030 (AAWSA (Addis Ababa Water supply and Sanitation Authority), 2023).

Different organizations and researchers use different figures, as far as the population of the city of Addis Ababa is concerned, and it seems that CSA's population census, which was undertaken in 2007, is somehow outdated. Though the CSA is supposed to undertake census every ten years, since 2007, however, no census was taken and thus those forecasts/figures lack reliability, even though they are serving merely as a baseline for various studies pertaining to social development, housing and demographics. Therefore, the figures which are projected based on the 2007 contexts are too old to reflect the existing reality of the city for which cautious approach is very important. In line with this, Addis Ababa's overall population is predicted to be well over six million, accounting for 15% of the country's urban population and 5% of the entire national population. Here high migration rate to the city is considered to be the main reason for its population growth than the natural factor (world bank, 2017).

The dramatic population growth of the city has led to high demand of housing. This can for example be witnessed from the fact that in 2005 and 2013 a total of 1,398,447 inhabitants were formally registered to acquire for condominium housing in accordance to the invitation made by the Addis Ababa City Housing Development and Management Bureau (AAPDC, 2017). Of all the above registered citizens, only 353,376 (or 25%) of them have got the chance of obtaining these condominium houses. After about ten to twenty years of expectation, being registered in the waiting list, only smaller number of citizens managed in acquiring the chance of getting condominium houses. As the hope of the low-income social groups shattered of acquiring residential houses, many of them resort to looking for other options and

therefore informal or squatter settlements have come as a solution. Usually informal settlements are undertaken on public/government owned lands, though there are also instances where citizens buy plots of lands from those who have land use rights, usually in the outskirts of urban centers (FDRE (Federal Democratic Republic of Ethiopia), 1995).

#### Population trends versus spatial distribution

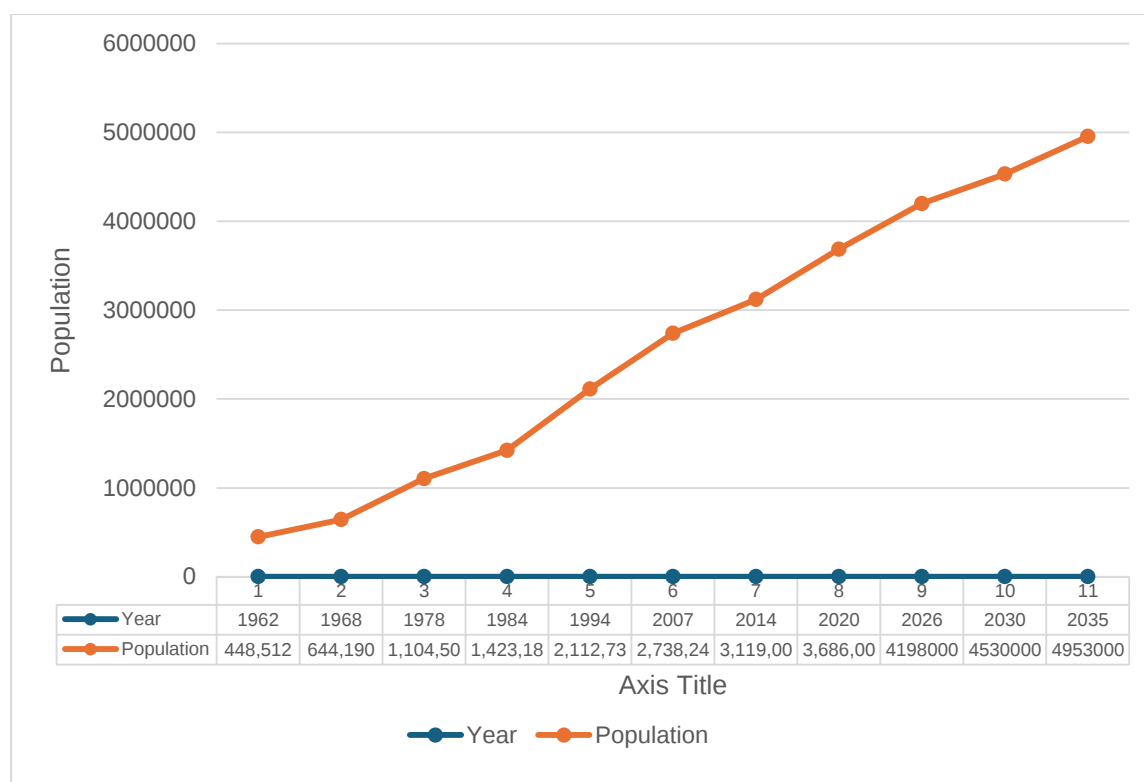


Figure 1-1: Addis Ababa Population Trend (1962-2035)  
Source: CSA projection (2021)

Many of these settlements are characterized by insecure land tenure, poor housing conditions, limited infrastructure, and inadequate access to basic services such as water supply, sanitation, and transportation. The persistence and expansion of informal settlements pose significant challenges to sustainable urban development, spatial planning, and social equity in the city (Jain m.et.al, 2016).

One major challenge which is associated with the issue of informal settlements is that there is no reliable and consistent spatial data. Accurate and updated information regarding location, extent, and temporal development of informal settlements has remained limited or fragmented across different institutions. This data gap makes it

difficult for urban planners and policy makers to effectively monitor the settlement pattern and/or design appropriate intervention measures in an effort of integrating informal settlements into the formal urban planning framework. The spatial coverage of informal settlements vary from country to country, and at times it is estimated to fall between 20% to 80% of an urban growth, affecting on the average 40% of the urban population of developing countries (UNHS,1996). Informal settlements are highly apparent in larger cities, and a study conducted by the World Bank Group shows that 70 - 80% of the urban population lives in slums with dilapidated housing conditions.(World Bank, 2014). On the other hand, 50–80% of houses were built without the consent of the government and therefore makes them informal (KDI(Korea Development Institute), 2018). In this case, empirical studies carried out so far have shown that the coverage of informal settlements in Addis Ababa is falls in range between 50 to 80% of all housing stock. Of course, it is difficult to obtain accurate data on informal settlements in many low-income cities (Collier et.al., 2019) and evidence have shown that most developing regions, including Asia, Latin America, Sub-Saharan Africa, and the Arab States, have 25 to 70 percent of their urban population living in informal settlements. This is also a widespread practice in Addis Ababa, even if the coverage is not well recorded(Durand-lasserve, 2002)

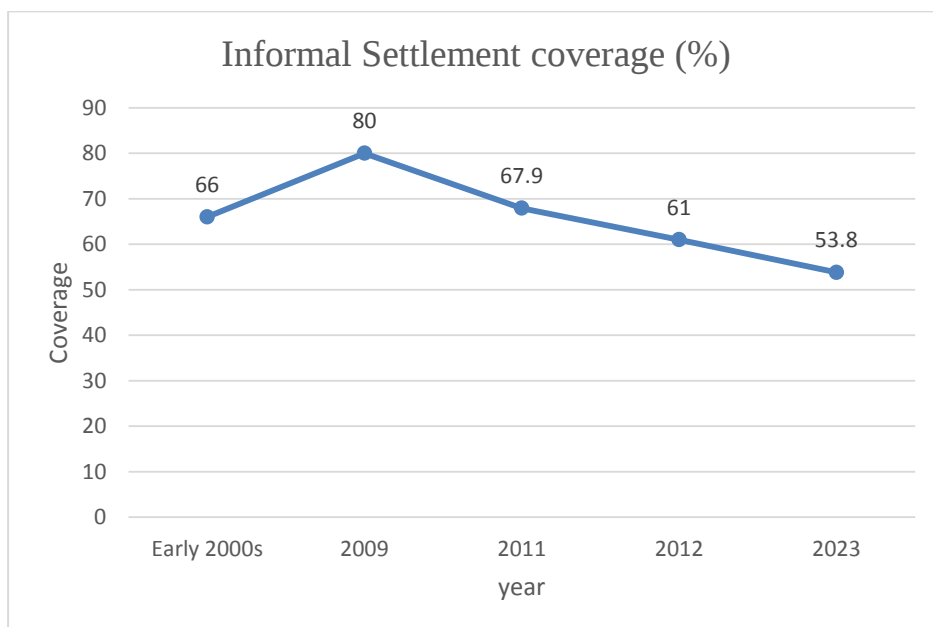
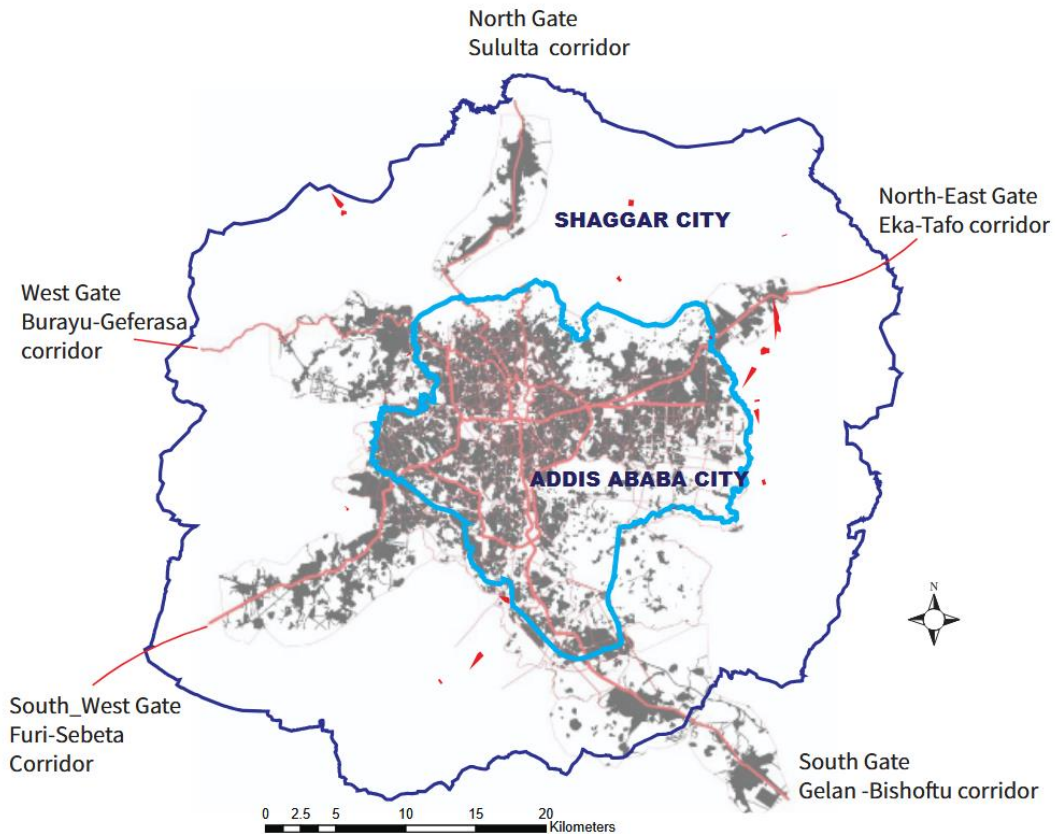


Figure 1-2: Informal settlement coverage in different years

Sources : complied from different studies (E. Y. Alemayehu, 2008, ), (Berhanu, G., Mulugeta, S., Gebremariam E., Fetene, A., & Tesfaw Mengistu, 2024), (Jemal Abagissa, 2019),(Samson, 2010)(UNHS, 1996)

More importantly these informal housing limited social and economic integration of low-income urban households to urban system and can be restricted from social and physical benefits as compared to the formal one (Durand-Lasserve 1996 and KDI, 2018). These settlements were built by settlers on land they have no legal tenure to or by not conforming to urban planning, registration and/or the building regulations of the respective local authorities in which they are located (UNHS, 1996). As indicated in the figure below, previous studies show that the Spatial extent of informal settlements in Addis Ababa has been illustrated differently across various sources; however, the findings consistently indicate that the extent remains significant and requires attention. However, following the administrative restructuring of Addis Ababa and the establishment of Shaggar City in 2022, there is a lack of updated data that clearly indicates the current Spatial extent of informal settlements in Addis Ababa which this research addressed.

As shown in the map below (Map 1-1), the settlements are densely growing in Addis Ababa, as opposed to the situation in Shaggar city which are more scattered and dispersed. Usually the pattern of densify settlements follows major development corridors and transportation routes. Currently, the two cities are physically integrated with very limited open spaces in between. The northern part of Addis Ababa is covered by a mountainous range of Entoto, which is thickly covered by forest and is designated for recreational purpose as well as special palace and residential project widely known as the “Chaka Project”. Consequently, informal settlements have also been expanding significantly in Shaggar city, which may need due attention and also demands further study from researchers in their future career.



Map 1-1: Settlement densities of Addis Ababa and Shaggar city

Source: Addis Ababa and Shaggar city line maps

In addressing informal settlements, various approaches have been experimented in developing countries of which regularization and bulldozing are the commonly used intervention mechanisms (Okyere. 2016). Regularization is among the current intervention practices of Addis Ababa city administration aiming at regularizing-built structures before the year 2005. This intervention mechanism is taken as a solution for tenure security and integration of informal settlements into the formal urban system. However, the implementation processes have been encountering challenges, as many urban plans have historically been prepared without adequately considering the dynamics of informal settlements, which in turn are creating gaps between planning frameworks and actual urban growth patterns.

In this regard, this research work seeks to examine the regularization process of informal settlements tracing from the initial stage of registration to the final issuance of title deeds. It also aims to unpack each step in the process, detailing the procedures, requirements, and administrative actions undertaken at various stages. Furthermore, the study analyzes the roles and responsibilities of the various actors involved in the

process, including government agencies (land development and administration bureau, cadastral offices, urban plan and development bureau), community representatives, and the residents themselves highlighting how their interactions and coordination influences the efficiency, transparency and outcomes of the regularization process.

To this effect, a systematic way of approach in examining the extent of informal settlements, availability and consistency of spatial data, and the effectiveness of interventions in the regularization process are undertaken. Here understanding the challenges is essential for improving urban planning approaches, strengthening the land management system, and developing more inclusive and sustainable strategies for managing informal settlements of the city.

### 1.3. Objectives

#### 1.3.1. General Objective

The general objective of the research is to investigate the extent of informal settlements and processes of regularization intervention of the city of Addis Ababa.

#### 1.3.2. Specific objectives

The specific objectives are to:

- a) Identify the spatial coverage of informal settlements in Addis Ababa
- b) Examine the regularization process of the informal settlement in the city
- c) Investigate the regularization of informal settlements in relation to urban planning Regulations
- d) Forward appropriate regularization activities that enhance the quality and effectiveness of interventions mechanisms and thereby improve the livelihoods and living conditions of residents.

### 1.4. Research Questions

- 1) How is the coverage of informal settlements in Addis Ababa?
- 2) How does regularization of informal settlements take place?
  - How is the process of regularization undertaken?
  - What are the legal frameworks that exist so far in dealing with the regularization process of informal settlements?

- Who are the actors in the regularization process?
  - How do they interact with each other?
- 3) How is the regularization process undertaken in relation to the existing rules and regulation of urban planning?
- How do regularized blocks and plots are adjusted in terms of shapes and sizes so as to make them fit with the prevailing urban planning regulations?
  - How is the regularization of plots in terms of land use, building height regulation and set back regulation?
- 4) What innovative approach can be used for regularizing informal settlements and thereby improve tenure security?

Conceptualization of the research question

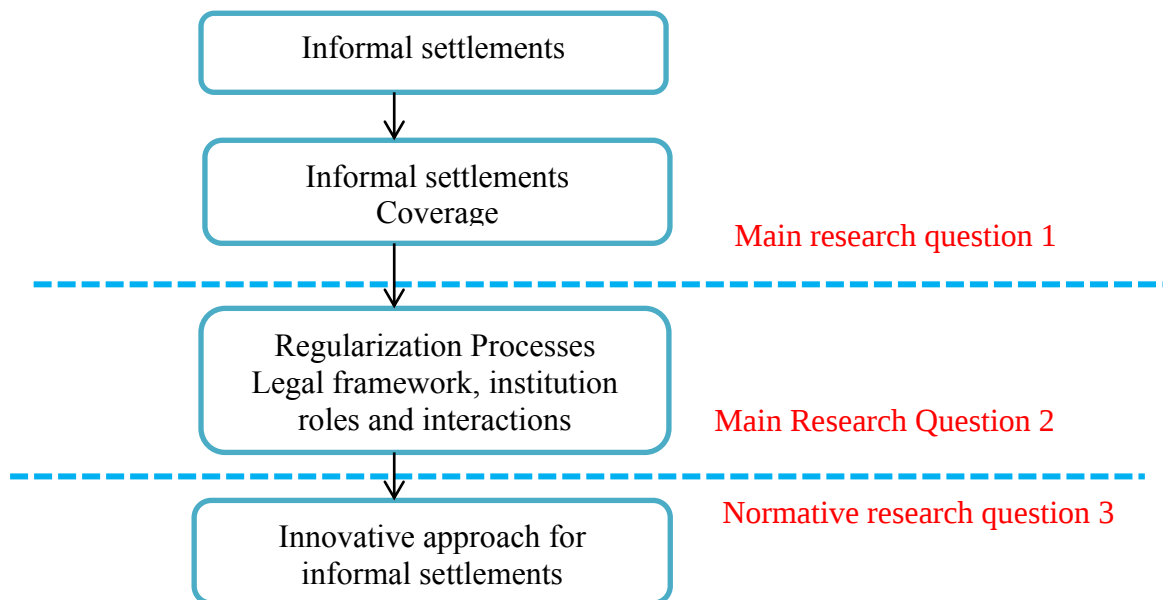
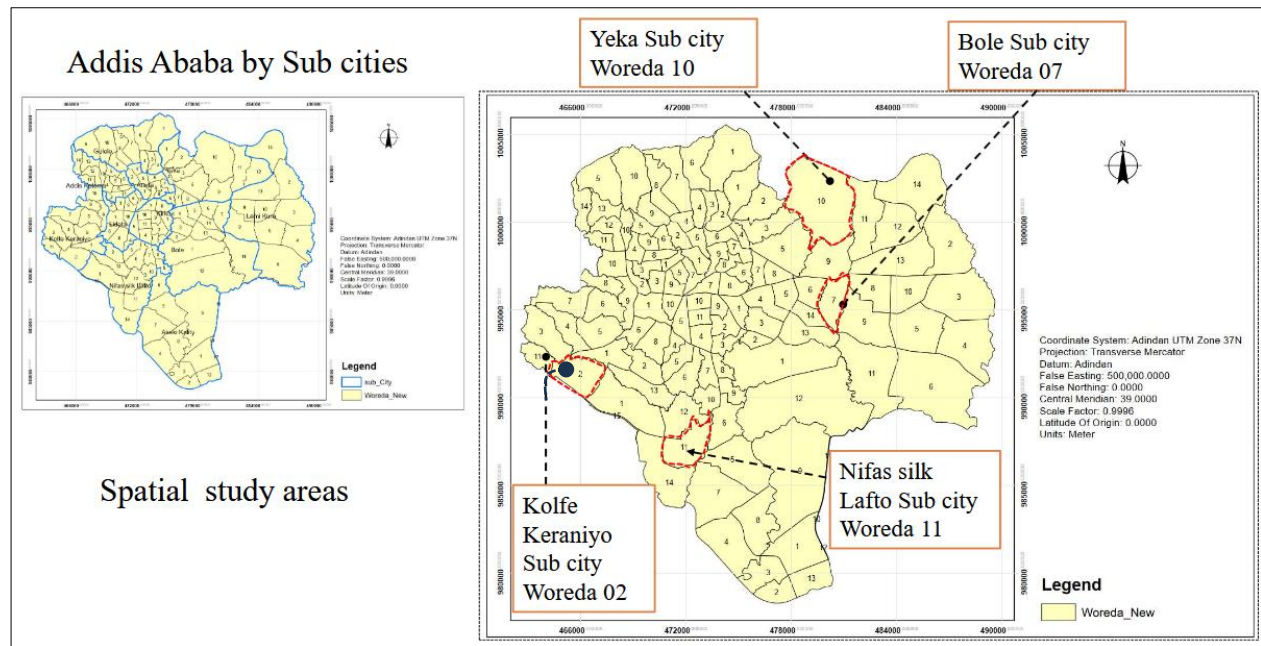


Figure 1-3: Conceptualization of the research question

### 1.5. Scope of the Study

Spatially, the study is confined within the boundaries of the Addis Ababa city administration with an area covering 43,000 ha, and where all forms of informal settlements are observed. The study temporally focuses on the overall informal settlement footprints of the city so as to identify the spatial extents. The temporal scope of the study for the regularization intervention covers those informal settlements built between 1997 to 2005. The regularization process focuses on four sub-cities, one *Woreda* and a neighborhood which are selected to spatially evaluate the performances of titling of plots.



Map 1-2: Selected areas for the investigation of regularization and urban plan practices

Source: AAPDB

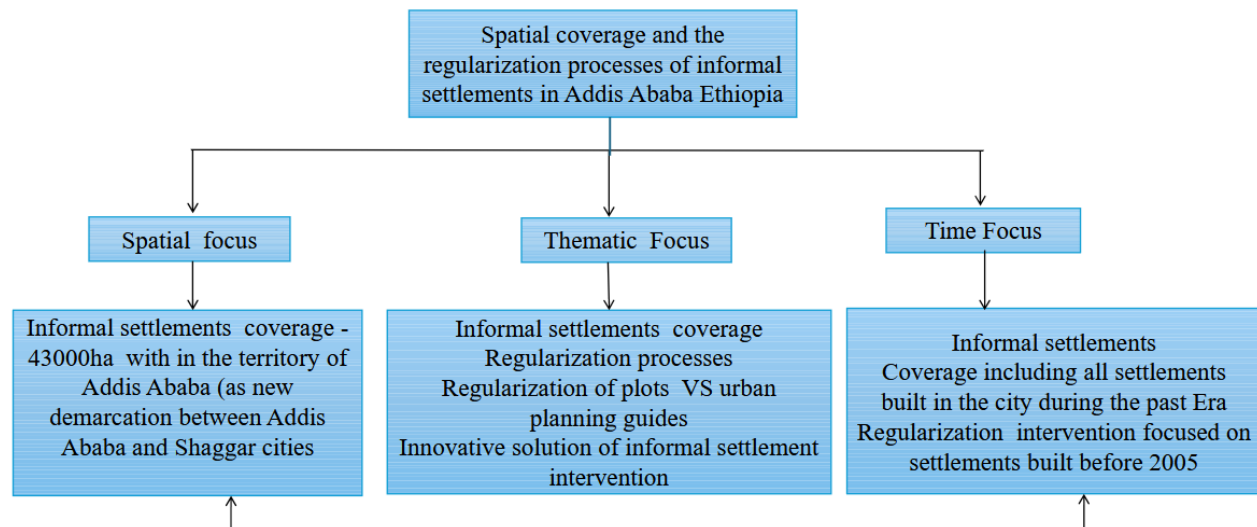


Figure 1-4: Spatial, Thematic and time frame of the study

## 1.6. Significance of the Study

Informal settlements are mainly squatters, dilapidated slum settlements, and illegal subdivisions. Slum settlements in particular are mainly located in older inner-city areas, whereas the squatters are located in the peripheral areas of Addis Ababa. The challenges are becoming complicated. Millennium development goals (MDGs) and Sustainable Development Goals (SDGs) set targets and suggest ways to improve the

lives of slum residents targeting different years but still there is availability of accurate data is the major challenge faced so far.

A study conducted by the World Bank Group shows that 70–80% of the urban population lives in slums with dilapidated housing conditions.(World bank, 2014) On the other hand, 50–80% of houses were built without the consent of the government which makes them informal (KDI(Korea Development Institute), 2018). In this case, empirical studies carried out so far have shown the coverage of informal settlements in Addis Ababa is portrayed differently. In most cases it the from 40 to 80% of all housing old boundary). It is difficult to obtain accurate data on informal settlements in many low-income cities (Collier, 2019). The evidence showed that most developing regions, including Asia, Latin America, Sub-Saharan Africa, and the Arab States, have 25 to 70 percent of their urban population living in informal settlements. This is a widespread practice in Addis Ababa, even if the coverage is not well recorded(Durand-Iasserve, 2002). After the current new demarcation of the city the coverage of informal settlement is not known and studied yet. Therefore, this study identified Spatial extent and contributed to the academic input and also for the policy revision. Additionally, the Studies made on regularization programs mainly focus on Land Tenure recognition and property rights which focuses on social and economic issues of the low-income people. The study is aiming at access to credit and boosting economic as indicated in Geoffery Payne. But the study on regularization process in relation to institutional capacity, spatial aspects, legal framework is very few. The data regarding informal settlements, specifically spatial aspects of regularization activity, is not well documented and known in Addis Ababa. In most cases, socio economics aspects of the regularization program study in many developing countries. The study's contribution is particularly significant as it sheds light on processes that have been insufficiently documented in the existing literature on African cities. Furthermore, it adds to the growing body of literature concerning informal settlement, coverage, regularization practices challenges and shortcomings in African contexts, can contribute both theoretically and practically.

### 1.7. Research limitations

Limitation of the study is associated with lack of well-organized, accurate and consistent spatial data. In this respect, the existing data are inconsistently fragmented,

too big to easily process as it requires high duty machines. Many of the data - population size, settlement trends, data of formal and informal housing stocks, spatial data related to informal settlements and the spatial boundary of the city - are outdated or insufficiently available to clearly show the situation. Likewise, some institutions were unwilling to provide the necessary information as desired. All these challenges and shortcomings do have impacts on the overall outcome of the research work for which different coping mechanisms were employed to overcome the challenges.

Here it is worth mentioning that some of the challenges were surmounted through the support of institutions/offices that have stake with the issue of urban development. In this regard, the issue of access to a high-duty workstation was addressed through the generous support of Shaggar City Urban Planning Office, which allowed the researcher to use their workstation. Other challenges that the researcher encountered during his research process were also mitigated through cordial consultations with pertinent experts and officials. Access to the desired data was granted after the submission of formal commitment letter assuring that the information would be used solely for academic purposes and would not be shared with any third party.

### 1.8. Ethical Considerations

The Addis Ababa University Senate Legislation of 2024 (Article 126.3) clearly states that any research undertaking shall follow the research standards, codes of professional ethics, norms and responsibilities. The College of Technology and Built Environment (Research and Technology Transfer Directorate) formally permitted the author to undertake the research work. Accordingly, the Addis Ababa city administration and some pertinent *Woredas* received official letters from the university outlining the aim of the study. Thus, before entering into the research work, explanations were given on: the research's goal, data confidentiality and associated ethical issues. Accordingly, participants/informants were chosen voluntarily and all respondents and key informants freely gave their informed consent. Such ethical procedure helps build trust and confidence which in turn paved way for respondents to comfortably share their opinion and experiences.

During key informant interviews and field observations, the researcher did not use any data without their prior consent and approval. Regarding the use of references, all sources cited in this work are properly acknowledged to ensure intellectual honesty,

and no part of the study has been plagiarized or fabricated. In this respect, the author affirms that the research was conducted responsibly and in full harmony with the university's code of conduct.

### 1.9. Organization of the Document

This dissertation is structured into six chapters, the first of which deals with the introductory aspect of the study comprising of among other things: general overview, statement of the problem, objective, methodology, scope and ethical considerations of the research. The second chapter presents review of relevant literature that substantiates conceptual and theoretical backgrounds of the study. Chapter three consists of materials and methods employed during the research work; and chapter four presents the results of the study. Chapter five covers the discussion part; and the last chapter presents conclusions and recommendations drawn from the study. The following figure (Figure 1-5) illustrates the connectivity and flow of the above stated chapters. ( Figure 1-5)

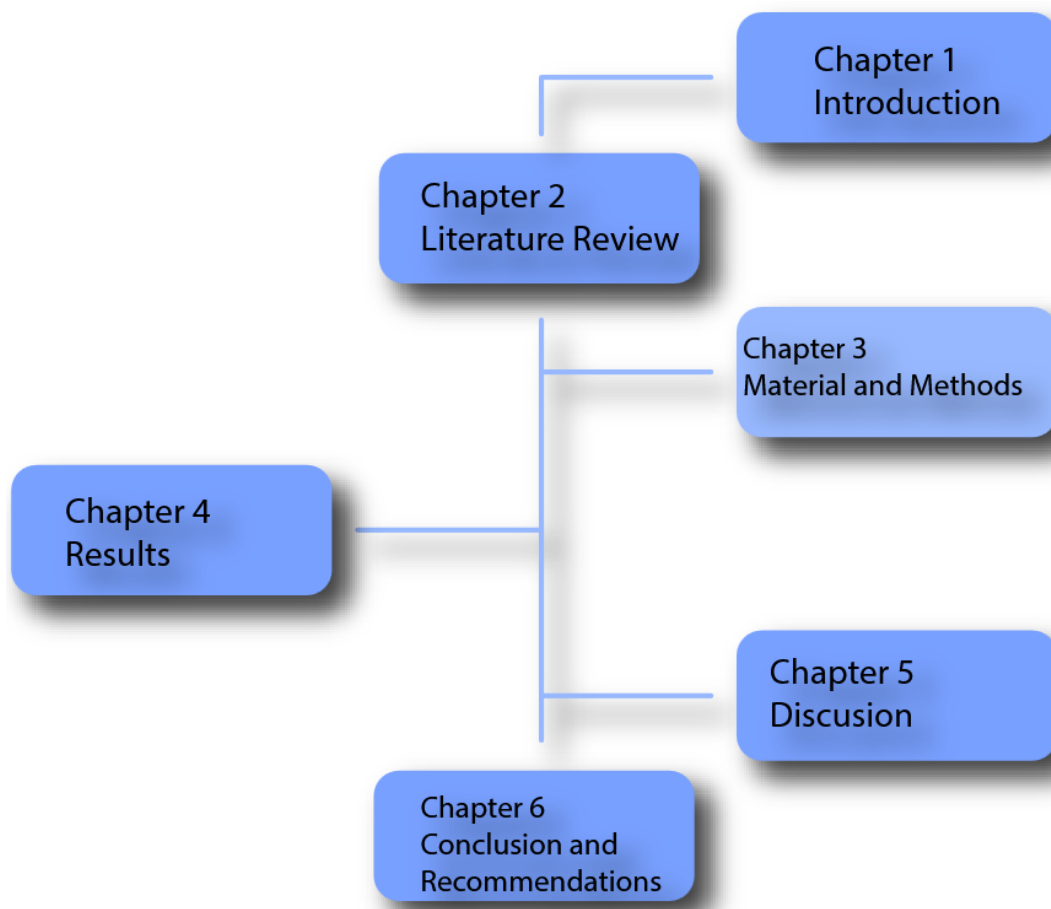


Figure 1-5: Organizational structure of Research

## CHAPTER TWO

### 2. Literature Review

#### 2.1. Theoretical Perspectives of Informal Settlements

##### 2.1.1. Defining Informal Settlements in View of Local Context

Informal settlements are a key issue both in developing and developed countries (Battisti & Tortora, 2016) and this is issue also high in the global agenda as stated under the sustainable development Goal 11 which aims to “Make cities inclusive, safe, resilient and sustainable, aiming to improve the likelihood of slum dwellers where about 1.1 billion people live in slums and 2 billion more expected in the near future”(United Nations, 2023). This issue can be viewed in many ways in different countries. For this reason, there is no commonly accepted definition for informal settlements (Y. E. Alemayehu, 2008)(UN-HABITAT, 2003a)(Lemma, 2005)(JEMAL ABAGISSA, 2019)(United Nations, 2015)(Magubane, 2016)(Fegue, 2007). The situation of informality is a complex process in its nature and context. In many cases, this issue can complicate the classification process in different urban settings. Of course, various synonyms have been used to refer to informal settlements in different studies. The majority discuss it as spontaneous, irregular, unplanned, marginal, and squatter settlements. Here the UN HABITAT puts informal settlements into two basic categories as (United Nations, 2015):

1. Residential areas where a group of housing units have been built on land to which the residents have no legal claim or are occupying illegally.
2. Unplanned areas where housing is not in accordance with the officially approved urban plan and building regulations

But in case of Ethiopia, there is no officially agreed upon definition of informal settlements in a similar manner (Samson, 2010). But most commonly, the term informal settlements is widely used by Ethiopian urban planners who professionally refer to settlements as if they are not in conformity with the urban planning regulations, including land use plans (Ayele, 2015). The following is an example of the terms used to refer to informal settlements: *Sened Alba Betoch* (literally means *houses without legal document*), *Ye Chereke Betoch* (*moon house, housing constructed during nighttime using the moon light*), *Hige Wet Ginbatawoch* (*illegal*

*construction*). These concepts refer to informal settlements primarily when the area lacks regulatory bodies. It can be said that the meaning of informality may take the upper hand when it comes to having legal document or not, which is not having title deeds and building permission from the respective authority (Gash, 2014).

Usually the quality of houses in informal settlements (both slums and squatters) in Ethiopian urban centers is low. Likewise, the settlements are not in harmony with the urban plans of respective cities. In some cases, informal settlements have access to electricity and a water supply, especially those located in inner-city areas. In these cases, informal houses connected to the water supply and electricity without legal documents and thus inhabitants can have official bills for services rendered to them. It is worth noting that informal settlements could be discouraged partly through refusal of urban facilities (like water and power). But even those institutions which provide water and electricity supply do not strictly demand title deeds during the process of service provision. Of course, under normal circumstances informal settlers are not eligible of getting formal supply of basic infrastructures and services, and in many instances they are subjected to eviction, disease and violence (UN-HABITAT, 2015).

The Addis Ababa Development and Improvement Project Office (AADIPO), currently known as the Addis Ababa Plan and Development Bureau, which is responsible for preparing urban plans, has adopted a definition for informal settlements. In this sense, informality encompasses any type of construction (such as dwellings, fences, notice boards, containers, temporary/movable kiosks, etc.) which is erected or developed on public land without having legal document. However, the extent of informality varies because some can be completely informal, while others might be slightly formal.

For this study, informal settlements are defined as unplanned settlements that lack title deeds and building permits which include both squatters and slums. Likewise, informal settlements in Ethiopia's case are also seen in relation to the general school of thought characterized in numerous ways, as summarized in the Table 2-1 .

Table 2-1:Categories of informal settlements.

| Category 1                                                                                                                                                                                                                                                                         | Category 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Informal settlements which have been built without having any legal documents from the city administration (such as title deed and building permits). These settlements are commonly called “squatters” and are mainly built at the peripheries of the city (sell–buy land result) | Informal settlements are those which have the legal right to live and built not in accordance to urban plan regulation (and do not have title deeds and building permits) but build, expand, upgrade, and change the shape and size of their buildings over time. Such settlements are mainly found in the inner part of a city and commonly known as “slums” and <i>kebele</i> (public houses) typical examples (Ambaye, 2011)<br>(housing and land nationalization policy result) |

Based on different schools of thought and as summarized in Table 2-2, below contextual informality is seen in relation to housing and land tenure discourse. The housing discourse, mainly discussed by Turner explores the idea of the of self-help housing logic which took interest in the provision of shelter to the urban poor accessed through squatting. Turner argues that governments should refrain from oppressing and destroying informal housing but acknowledge their valid contribution to solving escalating housing shortages (Turner, 1976). Informality in the tenure discourse stresses the social dimension of informality by perceiving informality as an alternative institutional structure that guarantees rights associated with land (Alliance, 2021). Both perspectives support the strengthening of the legal argument in view of informal housing supply. Therefore, this research work looks at how informality is viewed and treated locally among professionals and government organizations that are closer to the issue. The legal dimension of informality emphasizes that it (informality) happens outside the law or violates general laws.

### 2.1.2. Theoretical basis of Informality

The concept of informality is discussed in different ways by various scholars. However, the most widely used theoretical perspectives and concepts are summarized in the Table 2-2

Table 2-2: Schools of thought regarding informality

| School of Thought   | Summary of Views                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dualist views       | <ol style="list-style-type: none"> <li>1. Informality can be understood as a binary or dual phenomena that works independently of the formal environment (Alter, 1997).</li> <li>2. Lewis developed a foundational model in which ‘informal’ gradually transitioned into ‘formal’ over time(Alter, 1997).</li> <li>3. Ease of entry, reliance on local resources, the small scale of operations, labor intensive and adapted technology; skills acquired outside the formal are the common features of this part (Bromley, 1978; ILO, 1972).</li> </ol> |
| Structuralist views | <ol style="list-style-type: none"> <li>4. Form of survival that requires an external solution (flexibility of human exercise in situations where there is hierarchical social organization exists).</li> <li>5. Social security obligations are not expected but one does not harm others.</li> <li>6. There are linkages between informal and formal sectors.</li> <li>7. Mutual relationship among sectors.</li> </ol>                                                                                                                                |
| Legalist views      | <ol style="list-style-type: none"> <li>8. Sees the informal sector as comprising plucky micro enterprisers who choose to operate informally in order to avoid the costs of time and effort of informal registration and who need property rights to convert their assets into legally recognized assets (De soto, 2000). It is also further elaborated that it can happen in response to excessive costs, time, unaffordability, and the bureaucratic nature of government regulations that make it difficult to join the formal sector.</li> </ol>     |
| Voluntarist views   | <ol style="list-style-type: none"> <li>9. Argue that informal operators like the informal market sector choose to operate informally after weighing the cost benefits of informality compared to formality (Alter, 2012).</li> <li>10. Avoid taxes and government regulation and lack benefits of formal health care or social security.</li> <li>11. Bureaucratic nature of government is not an issue, but operators deliberately choose to operate illegally .</li> </ol>                                                                            |
| Pluralist views     | <ol style="list-style-type: none"> <li>12. Alleviates excess unemployment or housing.</li> <li>13. Solution for development where formality is not fully addressed in low-income groups.</li> <li>14. Need to redesign spaces for better service. The prevailing philosophy is a formalization process where informality is registered and transformed into formality through regulatory frameworks.</li> </ol>                                                                                                                                         |

Contextually, the legalist and pluralistic views are more likely to make sense by having national understanding of Ethiopia’s informality. For instance, legalistic views

sees that informal settlements can happen in response to a lack of affordable housing supply to low-income residents. Low-income households prefer the easy routes to house themselves through informality. These settlements are part of the city's housing stock which play a great role in minimizing the shortage. Currently, the coverage of these houses is large (up to 50%), and regularization strategies are a policy direction that will offer legal documents (title deeds and building permits as per the urban plan regulation). In addition, pluralistic views believe that informality can play a role in alleviating the excessive shortage of housing (see the details under section 2.1.2)

In conclusion, it can be deduced from informality that: (1) Inhabitants have no security of tenure on plots of land or dwelling units they have possessed with modalities ranging from squatting to informal renting of housing; (2) Neighborhoods usually do not feel safe; (3) Those settlements do not have basic facilities and infrastructures; (4) Settlements do not comply with urban planning, building permits, and other regulations. These concepts are used refereeing to informal settlements which is unstoppable and can be found everywhere in urban areas basically because of rapid urbanization and population growth. This can be witnessed from the fact that the urbanization process in Ethiopia has rapidly and dramatically been growing particularly during the last three decades and currently the number of urban centers are reported to have reached over 2,500 ranging from the level of metropolis to small towns (MUDC, 2019). It is assumed that informal settlements in urban areas contribute on average 50% of the housing stock in many developing countries (MUDC(Ministry of Urban Development and Construction), 2020)(Taye ME, Alemayehu EY, 2025). As also indicated in the report of the World Bank, most of these informal houses are constructed from mud and are considered as the most affordable housing options for low-income groups (World bank, 2014).

Table 2-3: Comparison of informal and formal

| Informal settlements                                                 | Formal settlements                                                               |
|----------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Easy of entry                                                        | Top-down planning approach                                                       |
| Affordable construction cost                                         | Controlled by urban planning standards, building standards and other legal bases |
| Out side planning and building regulation                            | Unaffordable entry                                                               |
| Labor intensive                                                      | Inefficient land delivery system                                                 |
| Informal skill                                                       | Follow planning standards                                                        |
| Land delivery through negation                                       | Formally acquired based on land delivery system                                  |
| Do not have recognized documents                                     | Have documents (title deeds, building permits, etc.)                             |
| Indigenous resources - traditional family or mutual self-help system | Entry not easy                                                                   |

Source: Adapted from (Hussien, 2007)

### 2.1.3. Spatial Extent and Interventions

Informal settlements are worldwide phenomena mainly observable in developing countries, though little is known about their spatial extent , genesis, and development (Hofmann et.al., 2015). It is stated that thousands of people were joining the ranks of the slum population every month in the towns and cities of developing countries in 2006, where one in every three citizens already lived in an informal settlement(United Nations, 2023),(UN HABITAT, 2010). Globally, the number of slum dwellers is drastically growing from time to time, and the situation is becoming worse for such inhabitants (Sietchiping, 2005). The growth in urban populations in developing countries is often characterized by informal, illegal, and unplanned settlements, which usually is associated with urban poverty(UNHS, 1996). It is assumed that urban growth in developing countries is synonymously associated with slum growth and the challenges are becoming complicated (Misgana Secho Abebe, 2019). The Millennium development goals (MDGs) and Sustainable Development Goals (SDGs) set targets and suggest ways to improve the lives of slum residents targeting different time frames, though the targets are not fully achieved as per the plan (de Jong & Vijge,

2021). To this effect many developing countries put in place some policy targets in response to informal settlements that includes among the following:

(i) Eviction and Demolition Schemes.

This approach, known as the direct clearing of informal settlements, involves eviction of residents and removal of their shelters and other informally erected structures like fences.(UNHABITAT, 2009) The schemes are classified into two types: hard and soft eviction and eradication schemes. The hard scheme is undertaken without negotiation with the affected citizens and lacks compensation plan for the lost properties. The soft scheme differs from the former one in that it is accompanied by a resettlement plan (mainly on the periphery) or includes a modest compensation package. In fact, both schemes consider informal settlements as problems to the wider urban dwellers and hence to municipal administrations too. Thus, forced eviction (without compensation or rehabilitation) are considered to be justifiable actions(Fegue, 2007)(Misgana Secho Abebe, 2019)(Melese, 2007) . This method is rarely effective in informal settlements in urban Ethiopia.

The demolishing of informal settlements and its impacts are further discussed in the book *Root Shock* by (Fullilove, 2018), highlighting the experiences faced by a person who, as a result of injury, suddenly loses massive amounts of fluids. Such a blow threatens the whole body's ability to function.

In similar ways, when plants move from one place to another, the shock threatens their chance of survival and growth is limited unless care is given. It is difficult to watch newly planted plants adjust their new growth to a new environment. Plant transplant shock is caused by harm to the roots during transplantation. Based on these concepts it is important to keep informal settlers on the same site and create a conducive environment rather than evict them. This concept can be adapted for the regularization of informal settlement, rather than demolishing, to minimize the impacts.

It was further discussed in relation to the livelihood of informal settlers. Using demolishing as a method of intervention, root shock undermines trust, increases anxiety about letting loved ones out of one's sight or place of living, destabilizes relationships, destroys social fabrics (in Addis Ababa or other urban areas in

Ethiopia, social life/cooperation for instance *Iddir*, *Equbes*, *Mahiber*<sup>2</sup> during marriage or death is a common practice), emotional and financial resources, and increases the risk of every kind of stress related disease, from depression to heart attack. Pre-controlling at its infancy stage before reaching its saturation stage is important. On the contrary to this, informal settlements mainly established at environmentally fragile areas, such as near river banks, are prone to flood risks that have to be controlled (Melese, 2007)(Fullilove, 2018)(A.I. Anunobi, 2014)(Jean-Baptiste et.al., 2018)(Atkinson, 2024) . Currently, informal settlements found on the riverbanks of Addis Ababa have been demolished as part of the strategic corridor development project aimed at transforming the city and protecting the livelihood of residents from flood /land slide risks. The city structure plan delineated river buffer and prohibited the area from any settlements to protect the river from pollution and protect communities from flood risks. Therefore, controlling settlements in risk areas is important for the livelihoods of the community, on one hand, as its implementation started in Addis Ababa as part of a strategic river corridor development project as shown in Figure 2-1 below.

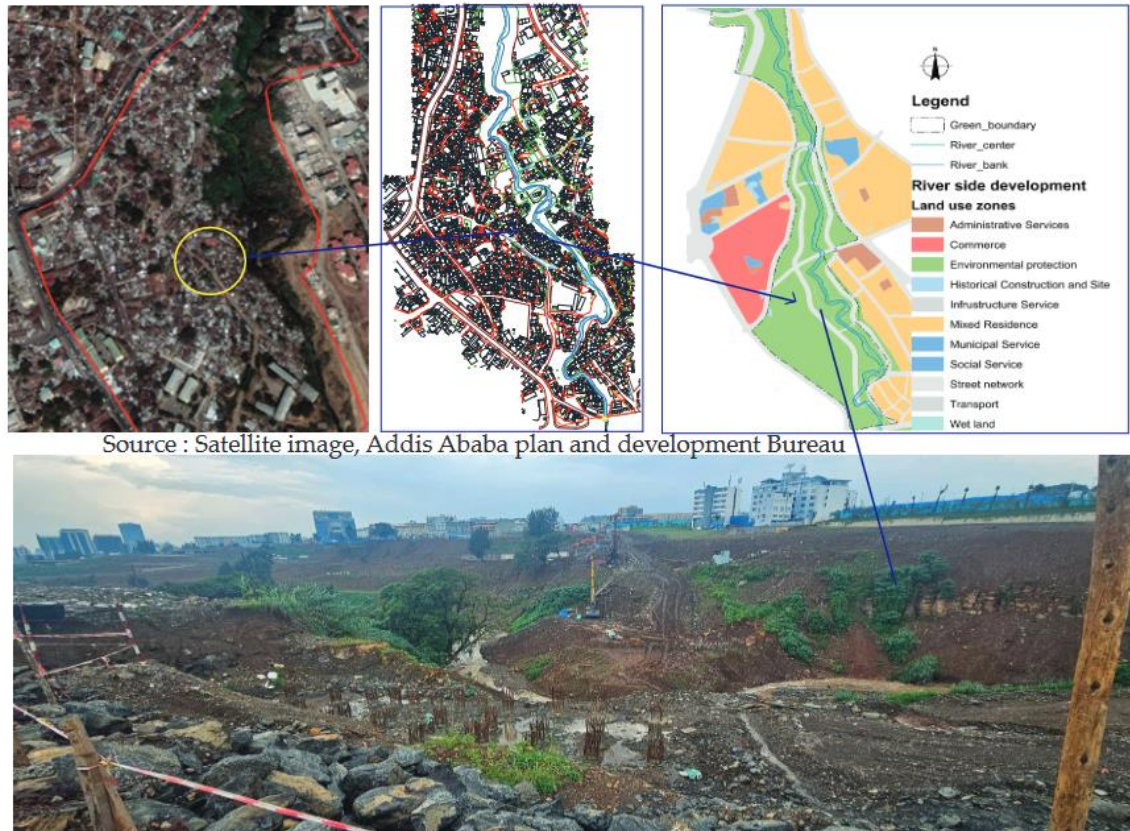
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<sup>2</sup> . *Groups of people came together based on their different backgrounds to form social organization (traditional institution) aiming to support each other*

Satellite image of existing informal settlements, 2023

Line map of existing informal settlements along river bank

Addis Ababa green development plan along the river corridor Kechene river project, 2024



Source : Satellite image, Addis Ababa plan and development Bureau

Dimolishing informal settlements along the river corridor and developing the river banks, 2024  
Source : Researcher picture August, 2024

Figure 2-1: Addis Ababa strategic river side development practices, 2024

Source: Picture and analysis by researcher

### (ii) Low-Cost Housing Provision Programs

Low-cost housing is another program which can be described in terms of affordable housing. Affordable housing can introduce many new strategies in order to guarantee low-cost housing (MUDC, 2015a). In developing countries, informal settlements are assumed to be low-cost houses where the residents can easily obtain houses. But governments can be challenged by these settlements in most cases (Jain et al., 2016, Menshawy et al., 2016). In developing countries governments attempts to control informal settlements by introducing an affordable housing strategy that would house low-income inhabitants, on one hand, and solve the problem of informality on the other (Ahsan & Quamruzzaman, 2009) (Wakely, 2016).

The assumption is that informality sustains unless the issue of housing demand is addressed. But practically, this is not the solution to the problem. For instance, the Ethiopian government launched a low-cost housing strategy in order to house low-income residents and to control informality, which was primarily initiated in early

2000, delivering housing units targeting low-income groups. This program is called the Integrated Housing Development Program (IHDP), launched in 2006 by the federal government aiming to build new housing units, provide infrastructure, and support small urban-based businesses (MUDEC (Ministry of Urban Development and Construction), 2015a). IHDP is a federally funded program that encourages the construction of condominiums with the goal of boosting homeownership choices for low-income families. IHDP units were funded by subsidized mortgage loans and distributed based on a lottery procedure (Fille, 2006) (Son & Hussien, 2016).

Accordingly, in Addis Ababa city, over 350 thousand houses were constructed and transferred to low-income households. However, despite all the efforts in the last 18 years, only 25% of the total demand (registered) for condominium housing has been addressed. Estimations show that the demand for housing in the city is projected to reach 1 million by 2030. Unfortunately, the IHDP has been confronted with complex challenges and has found it unsustainable to attain its goal (AAPDC (Addis Ababa Plan and Development Commission), 2023). Therefore, it can be observed that low-income groups may look for other options to house themselves through informal ways, which is common in practice in urban Ethiopia, including Addis Ababa and the surrounding Shaggar City.

#### (iii) Sites and services schemes

The sites and services scheme relates to the need to establish the residents as active participants in the overall housing process (Akinsola Nurudeen Bello et al., 2016). It is one of the housing schemes carried out mostly by government bodies and it is assumed that this approach is no more capital intensive than other schemes. The aim is for the government to prepare a plot of land and develop the infrastructure and services for residents to build their own houses. Major infrastructure and facilities such as roads, schools, open spaces, health centers, etc., are incorporated in a detailed land-use plan. The major activities are as follows: first, the subdivision of urban land is undertaken; second, public utilities; and third, community facilities are developed. This scheme contributes to an increase in housing supply to solve the problem of informality in Addis Ababa, targeting the low-income households. However, this option has failed to continue and is not feasible for low-income groups.

#### (iv) Self-help Housing Strategy

This strategy is better defined by Turner in housing the urban poor in involving the families in decision-making regarding housing investment. The concept essentially

focuses on an aided or assisted self-help strategy (Turner, 1976). This refers to two complementary actions of government and/or non-government organizations' (NGOs) assistance in housing development. This is because most homeless people are unable to afford the entire cost of construction because of their minimal income, and the problem is also often exacerbated by the mounting housing prices which are beyond the capability of those with low incomes. This puts the poor in an insecure position, and even if they could offer their own wage, inadequate payments prohibit them from active involvement in the housing market (UNHS, 1996). In addition, the continuous fast growth of urban populations and the inadequate supply of affordable housing in relation to need and real demand quickly leads to the growth of informal settlements, mainly observed in Addis Ababa (Jenkins et al., 2007)

#### (v) Regularization and Integration of Informal Settlements

This option entails recognizing and legalizing informal plots of land possessed by settlers based on the policy framework issued by the government aiming to minimize the risk of relocating the urban poor (UN-HABITAT, 2011). This strategy is currently working in Addis Ababa and was started in 2005 in an effort of regularizing informal settlements built before 2005. The informal settlements built after 2005 are not eligible for titling (regularization plan) as per the regularization codes of the city government (AACA, 2014, AACALB, 2014, AAUP, 2014, AACA, 2024). Currently, not enough is known about the coverage of informal settlements to properly plan and devise appropriate policy directions for decision-making. The growth of informal settlements is unlikely to be stopped and it is expected to continue unless a responsive appropriate policy measure is put in place (Payne & Majale, 2019).

Of course, several means of interventions have been undertaken, including actions related to demolition and eviction, though many scholars do not agree with such means of interventions because of their adverse social impacts. Moreover, cities do not have sufficient financial capacity to implement major intervention mechanism like relocation. Uprooting communities from their original place of residence does have social costs as their long-established social capital/networks are disrupted. To secure the social and economic security of informal settlers, regularization of their land holdings is very important particularly to improve the livelihoods of low-income households (Payne, 1997b). The same source further notes that keeping low-income households is the preferred option as it helps to solve informal settlements through regularization policies. This recommended method of intervention, however, should

be contextualized. According to key informants, the government is focusing on the regularization process of land holdings that have been possessed since 1974. This is helpful in maintaining which may be dependent on their respective land holdings. Pursuant to this, the city administration enacted a regulation that regularizes the land holdings of informal settlers (low income citizens) which were possessed before 2005 (AACA, 2024).

Even after the stated cut-off year, proliferation of informal settlements has not been halted, and no decision so far has been officially made for these settlements. This implies the fact that regularization of activities wrongly offer expectations in the same manner as was in the past. It is also argued that giving title deeds to some informal settlers is more likely to increase distortions in the urban land market and further encourages informal developments (Payne, 2001). Still, the major gaps include affordability costs to pay for the land and regularization service, the slow bureaucratic procedures, unclear regulations, lack of well-organized databases, difficulties identifying the appropriate plot owner which threatens and slows the processes, violation of urban plans, and the low level of participation and involvement of actors in the regularization processes.

#### (vi) The World Bank's Approach of Low-Income Housing

This approach promotes a cost recovery strategy for recipients, with the goal of making the investment replicable as per stated standards. This strategy aims to create a sustainable and efficient housing finance system that meets the needs of households at various income levels. In the 1970s, the Bank's policies for low-income housing included home ownership and security of tenure in land and housing, the need for self-help contributions, progressive development processes for house consolidation, a drop in standards to help affordability, improved access to financial resources, and appropriate technologies and materials (Jenkins et al., 2007).

It was revealed that the government's efforts to solve housing issues through the construction of subsidized residences for low-income groups were severely constrained by cost and managerial capabilities. By comparison, slum-upgrading programs and regularization can provide security of tenure, adequate infrastructure, and local management capabilities to residents in existing informal settlements at a cheaper cost. In addition, the sites and service program can redress the growth of new informal settlements and the proliferation of slums by providing secured access to land and services by enabling households to construct their dwellings incrementally as

their resources allow at a significantly lower cost than conventional public housing programs (Patrick Wakely & Elizabeth, 2011).

Chiefly, this theme was based on government facilitation, rather than direct implementation, through enabling the private and community sectors to respond to housing demand by providing legislative, institutional, and financial frameworks. A fundamental notion in this part is that human settlements are believed to contribute positively to economic and social developments

Yet, the World Bank Low-Income Housing Provision and development approach has been criticized as the approach that failed to match continually growing urban housing demand and the increase in informal settlements, and that it struggled to provide new sites at affordable levels for increasingly poorer households, based on full cost recovery. The approach was also found to have limitations, such as large subsidies inherent in financing of housing developments through loan rates lower than inflation, and the focus being directly on lower-income residents delivering shelter and services with little or no subsidies (Stephen K. Mayo and David J. Gross, 1987); difficulties with cost recovery; and the private sector never being adequately interested in getting involved. As a result, the World Bank slum-upgrading and sites and services projects largely failed to make a visible impact on the housing crisis in developing countries (Andavarapu & Edelman, 2013).

As an example, in Addis Ababa city, one of the selected localities called the Kolfe Low-Cost Housing Scheme was the only low-cost housing development worth mentioning in 1974. Some low-income households were housed as part of the project after their previous inner-city homes were demolished to make room for larger public and commercial structures. The gap between supply and demand for housing in the formal sector has grown as a result of the lack of an effective government response to the rising demand for low- and moderate-income housing. As a result, informal settlements increased over time.

#### 2.1.4. Spatial development of the Informal Settlements

Informal settlement growth and development can be characterized into three distinct features that can be identified using image analysis by integrating with the logistic modeling approach. This approach is an important tool which helps to understand the character of the informal settlements of urban areas. According to (Abebe, 2011) the major characters are:

The development process of informal settlements generally following a series of stages from initial occupation to saturation. These stages describe how informal areas emerge, grow, consolidate, and eventually reach a level where little additional expansion occurs. In these first stages there is single buildings in large areas of land, and it seems farmers village gradually the number of buildings grow from single to double and triple. Most commonly relatives or people who know each other can come together form a Neighborhood. The houses gradually improved and became more durable, as residents invest in upgrading on the structures and services. Eventually, community networks and local organizations develop informal infrastructure such as water connections and electricity may appear, and population density increases significantly. In the saturation stage the common feature is that are extremely high population density, houses closely packed together, informal infrastructure struggles to support the population, and then the settlement becomes a permanent part of the urban fabric.

At initial stage of development, indigenous communities live predominately on agricultural lands, and the vacant land is usually obtained through negotiations in most cases through sell/ buy, and rarely through gift or any other way. The following figure of satellite image demonstrates the shape and sizes of the first building of an informal settlement.

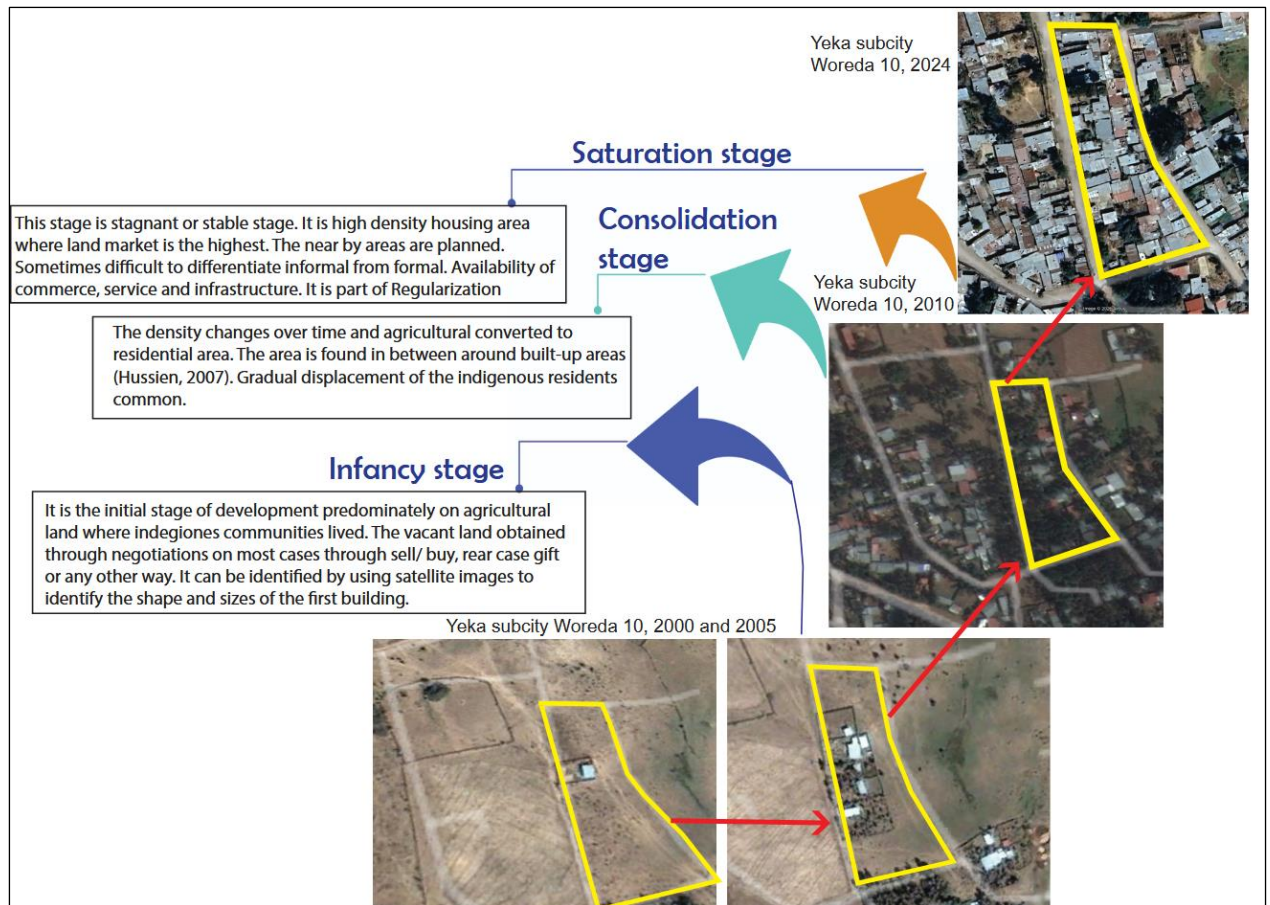


Figure 2-2: Development stages of informal settlements

Sources: Satellite image (Google engine)

Conceptually the following occurs at the development stages of the informal settlements:

- **Expansion:** This can be achieved in three forms: inward, outward and independent forms as can be shown in the figure below. This type of growth is an external growth and refers to the extension of buildings in new areas whether adjacent or not to existing settlement.
- **Densification:** It refers to infilling empty spaces by building structures on existing open space within the same compound and it can also be the extension of buildings.
- **Intensification:** This type of development mainly focuses on vertical development of buildings, which is rarely a common phenomenon. In Ethiopia the above two are the most common type and are important characteristics of informal settlements.

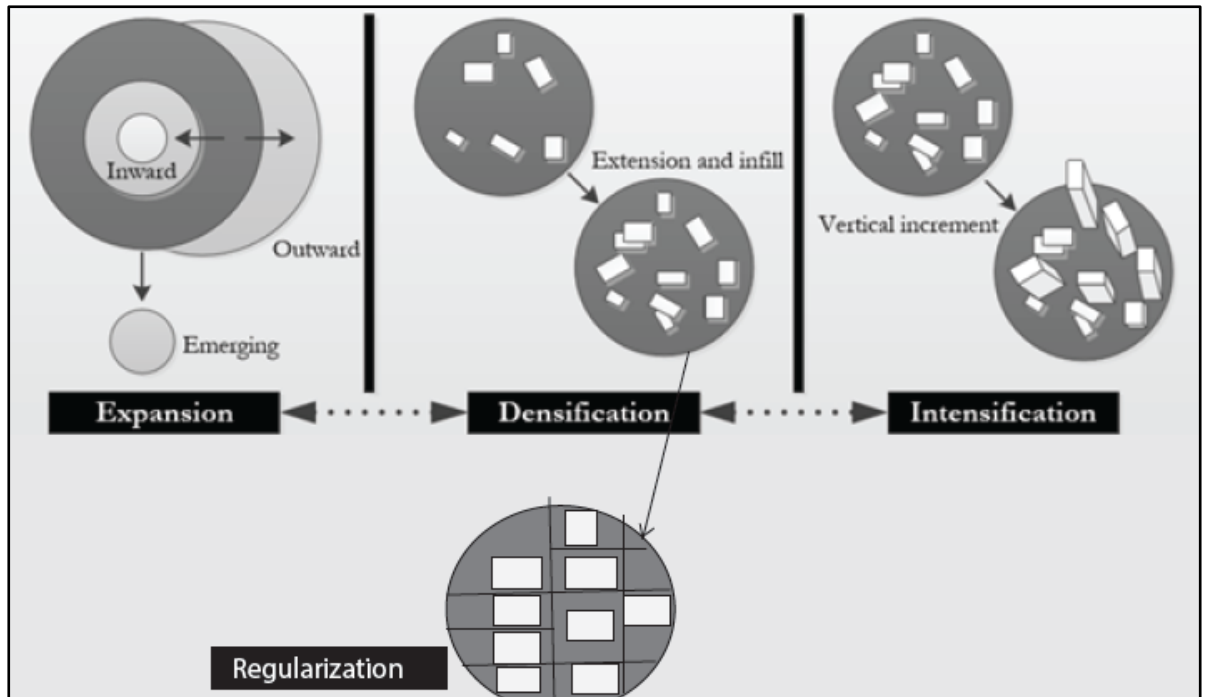


Figure 2-3: Formation and Regularization of the Informal Settlement

Source: Adapted from(Abebe, 2011)

## 2.2. Land Tenure Regularization of the Informal Settlements

According to McAuslan (1994, cited in Kagawa, 2000), regularization can be defined as a deliberate process aimed at bringing the informal and unauthorized settlements within the official legal “formal” and administrative systems of land management. It is basically focuses on two aspects: one is aiming to set up primary facilities (basic infrastructure and social services) and guarantee secure tenure for the concerned population” (Durand-Lesserve, 1996 in Kagawa 2000), and secondly, to get generate municipal revenue, with the assumption to transform the spatial and socio-economic situation of the city.

In this perspective, the process of regularizing entails that the provision of tenure security as an essential step which assures that informal dwellers cannot be evicted by an administrative decision for the sole reason that they are not the owners of the plots of land or houses they have occupied, or that they have not entered into a formal agreement with the owner, or do not comply with planning and building laws and regulations (Durand-Lasserve 2002).

This implies that specific policy instruments are helpful in providing land tenure security, land registration, land-use regulations and other public interventions, all aimed at fostering legitimacy of rights held in land. It is also a pre-requisite for the provision of basic infrastructure and social services. According to UN habitat, the main characteristics of the regularization approach include:

- Making the poor as part of legal owner of the city enabling their participation in the decision making.
- Incorporating the settlements where they live in the planning.
- Developing procedures for establishing tenure security and providing services that the poor can consider as accessible and affordable; and
- Allowing local land information systems (LIS) to be transparent and close to the poor and civil society who require the information for making decisions on their land (UN-Habitat, 2004).

### 2.3. Informal Settlements as Affordable Housing Side Wing

In most cases city plans didn't consider informal settlements as part of land use class. It ignores the existence of such settlements and proposed higher standard land uses zones which are practically not feasible. Even if the city plan is not considered the city administration challenged in managing these settlements areas. Out of necessity the city administration has given room to incorporate and integrate informal settlements into the city system as a result of which a significant number of them have been incorporated into the system. Usually the majority of low-income groups and daily laborers rent houses from these informal settlers with affordable prices and in this regard their contribution to the housing stock of the city is very great. According to the Global Housing Strategy Framework document, the main attributes of housing as a dwelling space is its location. access to livelihood, tenure arrangements, as well as cost and physical structure. It is also a sector of the economy and an important category of land use where small scale informal activities are undertaken (UN-HABITAT, 2011).

Moreover, it requires strategies and identified policy initiatives so as to realize the goal of a sustainable- affordable habitat. To this effect, it embraces four closely inter-dependent aspects: socio- cultural, economy, technology and the environment.

**Socio cultural needs:** The concept of shelter differs from individual to individual depending on culture, tradition, profession, and way of living. The materials used for

the construction of a house should correspond to the user's way of living and local building traditions (Christel Ebsen and Bjarke Ramboll, 2000). For instance, houses are treated as part of the identity of the individuals labeling their status. People do not want to live in a house, which marks out them as belonging to a low-income class, even if it is all that is affordable to them. The location and type of houses often reflect social inequalities. This also affects their social relationships, day-to-day living and ultimately the prospects of future generations. Besides being a necessity, it is also a source of identity that has a significant effect on the overall psychological wellbeing of the inhabitants. Socio- cultural sustainability in housing involves several dimensions such as adaptability, equality, integration of amenities and services. Affordable housing should respond to the socio- cultural needs and practices of the beneficiary households and communities. It is focused on housing development that promotes social interaction of individuals and cultural enrichment of the community and is aimed to reduce the inequality of housing between social classes (Islam. N, 1996). At the same time, it also accelerates the improvement in social development, relations and interactions.

**Economic aspects:** As improvement and development of society are closely related to economic development, based on the level of the residents. Economic growth is the key to providing the means to meet basic needs, to ease poverty and to generate employment, factors that are essential for sustainable development (Veron, R 2001). Even though housing problems arise as a symbol of poverty, mere financial assistance usually does not help the poor in meeting their housing needs. The affordability of a household in any part of the world depends on its command over the various resources required for housing – mainly from own potential and actual saving, and from being employed and possibly generate income during the construction period of the houses. *At household level, the affordability is determined by the size of the house, quality of materials used for construction and finishing, and include facilities and services.* Thus, economic sustainability or affordability of housing should be embedded in an economic development strategy, which strengthens the economic self-reliance of household members.

**Use of building material:** Conventional building materials are beyond the reach of the majority of the world population due to their poor affordability. Besides the escalation in the cost of building materials, rising environmental concerns due to the extensive exploitation of natural resources connected with general construction and

other housing development activities urges the need to search for affordable construction material. Alternative materials, methods and techniques of construction replacing conventional building construction can result in reducing the depletion of natural resources and save energy (Reddy, B and Jagadish, K, S 2001). Locally available material can take the advantage of local resources and can be produced locally using unskilled labor, utilizing already available materials without the need for heavy capital investment. It should benefit as many people as possible and should be flexible and functional, i.e., it should be adaptable to the changing needs of the community; at the same time, it should also be environmentally friendly. Moreover, it must be affordable and workable at community level. Likewise, feasibility, functionality, strength, durability and reliability are also identified as the basic necessities for technological sustainability.

**Environmental aspects:** It is now generally agreed that development in the low-income countries must proceed in parallel with a general global application of new technologies, which are both less resource intensive and less environmentally damaging (Spence. R and Mulligan.H, 1995). Environmental sustainability in housing development can be achieved by addressing resource limits of the environment through efficient consumption of non-renewable resources, minimizing the impact of waste materials and pollution by utilizing appropriate technologies and making use of local work forces.

The conceptual framework for sustainable and affordable housing can be used to study and formulate policy direction to achieve housing development by balancing social progress, enhancing economic growth, propagating innovative technology along with conserving and protecting the environment and natural resources for future life and development.(UN-HABITAT, 2011). Urban planning is one that can be used to indicate accessible location of housing. But it didn't consider the existence of informal settlements which is constructed prior to urban land use plan in some cities of developing countries(Fegue, 2007). The major factors for the growth of such informal settlements is associated mainly lack of affordable housing for the low-income urban residents. The residents are looking for an easy and affordable housing area to build themselves. But several interventions tried to control such settlements including eviction and demolishing, but it can't be given the solution so far. More importantly it needs better policy direction to integrate into urban system. The policy

direction mainly focuses on socio economic aspects, affordability and environment as conceptually indicated in the Figure 2-4 below.

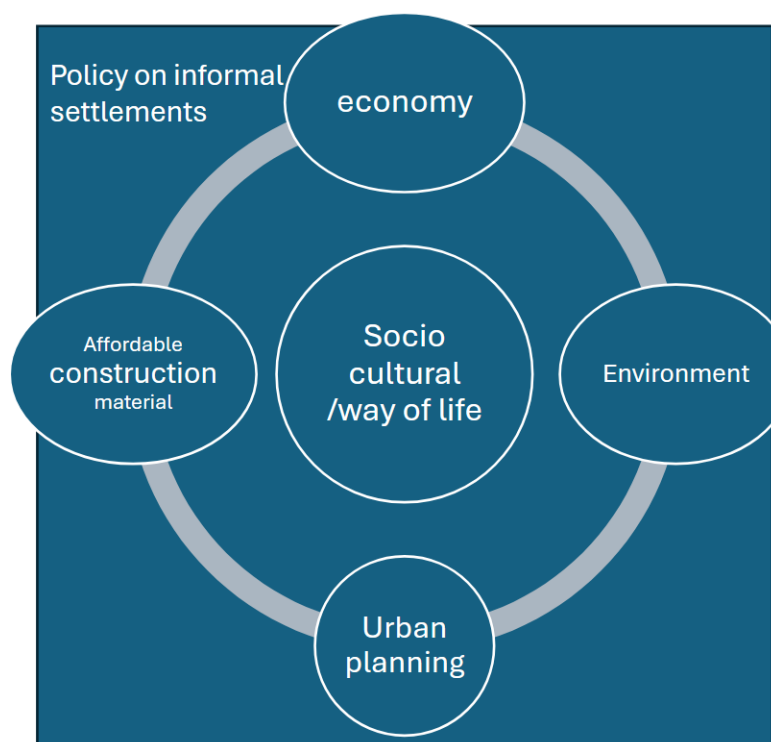


Figure 2-4: Conceptual framework for sustainable- affordable housing

Source: Extracted from review of literature (World Sustainable Building Conference, 2005)

## 2.4. Conceptual Understanding of Regularization

The acceptance of informal settlements to integrate into urban system are accepted in many cases to control all risks faced by local administrations but it is common to use different interchangeable words which are sometimes difficult to understand in referring to the local contexts as part of the intervention approach. The common words used in managing informal settlements are (Regularization, formalization, tenure right, property rights) as described in the table below (See Table 2-4 )

Table 2-4: Understanding issues

| Regularization                                                                                                                                                                                                                                                                                                                                                                           | Formalization                                                                                                                                                                                                                                                                                                                                                                                 | Tenure right                                                                                                                                                                                                                                                             | Property right                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Regularization refers to the process of legalizing and upgrading informal or unauthorized, irregular settlements and housing developments by integrating them into formal urban systems. It typically involves recognizing occupancy rights, providing access to infrastructure, and aligning settlements with planning and legal standards.(UN-habitat, 2003 and Durand-lasserve, 2002) | Formalization is the process of bringing informal activities such as landholding, housing, or business operations under official legal and administrative frameworks. In land governance, it involves titling, cadastral registration, and adherence to formal planning and building regulations (Hadas, 2003, United Nations 2015, Samson 2010, Alain Durand-Lasserve and Harris Selod 2007) | Land tenure describes the relationship legally or customarily defined among people, individuals, or groups, with respect to land. It determines how rights to use, manage, and transfer land are held, and under what conditions.(USAid 2014, Payne 1996 and Payne 2001) | Property rights refer to the legally or socially recognized entitlements of individuals or groups to own, use, manage, and transfer land or other resources. These rights serve as the foundation for economic transactions, investment, and legal protection.(Jain, Chennuri,Karamchandani 2016 and Mattingly 2013) |

Transforming informal settlements into formal ones has emerged as a key policy intervention in urban housing development agenda. This approach has significantly contributed to the housing supply in urban areas, particularly in developing countries where informal settlements often comprise over 50% of the total housing stocks. While the terms regularization and formalization are sometimes used interchangeably, they can hold different meanings depending on the context in recognizing these settlements. Regularization, in its most basic definition, is a broader concept from other as defined as defined in the above (See Table 2-4 ) referring to the act of making something regular that is, conforming to a rule, principle, or established standard. In the context of informal settlements, which can be understood as the process of

converting irregular or unauthorized settlements into recognized, legally accepted ones (under urban planning guidelines). However, this definition does not always apply uniformly. In practice, regularization may not require every parcel of land to be geometrically regular or fully harmony with urban planning norms. Instead, it may involve legalizing existing land occupations sometimes with minimal adjustments while recognizing the occupants' tenure rights.

Regularization is a process of granting urban land use certificate to informal settlers who haven't been acknowledged by city administration for many years. Informal land holders can only be given certificates as far as their land holdings are in comply with the land use plan of the granting city(SADC , 2017)

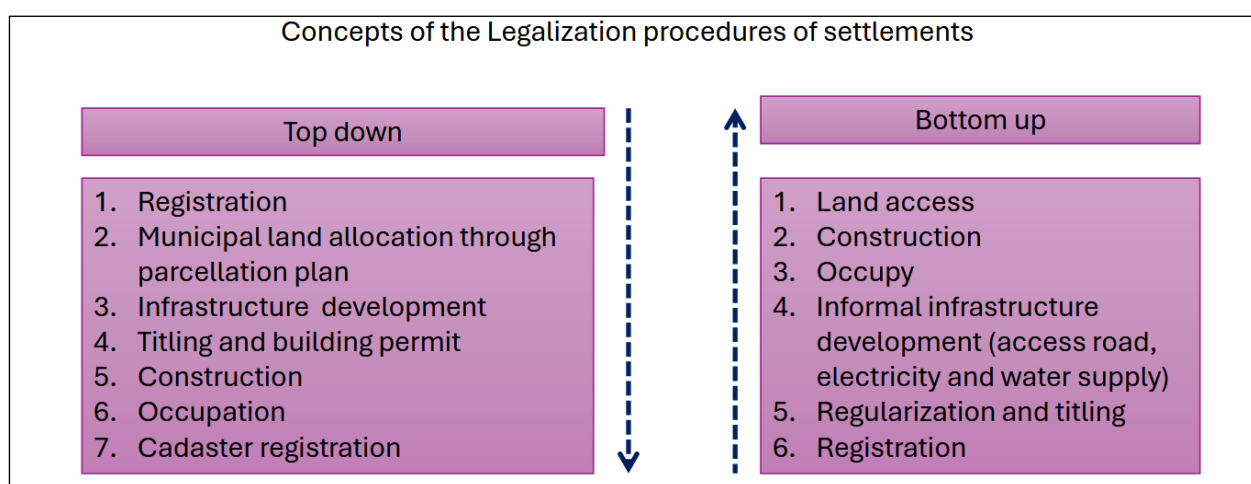


Figure 2-5: Ways of Treatment of Settlements

Source: adapted from (Hussien, 2007)

From the above (Figure 2-5) studies illustrate the regularization and land titling are key mechanisms for addressing informal settlements and formalizing property rights and thereby transforming “dead capital” into productive assets, enabling access to credit, stimulating investment, and improving the livelihoods of low-income households(Hernando De Soto, 2003). In contrast, other scholars conceptualize informal settlements not as a problem but as a practical solution to housing shortages, highlighting the capacity of low-income communities to incrementally develop and manage their own living environments. From this perspective, interventions should focus on supporting and upgrading of the existing informal settlements (Turner, 1976).

More recent approaches advocate for incremental tenure regularization, including mechanisms such as temporary occupancy permits, certificates of use rights, and the gradual upgrading of tenure status. These approaches recognize that perceived tenure security rather than full legal ownership alone can significantly encourage household investment and neighborhood improvement (Payne & Majale, 2019). Furthermore, other perspectives stress that regularization should extend beyond legalizing land tenure to address broader concerns of social justice, citizenship rights, and urban inequality (Fernandes, 2011).

From the above points, the informal settlements intervention mechanisms can be broadly categorized into top-down and bottom-up approaches. Top-down approaches are typically state-led, centrally planned policy action, while bottom-up approaches emphasize community participation. However, the case of Addis Ababa indicated a more complex scenario that does not fully align with either model. The city's regularization implementation appears to reflect a middle planning approach that neither regularize or negate the totality of informal settlements. Regularization is largely governed by a cut-off date regulation, whereby settlements established before 2005 are eligible for formalization, while the fate of those developed afterward is unknown. There is no comprehensive policy specific to informal settlements, rather there are codes and directives that have been introduced to guide the regularization process for the immediate solution.

It is viewed in such way that regularization is closely associated with property rights (Table 2-4). The local language which referred to as *Meht Fetera*”, literally translates to the creation of land holding rights. This process is guided by the Land Holding Right Creation and Service Delivery Regulation No. 163/2024, which provides the legal framework for regularizing informal settlements by granting tenure security and integrating them into the formal urban system (AACA, 204)

Informal settlements are spread by a combination of structural and systemic barriers, including high land costs relative to household incomes, limited access to credit for low-income groups, and chronic shortage of affordable housing within the formal sector (Beth Tellman, Hallie Eakin, Marco A. Janssen, Turner 2021). Formal housing is defined as housing that complies with planning regulations and possesses property

rights recognized by government authorities that remain inaccessible to many urban poor. As a result, informal settlements continue to grow in both in size and number.

Over the past three decades, urban administrations have adopted various strategies to curb the expansion of informal settlements, with demolition being one of the most frequently employed approaches. However, this method has largely failed to reduce the proliferation of such settlements, particularly in many developing countries. Efforts aimed at eliminating informal landholdings and improving living conditions often fell short of their intended objectives. Rather than resolving the problem, these measures frequently produced adverse consequences exacerbating poverty, displacing vulnerable populations, and leading to the re-establishment of informal settlements in other areas (Fernandes and Gondo 2011). One of the primary reasons for the failure of past interventions is the lack of inclusive participation in the overall policy formulation and decision-making processes. In many developing countries, the urban low-income households have been either excluded or not willing to participate in the processes and of these critical stages (AFD, 2015). As a result, they often face significant barriers in complying with existing urban planning standards, regulatory frameworks, and administrative procedures. These systems are frequently rigid, expensive, and disconnected from the socio-economic realities of marginalized populations (Roberts, 2014). This exclusion has, in turn, played a direct role in the emergence and rapid expansion of informal settlements, as disadvantaged communities resort to informal mechanisms to secure shelter and access to basic services (J.M. Ubink, A.J. Hoekema, 2009).

In any cases, the majority of scholars do not agree with demolishing of informal settlements. Others believes that the best way to mitigate informal settlement is through regularization (Turner, 1976 and Payne, 1996). They further substantiate their argument in that the process of regularization of informal settlement pattern ultimately brings the low-income urban poor to better security and owner of urban housing (Payne, 2001).

The primary objective of regularization is to formalize informal settlements that have developed outside legal frameworks and without government recognition. Through regularization, these settlements gain legal status and can be integrated into the formal urban housing system (Okyere et.al., 2016). This policy approach has been practiced

for decades in many developing countries. During the 1980s, individual private title deeds were promoted as the most effective means of improving tenure security, protecting residents from arbitrary state actions, and encouraging investment on land and housing they occupied (Fernandes, 2011). However, this model later faced substantial criticism for its limited effectiveness, especially in contexts where broader social, economic, and institutional constraints hindered its intended outcomes. Since the 1990s, approaches to land-rights formalization have evolved, emphasizing more flexible, context-sensitive strategies that acknowledge the diversity of local tenure arrangements and the complex ways in which communities access and manage the land they inhabit (AFD, 2015).

The process is intended to enable low-income groups to remain in place and thereby protect them from social and economic risks associated with displacement and exclusion (Alain Durand-Lasserve and Harris Selod, 2007). It is often viewed as a panacea capable of lifting people out of insecure and informal tenure, resolving land conflicts, attracting investment, and driving economic growth (Payne, 2001). However, in practice, land formalization policies have produced different results in different areas (Haile Geletu Aredo, 2019). Nationwide implementation is rare, and land information systems are often poorly maintained or quickly become outdated. Large-scale formalization efforts can inadvertently contribute to exclusion, particularly when they rely exclusively on private ownership models. Moreover, the anticipated economic benefits of formalization frequently fall short of expectation (AFD, 2015). The administrative recognition of occupancy rights by the state or by local authorities consists of delivering personal rights to households in informal settlements (Alain Durand-Lasserve and Harris Selod, 2007). The regulations have two forms: the first can usually take the form of an administrative permit to occupy or a short-term leasehold. Although such rights can be renewable, they are temporary (lasting from one year to several) and conditional (the land must be used or developed according to standards set by public authorities). Some restrictions are usually imposed relating to the use of the land and its transfer. (Alain Durand-Lasserve and Harris Selod, 2007). Secondly, the delivery of real property rights, a process also known as land titling, consists of delivering freehold titles, surface rights, or registered long-term leaseholds (for instance, 99 years lease period for housing in case of Ethiopia). These rights can be transferred to a third party,

through sale and inheritance, and mortgage. This type of formalization, which can be sporadic or systematically, provides rights that are authenticated and guaranteed by the state (Samson, 2010). These areas can fully access primary facilities (basic infrastructures and social services) which can further generate municipal revenue, and with the assumption to transform the spatial and socio-economic situation of the city (Samson, 2010). The second form of regulation is the most commonly and widely implemented in Ethiopia urban centers including Addis Ababa.

There are three important elements to policies: their contents, the process of formulation and the methods of implementation (Monkkonen, 2012). Regularization policies also deal with complex socio-economic and urban-environmental realities and involve multiple aspects of land, registration, financial, urban, and environmental laws. They seek to ensure that residents of consolidated informal settlements are not evicted or relocated but can remain on the land they have occupied with access to better living conditions (Monkkonen, 2012). In this sense the regularization can promote social justice and economic development (Payne, 1997a).

Regularizing informal settlements also can be linked to physical aspects of the land in relation to the urban planning standards which can change the shape of the plots to suit road network and building orientations (Alliance, 2021). The main purpose is making regular by integrating with the previously planned settlement. In this case it is the major challenging exercise to bring to the planning standards. Even if the regularization policy positively advance the transformation of existing informal communities (DID, 2014). So many of the low-income communities preferred the option. It can be argued that regularization is costly socially, physically, economically and politically (United Nations, 2015). Mainly enormous social costs would result from uprooting communities that do not want to be relocated, given the rich social and capital networks they have formed over the years. In this regard, innovative digital data-oriented regularization is more practical to minimize social chaos among communities during land disputes. On the other hand, municipal taxes are also collected from these forgotten places to increase the revenue of the municipality.

## 2.5. Toward Regularization of Informal Settlements: A Support Perspective

The issue of regularization can be seen in several dimensions: like in terms of the urban dynamics, practical exercises for alternative options, innovation, creativity, and financial aspects of processes; the close links between informal housing and informal businesses; sometimes interlinked as the economic value of informally created assets; and the impediments caused by complex legal and registration systems and by bureaucracy and corruption( Hernando De Soto, 2003). However, De Soto's key point is that formalizing property rights can boost economic development in developing countries.

His intention is that poverty and economic underdevelopment will be reduced by removing legal and institutional barriers to the ownership and transfer of economic assets produced informally. Providing legal tenure security in the form of land titling and registration would enable occupants of informal settlements to access official credit and finance their housing and business investment to improve the livelihood of the low income communities(See Fig. 2-6). A central issue underlying the use of titling as a particular intervention regards De Soto's notion of "dead capital." Besides embodying the value of informal property that could be used as collateral, this notion implies that the economic resources collected by the urban poor through informal housing and business processes are outside the boundaries of national accounts and finances(De soto, 2000).

It was argued that, sometimes the formalization programs have not led to significant changes in access to formal credit, because there is a situation in which being employed can access to credit rather than unemployed and having title deeds(Edesio Fernades, 2006). On the other way titles are not actually needed for people to invest systematically in their informal houses and businesses. Once residents feel secured and do not fear eviction, they routinely increase their housing investment activities (Payne, 2001). On the other hand, there is more poverty than the lack of property titles, and more to informality than poverty, but titling per se may have some association with poverty alleviation(Payne & Majale, 2019). But the major gaps are the regularization processes of implementation capability and related urban planning regulations which are not well discussed.

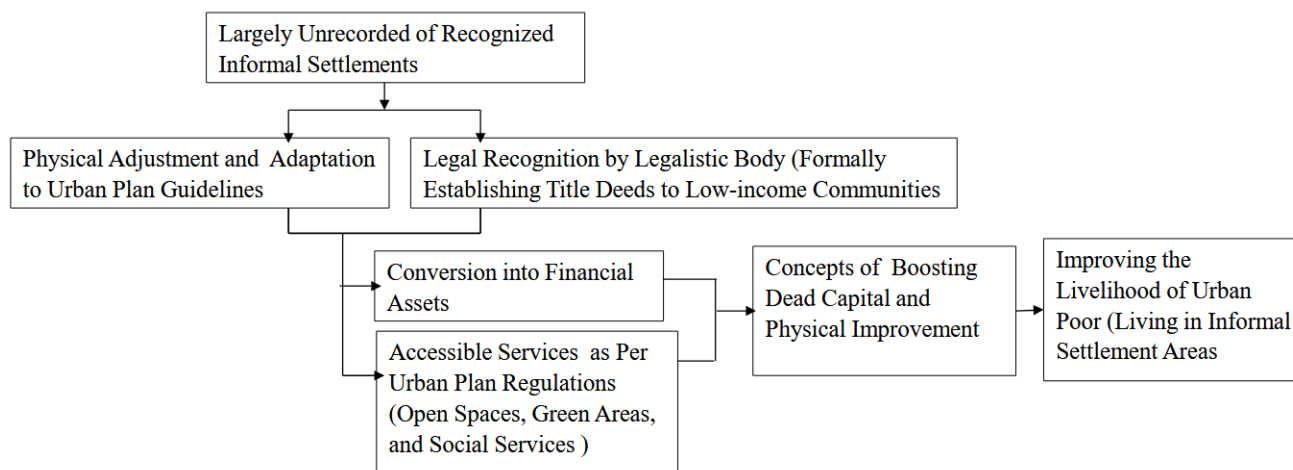


Fig. 2-6: Importance of Titling and Regularization

Source: Adapted from De Sotos notion of dead capital

Local context (Addis Ababa) shows that titling does not necessarily increase access to credit in some cases. Practically it is debatable that in some cases, even if the poor have title deeds, they are not willing to borrow from commercial centers because of the perception of fear in relation to the interest incurred long term and expectation of losing of their properties. This concept was supported by indicating that “registration does not improve access to credit where high transaction and other costs hinder credit supply, and that many poor families are unwilling to borrow for risk of being unable to repay and losing the land through foreclosure (Janine M., Ubink, Hoekema, Andire J, Assies, 2009). In some cases, say Addis Ababa, Ethiopia there is also a situation in which legal properties can be used as a collateral in relation to the court cases and employment opportunities as wittiness.

Finally, from the above argument the context of informal settlements in Addis Ababa seems to not fall under the critical ideas as a conclusion. Physical improvement may have the weight and the inhabitants who are living in informal settlements their actual income is not well documented and known.

According to Payne, adequate security of tenure is measured by a five point criteria in which one looks at the extent to which such tenure; protects against arbitrary eviction/demolition; encourages investment and house improvements; allows for the provision of infrastructures and public services; permits market values to apply to property; and allows owners to leverage equity for credit(Payne, 2001). Therefore, with the prevailing insecure tenure, urban dwellers in informal settlements lack incentives to engage in sustainable land use. The result is a degraded environment as

they strive to earn a living while using the natural resources around them unsustainably. Therefore, by investigating whether improved tenure security has any implications on sustainable urban land use decisions/actions taken by the residents of these informal settlements, remedial policy initiatives are likely to be advanced with more certainty. Procedures towards securing property rights and land rights of the urban poor ultimately lead to achievement of justice through which people's right to participate as equal partners at every level of decision making, including needs assessment, planning, and implementation.

In this perspective, the process of regularizing entails that the provision of tenure security as an essential step which assures that informal dwellers can stay at their home and not evicted by an administrative decision for the sole reason that they are not the owner of the land or house they have occupied informally without any legal bases without any planning, building laws and regulations (Durand-Iasserve, 2002). It implies specific policy instruments for providing land tenure security, land registration, land-use regulations and other public interventions, all aimed at fostering legitimacy of rights held in land. It can be said that regularization of activities is important for:

- Having title deeds as a legal owner can be used as a collateral for the low income communities and improving the livelihood (Payne, 2001)(Payne and Majale 2019)
- Incorporating the settlements where they live in the planning so as accessible to infrastructure and basic services (Magigi & K Majani, 2019)
- Developing procedures for establishing tenure security and providing services that the poor can consider as accessible and affordable; and
- Allowing local land information systems (LIS) to be transparent and close to the poor and civil society who require the information for making decisions on their land (US Aid, 2014)
- Collection of property tax for the forgotten area and increase municipal revenue capacity

## 2.6. The Processes of Regularization

Land regularization, as a participatory approach, empowers residents of informal settlements to obtain formal land ownership and secure title deeds. The process involves several key components, including owning of the title deeds, provision of

social and physical infrastructure, and the mobilization of untapped financial resources through community participation and contributions(Magigi and K Majani 2019). Effective implementation of these activities largely depends on the strength of local governance systems. Ultimately, land regularization seeks to enhance access to social services, promote business and economic development, and encourage housing improvement, which serve as vital indicators of local community development and improved livelihood(Magigi and Majani 2006). Land regularization results from common problems faced by residents in the community. These include increased land conflicts, fear of eviction by the government, saturated houses and densely populated, shortage of surveyed land and inadequate infrastructure, land speculations, and lack of capital for the majority of urban residents leading to poverty. These commonly felt problems result from uncontrolled urbanization and motivate the community to come together and collectively work to address such problems(Neema Abiael Munuo, Jackson Wilbard Kombe, 2025) . However, most informal settlements regularization programs in sub-Saharan Africa suffer from weak organization, fragmented implementation and limited documentation, often because municipal budgets are inadequate to cover the titling process, surveying, infrastructure provision and institutional coordination(Alain Durand-Lasserve and Harris Selod, 2007). Community willingness to contribute finances is small, contributions rarely substitute for the large capital and institutional investments, required; as a result, projects are frequently small scale, project-based, or remain unfinished(Alain Durand-Lasserve and Harris Selod, 2017).

### 2.6.1.Spatial Aspects of the Regularization Processes

Complementary reforms to land-use regulations may also be required, in particular to minimum plot sizes and maximum floor-area ratios that restrict density and raise costs for formal-sector housing(Okyere et.al., 2016). Whilst reasonable land-use regulations can be useful in ensuring that infrastructure provision matches population density levels, excessively stringent regulations now serve to price low-income residents out of the housing market in many cities(Neema Abiael Munuo, Jackson Wilbard Kombe, 2025).

The majority of urban residents cannot afford to comply with this regulation, pushing them into informal housing and hindering the emergence of large-scale formal housing. The detrimental effect of land-use restrictions based on the city plan, can

discourage the low-income residents as a result of the city plan regulation (Magigi & K Majani, 2019). For instance, the Addis Ababa city plans prepared with little consideration to informal settlements, but the Land Holding Right Creation and Service Delivery Regulation No. 163/2024 indicates that plots required to comply with the City or Local Plan standards related to shape, size, and frontage of plots. However, in practice, strict adherence to these standards is often difficult, creating significant challenges for the effective execution of regularization processes. According to the regulations, the minimum residential plot size is 75 square meters, while the maximum allowable area should not exceed 500 square meters. Most studies conducted to date have primarily focused on the social, economic, and political dimensions of regularization, with limited attention to the spatial and physical aspects. Yet successful regularization requires careful consideration of landform characteristics in relation to infrastructure networks, land use patterns, and environmental risks. These aspects must often be identified and analyzed using satellite imagery to determine existing plot configurations and settlement patterns. Such technical assessments demand substantial time and resources, thereby delaying regularization activities and posing considerable challenges to urban governments.

#### 2.6.2. Legal Aspects of the Regularization Processes

In this perspective, the process of regularizing entails that the provision of tenure security as an essential step which assures that informal dwellers can stay at their home and not evicted by an administrative decision for the sole reason that they are not the owner of the land or house they have occupied informally without any legal bases, planning, building laws and regulations (Durand-lasserve, 2002). It implies specific policy instruments for providing land tenure security, land registration, land-use regulations and other public interventions, all aimed at fostering legitimacy of rights held in land. It can be said that regularization of activities is important for:

1. Having title deeds as a legal owner that can be used as a collateral for low income communities (Payne & Majale, 2019)
2. Incorporating the settlements where they live in the planning so as to be accessible to infrastructure and basic services
3. Developing procedures for establishing tenure security and providing services that the poor can consider as accessible and affordable;

4. Allowing local land information systems (LIS) to be transparent and close to the poor and civil society who require the information for making decisions on their land (US Aid, 2014); and
5. Collection of property tax, which has often been overlooked, and thereby increasing the municipality's revenue capacity given the large coverage of informal settlements, and supporting improved infrastructure development and city beautification.

The local context shows that, the municipality generally recognizes informal settlements constructed before May 9, 2005. This eligibility is determined by using various parameters, including satellite imagery and other verification mechanisms. However, the regulation remains silent regarding settlements established after 2005, creating a policy gap in their treatment. Moreover, in areas covered by dense vegetation or forest, it is often difficult to accurately distinguish the construction period of buildings. This limitation poses significant challenges to the effective implementation of regularization activities and creates delay in the process regularization.

#### 2.6.3. Institutional Aspects of the Regularization Processes

Land regularization, as a participatory urban planning approach, empowers residents of informal settlements to obtain formal land ownership and secure title deeds. The process involves several key components, including ownership of the title deeds, provision of social and physical infrastructures, and the mobilization of untapped financial resources through community participation and contributions (Magigi & K Majani, 2019). Effective implementation of these activities largely depends on the strength of local governance systems. Ultimately, land regularization seeks to enhance access to social services, promote business and economic development, and encourage housing improvement, which serves as vital indicators of local community development and improved livelihoods (Magigi & Majani, 2006). A responsive organizational structure with clearly defined roles and responsibilities is crucial for the effective implementation of regularization activities. Such clarity helps prevent land-related conflicts, build public trust, and minimize residents' fear of eviction. Furthermore, strong institutional coordination and collaboration are essential for the efficient execution of interventions. Active community participation is equally

important, enabling stakeholders to work collectively and ensuring more inclusive and sustainable outcomes(Neema Abiael Munuo, Jackson Wilbard Kombe, 2025).

However, most informal settlements regularization programmers in sub-Saharan Africa suffer from weak organization, fragmented implementation and limited documentation, often because municipal budgets are inadequate to cover the titling process, surveying, infrastructure provision and institutional coordination. Community willingness to contribute finances is small, contributions rarely substitute for the large capital and institutional investments required; as a result, projects are frequently small scale, project-based(Wakuru Magigi, 2006)

## 2.7. Conceptual Framework

Conceptually regularization of the informal settlement can be viewed in three basic concepts and ideas; it can be viewed in terms of security of tenure, property right and use of urban planning as a means to formalize informal settlements

Conceptual and theoretical perspectives of Property right, security of tenure and urban planning in view of regularization activity

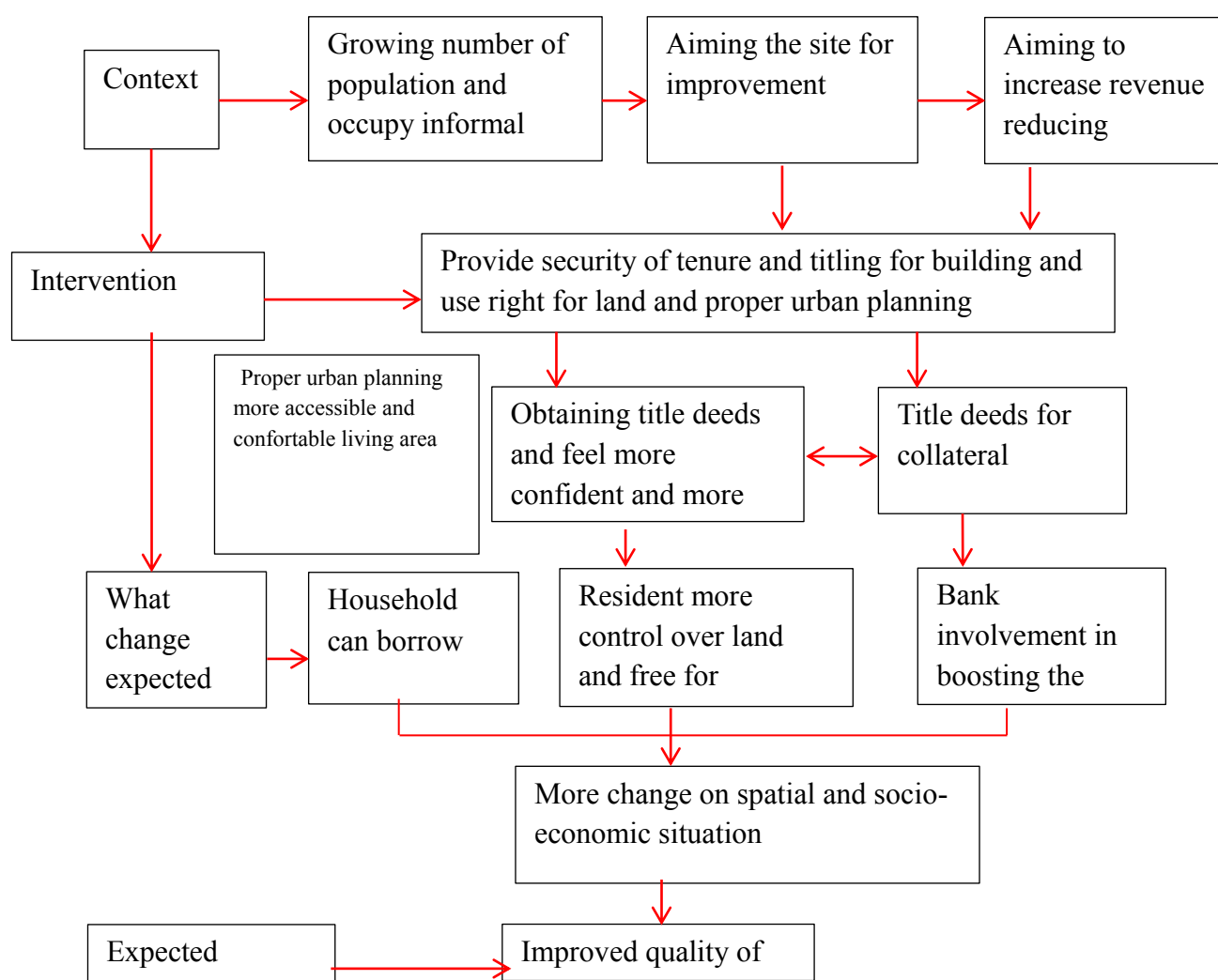


Figure 2-7: Conceptual framework of the importance regularization

Source: adapted from De Soto (2000)

## BOX 2-1: Practical experiences of informal settlements

According to (KDI(Korea Development Institute), 2018). Informal settlements are the major challenges which are also seen in the city of Seoul. Mainly The housing shortage in the 1960s and 1970s, especially in Seoul, was the worst imaginable. Many poor migrants set up makeshift dwelling units on riverbanks, hills in and around the city, and public land not monitored by officials. About 29% of all housing units in Seoul were illegal. Central and local governments have tried various measures to solve the informal settlement problem. At first, in the 1950s, the Seoul city government demolished informal houses without compensation nor alternative housing.

This approach could not work against the fierce resistance of the residents. In 1958, Seoul began to provide alternative lots in other parts of the city when informal settlers had to be relocated (Chang, 1989).

Later, on-site improvement of informal houses was allowed in some cases. A 1967 survey found that there were 137,234 units of informal houses, of which 61,562 were allowed on-site improvement. However, if the lot was smaller than the minimum lot size of the building code or if there was an ownership dispute, the unit could not be legalized. Some were located on prospective sites of public facilities or on hazardous riverbanks. Residents of such houses had to be moved, and they were given around public land in outer areas of the city. These lots were not much more than rough lines on land which marked the boundaries of the lot. Basic infrastructures such as piped water and access roads were not always provided at the time of relocation, and residents and the local government had to install them gradually. Seoul was soon running out of the vacant public land to accommodate relocated settlers.

In 1968, Seoul purchased 10 sq.km of land outside the city and began to build a satellite city to house 100,000 families (i.e., Gwangju Project). Again, basic services were not provided and living conditions were extremely poor. A violent riot broke out in 1971, and the project could not be completed. Another approach to solve the informal settlement problem was to build “citizen’s apartments” on the site of informal settlements. Seoul built and supplied low-cost units to the former residents without interior finishing, and 5 to 15-year mortgages were also provided. The

original plan in 1968 was to build 2,000 apartment buildings which would house 100,000 families. However, one of such apartments suddenly collapsed in 1970, killing 33 and wounding 40, due to shoddy construction, and the program had to be discontinued.

## 2.8. Methodological Review

### 2.8.1. Detection and Mapping of Informal Settlements

It is practical that informal settlements are expanding in major urban centers of developing countries worldwide, but significant challenges remain in evaluating them and measuring the expanding of built-up areas with scientific methods (Owen, 2012). Even though shape-based measures (fractal dimension, lacunarity, mathematical morphology) and texture measures (landscape fragmentation analysis, grey-level co-occurrence measures) have been used to identify individual slum communities in the past two decades, minimal progress has been made on development of geospatial measures that can distinguish differences between informal and planned settlements using readily-available very high resolution (VHR) multispectral imagery (Nicholus M., Claudio Persello, John. R, 2017). There is also little use of topographic-related measures to explore differences within settlements. Development of methods that fully exploit image processing and require minimal field work can be more efficient due to the extensive geographic coverage of VHR satellite imagery and can preserve the safety of researchers whose visits to these are often-dangerous areas. But relying on image processing on such methods may not always be practical and context knowledge is missing. Remote identification of the area based on images sometimes leads to not real conclusion. For this reason, it should be acknowledged that some field-based cultural and spatial observation is still required (Jacobsen, Nelson, & Owen, 2011). Sometimes contextual understanding of the area matters. Natural and man-made feature variation may lead to poor quality of results.

## 2.9. Research Gap

Informal settlements remain one of the most critical challenges facing urban areas in developing countries. Numerous studies by scholars have repeatedly highlighted their implications for sustainable urban development. In response, global attention such as the United Nations's Millennium Development Goals and Sustainable Development Goals has set clear directions to address these challenges and promote inclusive and sustainable cities (United Nations, 2023) (de Jong & Vijge, 2021). For effective policy formulation and decision-making, understanding the extent of informal settlements is essential, as it provides a critical baseline. Moreover, spatial analysis identifying their distribution and location is equally important for designing targeted and context-

specific interventions. However, in many developing countries, the spatial distribution and building footprints of informal settlements remain poorly documented or entirely unknown (Abagissa, 2019).

Existing studies provide varying estimates of the scale of informality. In many cities across the developing world, informal settlements are estimated to accommodate between 70% and 90% of the urban population (Samson, 2010). According to UN-Habitat, approximately 99.4% of Ethiopia's urban population lives in informal settlements. Other studies present different figures, suggesting that about 50–80% of housing in Addis Ababa is informal, while 50–80% of the urban population resides in conditions that may be classified as slums (World Bank, 2014, KDI, 2018). Similarly, it is estimated that around 80% of Addis Ababa's residents live in informal settlements characterized by deteriorating physical structures, unsecured tenure, inadequate infrastructure, poor solid waste management, and limited access to basic services and open spaces (Samson and Ezeaku, 2008, World bank, 2019). At the national level, 70–90% of urban housing is often classified as informal, with slum coverage 80% in in Addis Ababa (ORAAMP, 2000, Y. E. Alemayehu, 2008). Most of these studies, however, are based on the former administrative boundary of Addis Ababa (SCA, 2023). Following the recent restructuring of the city and its integration with Shaggar City, the current extent and spatial distribution of informal settlements remain unclear and insufficiently documented.

Furthermore, much of the existing research on regularization approach has primarily focused on socio-economic dimensions, particularly income generation and livelihood aspects (Payne, 2001, De Soto, 2003, Alain Durand-Lasserve and Harris Selod, 2007). The physical and spatial dimensions of regularization, especially in relation to urban planning and processes of regularization, institutional interaction and policy dimensions have got limited attention. As a result, city plans have often overlooked the realities of existing informal settlements. Although municipal authorities have undertaken regularization efforts out of necessity, these processes frequently conflict with formal planning frameworks, making implementation difficult. These indicated issues are the major challenge for city administrations, as it complicates the integration of informal settlements into formal urban systems and creates bottlenecks in the regularization process.

In addition, studies indicate that regularization and land titling are key mechanisms for addressing informal settlements and formalizing property rights transforming “dead capital” into productive assets, enabling access to credit, stimulating investment, and improving the livelihoods of low-income households(Hernando De Soto, 2003). In contrast, other scholars conceptualize informal settlements not as a problem but as a practical solution to housing shortages, highlighting the capacity of low-income communities to incrementally develop and manage their own living environments. From this perspective, intervention should focus on supporting and upgrading existing informal settlements (Turner, 1976).

More recent approaches advocate for incremental tenure regularization, including mechanisms such as temporary occupancy permits, certificates of use rights, and the gradual upgrading of tenure status. These approaches recognize that perceived tenure security rather than full legal ownership alone can significantly encourage household investment and neighborhood improvement(Payne & Majale, 2019). Furthermore, other perspectives stress that regularization should extend beyond legalizing land tenure to address broader concerns of social justice, citizenship rights, and urban inequality(Fernandes, 2011).

From the above points, the informal settlements intervention mechanisms can be broadly categorized into top-down and bottom-up approaches. Top-down approaches are typically state-led, centrally planned policy action, while bottom-up approaches emphasize community participation. However, the case of Addis Ababa indicated a more complex scenario that does not fully align with either model. The city’s regularization implementation appears to reflect a middle planning approach that neither regularize or negate the totality of informal settlements which looks a gap not out of the existing literatures. Regularization is largely governed by a cut-off date regulation, whereby settlements established before 2005 are eligible for formalization, while the fate of those developed afterward is unknown. There is no comprehensive policy specific to informal settlements, rather there are codes and directives that have been introduced to guide the regularization process for the immediate solution.

Therefore, this study seeks to address these gaps by emphasizing the Spatial extent of informal settlements and regularization intervention processes in relation to urban planning. In doing so, it aims to contribute to the academic discourse and provide practical insights to support more effective policy direction and urban decision-making.

## CHAPTER THREE

### 3. Material and Methods

#### 3.1. Description of the Study Area

Addis Ababa, the capital of Ethiopia, the host of African Union and many other International Organizations, is located within the central plateau of Ethiopia, extending between 8° 55' and 9° 05' north latitude and 38° 05' and 39° 05' east longitude. According to the structure plan/Master plan report of the city, the total land area of the current city administration is 43,000 hectares or 430km<sup>2</sup> (AAPDC, 2017, SCA, 2023). The city has a mean annual rainfall of 1165 mm with four months (June to September) as the heavy raining or summer season. There are branches of rivers passing within or close to Addis Ababa; the city's streams played an important role in structuring its form and potential area encroachment by informal settlements.

The city is one of the fastest growing cities in Africa and a primate city in Ethiopia with an estimated population of about 3,945,000, which is roughly 15% of the total urban population of the country and more than ten times the population size the secondary urban center (CSA, 2021 and MUDC, 2015b). Administratively the city is divided into three administrative layers which is city, sub city, and *Woreda*, the smallest administrative unit and the third tier of Addis Ababa as per the current restructure the city with the surrounding Shaggar city (See Map 3-1). There are 11 sub-cities and about 120 *woredas*. The land in the city is classified into three zones according to its proximity to the center: namely, CBD (central business district), transitional zone, and expansion zone. The land which is highly subjected to sprawl or encroachment of informal settlements is most likely located at the periphery and in environmentally sensitive areas.

The structure plan (master plan) of the city has devised strategies which incorporate action plans for the implementation of its various components, but little attention is given for the intervention on informal settlements as per the land use plan regulation of the city. In the inner-city informal settlements emerged during the imperial regime (1941- 74), as most of the city's land was owned by a small number of landlords, who were engaged in developing houses for sale and rental purpose without the proper

guide of the city plan. Later on urban land and houses were nationalized<sup>3</sup> by the *Derge regime* when came to power after assuming power by the 1974 revolution (AAPDC, 2023). These old settlements expanded overtime, and some are still existing in poor conditions, while others are under transformation due to the strategic urban development program (corridor, river sides and housing development). Shortage of affordable formal housing has led to the proliferation of informal settlements at peripheral areas of the city. The government's response towards informal settlements is usually bulldozing and forced eviction, though the act of regularization were also undertaken particularly for settlements which were established before 2005. Residents of informal settlements and low-income areas are disproportionately impacted, due to constant disruption and limited capacity so as informal housing construction in different areas undertaken, a congested settlement pattern and poor housing quality in the inner-city slums common features of the city. Inner city informal settlements are old and delapidated, coming into existence as a result of the nationalization of privately owned houses by the *Derge regime* in 1975, now 50 years old. These houses are administered by the government by renting to lower-income groups locally named Kebele<sup>4</sup> (public) houses.

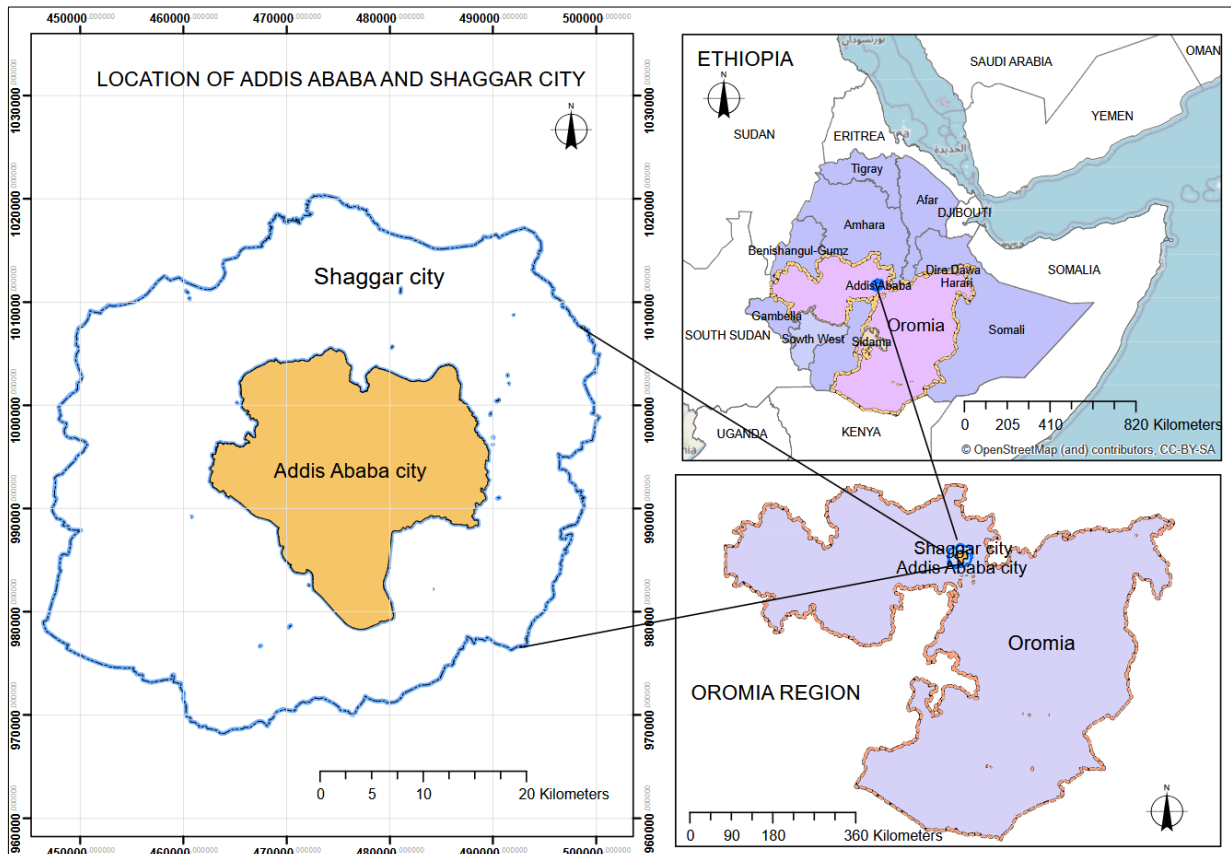
Currently Addis Ababa is encircled by satellite towns collectively known as Shaggar city. Both cities are administratively different, Addis Ababa is accountable to the federal government, while Shaggar city is administered under Oromia National

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<sup>3</sup> The Nationalization was declared on July 26, 1975, under Proclamation No. 47/1975.

<sup>4</sup> Keble vs Woreda: kebele was historically the lowest administrative unit in Addis Ababa. Following administrative restructuring, kebeles were reorganized and renamed as woredas, which now constitute the smallest administrative unit and the third tier of urban governance, serving as the primary interface for local administration and service delivery. Policy-wise, this restructuring reflects a shift toward decentralized urban governance, intended to enhance administrative efficiency, accountability, and responsiveness by bringing decision-making closer to communities. In urban planning and land governance, the woreda level plays a key role in regulating development, particularly in controlling informal settlement growth through local enforcement mechanisms. However, its practical effectiveness remains limited. Although responsibility for approving documentation and implementing informal settlement regularization is vested at the woreda level, the process is frequently hindered by bureaucratic procedures, lengthy approval processes, and institutional capacity constraints, thereby weakening regulatory control and perpetuating informality

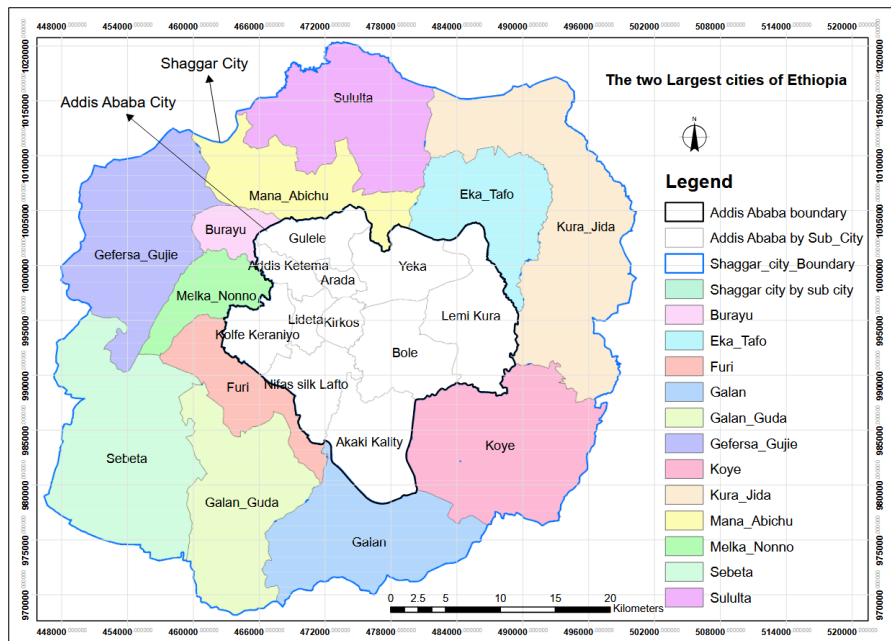
Regional State.. The border between Addis Ababa and the neighboring city of Shaggar was re-established in 2023. Following the demarcation, the total areas of both cities are about 43,000 and 173,000 hectares, respectively. In this regard, some of Addis Ababa's informal communities were moved to Shaggar City. Both cities have a large number of informal settlements, and this analysis is based on the revised boundary displayed in Map 3-1 below.



Map 3-1: Study area location map.

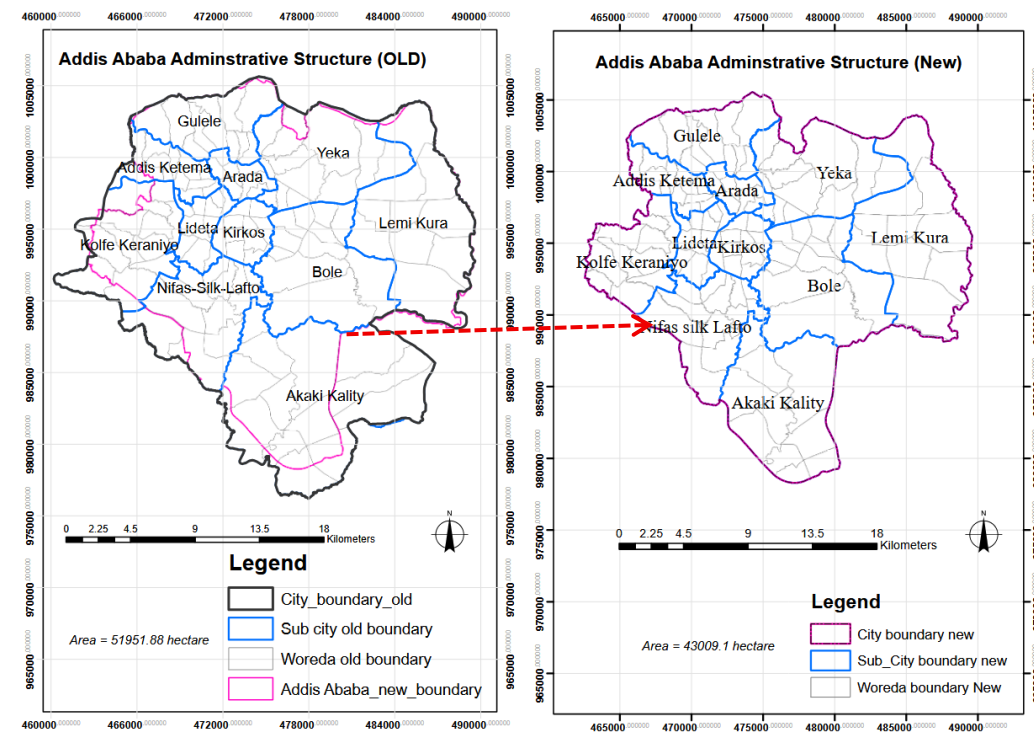
Source: Shagar City Urban Planning Bureau

The administrative boundaries of the two cities indicated are based on their sub cities. the Addis Ababa and Shaggar cities consisting of 11 and 12 sub cities respectively. As indicated in the map below Map 3-2 . some parts of the cities go to Shaggar city after new restructuring of the city (Koyye Feche, Tullu Dimtu, parts of Kolfe Keraniyo, Gulele, Nifas silk Lafto and other localities which has larger number of informal settlements)



Map 3-2: Administrative boundaries of the Addis Ababa and Shaggar city after demarcation

Source: Shagar City Urban Planning Bureau

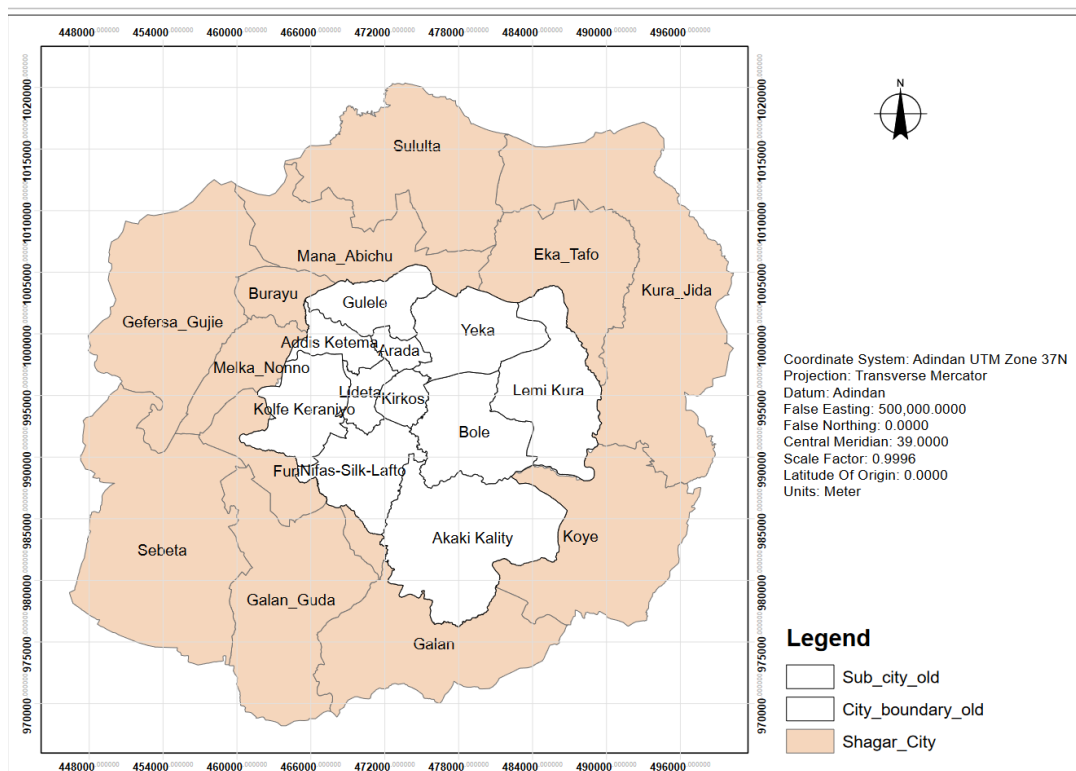


Map 3-3: Old and New boundaries of the two cities

Source: Shagar City Urban Planning Bureau

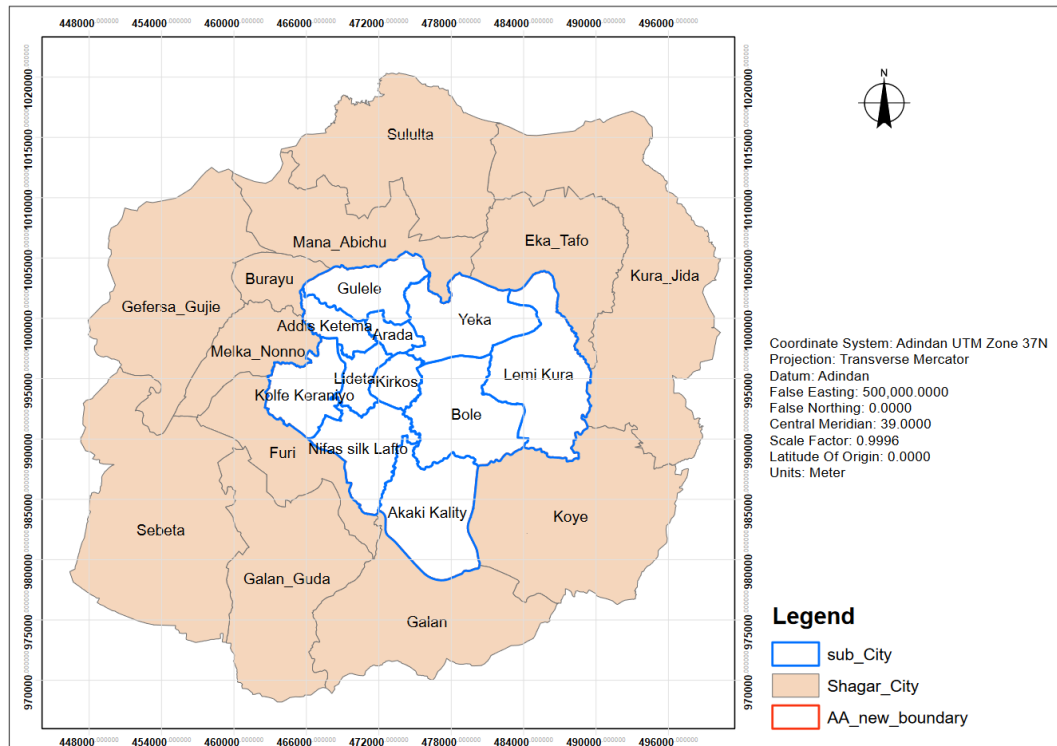
The newly restructured cities, undertaken in 2022, are clearly defined and demarcated with administrative boundaries between them. Both cities operate under a three-tier

administrative structure consisting of the city, sub-city, and woreda levels. The total area of Addis Ababa and Shaggar City is covering an area of 43,008ha and 173,000ha, respectively. Following the restructuring, some peri-urban informal settlements located in sub-cities such as Kolfe Keraniyo, Yeka, Nifas Silk-Lafto, Gulele, and Akaki-Kality have partly fallen under the jurisdiction of Shaggar City. However, a clear and consistent intervention approach for addressing informal settlements has not yet been established. As a result, a significant number of informal settlements have been demolished during the ongoing restructuring process



Map 3-4: Old Addis Ababa Administrative Structure (the Spatial extent was 51,951.8ha)

Source: Shaggar City Urban Planning Bureau and Addis Ababa Urban and Development Bureau

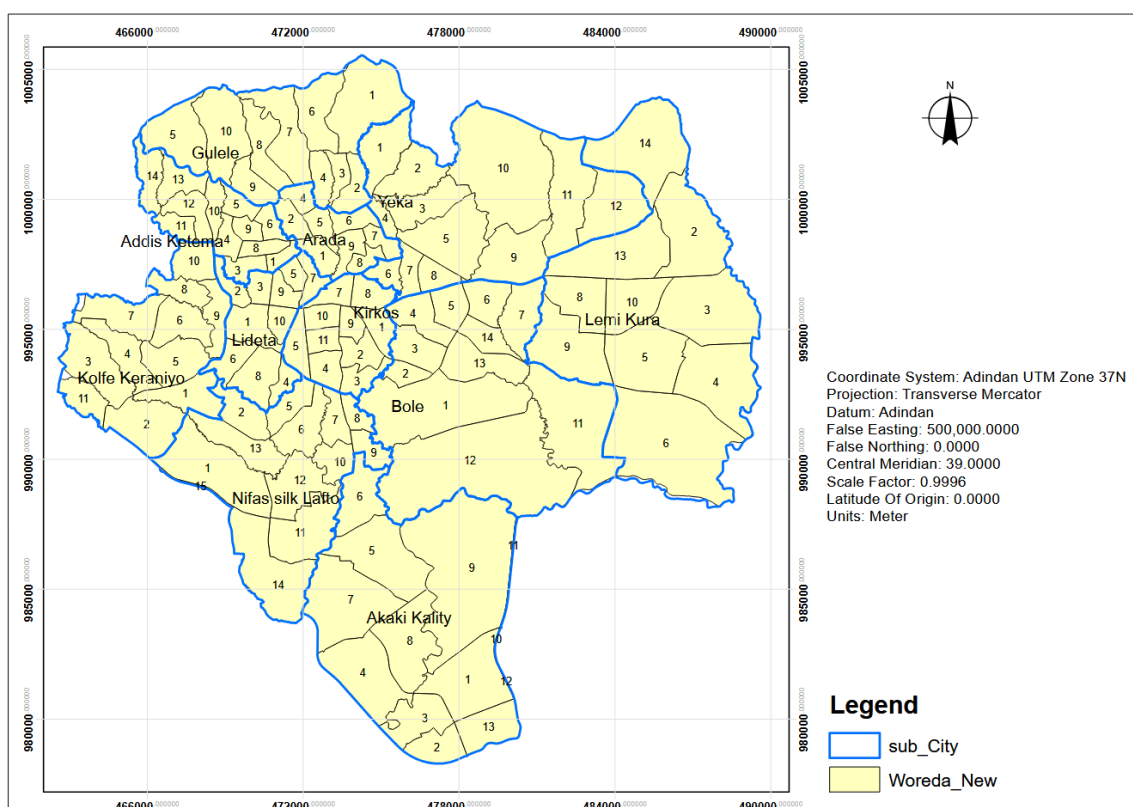


Map 3-5: New Addis Ababa Administrative structure (the Spatial extent is 43000.9ha)

Source: Shagar City Urban Planning Bureau and Addis Ababa Urban and Development Bureau

### 3.2. Administrative Structure

Addis Ababa is the administrative and political capital of the Federal Democratic Republic of Ethiopia, seat of the African Union and headquarters the headquarters of the United Nations Economic Commission for Africa (ECA), as well as various other continental and international organizations. The city is a chartered city with four -tiers administrative structure: city-level, Sub-cities, Woredas (districts), and neighborhood/Ketena (informal structure). Led by a Mayor and elected by the City Council, it is accountable to the federal government. It acts as like a regional state(PDC, 2021; Haddis, 2021). The city is, located in the geographic epicenter of the country, and surrounded by the regional state of Oromia(Commission, 2017). It is the largest city in the country and plays a pivotal political, economic and symbolic role in the country. The following map depicts the new (existing) administrative structure of the city including sub-cities and *Woredas*.



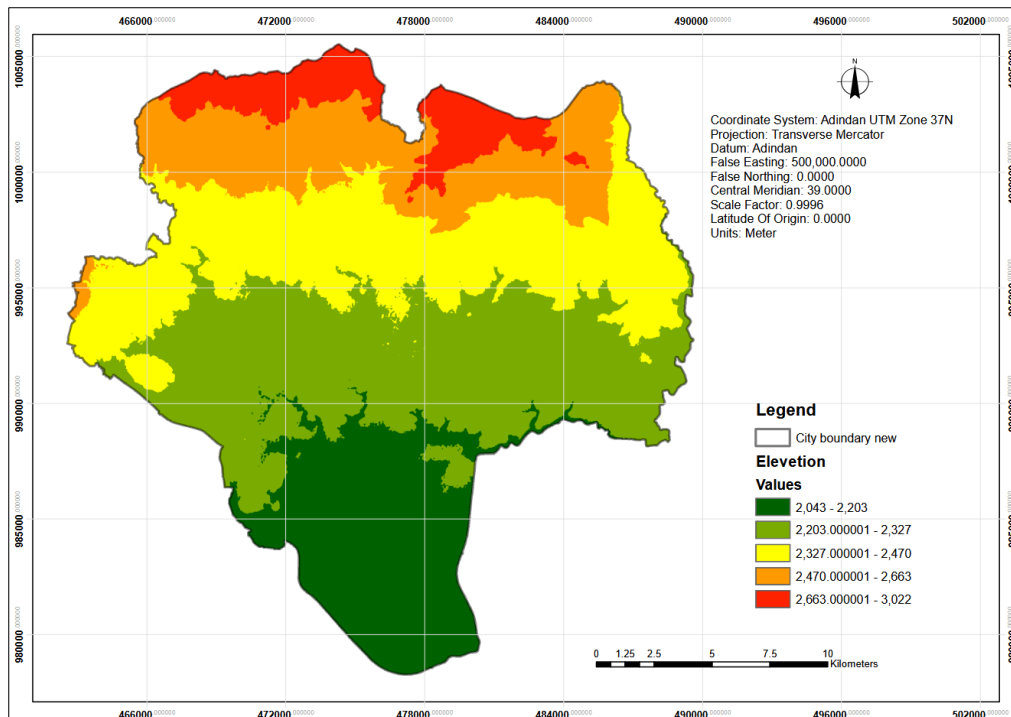
Map 3-6: Addis Ababa Administrative tiers and boundaries by sub cities and Woredas

Source: Addis Ababa Plan and Development Bureau

### 3.3. Physical Aspects

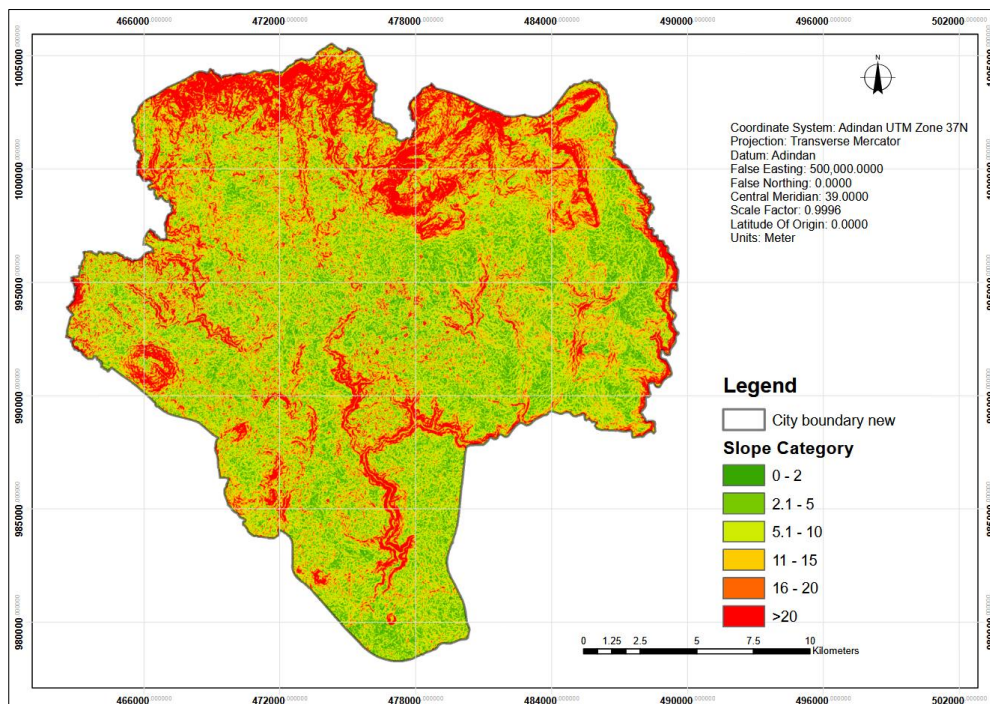
#### 3.3.1. Topography

The topographic configuration of Addis Ababa city classified and indicated in the table and map below. It is calculated from Addis Ababa DEM (digital elevation model which about 12.5m resolution). Arc Gis 10,8 used for identification each category. Raster data is converted to vector to calculate the area under each slope classes. The result shows that the larger area fall below 10% slope. But there high steeply slopes areas maintain / hill areas which is affected by deforestation and informal settlements encroachments. The slope analysis result shows that whole area of the site is characterized by flat surface (slope less than 8%) as shown from Table 3-1 and Map 3-8 below).



Map 3-7: Elevation categories of Addis Ababa

Source: Researcher analysis from Addis Ababa DEM



Map 3-8: Slope classification of Addis Ababa city

Source: Researcher Analysis from Addis Ababa DEM

Table 3-1: Slope classification of Addis Ababa city

| S.NO  | Slope category | Area in m2     | Area in ha | Percentage |
|-------|----------------|----------------|------------|------------|
| 1     | 0-2            | 121,051,600.00 | 12,105.16  | 28.15      |
| 2     | 2.1-5          | 159,106,900.00 | 15,910.69  | 36.99      |
| 3     | 5.1-10         | 86,201,710.00  | 8,620.17   | 20.04      |
| 4     | 10.1-15        | 42,106,960.00  | 4,210.70   | 9.79       |
| 5     | 15.1-20        | 17,221,880.00  | 1,722.19   | 4.00       |
| 6     | >20            | 4,405,408.00   | 440.54     | 1.02       |
| TOTAL |                |                | 43,009.45  | 100.00     |

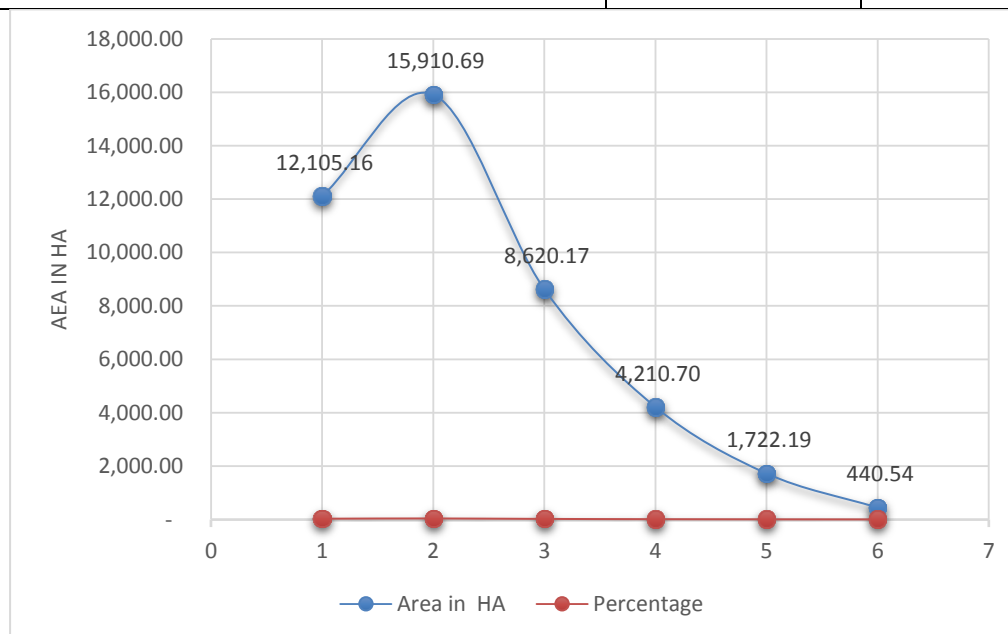


Figure 3-1: Slope category by percentage and area Coverage

Source: Calculated from Addis Ababa DEM (digital elevation model which about 12.5m resolution) Arc Gis 10.8.

### 3.3.2. Rainfall

**Precipitation:** The precipitation data recorded at Addis Ababa Geo-observatory rain gauge station over the past 20 years( 1998-2018) indicated that the mean monthly rainfall varies from the lowest of 9.7 mm recorded in December to the maximum of 295.8 mm fall in August. The rainfall generally shows unimodal distribution with one big rainy season which extends from June to September.

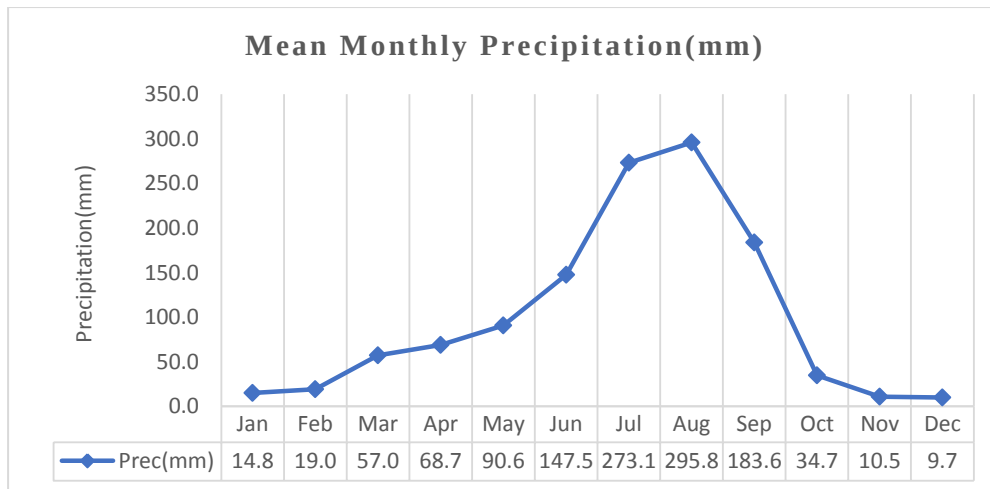


Figure 3-2: Rainfall Distribution of Addis Ababa

Source: NMA, Observatory Station (1198-2018)

The record also shows the annual variation of rainfall in the past two decades. The annual rainfall varies from the lowest of 929.4mm fall in 1999 to the highest of 1452mm which occurred in 2001 with average value of about 1213.3mm.

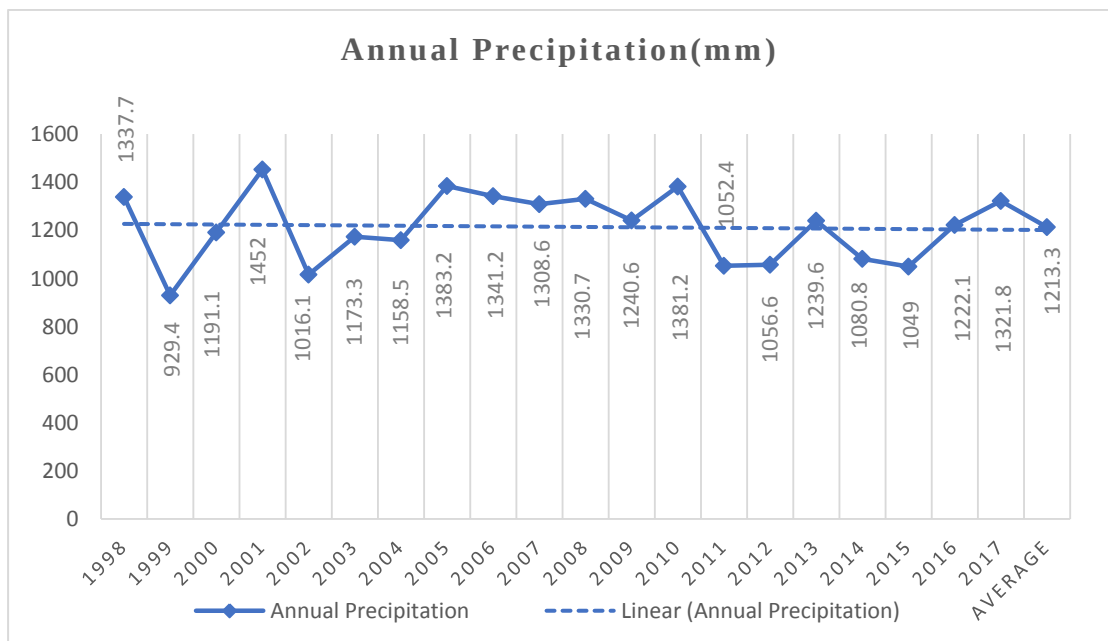


Figure 3-3:: Trends of Annual Rainfall in Addis Ababa

Source: NMA, Observatory Station

### 3.3.3. Temperature

The temperature recorded at closer station from the project site (observatory station) in Addis Ababa indicate that the monthly maximum temperature ranges from 20.9 to 25.9 °C while the monthly minimum temperature ranges from 8.3 to 12.7°C. The

maximum temperature generally gets higher in the hot season which extends from months of January to May. The highest temperature of 25.9<sup>0</sup>C and the lowest temperature 8.3<sup>0</sup>C occurs in the months of May and December respectively.

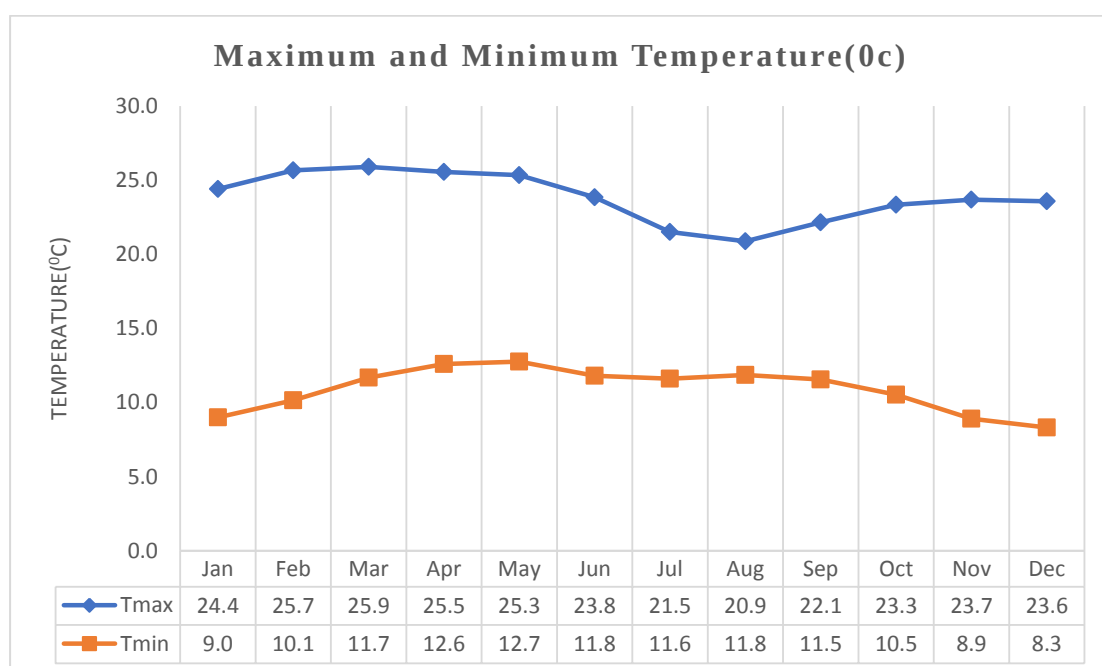


Figure 3-4: Amount and Distribution of Temperature in Addis Ababa

Source: NMA, Addis Ababa Observatory Station (1998-2018 Records)

### 3.3.4. Wind Speed and Direction

The wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly average. The wide-area hourly average wind vector (speed and direction) at 10 meters above the ground recorded at Bole meteorological station shows that the average hourly wind speed in Addis Ababa experiences *significant* seasonal variation over the course of the year.

The windier season of the year lasts for 8.2 months, from September 27 to June 2, with average wind speed of more than 6.1 miles per hour (2.7 m/s). The windiest month of the year in Addis Ababa is November, with an average hourly wind speed of 7.7 miles per hour (3.4m/s).

The calmer time of year lasts for 3.8 months, from June 2 to September 27. The calmest month of the year of the city is August, with an average hourly wind speed of 4.5 miles per hour(2m/s).

Table 3-2: Wind Speed Data of Addis Ababa

| Variable          | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Wind Speed (mi/h) | 7.5 | 7.7 | 7.7 | 7.1 | 6.9 | 5.1 | 4.7 | 4.5 | 5.2 | 7.6 | 7.7 | 7.5 |
| Wind Speed (m/s)  | 3.4 | 3.4 | 3.4 | 3.2 | 3.1 | 2.3 | 2.1 | 2   | 2.3 | 3.4 | 3.4 | 3.4 |

Source: NMA, Addis Ababa Observatory Station records

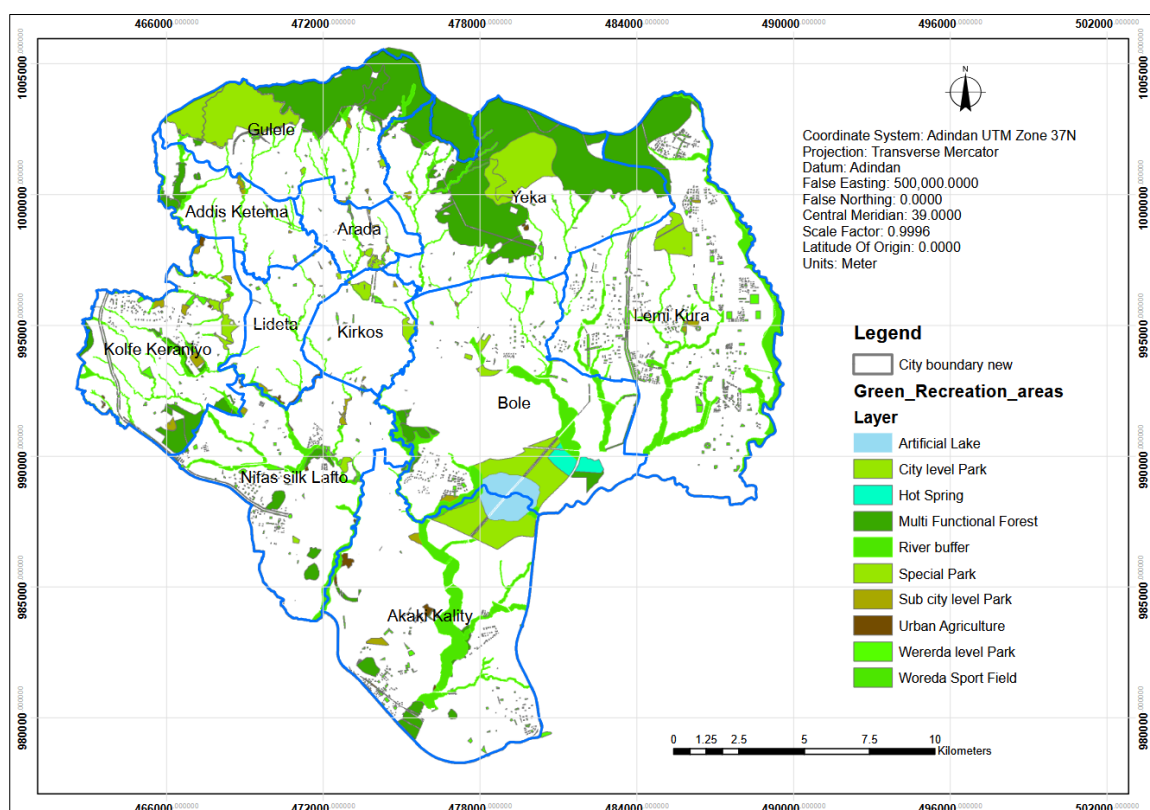
The predominant average hourly wind direction in Addis Ababa varies throughout the year. The wind is most often from the west for 2.2 months, from June 21 to August 27, with a peak percentage of 58% on July 26. The wind predominantly blows from the east for 9.8 months, from August 27 to June 21, with a peak percentage of 93% on January 01.

### 3.3.5. Vegetation Cover

Deforestation, land degradation and proliferation of informal settlements have affected the structure and function of mountain landscape. The mountains in Addis Ababa are covered with eucalyptus trees, and it is planned to gradually replace it by indigenous trees. Land degradation, as manifested in the form of soil erosion, is conspicuous even within the eucalyptus plantation. Parts of the upper catchments of Addis Ababa are highly occupied by informal settlements, and recently some parts of the Entoto mountain is undergoing with mega development projects like recreational park and the Chaka that includes housing project. In the absence of soil conservation measures in upstream areas and planned drainage infrastructures, storm water that could have permeated into the soil is being transformed into runoff, significantly affecting both infrastructures and the livelihoods of people residing in the central and southern parts of the city.

Riverbanks of Addis Ababa are occupied by informal settlements and serve as outlets for household refuse and industrial effluents which currently are under transformation as parts of the strategic corridor development project aiming to control the effluents to rivers in one part. The use of polluted rivers for irrigating vegetable farms, particularly those found in the southern parts of the city, is a possible source of contamination of vegetables by heavy metals currently existing. Map of the existing green public spaces the Addis Ababa structure land use plan (2017 – 2027) revised in 2017 by the Addis Ababa City Plan and Development Commission was used as a

dataset to identify the planned green space coverage (Map 3-9). It is a very detailed map that needs to be simplified for the purpose of green space mapping

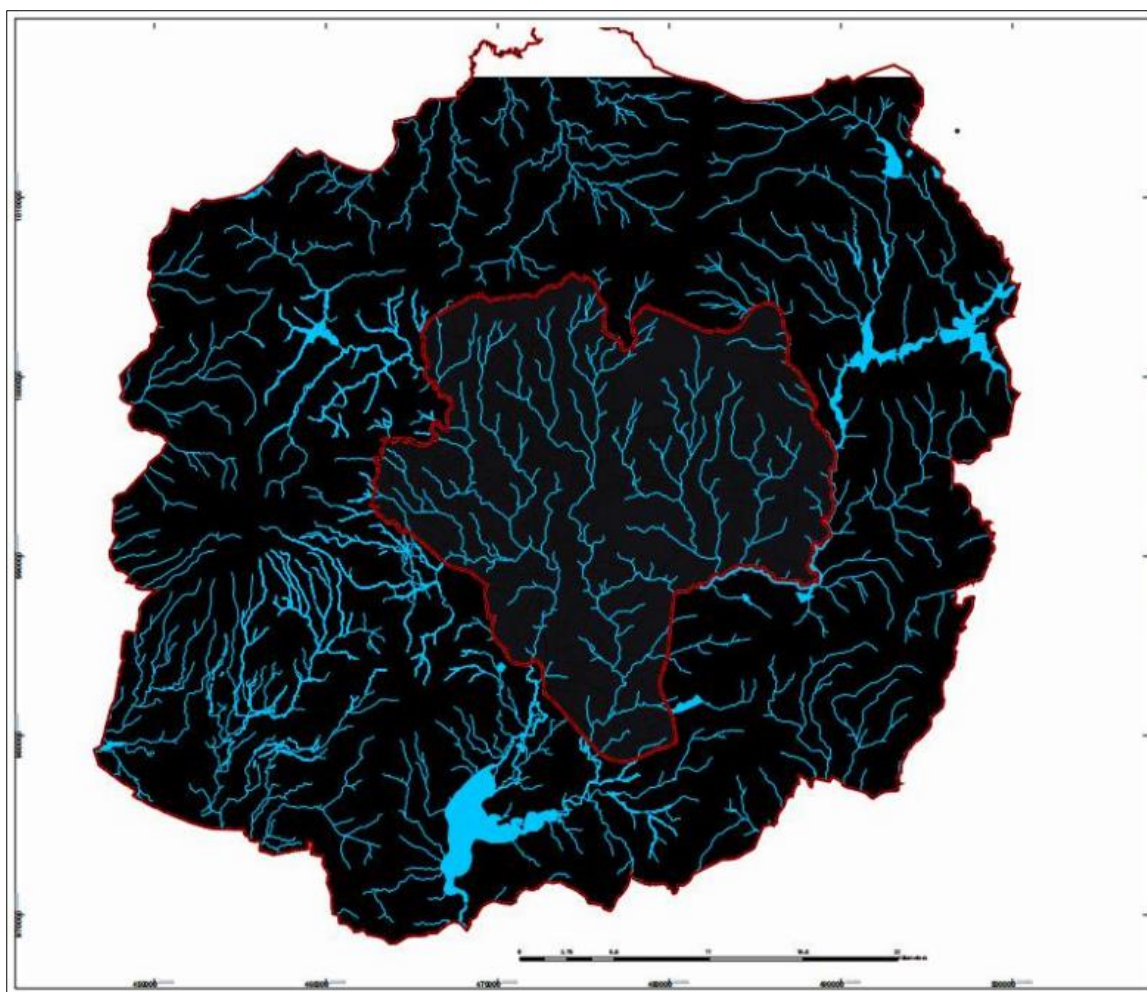


Map 3-9: Planned and existing green and recreational areas of Addis Ababa city (2017-2027)

Source: Addis Ababa City Structure Plan Document (2017-2027), Plan and Development Bureau.

### 3.3.6. Flood risk

Addis Ababa City Administration falls within the bigger Awash drainage basin. Furthermore, the city is drained by two major river systems, namely Aakaki and Bulbula rivers directly into Aba-Samuel dam. Urban storm water influences the service life of urban infrastructures. The rainfall intensity and characteristics of the catchment area are the major factors for planning urban storm water drainage facilities. The topography of the city generally slopes down to south towards Lake Aba Samuel, apart from some areas that drain into the Abbay basin. The natural drainage lines clearly show that the storm water flow direction is to the south of the city.



Map 3-10: Drainage Network of Addis Ababa and the surrounding Shaggar city

Source: Shaggar city Strategic plan study document (2022)

### 3.3.7. Geology

The geology of the Addis Ababa area is dominated by volcanic rocks which vary in composition from acidic to basic. The age of these volcanic formations ranges from Miocene to Pleistocene. The stratigraphy of volcanic succession from bottom to top comprises of Alaji Basalts, Intoto Silicics, Addis Ababa Basalts, Nazareth Group and Bofa Basalts (Girmay and Getaneh, 1989).

## 3.4. Methods

The research design is simply the general plan for answering the research question(s) (Zegeye et.al., 2009). It can contain clear objectives imitation of the research question(s), which is sharing the same to specify the source or sources from which it can be intend to collect data, how to collect and analyses these and discuss ethical issues and the constraints inevitably encounter (e.g. access to data, time,

location and money)(Mark Saunders & Thornhil, 2015).. The first methodological choice is whether it follows quantitative, qualitative or mixed methods in research design. Each of these options is likely to call for a different mix of elements to achieve coherence in the research design.

Research design is basically an activity in which important factors such as the nature of the problem to be analyzed, the nature of data and their gathering methods, type of data, analytical techniques thoroughly defined. It is a roadmap that guides the structure of the research, particularly the methods of investigating the problem, nature of data and the approach in assessing them as well as the processes in their data analysis in order to answer the basic research questions(Bryman 2012 ). Similarly, (Mark Saunders & Thornhil, 2015) viewed research design as the instructions and guidelines that connect basic research questions with the implementation of the research process.

The research will be undertaken based on an exhaustive desk review of the literature on urban informality and policy responses, especially on regularization programs. A theoretical and conceptual review of the existing literature was done thoroughly, and both primary and secondary data sources were employed. The existing situation of urban informal settlement and the regularization process in Addis Ababa were investigated. Government policy, planning and legal documents at both local and national levels were reviewed to identify the responses of policies to the challenges of urban regularization program.

To answer basic research question, conceptually the study demands a close look in to theory and contextual situation of the topic. To assess relevant topic and to collect data, basically appropriate selection of research methods, how it approached, identification of sources of data and defining data collection techniques, using appropriate data analysis are the main. In this regard the research focused on informal settlements built before 2005 to identify the regularization processes , these settlements are legally legible for regularization as per the regulation of Addis Ababa city Administration regularization Directive no 2024 (AACA(Addis Ababa City Administration), 2024).

Both quantitative, qualitative ( mixed methods research designs) details indicated in Table 3-3 and Figure 3-5 below

Table 3-3: Summary of the research methods

| Component           | Purpose                                                                 | Tools                          | Techniques                                                                                                                                                                                                                                                                                                               | Analysis                                                                                                                                                                                                                |
|---------------------|-------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | Measure informal settlement coverage, plot sizes, regulatory compliance | GIS analysis, overlay analysis | <p>Use <b>GIS &amp; satellite imagery</b></p> <ul style="list-style-type: none"> <li>Identifying extent of informal settlements</li> <li>Classify the use categories</li> </ul> <p>Calculate:</p> <ul style="list-style-type: none"> <li>Area in hectares</li> <li>Distribution and location on the landforms</li> </ul> | <ul style="list-style-type: none"> <li>GIS analysis (maps of irregular settlement)</li> </ul>                                                                                                                           |
| <b>Quantitative</b> | Spatial Characteristics of Regularized Plots                            |                                | <p>Collect spatial data for:</p> <ul style="list-style-type: none"> <li>Block shapes &amp; sizes</li> <li>Plot dimensions</li> <li>Setbacks</li> <li>Building height zones</li> <li>Land grade zones</li> </ul>                                                                                                          | <ul style="list-style-type: none"> <li>GIS analysis (maps of irregular settlement)</li> </ul>                                                                                                                           |
| <b>Qualitative</b>  | Understand processes, actors, legal frameworks, perceptions             | Key informant interviews,      | <ul style="list-style-type: none"> <li>Regularization process</li> <li>Legal framework strengths &amp; weaknesses</li> <li>Actor roles &amp; interactions</li> <li>Urban Planning compliance</li> </ul>                                                                                                                  | <ul style="list-style-type: none"> <li>Thematic coding (process steps, actors, interactions)</li> <li>Narrative synthesis of legal frameworks</li> <li>Triangulation (compare interview &amp; document data)</li> </ul> |
|                     |                                                                         | Theories and                   | <ul style="list-style-type: none"> <li>Literatures from web sites</li> <li>Books, journals and</li> </ul>                                                                                                                                                                                                                | Context , content analysis                                                                                                                                                                                              |

|  |                 | concepts                              | other publication                                                                                                                                                                                                                                                                                                                  |                                                                                      |
|--|-----------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  | Document review | Existed Policies and legal frameworks | <ul style="list-style-type: none"> <li>• Federal and municipal laws (e.g., land proclamation)</li> <li>• Regulatory instruments (zoning codes, building codes)</li> <li>• Regularization policy documents</li> <li>• Urban Planning Proclamation</li> <li>• Land Administration Law</li> <li>• Regularization guideline</li> </ul> | Context analysis and understanding informal settlements in view of existing theories |

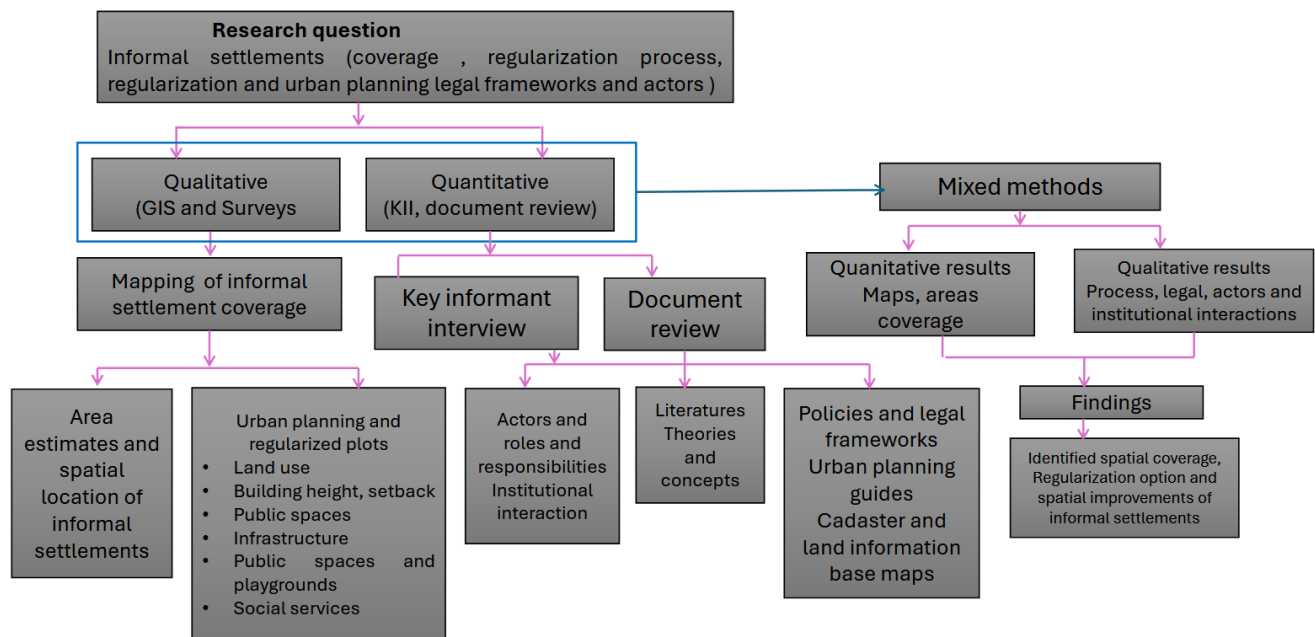


Figure 3-5: Summary of the Research methods

### 3.5. Methodologies for Research objectives

#### 3.5.1. Identifying The Spatial Extent of Informal Settlements

##### 3.5.1.1. Data Collection, Sources of Data and Method of Data Analysis

Identification of the Spatial extent of informal settlements specific to Addis Ababa city after restructuring with Shaggar city is important at the first stage. The main

reason is that the research undertaken so far shows different or inconsistent figures that are not well-documented spatially. Therefore, this research tries to summarize and document informal settlements by using data from various sources including Addis Ababa City Administration (satellite image, existing land use map, line map, base map, housing maps, different maps, and other GIS geo-data). These documents were collected from different institutions, including the Addis Ababa Land Bureau, The Planning and Development Bureau, and Shagar City administrations (SCA, 2023). These data were cleaned and converted into Arc GIS layers for analysis. The collected data was verified by using satellite images based on ground observation and local knowledge as indicated in the methodological framework (Figure 3-8).

This study employed descriptive and spatial analyses, at times using spatial knowledge of the coverage of the informal settlement. To specifically identify the spatial area coverage of informal settlements the most commonly used computer - aided methods are rule- based and example based (deep learning) feature extraction methods.

Rule-based feature extraction method: this type of method is used to extract features from land surface to identify each variable based on the rules which are defined based on expert knowledge. It is mainly thresholding object based on GIS overlay rules method(Pulido et.al., 2016). The typical rules to identify includes building density, shape of buildings (small for informal settlements which is sometimes not working in Addis Ababa where informal building are covering wide area of footprints), narrow or, organic road, location of buildings near rivers, steep slopes, railway, electric buffers, etc). This method works when the spatial data is scarce. But it is sensitive to scale and thresholds or differentiate mixed settlements and difficult to generalize across different cities or even woredas(Busgeeth et.al., 2008). It is limited in the situation where the experts don't have enough contextual knowledge of the city or the locality.

The other method is Example-based (data-driven) feature extraction Traditional ML: Random Forest, SVM, Gradient Boosting, Deep Learning: CNNs (U-Net, ResNet, SegNet)(Abebe, 2011). The typical features learned are texture patterns, roof material signatures, morphological complexity, spatial context (blocks, clusters, edges) identified. mainly its limitations, needs good training data, less interpretable ("black box"), Risk of bias if labels are weak or inconsistent(Hofmann et.al., 2015). It needs high resolution and remotely sensed imagery to evaluate and characterize informal

settlements as a method (Alrasheedi, 2023). It is a computer-aided feature whereby extraction can be used to identify roads, buildings, and water bodies from high-resolution satellite images which requires a lot of time, resource, and has some limitations (Pulido et.al., 2016). Selecting one method over another is not an easy task and it depends on availability, the purpose of the study, and its complex nature of topographic features which can be presented differently in terms of their shapes, sizes, and roof materials (Busgeeth et.al., 2008).

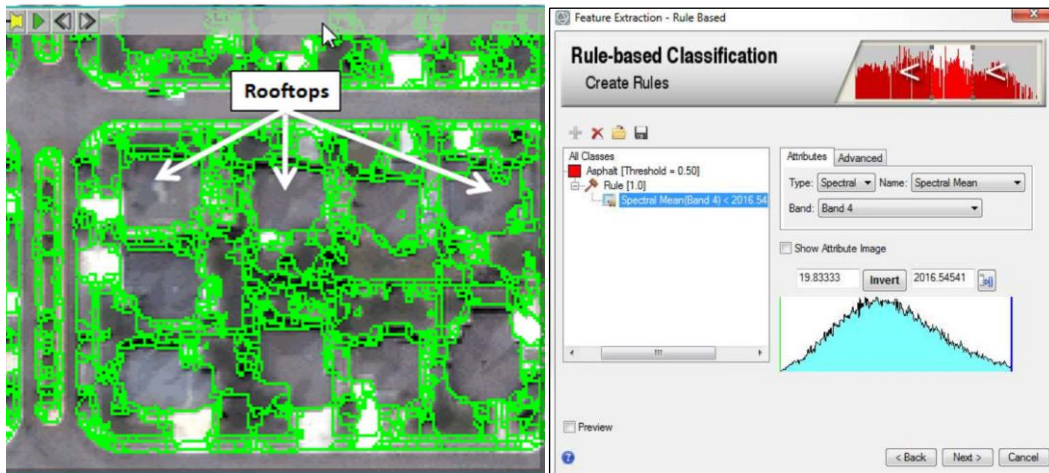


Figure 3-6: Rule based feature extraction method

Source: Feature Extraction with Rule-Based Classification Tutorial using ENV software

It can be observed that it can be challenging to differentiate inner-city informal from formal settlements which both have similar contexts. It is more practical to use the existing city base maps and available cadaster maps integrating experts' local knowledge with available resources. Sometimes, it is practical that the informal settlements are expanding in the major urban centers of developing countries, but significant challenges remain in identifying and measuring the coverage of informal areas using images (Owen, 2012). Using the existing cities' spatial data is preferred by city managers for decision-making. Sometimes, acquiring high-quality imagery is costly and time-consuming for big cities like Addis Ababa. Therefore for this research organizing existing data of cadastral buildings, land use plans, existing base maps by using (Arc GIS 10.8 and ArcGIS pro) evaluated and tested the best accurate data to identify the Spatial extent of informal settlements in Addis Ababa as shown in the graphical illustration methodological framework

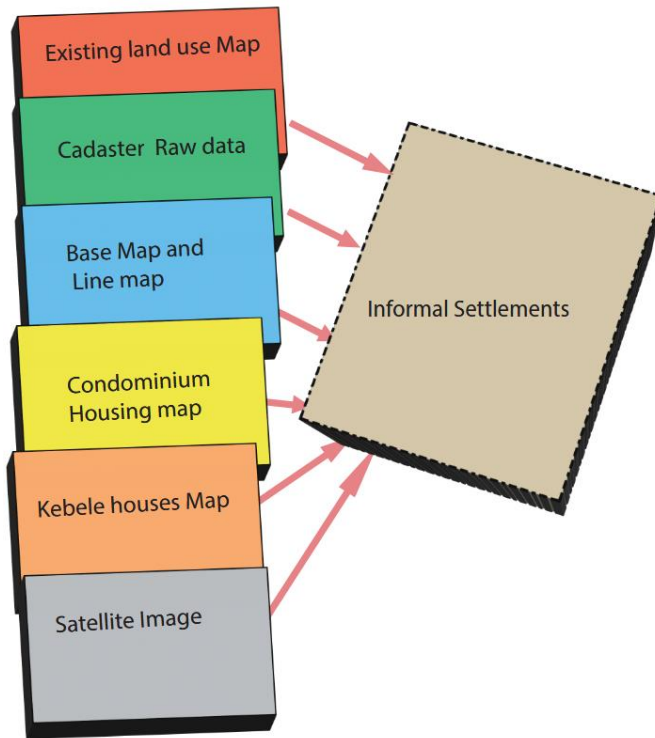


Figure 3-7: Overlay of different data layers

Source: Researcher conceptualization and synthesis

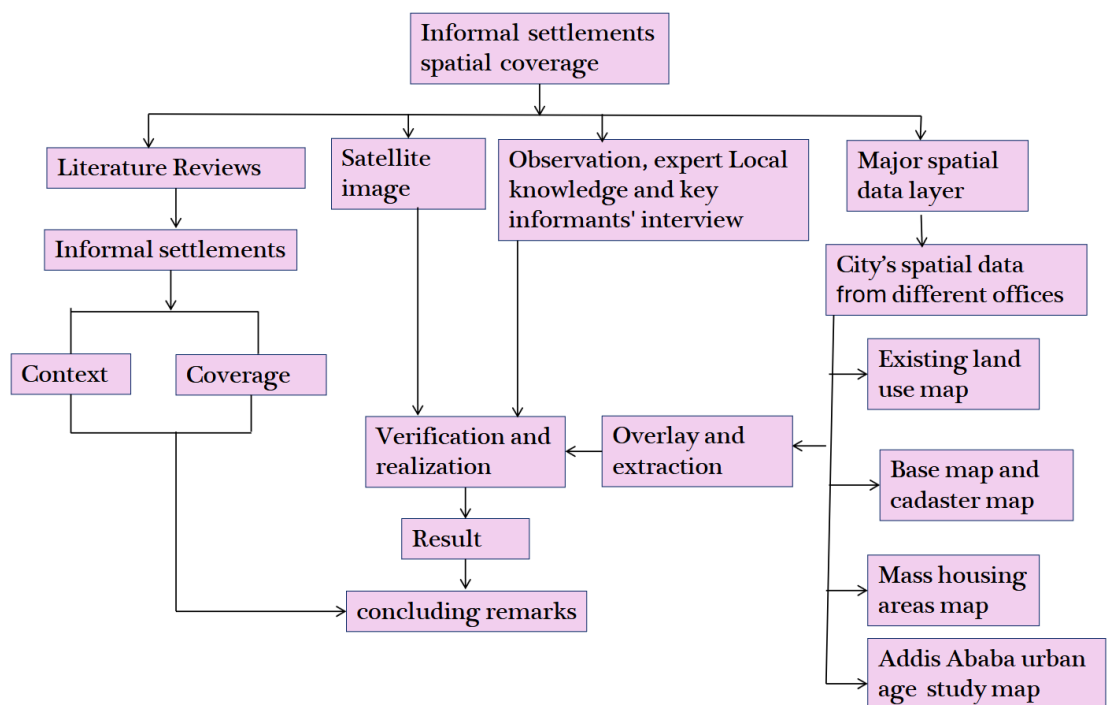


Figure 3-8: Methodological Framework

Moreover, the spatial analysis results are also supported by key informant interviews undertaken with government officials, experts, and other relevant institutions from 27 to 29 January 2025. In this regard eleven key informants were interviewed based on

their educational background, work experience, and their office position ( Table 3-5):- Open-ended questions were prepared. The interviews were focused on five key issues including informal settlements' Spatial extent, policy direction, management aspects, participation, and the use of spatial data for future intervention strategies. The data collected were analyzed qualitatively, and the result enabled us to better understand the importance of space-related issues in informal settlements of Addis Ababa city.

### 3.5.2. Identifying the Process of Regularizing the Informal Settlements

Informal settlements by their very nature are complex, which need appropriate intervention in order to integrate them into the formal urban system. Integration can be seen in all aspects including economic, social, environmental, political, governance and other urban planning regulations. In this regard, this research work has identified major gaps of regularization practices, land governance approach and urban planning. The research assessed relevant theoretical, legal frameworks and practical aspects of regularization process of informal settlements. Both qualitative and quantitative methods were employed to better understand the complex nature of informal settlements, and ways of interventions specific to regularization programs in Addis Ababa. The regularization activities in Addis Ababa are characterized by complicated processes where accountability and transparency are driven by actors' interests and needs. Key in-depth interviews were conducted with officials, senior experts, and residents at regularization offices to gather insights on the implementation of regularization practices, legal and institutional framework, urban planning processes, use of digital data, and current regularization systems.

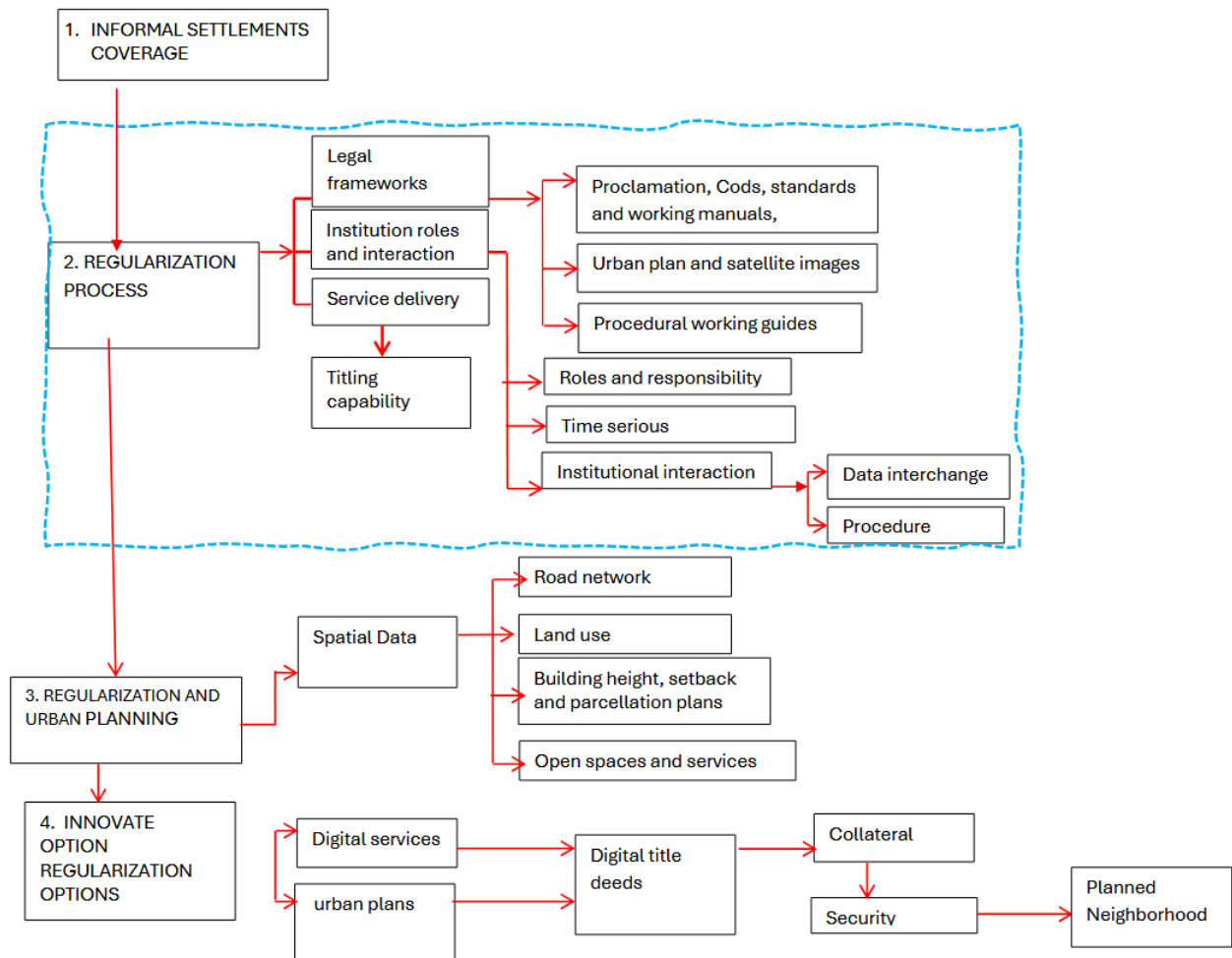


Figure 3-9: Schematic frameworks of the Regularization processes

Informants were purposefully selected based on their qualifications, experience, and positions within relevant institutions. Residents were selected based on their willingness to participate and were approached while accessing services at property rights and tenure offices, particularly during active engagement at service windows.

Currently, Addis Ababa is undergoing rapid land transformations and shows a high need for regularization of all existing informal settlements to integrate into the formal urban system. It is closed agenda of informal settlements in the city. For words less land can be available for Addis Ababa which is potentially suitable for the proliferation of informal settlements otherwise other faces may emerge. But it seems that the growth informal settlements in Addis Ababa is transferred to Shaggar city or other nearby urban centers within the radius of 150 kms because of the scarce land that the city already encircled by Shaggar city. Both cities are already combined and there is as such no land in between them. Addis Ababa is accountable to the federal

government, while Shaggar is administered under Oromia Regional State. The border between Addis Ababa and the neighboring city of Shaggar was re-established in 2023(Taye ME, Alemayehu EY, 2025).

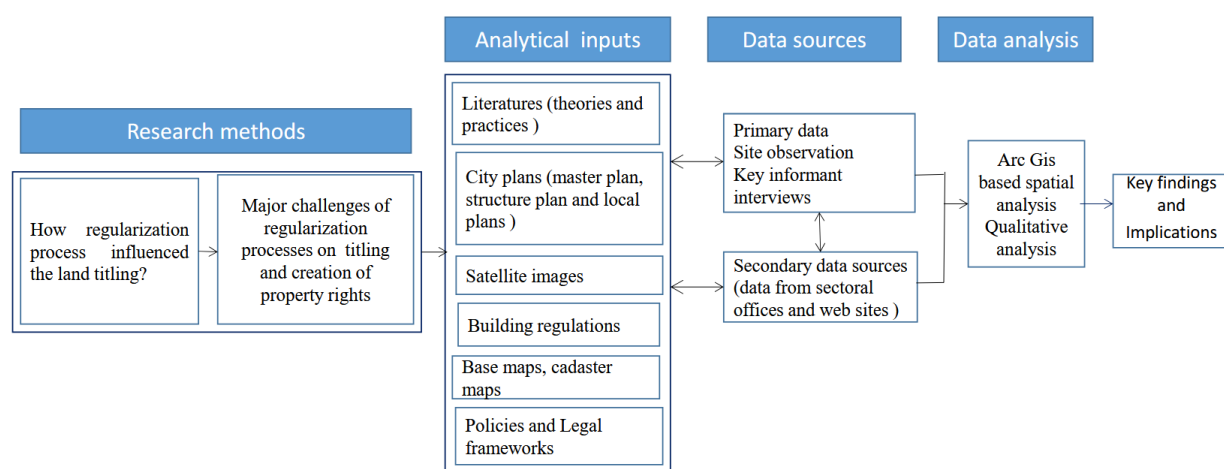


Figure 3-10: Methodological Framework

Table 3-4. Informal settlements regularization selected areas

| Expansion area informal settlements | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Yeka                                | <p>A large part of the informal settlements built on the periphery of both Addis has registered about 28398 informal dwellings in the 10 years between 1996 and 2005.(world bank, 2014), it is not including that informal settlement built before 1996.</p> <ul style="list-style-type: none"> <li>• Bole (27 per cent) and Kolfe (24 per cent) sub-cities. Nefas silk Lafto sub-city has (14 per cent) and Akakai sub-city and Yeka sub-city have 12 per cent each.</li> </ul> |
| Bole                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Nifas silk Lafto sub city           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Kolfe Keraniyo                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

### 3.5.2.1. Data collection, Sources and Analysis

All documents including urban plans, settlement maps, base maps, cadaster maps, land grade and other land related plans and legal frameworks are collected from sectoral offices of Addis Ababa city administration, Shaggar city and potential Federal sectoral offices. The collected data were overlayed by using Arc GIS 10.8 layers for analysis. To identify major gaps in urban plans, other regulations and major steps of the titling procedures were employed. From June 25 to 28, 2025, interviews were conducted with seventeen key informants that were selected based on their educational qualifications, experience, and roles within the Addis Ababa City Bureau

of Planning and Development and Land Development and Administration, Federal Ministry of Urban and Infrastructure (land and housing sector) and *four Woreda* residents during service hours at office. (see Table 3-5). All office participants hold at least a bachelor's or master's degree in urban planning, land governance, or the regularization of informal settlements, and they have over 25 years of work experience with ages ranging from 40 to 60.

In addition, residents who were purposively selected were interviewed at office hours while getting regularization service. Accordingly, 4 informants were selected from 4 Woredas (lower administrative unit) to get residents' view regarding the regularization activities. The interview focused on seven key issues including informal settlements' regularization procedures, steps and level of services. institutional interaction, policy direction, management aspects, participation, and the use of spatial data for future intervention strategies. The data collected were analyzed qualitatively and spatially. The result enabled the researcher to better understand the importance of efficient services of regularization of informal settlements in Addis Ababa. For the sake of clarity, participants of key informant background are summarized as follows:

Table 3-5: Background information of the key informants

| Institution                                            | Age Category | Work Experience | Expertise                              | Education Level                            | Number of Key Informants |
|--------------------------------------------------------|--------------|-----------------|----------------------------------------|--------------------------------------------|--------------------------|
| Addis Ababa City Plan and Development Bureau           | 50–55        | 20–25           | Senior experts at different position   | MSc in urban management and urban planning | 3                        |
|                                                        | 50–55        | 25–35           | City plan managers                     | MSc in urban planning                      | 2                        |
| Addis Ababa Land Development and Administration Bureau | 40–50        | 20–25           | Land registration and Cadaster manager | MSc in geo information                     | 1                        |
|                                                        | 25–35        | 5–10            | Archives and                           | BSc computer                               | 1                        |

|                                                                         |       |       |                                                               |                                                     |    |
|-------------------------------------------------------------------------|-------|-------|---------------------------------------------------------------|-----------------------------------------------------|----|
|                                                                         |       |       | data retrieval expert                                         | sciences                                            |    |
|                                                                         | 50–60 | 25–30 | Regularization of informal settlement and titling deputy head | MSc urban planning                                  | 1  |
| Research and planning consultancy service offices                       | 50–60 | 25–35 | Managers                                                      | MSc urban, regional planning, and human settlements | 3  |
| Federal ministry of urban and infrastructure (land and housing sector ) | 45–55 | 25–30 | Directors                                                     | Msc urban planning and land administration          | 2  |
| Community at office desk                                                | 40–50 | 20–35 | School teachers                                               | B.Ed. in teaching                                   | 1  |
| Community at office desk                                                | 40–50 |       | Own business                                                  | 12 <sup>th</sup> grade complete                     | 1  |
| Community at office desk                                                | 40–50 |       | Own business                                                  | 12 <sup>th</sup> grade complete                     | 1  |
| Community at office desk                                                | 40–50 |       | Own business                                                  | 12 <sup>th</sup> grade complete                     | 1  |
| Total                                                                   |       |       |                                                               |                                                     | 17 |

### 3.5.3. Investigation of Regularization of Plots in Relation to Urban Planning Guidelines

#### 3.5.3.1. Data Type, Data Collection and Analysis

This study investigates the extent to which regularized plots comply with established urban planning guidelines in Addis Ababa. The analysis focuses on key planning standards, including land-use plans, building height regulations, setback requirements, road hierarchy, road width, spacing, and other relevant urban design standards.

Primary spatial and regulatory data were collected from the Addis Ababa City Administration Land Development and Management Bureau and the Planning and Development Bureau. These datasets include officially approved plans and regularization documents for informal settlements. The spatial data were originally available in AutoCAD (DWG) format and were converted into ArcGIS-compatible formats to enable systematic spatial analysis and visualization.

High-resolution satellite imagery was also utilized to enhance site-level understanding and to verify the accuracy of the planning and regularization data. Multiple spatial layers such as plot boundaries, road networks, building footprints, and planning standards were overlaid to identify inconsistencies and gaps between regularized plots and prescribed urban planning standards.

Four sub-cities , Bole, Yeka, Nifas Silk-Lafto, and Kolfe Keranio were selected as case study areas. These sub-cities were chosen based on their active implementation of informal settlement regularization programs and their location within peri-urban expansion zones, where pressures on land use and planning compliance are particularly pronounced.

In addition to spatial data, qualitative data were collected through Key Informant Interviews (KIIs). Interviews were conducted with relevant officials and professionals involved in land administration, urban planning, and regularization processes. The KIIs were used to validate spatial findings and to gain deeper insight into the institutional, legal, and practical contexts influencing plot regularization.

### **Data Analysis**

Spatial analysis techniques were employed to assess the conformity of regularized plots with urban planning guidelines. Key variables analyzed include plot size, plot shape, frontage, setback distances, building heights, and road access characteristics. These attributes were extracted from AutoCAD files, converted into GIS layers, and systematically analyzed within the GIS environment.

Satellite imagery was used as a supplementary verification tool to cross-check building heights, plot boundaries, and road conditions observed in the planning data. The integration of GIS-based spatial analysis and remote sensing enabled a comprehensive evaluation of planning compliance and helped identify spatial

mismatches between regularized plots and officially approved urban planning standards.

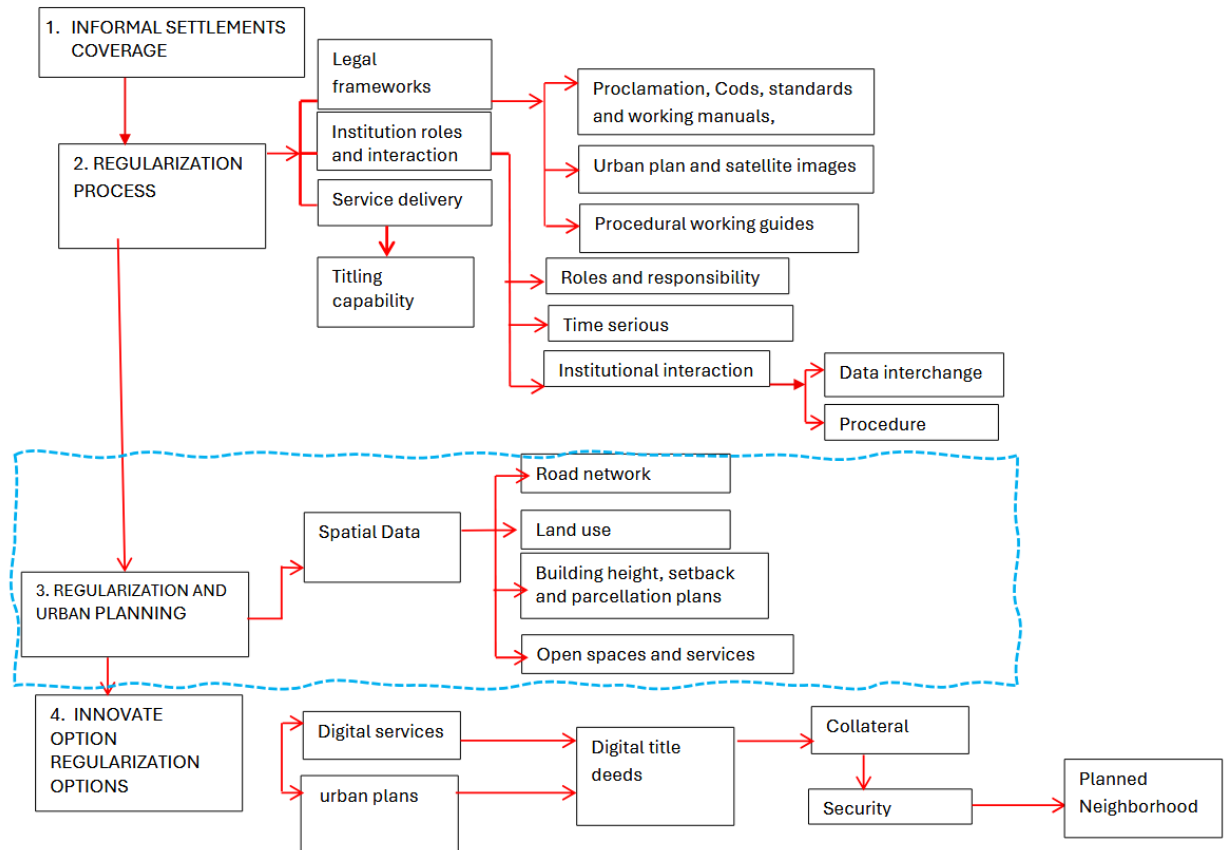


Figure 3-11: Schematic frameworks of the Regularization and urban planning guides

The combined use of quantitative spatial analysis and qualitative insights from key informants provided a robust framework for understanding of both the physical outcomes and procedural realities of informal settlement regularization in Addis Ababa.

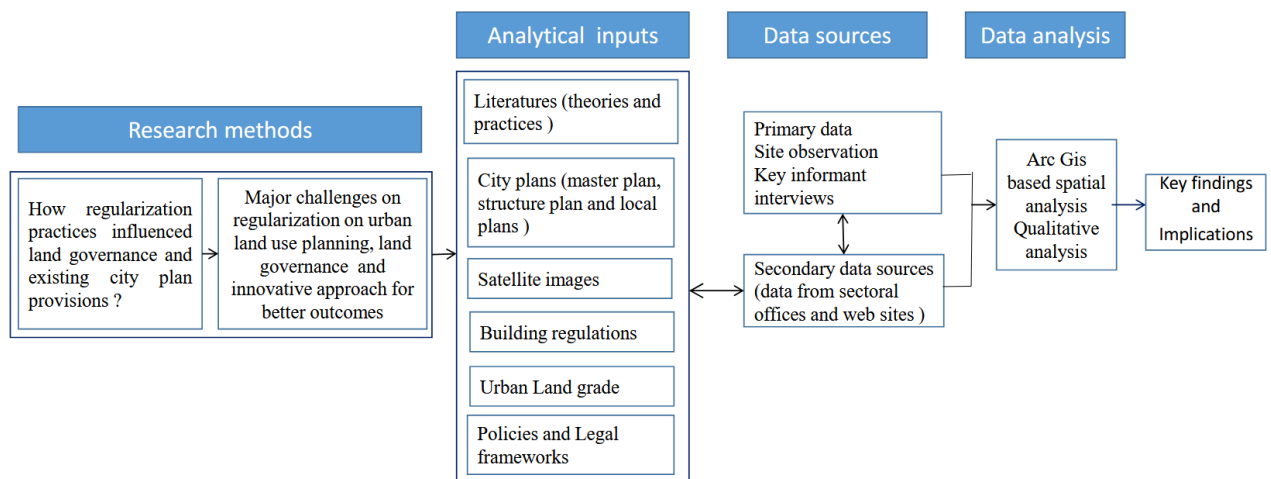


Figure 3-12. Methodological Framework.

### 3.5.4. Innovative Approach for the Proper Management of Informal Settlements

The impacts of unplanned informal settlements are long-lasting. Retrofitting large-scale infrastructure after settlements have already emerged up to three times costlier than investing in planned development in advance, and at a large scale it is often nearly impossible without significant displacement of residents. Therefore, urban policy must shift from a reactive to a proactive approach (Collier *et al.*, 2019). Methodologically, the findings from Research Questions 1, 2, and 3 were synthesized to identify the most appropriate intervention options for both existing informal settlements and future urban development. These results and their implications are discussed in detail in the subsequent chapters on results and discussion

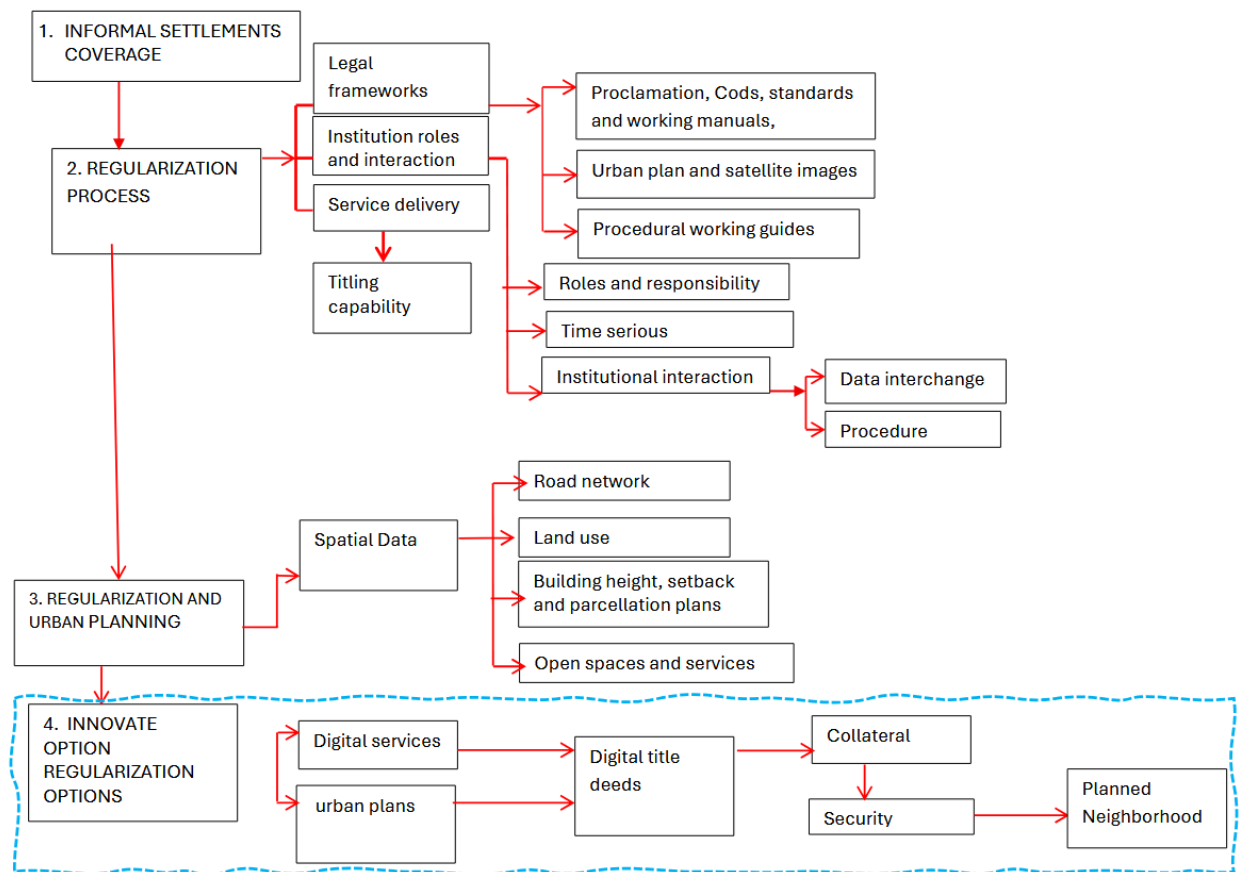


Figure 3-13: Schematic Frameworks of the Innovative Approach for Regularizing Informal Settlements

## CHAPTER FOUR

### 4. Results

#### 4.1. Introduction

This chapter indicates the findings of the study, which is organized systematically based on each research objective. The results are discussed sequentially, with each objective addressed in each section for clarity. The results are derived from multiple sources of data, including spatial analysis, document review, and key informant interviews. The spatial analysis results are presented quantitatively through maps, enabling a clear understanding of the spatial extent of informal settlements with its intervention approaches. In addition, the results of document reviews provide supportive contextual understanding and secondary information relevant to the study. One way of differentiating quantitative research from qualitative research is to distinguish between numeric data (numbers) and non-numeric data (words, images, audio recordings, video clips and other similar materials). In this regard, quantitative' is often used as a synonym for any data collection technique (such as area based spatial data attributes and statistical data from questionnaires) or data analysis procedure (such as graphs or statistics) that generates or uses numerical data. In contrast, 'qualitative' is often used as a synonym for any data collection technique (such as an interview) or data analysis procedure (such as categorizing data) that generates or uses non-numerical data (Mark Saunders & Thornhill, 2015).

Furthermore, the insights obtained from key informant interviews are analyzed and presented qualitatively, highlighting perceptions, experiences, and expert opinions. These qualitative findings complement the quantitative and spatial results, offering a more comprehensive interpretation of the research questions

Overall, the results are structured and presented in alignment with the study's objectives and research questions, ensuring that each objective is thoroughly addressed and supported by appropriate evidence as indicated as follows:

## 4.2. Identifying the Spatial Extent of Informal Settlements in Addis Ababa Ethiopia

### 4.2.1. Examining the Extent and Areas of Informal Settlements in Addis Ababa

In case of Addis Ababa, slum settlements exist in inner-city areas. They are physically dilapidated and deteriorated and the majority of which are low rise and constructed informally and nationalized during the Derg regime in 1974. Meanwhile, some others are informally extended to open space of the city. Squatters are settlements built at the periphery of the city. They are built without the consent of the government. Theoretically, squatter settlements are built by individuals on any vacant or free land informally (Hailu et.al., 2024). The availability of free land is rare in Addis Ababa. As there is no free land, as the land belongs to the farmers of pre-urban communities. According to Article 40 of the Ethiopian constitution, land is a common property of Nations, Nationalities, and Peoples of Ethiopia and shall not be subjected to sale or to other means of exchange (FDRE, 1995). But local pre-urban land holders (farmers) are main suppliers of informal land through transaction (Mersha, 2020).

The major causes for the mushrooming of informal settlements in Addis Ababa are housing shortage. Many poor migrants, including city residents who form new families, prefer informality to easily obtain land in different location where there is weak government control. Previous studies revealed different figures which have challenged the government to devise appropriate policy directions for improvement. For example, UN Habitat Global Observatory Database estimates the percentage of informal settlements in urban Ethiopia at about 99.4 percent (Samson, 2010). It also estimated that about 70–80 percent of Ethiopia’s urban population lives in slums (World bank, 2014). Currently, there are more than 2500 urban centers in Ethiopia. Of these, Addis Ababa is the capital city, the socio-economic and political center of the country and the seat of the African Union. Shaggar City of the Oromia region is one of the country’s largest cities, which was formed by merging five satellite cities surrounding Addis Ababa in 2022. Of course, Oromia National Regional State is one of the largest regions in the country in which both Addis Ababa and Shaggar City are located.

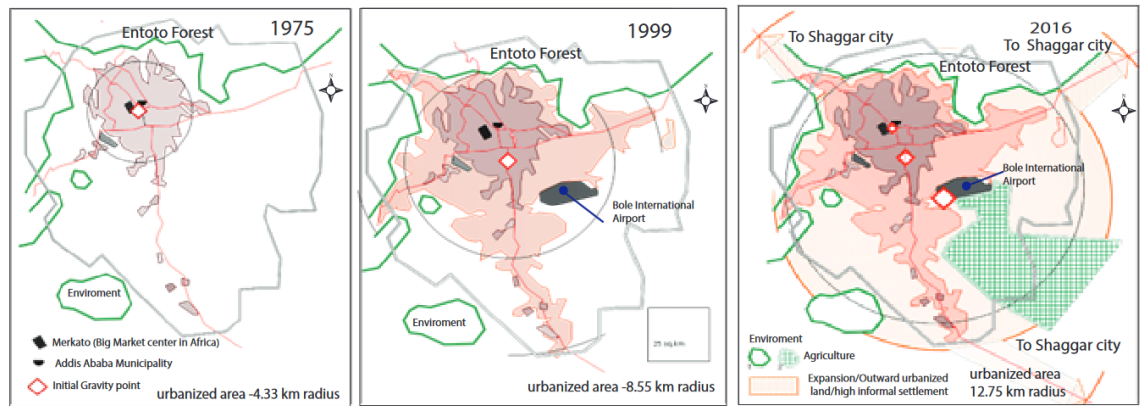
On the other hand, studies conducted during the last two decades regarding spatial coverage of informal settlements in Addis Ababa reveal that about 50-80% percent of

the housing stock in Addis Ababa is informal (KDI, 2018). On the other hand, studies conducted by various researchers indicate that 80% of the residents of Addis Ababa are living in informal settlements, which are characterized by deteriorating physical structures (constructed using wood and mud), lacking tenure rights, facing severe shortage of services and infrastructure facilities, including solid waste disposal amenities and open spaces (Hailu et.al., 2024). Generally, access to services and amenities in informally built houses is worse than other housing options, which is a common feature of informal dwellings that proliferate at urban peripheries (World bank, 2019).

The Addis Ababa Master Plan Revision Office conducted a study on informal settlements in the city. The study shows that the total estimated area that was occupied by informal settlements at the urban fringe was about 2000 hectares. Spatially, around 53 to 60% of the dwellings in Addis Ababa and 70 to 90% at the national level are classified as informal (ORAAMP, 2000). The study also found that the expansion of informal settlements was primarily caused by two factors. The first was rapid urbanization, followed by several socio-economic factors such as unemployment, housing shortages, low income, and poverty. The second important factor was institutional failure and malpractice to control the situation. Moreover, frequent changes of officials and employees in the city administration resulted in lack of coordination among sectoral offices, and also causes absence of institutional memory, all of which contributed for the expansion of informality.

#### 4.2.2. Urbanization and Informal Settlements

Prior to the year 1974, the growth rate of the city was 6.5% and it declined to 3.7% during the period of communist rule (1974–1991) (Dandena, 2008). From 1975 to the present day, growth is much faster, as shown in the (*Map 4-1*) below.



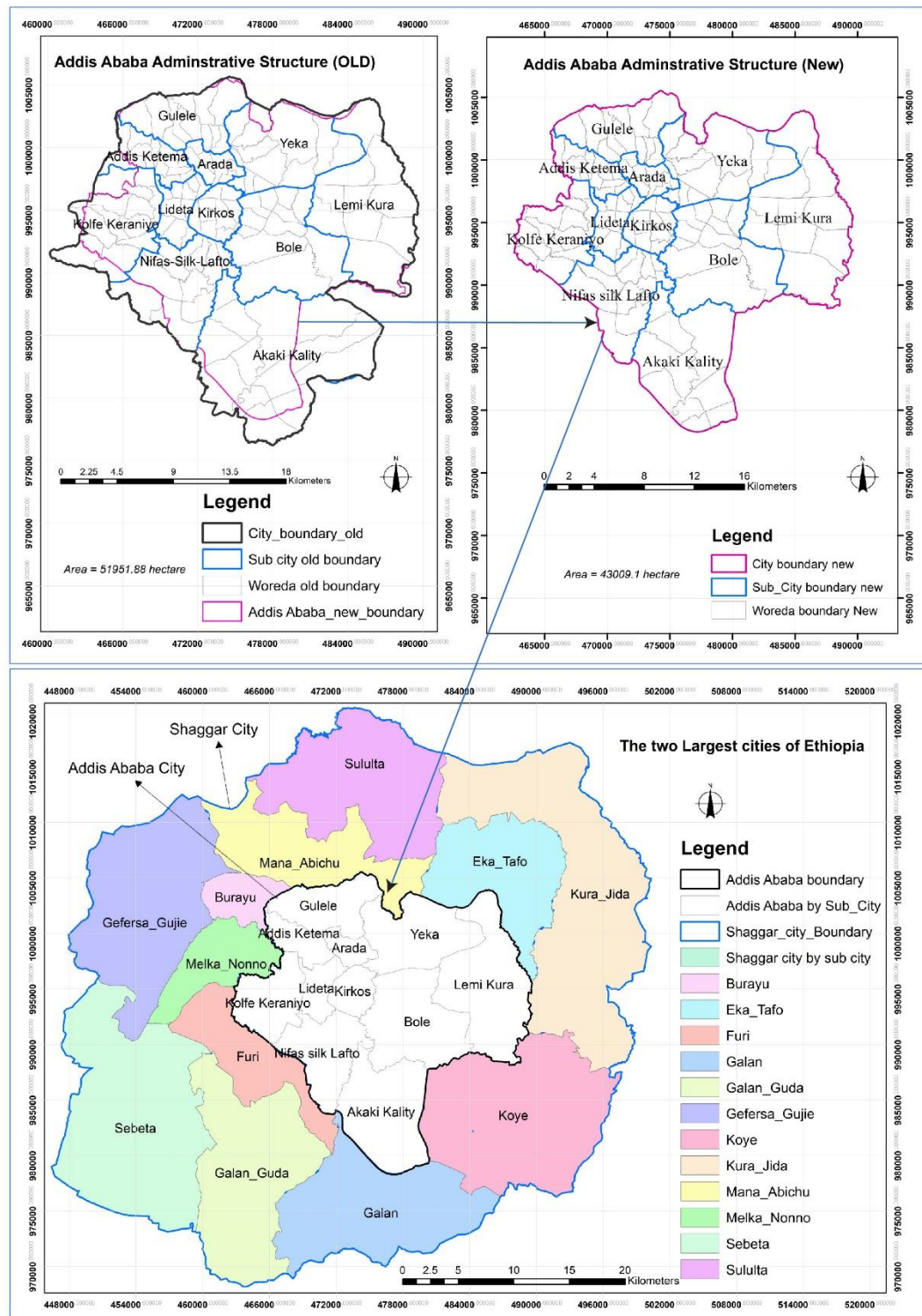
Map 4-1: Addis Ababa's Urbanization processes

Source: Adapted from the Ethiopia Housing Development Plan study report.

As shown in *Map 4-1*, in 1975, 850,000 residents lived in the city covering 5900 ha of land ( $70 \text{ m}^2/\text{person}$ ). By then the city had a circular feature with a radius of 4.33 km covering limited area and a low density compared to the total area coverage (Shim & Mengistu, 2016).

In 1999, 2,900,000 residents lived in a land area of 23,000 ha ( $79 \text{ m}^2/\text{person}$ ). The circular area of the city with a radius of 8.55 km and is much far from the inner city. This is partially due to the mountain constraint in the northern part of the city. The urbanized land stretches almost 50% from the eastern, western, and south-western parts of the city (potential agricultural lands).

Lastly, in 2016 in the urbanized land, 6,000,000 urban dwellers resided in an area of 51,000 ha with  $85 \text{ m}^2$  of land per resident. The circular area of the city had a radius of 12.75 km and even far from the center toward the south-east. Of course, the geographic and natural constraints in the northern parts of the city hindered the expansion of settlements. The center of urbanized land seems to expand outward and reaches a 14 km radius. The continued urbanization process stretches from about 21-29 km along the eastern, western, and south-western roads of the city. Based on this evidence, the built-up area expands in recent years, and equally informal settlements are also part of these built-up areas as indicated in (*Map 4-1*). The urbanization rate is unstoppable and has expanded towards Shaggar city. Moreover, this evidence reveals that the majority of the built-up area is covered by informality.



Map 4-2: Addis Ababa and the surrounding Shaggar City after demarcation.

Source: Adapted from Addis Ababa and Shaggar city administrative structure maps

Addis Ababa city is encircled by Shaggar City which administrated to the Oromia national regional state. As indicated in Map 4-2, some parts of peripheral Addis Ababa were demarked to Shaggar City in October 2022. Still, the coverage of informal settlements in both cities is significant and growth is much higher in both

cities which need an appropriate policy direction for intervention. For instance, the World Bank and the UN-Habitat initiated the Cities Without Slums action plan, recognizing that slums are largely a physical manifestation of urban poverty, and to deal with them effectively, future actions and policies should work on involving slum stakeholders in the poverty reduction or eradication campaign (UN-HABITAT, 2003a). According to SDG (Goal 11), in the year 2023, approximately 1.1 billion people lived in slums or slum-like conditions in cities with 2 billion and more is expected in the next 30 years (United Nations, 2023). Therefore, attention should be given to appropriate and feasible policy directions to improve the livelihoods dwellers of informal settlements.

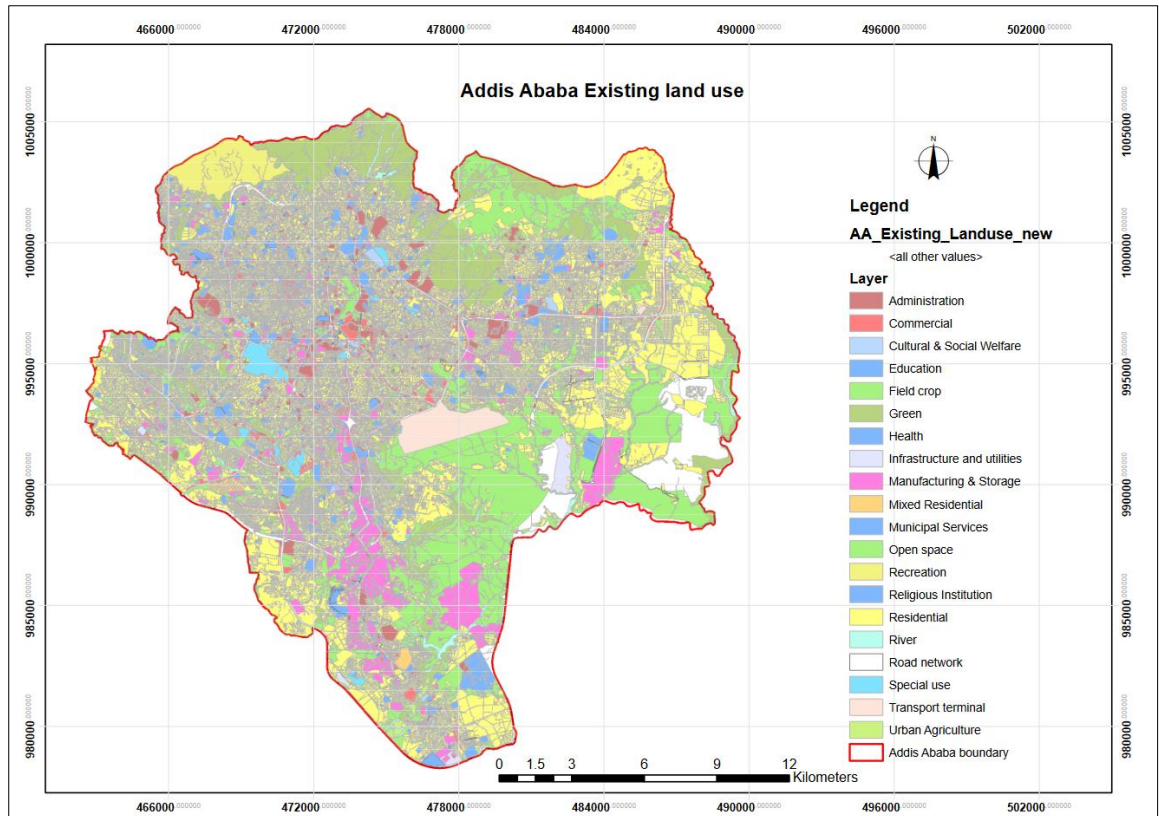
Based on the above statement, this study has investigated the coverage of informal settlements using several layers of spatial data. The key data layers are the city's current land use plan (Map 4-3), which depicts various zones like housing, industries, administration, health, education, woods, green spaces, and so on. Both existing and proposed land use plans of Addis Ababa did not identify the specific areas/spaces of informal settlements. Rather, the land is simply categorized under residential or mixed uses areas. The second layer of data is the base map and the cadaster's geodatabase (Map 4-4), which contain several layers of home attributes and ownership types. Third, other geospatial data collected by the Addis Ababa Urban Age Task Force and condominium housing site maps are employed (Map 4-6). These data were overlaid and the final informal settlement building footprints were extracted from the whole and then the result was superimposed onto satellite picture updates and are performed based on experts' local knowledge. The area of informal buildings was calculated from the whole and the result reveals that about 50 percent of Addis Ababa's settlements are informal.

#### 4.2.3. City Wide Existing Land Use Plan, Land Use Proposals & Informal Settlements

Urban planning documents, particularly existing city-wide land use plans, generally do not explicitly identify informal settlements as a distinct land use category. Instead, land use classifications commonly include broad categories such as residential, commercial, mixed-use, administrative, public services, manufacturing and storage, transport infrastructure, and environmental uses. Within this framework, informal settlements are typically subsumed under the general "residential" category, without

differentiation between formal and informal development. As a result, the spatial extent, distribution, and specific characteristics of informal settlements remain unrecognized in official land use plans.

However empirical studies indicate the informal settlements often exhibit spatial patterns and development trajectories compared to formal residential areas. For instance researches show that informal settlements have a higher tendency to encroaches upon environmentally sensitive areas including agricultural land, forests, river buffers, and urban green spaces (Hailu & Zeleke, 2024). Such encroachment contributes to land use conversion habitat fragmentation biodiversity loss and the degradation of urban ecosystem services. The impacts undermine ecological sustainability and increase urban vulnerability to environmental risks such as flooding soil erosion and heat stress. Absence of clarity defined land use category for informal settlements in existing plans limits the capacity of urban planners and decision makers to respond effectively. Majority of the land use such as administration services and manufacturing and storage are believed to be formal and deducted as part of the computation. For others without spatially explicit identification, it becomes difficult to assess the magnitude of informal expansion by evaluating its environmental implication or design targeted intervention such as regularization, upgrading, service provision or environmental protection measures. Furthermore, the lack of differentiation between formal and informal residential area obscures important socio-spatial inequalities and constrains evidence-based planning as illustrated in *Map 4-3* both the existing land use map and the proposed land use map fail to delineate informal settlement areas as a separate category within residential land use codes. This omission hinders the ability to visualize their specific locations and spatial concentrations, thereby complicating future planning, monitoring, and management efforts. Therefore, there is a strong need for context-sensitive and effective spatial planning and land management approaches that explicitly recognize and map informal settlements as a distinct land use class. Incorporating informal settlements into official land use plans based on accurate spatial data would enhance transparency, support sustainable urban development, mitigate environmental degradation, and enable more proactive and inclusive urban governance.



Map 4-3: Addis Ababa Existing Land use map 2022

Source: Addis Ababa Plan and development Bureau

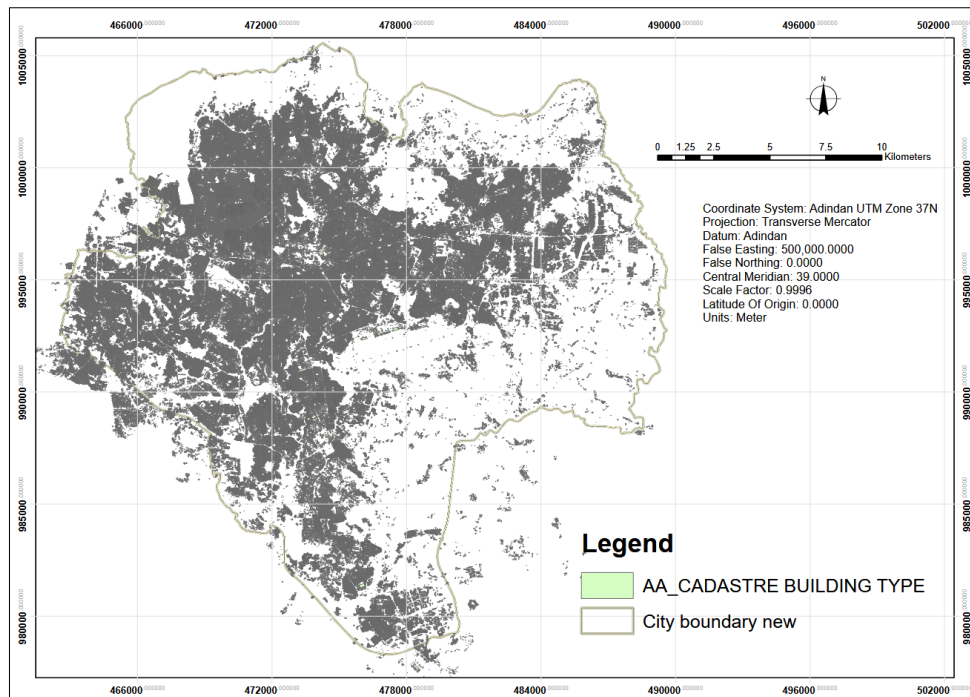
#### 4.2.4. Addis Ababa Cadaster and Land Information Map

A cadaster is generally defined as a parcel based and up-to-date land information system that records land-related information within a city, including rights, restrictions, and responsibilities (Alain Durand-Lasserve and Harris Selod, 2007; MUDC, 2015). It comprises of a geometric description of land parcels linked to attribute data related to ownership characteristics and spatial aspects of land parcels. The cadastral system involves preparation of maps that delineate parcel boundaries for the purpose of identifying, describing, and recording property of land ownership (MUDC, 2015).

According with the Urban Land Holding Registration Proclamation No. 818/2014 and Federal Government of Ethiopia Council of Ministers Regulation No. 323/2014 (Article 34) the Urban Legal Cadaster Standard was issued. These legal instruments establish the framework for the development and implementation of an urban cadastral system in Ethiopia.

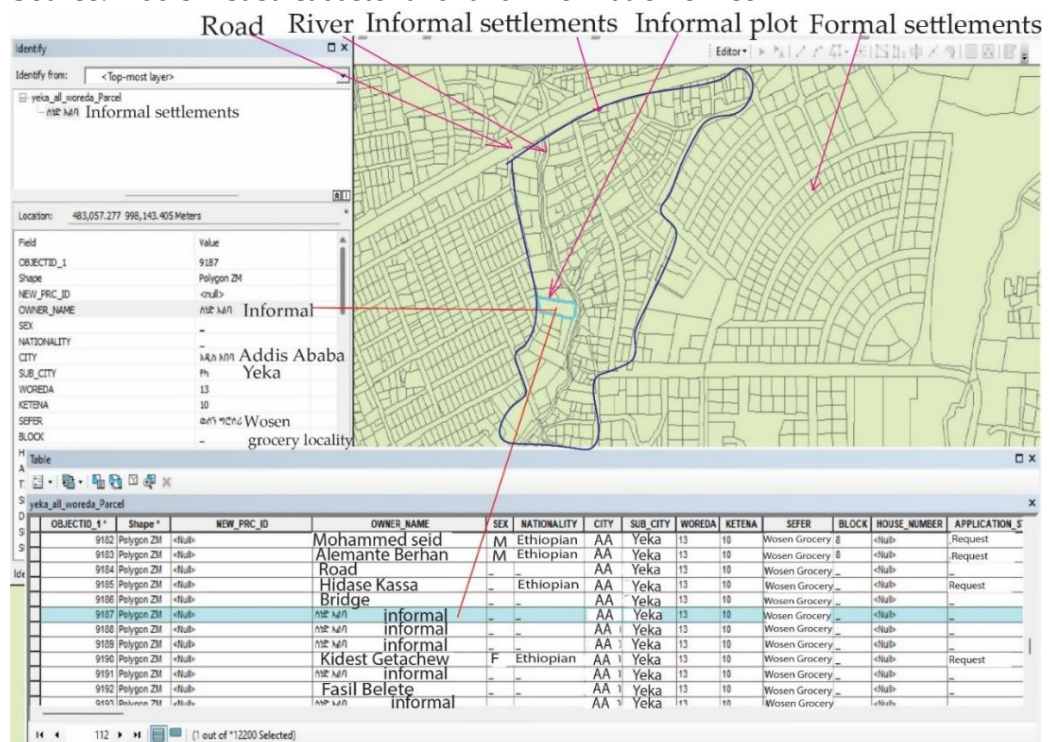
The preparation of cadastral maps is commonly undertaken using two principal techniques: aerial photography and ground-based surveying. Data obtained through these methods undergo multiple processing stages. These stages include feature extraction, attribute assignment, maintenance of topological integrity, cartographic processing, and database integration within a geospatial environment.

According to the regulation, all urban land holdings, including informal settlements established before 2005, are required to be registered. The use of aerial photographs as evidentiary material supports the identification and regularization of such plots, providing a spatially verifiable basis for tenure recognition. This approach facilitates evidence-based regularization and contributes to improved land administration. However, in practice, cadastral registration has not yet achieved full spatial extent across the entire city. Certain urban quarters remain unregistered, resulting in incomplete cadastral datasets. Consequently, the available cadastral registration data provides only partial coverage of informal settlements. In this study, the existing cadastral records were used as an input dataset to identify and assess the spatial extent of informal settlements, while acknowledging the limitations arising from gaps in registration. As indicated in the map ownership location is related to informal settlements locally termed as *Sened Alba* (literally means without legal document) extracted from the rest settlements categories and used as a layer to identify the overall extent of informal settlements in Addis Ababa. The following map shows the land registration and cadaster maps of Addis Ababa.



Map 4-4: Addis Ababa's existing land use and cadaster maps

Source: Addis Ababa cadaster and land information office



Map 4-5: Sample details of the cadaster information of Addis Ababa city.

Source: Addis Ababa Cadaster and Land Information Office

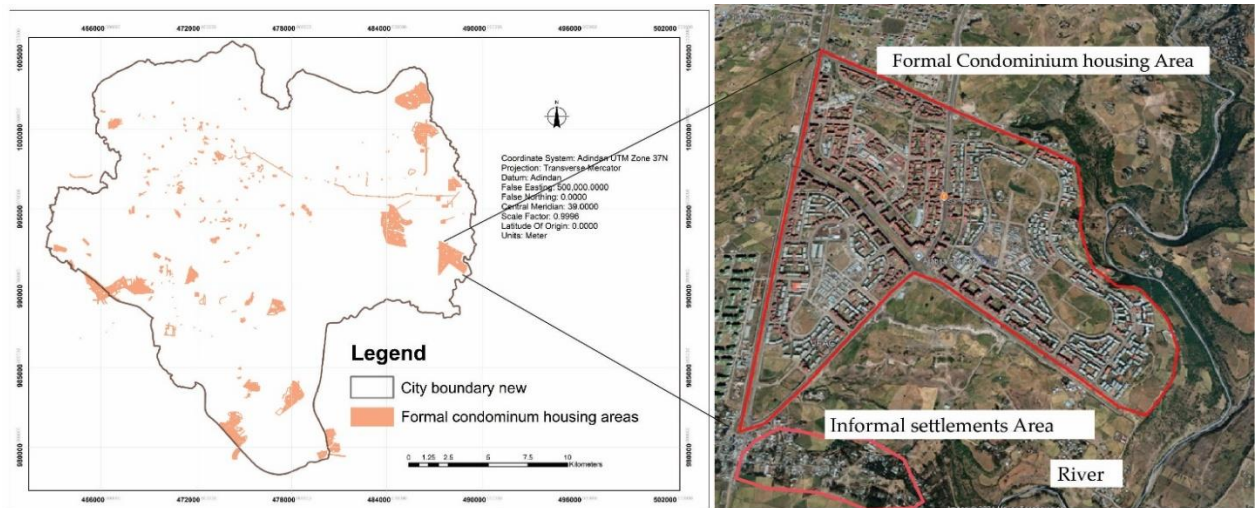
#### 4.2.5. Addis Ababa condominium and real estate housing areas

The housing census and population projections presented below indicate variations in housing ownership categories across different years. Although the number of housing units and ownership categories has generally increased alongside population growth, the rate of housing provision has not kept pace with the rate of population increase. This disparity suggests a persistent gap between population growth and housing supply, with the expansion of the housing stock lagging behind the increasing demand generated by population growth. Consequently, the observed trend highlights the continuing challenge of ensuring adequate and timely housing provision to meet the needs of the growing population.

Table 4-1: Housing census of 1994, 2007 and forecasted for 2011

| Type                    | 1974                               |     | 1984      |      | 1994      |      | 2007      |      | 2011      |      |
|-------------------------|------------------------------------|-----|-----------|------|-----------|------|-----------|------|-----------|------|
| Population              |                                    |     | 1,423,182 |      | 2,112,737 |      | 2,738,248 |      | 3,040,740 |      |
|                         | Dwelling units in each census year |     |           |      |           |      |           |      |           |      |
|                         | No                                 | %   | No        | %    | No        | %    | No        | %    | No        | %    |
| Owner occupied          | 72,478                             | 30  | 85,765    | 33   | 128,997   | 34.4 | 205,196   | 32.6 | 243,322   | 33.3 |
| Kebele Owned            | 134,784                            | 57  | 140,250   | 54.1 | 142,095   | 37.9 | 148,645   | 23.6 | 428,812   | 58.8 |
| AAHR Owned              | 9,493                              | 4   | 16,027    | 6.2  | 9,277     | 2.5  | 11,388    | 1.8  |           |      |
| Rented from private HH  | -                                  | -   | -         | -    | 61,256    | 16.3 | 222,384   | 35.4 |           |      |
| Rent Free               | -                                  | -   | 15,500    | 4.8  | 29,464    | 7.8  | 37,293    | 5.9  | 44,375    | 6.08 |
| Occupied different rent |                                    |     |           |      |           |      | 799       | 0.13 | 3,301     | 0.45 |
| Other                   | 19,657                             | 9   | 3,653     | 1.4  | 3,653     | 1    |           |      | 9,352     | 1.28 |
| Not stated              |                                    |     |           |      |           |      | 3,281     | 0.52 | 501       | 0.07 |
| Total                   | 236,412                            | 100 | 259,555   | 100  | 374,742   | 100  | 628,986   | 100  | 729,663   | 100  |

Source: CSA, 2007



Map 4-6: Addis Ababa condominium housing locations (formal and informal side by side).

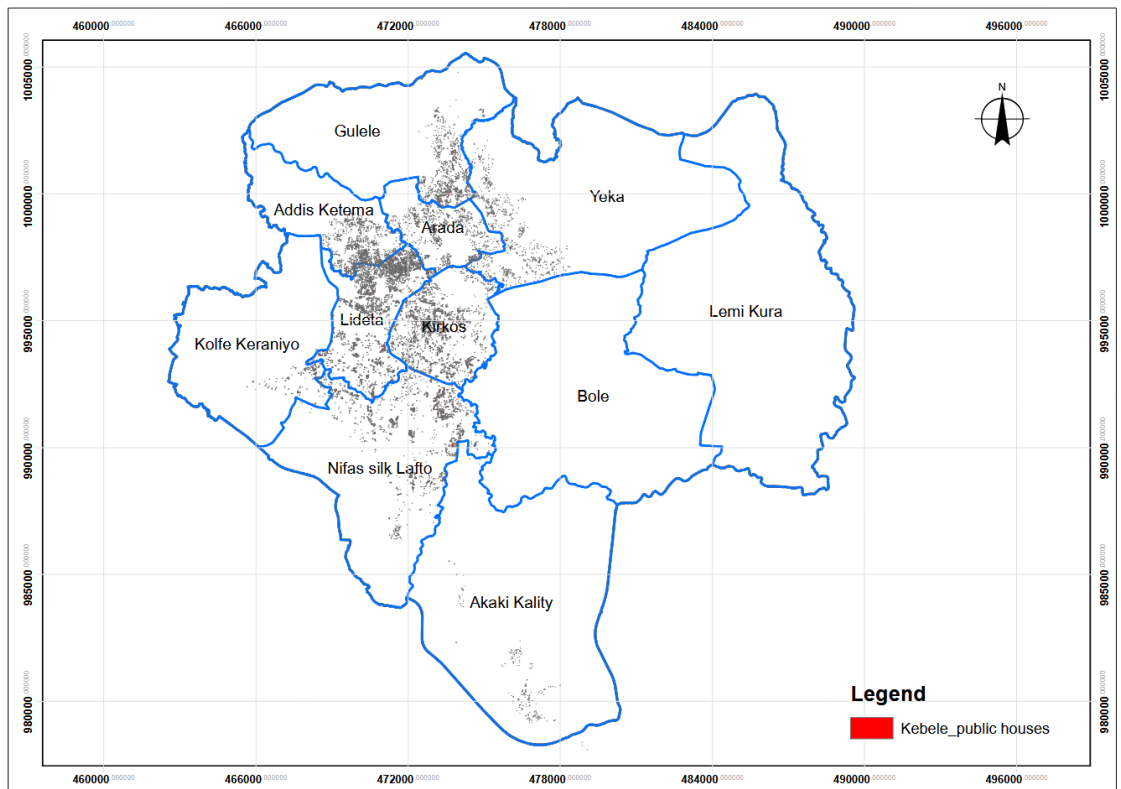
Source: Addis Ababa Housing Development & Management Bureau & Satellite image 2024

#### 4.2.6. *Kebele* houses /public houses

*Kebele* houses are also used as a layer which are captured and identified from different sources and can be used to identify the spatial extent of informal settlements in Addis Ababa as an attribute. Majority of these settlements are found in the inner city of Addis Ababa which is currently affected by city transformation.

The total number of *kebele* houses and public rental housing units is estimated to be about 428,812. However, the majority of these public rental housing units have been given title deeds which are administered by the Federal Housing Corporation. A significant number of *kebele* housing is found in the inner-city areas including: Lideta, Addis Ketema, Arada, and Kirkos, which are currently affected by strategic corridor development plan and inner-city transformation programs.

In the compounds of these *Kebele* /public houses there are extensions of private buildings and those existing old choice of the private compounds which was decided under the housing and land nationalization proc. No. 47/75 (United Nations, 2015). These buildings are often characterized by multiple structures sharing a common compound that are managed under communal or shared title arrangements. These types of holdings are generally addressed through regularization approaches that recognize and adapt elements of the freehold possession systems, aiming to formalize tenure while accommodating existing settlement patterns and socio-spatial arrangements. (see Table 4-1, and Map 4-7)



Map 4-7: Distribution of *Kebele* houses in the city

Source: Computed From (Addis Ababa Housing development and management, Land development and management and Plan and development bureau archives )

Historically, the *Kebele* houses have acquired their naming from the *Kebele* administrative structure which is constituted (the lowest administrative unit of governance in the city), because they were basically under close management supervision of the administrative structure. Following recent administrative restructuring, *Kebeles* have been changed to *Woredas* and thus currently *Woreda* now represents the smallest administrative unit and functions as the third tier of government administration in Addis Ababa, serving as the primary level for local governance, public service delivery, and community-level administration.

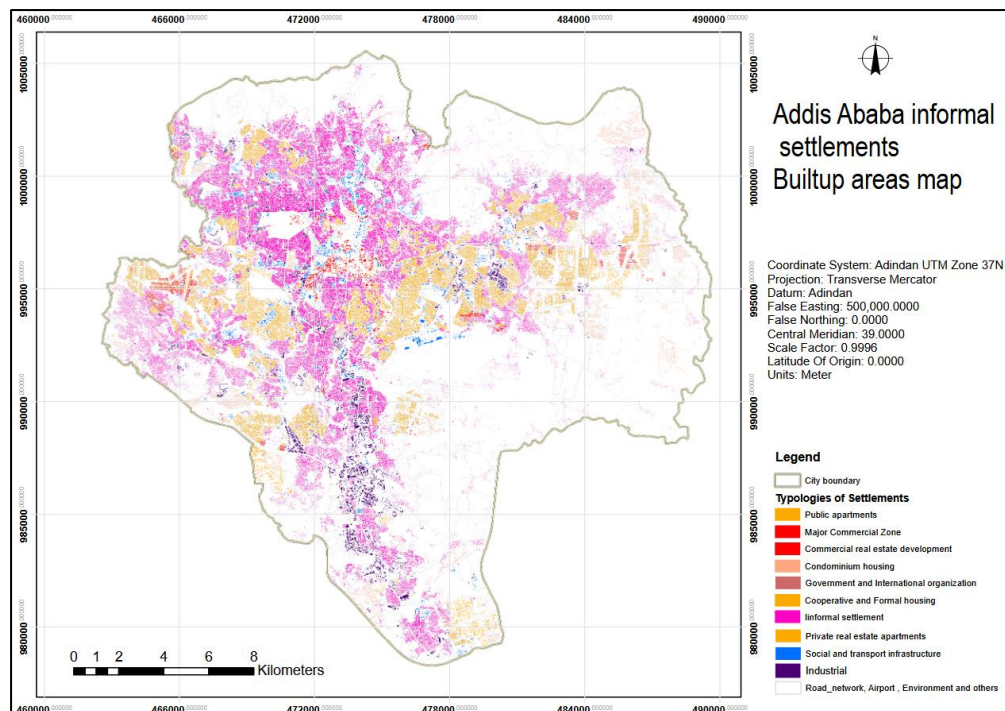
From a policy perspective, the transformation from *Kebele* to *Woreda* reflects a strategic move toward a decentralized urban governance. By redefining the *Woreda* as the basic administrative unit, the reform seeks to improve administrative efficiency, accountability, and responsiveness in service delivery. The policy intent is to bring government services closer to residents by strengthening local decision-making authority and enhancing coordination in the implementation of urban policies and development programs.

From an urban planning and land governance standpoint, the *Woreda*-level structure plays a critical role in regulating urban development, particularly in controlling the construction and expansion of informal settlements through local regulatory enforcement mechanisms. However, in practice, this control has proven to be limited due to several institutional and operational constraints. Notably, the authority to approve and process documentation required for the regularization of informal settlements is mandated at *Woreda* level. Informal settlements are one of the options for acquiring affordable housing like *Kebele* houses. As the houses are built without an official permit from the city government or any of its departments, people get the opportunity to build whatever type of housing they can afford. Thus, from the affordability perspective, protection of such settlements remains a critical issue. Other than this, in the context of Addis Ababa, most residents of such settlements were forced to build informally for lack of other alternative options of getting a plot. Understanding the reality, the city government has been undertaking regularization selectively.

#### 4.2.7. The Informal Settlement Extent Findings

In Addis Ababa, the coverage of informal settlement is not well documented. The findings (Map 4-8, and Table 4-2) reveal that the current spatial extent of informal settlements in Addis Ababa(after demarcation with the Shaggar city was made in 2022) is estimated about 50% of the overall city's settlements. The analysis excludes areas of environmental features (water bodies, forests, mountainous terrain, wetlands, artificial lakes, etc.). Moreover, infrastructure like substations, high power tension lines buffers, transportation networks, and various institutional facilities were not incorporated into the computation process.

By removing these components from the overall assessment, the analysis focuses on areas that are directly relevant to the study objectives. As illustrated in the figures, the results highlight the existence of significant coverage of informal settlements in the city. These findings indicate that there is a need to formulate context-specific policy direction that help to address the issues of informal settlements so as to improve the living conditions of the low-income residents.

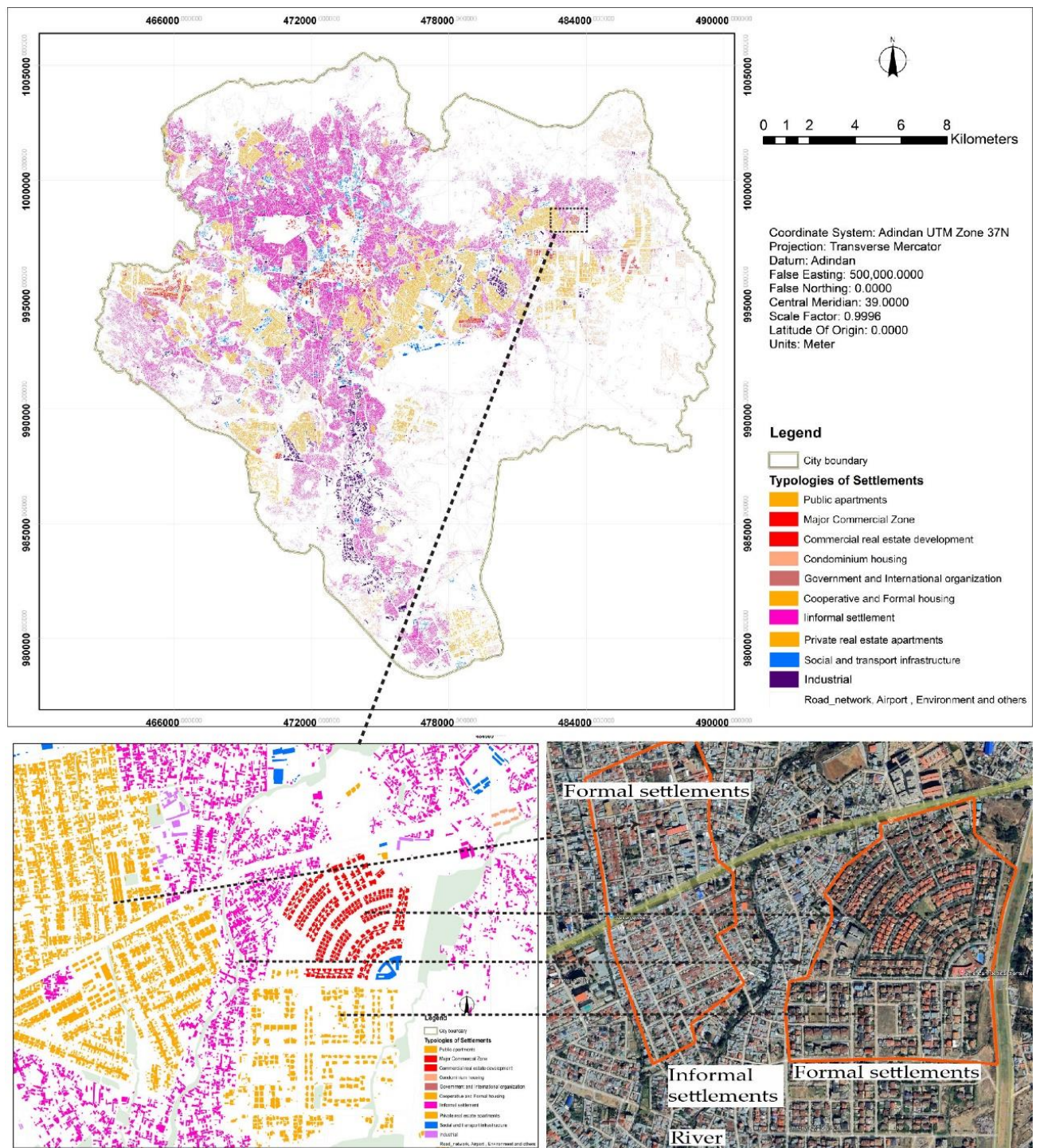


Map 4-8: Spatial extent of informal settlements in Addis Ababa

Source: Researcher Analysis

Table 4-2: Spatial extent of informal settlements in Addis Ababa

| S.No | Major Uses                                                                                                                                                                                                       | Area in Square Meter | Area in Hectare | Built Area | Informal Coverage |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|------------|-------------------|
| 1    | Public Apartments                                                                                                                                                                                                | 789,947.6592         | 78.99           | 78.995     | 49.71%<br>(50%)   |
| 2    | Major commercial zones                                                                                                                                                                                           | 10,381,650.09        | 1038.17         | 1038.165   |                   |
| 3    | Commercial real estate development                                                                                                                                                                               | 1,079,688.19         | 107.97          | 107.969    |                   |
| 4    | Condominium housing                                                                                                                                                                                              | 12,479,881           | 1247.99         | 1247.988   |                   |
| 5    | Cooperative housing                                                                                                                                                                                              | 8,476,895.321        | 847.69          | 847.690    |                   |
| 6    | Informal (inner and peripheral)                                                                                                                                                                                  | 55,890,569           | 5589.06         | 5589.057   |                   |
| 7    | Formal housing and mixed uses                                                                                                                                                                                    | 3,618,260.545        | 361.83          | 361.826    |                   |
| 8    | Large-scale industrial zones                                                                                                                                                                                     | 10,078,028           | 1007.80         | 1007.803   |                   |
| 9    | Government offices                                                                                                                                                                                               | 7,923,732.098        | 792.37          | 792.373    |                   |
| 10   | Private real estate apartments                                                                                                                                                                                   | 1,721,662.339        | 172.17          | 172.166    |                   |
| 11   | Road network                                                                                                                                                                                                     | 50,949,987.39        | 5095.00         |            |                   |
| 12   | Environment and other land uses (quarries, mountain, water bodies, agriculture forest, vacant land, compounds, airport, electric buffers and substations, archeological sites, special uses, sub stations, etc.) | 263,740,971.4        | 26374.10        |            |                   |
| 13   | Social and transport infrastructure                                                                                                                                                                              | 2,869,604.914        | 286.96          |            |                   |
|      | <b>Total</b>                                                                                                                                                                                                     | 430,000,877.9        | 43,000.09       | 11,244.031 |                   |



Map 4-9: Informal settlement data for policy influences as a framework.

Source: Researcher Analysis

#### 4.2.8. Opinion of the Key Informants Regarding the Extent of Informal Settlements

Findings from the key informants indicate major areas of concern regarding informal settlements of Addis Ababa (specifically on spatial extent, relevant policy direction, existing institutional capability to manage informal settlements, and participation). Spatial data are among the most important components for urban planning and implementation. In this regard, all informants have strongly noted that there is lack of the necessary data on informal settlements which has become serious challenge in managing the situation. For that matter, the existing spatial data are inconsistent and having not been well-organized. The spatial data of informal settlements are highly inaccurate and unreliable and thus creating serious challenge in undertaking interventions and/or land readjustment programs (Collier et.al., 2019). For example, one of the manifestations of the shortage of housing particularly for the low income and the poor has been the proliferation of informal housing in the city (in the center as well as the periphery). (AAPDC(Addis Ababa Plan and Development Commision), 2017)

Regarding the existing policies and legal frameworks, all informants held similar views as there is no separate and dedicated policy framework that out rightly deals with the issue of informal settlements. However, there are some indications of directives about informal settlements that are mentioned under different policies as a sub-topic like in urban development policy. Even then it is too general for decision makers to confidentially make use of it. It is therefore worth mentioning that policy direction that targets informal settlements should be considered as part of a broader set of reforms to housing development across the city. Informants also felt that the institutions who are mandated to manage informal settlements are weak; the roles and responsibilities are not clear among government offices; and institutional coordination and collaboration are also major challenges. In addition, the weak involvement of all stakeholders in managing informal settlements in Addis Ababa is another gap mentioned by the informants. Thus, effective participation of all relevant stakeholders is important as it allows the incorporation of interests of concerned institutions and the communities as it offers opportunities to understand local contexts and aspirations. Moreover, it helps create synergy among stakeholders so that the issue could efficiently be tackled and addressed.

For better management of informal settlements across the city, it is helpful to have well-documented spatial data that shows the location and distribution of informal settlements, which helps to devise appropriate policy directions and reform and responsive institutional set ups. By its very nature, the governance of informal settlements is one of the most serious challenges due to its complexity in many developing countries (Said Nuhu, 2023). Understanding the context of informal settlements is critical for devising an effective response. Policy options, related to control of informal land occupation, urban planning, and governance, are critical to improving the problem. As depicted in the Figure 4-1 below, the engagement of actors in the overall management of informal settlements is required.

On the other hand, responsible institutions should be established and strengthened, as well as the leadership and expert skills required for successful and efficient management of informal settlements. This will empower leaders to establish accountability and openness. Establishing community or stakeholder platforms to assist with the creation of a consensus is critical because it will facilitate the provision of public services. Furthermore, political commitment is also essential for effective reforms and management of the issue associated to informality.

Moreover, key elements are detailed out in Table 4-3 and the logical framework for the reform is indicated in Figure 4-1. In the framework, it is illustrated that knowledge of spatial data is a vital factor which can be used as a baseline for the overall policy options and decision-making.

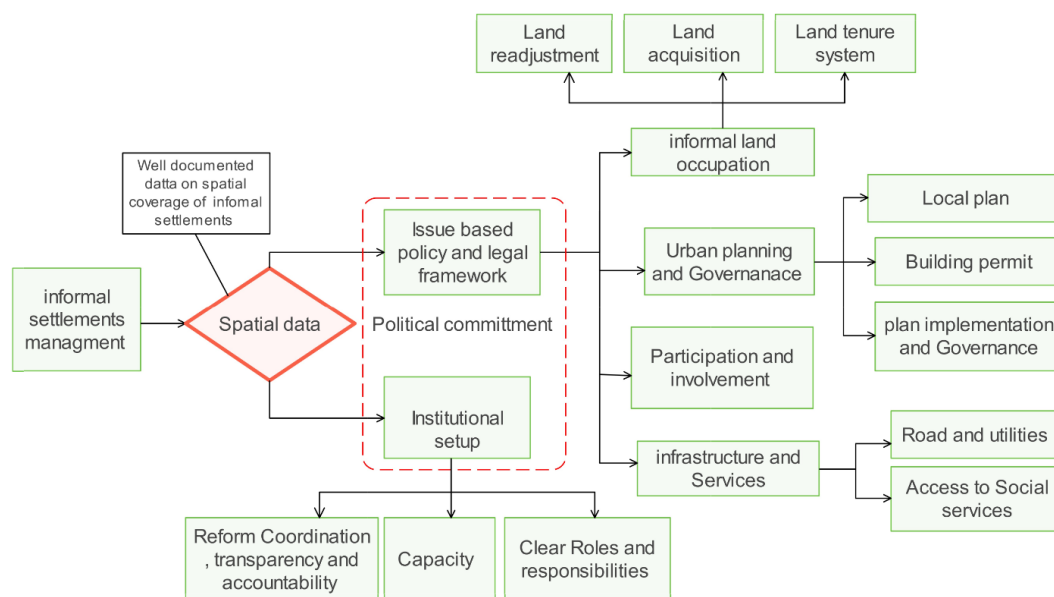


Figure 4-1:: Informal Settlement Data for Policy Influences as a Framework.

Table 4-3: Summary of Key Respondents' Feedback.

| Category                    | Summary of Major Issues Interviewed                                               | Summary of Responses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spatial extent and contexts | Availability of spatial data that depicts coverages and extents of informality    | There is no complete, reliable, and recent database for decision making                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Policy and legal frameworks | Views of officials and experts regarding informal settlements in Addis Ababa      | Informal settlers own the land by purchasing from farmers. Informal transaction undertaken through negotiations which sometimes lead to conflict among parties (Ethiopia land ownership is government). Two main reasons: the first is weak institutional and legal framework to house low-income residents. Secondly, speculation of land for better economic profit. Inner-city informal settlements arose during the Haile Selassie Regime (Ethiopia's emperor from 1930 to 1974), whereas periphery informal settlements grew more recently by taking government/public land through land purchase. Most inner-city informal settlements appear to be legal but do not have title deeds and are shanty or deteriorating |
|                             | Major challenges of informal settlements in preparing and implementing city plans | Lack of consistent policy on how to address informal settlements. Predominance (widespread nature) in the city that is not easy to address.<br><br>Constructed on green land use (which against city plan regulation)<br><br>Difficulty in organizing the actual data and settlers fear urban plans because they could not claim for tenure                                                                                                                                                                                                                                                                                                                                                                                 |

|                          |                                                                             |                                                                                                                                                                                                                                                                                                                                          |
|--------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Organizational structure | Institutional coordination and integration in managing informal settlements | Lack of capacity and weak integration (land development and management, city plan, construction permit bureaus, and legal enforcement bureau)                                                                                                                                                                                            |
|                          | Time for the invasion informal settlements                                  | When political instability occurs, weak government control time<br><br>Peripheral informal occupation occurs due to their hidden location far away, preferring nighttime, weekends, holidays when no regulatory bodies are present                                                                                                       |
|                          | Availability of issues specific policies and legal frame works              | No specific policies related to informal settlements, but it is treated under urban land and development policies and either generic or inconsistent                                                                                                                                                                                     |
|                          | Major intervention practiced so far                                         | Regularization: the government has given recognition to informal settlements built before 2005. No decision for the informal settlements built after 2005                                                                                                                                                                                |
| Participation            | Participation and involvement of stakeholders                               | Weak participation and involvement of stakeholders and the communities                                                                                                                                                                                                                                                                   |
| Recommendations          | Suggested future directions                                                 | Creating a strong institution and legal system, well-organized spatial data as a base for management and decision-making, creating healthy and mutually supportive development linkage between rural and urban local governments at the periphery and participatory, affordability, regularization, and the provision of tenure security |

### 4.3. Examining the Regularization Process of the Informal Settlements

#### 4.3.1. Regularization as an Intervention Mechanisms

The growth, expansion and development of informal settlements can be characterized into three distinct features that can be identified using image analysis (Misgana, Secho, Abebe 2019). These settlements go through different stages of development (from infancy stage to saturation) as shown in (Figure 4-2).

- Expansion: this can be achieved in three forms: inward, outward and independent. This type of growth is an external growth and refers to the extension of buildings in new areas whether adjacent or not to existing the settlement.
- Densification: refers to infilling of empty spaces by building structures on existing open space within the same compound. It can be an extension of building which is a common feature in inner city areas.
- Intensification: this type of development mainly focuses on vertical development of a building rarely a common phenomenon. In some cases, extensions are constructed on top of high-rise buildings, including additional floors or structures such as utility installations, telecom towers mounted on the outer top, often outside of the previous building permits. The two types, mentioned above, are the most common types in Ethiopia and it is an important concept in contextualizing the existence and characteristics of informal settlements.

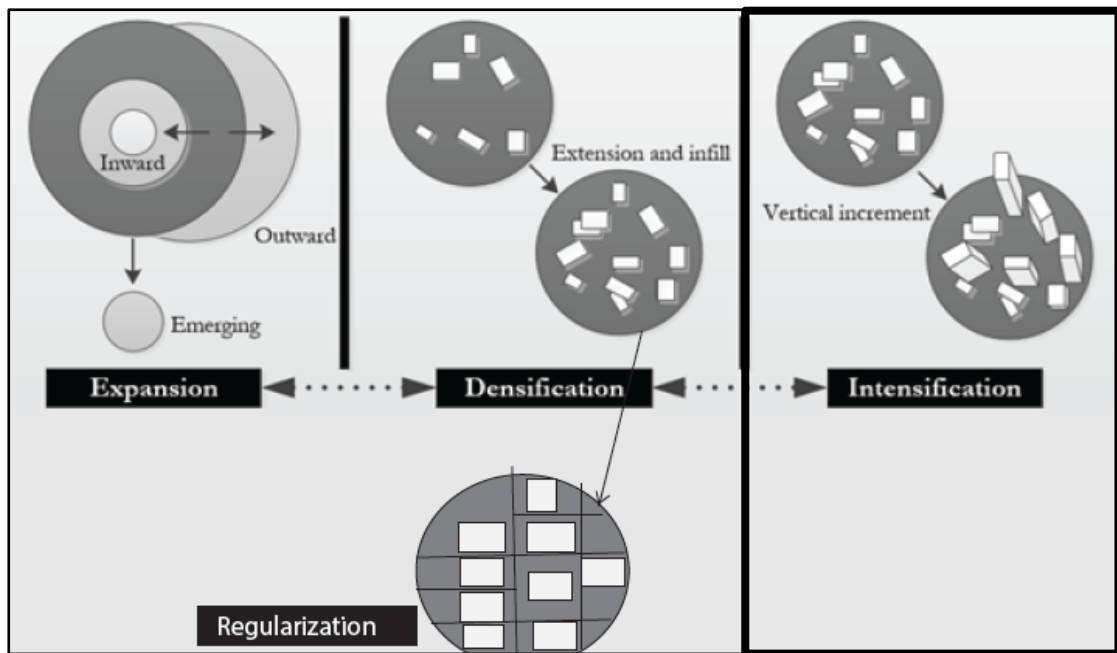


Figure 4-2: Conceptual schematic changes of informal settlements

NB. Vertical increment of informal extension sometimes common over formal buildings undertaking in urban Ethiopia

The trend of Addis Ababa's informal settlement growth is undertaken on large plot sizes that reflect the same feature with the theoretical and schematic growth of informal settlements (Philimon G, 2019) (See Figure 4-2)



1<sup>st</sup> stage of development

2<sup>nd</sup> stage development

3<sup>rd</sup> stage of

*Map 4-10: Practical formation and growth of the Informal Settlements in Addis Ababa (Shed Locality, Woreda 10, Yeka sub city,*

*Source: Adapted from Philmon, 2019)*

#### 4.3.2. The Process of Regularization and Its Management

The process of regularizing informal settlements was examined in detail, focusing on sequential steps to obtain a legal title deed. Practical mapping of the process revealed that the regularization procedure is highly complex, lengthy, and time-consuming. Multiple institutions are involved, which further slows down progress and complicates coordination. These institutions include the Urban Planning and Development Bureau, the Building Permit and Regulatory Agency, the Cadaster and Land Information Agency of the city administration, and other related bodies, as illustrated in (Figure 4-3 and Figure 4-4).

The Land Regularization Sector, under the Land Development and Administration Bureau, has attempted to modernize the system by introducing digital networking and online platforms to streamline services and improve efficiency. However, despite these efforts, the digital network infrastructure is weak and unreliable. The system often experiences delays in processing and exchanging spatial data, creating significant bottlenecks in the workflow.

Moreover, the platform for stakeholder involvement lacks transparency and efficiency. Stakeholders reported that interactions between the different institutions are poorly coordinated, with limited information sharing and minimal opportunities for collaboration. The lack of a clear and transparent communication framework has also undermined trust in the process. Although the responsible institution responsible initially established a project-based approach with the objective of completing the regularization of all informal settlements within one year, this target has not been met. More than a year has passed, and significant portions of the work remain unfinished. In this regard, the key informants (officials, experts, and community members) identified several critical challenges that have hampered the regularization process amongst which are:

- Poor and unreliable online systems, resulting in delays in processing and limiting efficiency.
- Lack of transparency and accountability among institutions, hindering smooth interaction and collaboration.
- Weak stakeholder engagement, with low level of participation from community members and other relevant actors.

- Insufficient institutional and technical capacity, limiting the ability to manage and complete the regularization process across all affected areas.

These challenges collectively demonstrate the urgent need for systemic reforms, including stronger inter-institutional coordination, upgrading of digital infrastructures, enhanced transparency and accountability mechanisms, and capacity-building programs to ensure timely and efficient regularization of informal settlements in Addis Ababa. As indicated in the process mapping (Figure 4-3 ) which shows tedious steps and the involvement of institution outside of the responsible organization can take a long time for titling. According to the key informants, the process can take a long time, and sometimes even more than a year, because of the above indicated challenges.

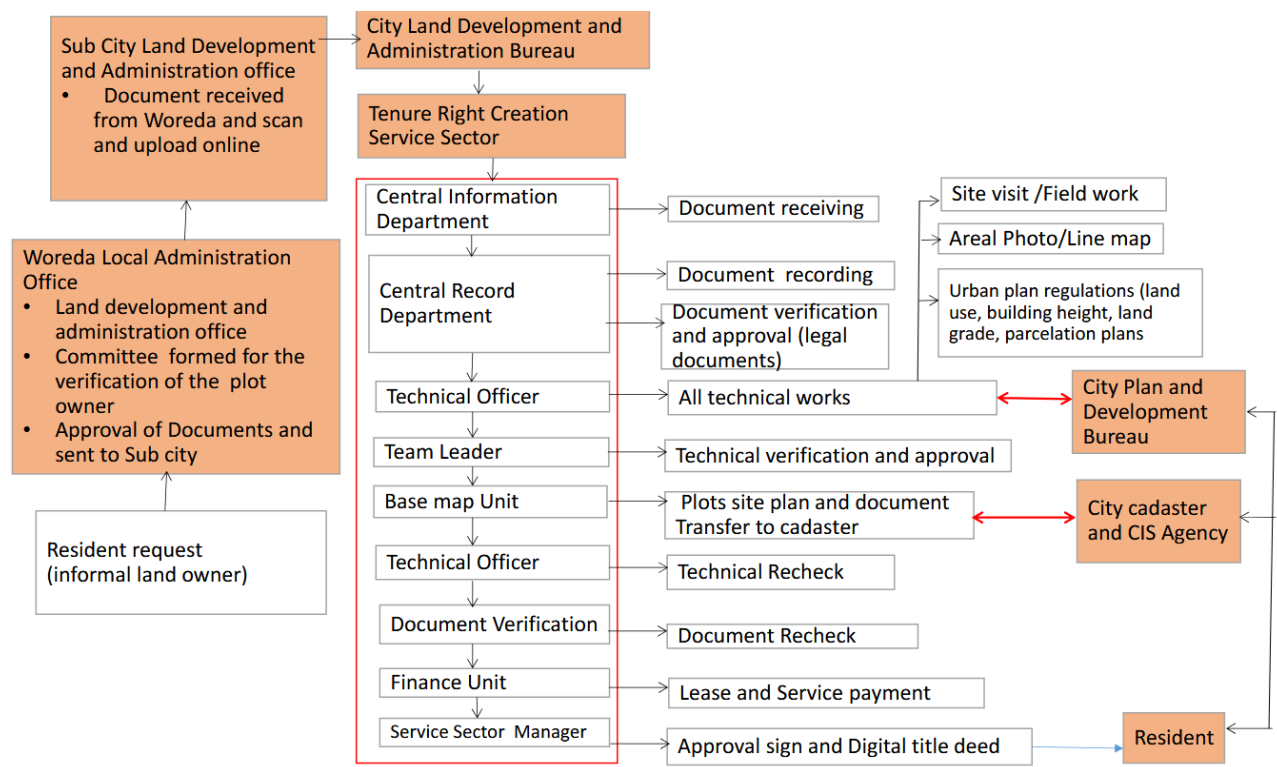


Figure 4-3: The Regularization Process

Sources: Researcher's Process Mapping

#### 4.3.3. Policies and Legal Frameworks on the Informal Settlements

It is assumed that urban growth in developing countries is synonymous with slum growth and the challenges are becoming complicated. Millennium Development

Goals (MDGs) and Sustainable Development Goals (SDGs) set targets and suggest ways to improve the lives of slum residents targeting different years, though the targets are not fully achieved as per the plan. Developing countries also put in place major policy targets also in response to informal settlements.

Currently, Ethiopia does not have specified and comprehensive urban land policy. However, the Urban Lands Lease Holding Proclamation No. 741/2011, enacted by the Federal Government in 2011, serves as the principal legal framework governing urban land administration. This proclamation introduced a lease-based system for all urban land holdings, mandating that all previous freehold land holdings be gradually transformed into leasehold, with certain exceptions. According to the proclamation, the lease holding system must be fully implemented in all urban centers within five years from the proclamation's effective date. Furthermore, individuals are prohibited from enclosing or using land adjacent to their legally possessed land without permission from appropriate authorization from the appropriate authorities. Urban land may be held through lease only if its use complies with the approved urban land use plans or parceling standards(FDRE, 2011).

At national level, Ethiopia still lacks a dedicated urban land policy that addresses the management and regulation of informal settlements. While the Urban Development Policy of 2005 and other frameworks make limited references to informal settlements, they do not provide concrete guidance or strategies for their regulation or integration. Absence of policy creates a critical gap, hampering informed and effective decision-making concerning urban growth and land management. The Urban Land Lease Holding Proclamation No. 741/2011 touches on informal settlements briefly. Specifically, Article 6, (Sub-Articles 4 and 5) stipulate that regional and city administrations are responsible for regularizing informal land holdings. This regularization was required to be completed within four years of the proclamation's coming into force and must align with the urban plan and parcel/plot standards set by city administrations. However, in practice, this regularization deadline was not met. Informal settlements continue to proliferate, and the coverage of informal settlements exceeds 50% in many urban centers, including those established prior to the 2011 proclamation. Moreover, there is a discrepancy between federal and local implementation frameworks. For example: The federal proclamation (2011) allows

the regularization of informal settlements that were built up to the year 2011. Meanwhile, the Addis Ababa city administration recognizes only those built before 2005. This inconsistency leads to confusion leaving many residents in a gray legal environment regarding the status of their properties (AACA, 2024).

In general Ethiopia faces policy vacuum in terms of comprehensive urban land governance, because the existing legal frameworks are either insufficient, inconsistent, or unclear, especially concerning the management of informal settlements. Thus, lack of a unified national urban land policy and failure to effectively curb the growth of informal settlements necessitates urgent need for coherent and inclusive land policy that addresses both formal and informal urban development.

#### 4.3.4. Responsible Institutions and their Interaction

The Addis Ababa Land Development and Administration Bureau serve as the main institution responsible for executing the regularization of informal settlements in the city. In this bureau, the Regularization Service Sector is specifically mandated to implement regularization activities and to issue title deeds to residents in accordance with Regulation No. 163/2024. Moreover, the bureau, other key institutions, play complementary roles in the process. For instance, the Addis Ababa Cadaster and Land Information Agency is responsible for registration and recording and documentation of land parcels. Meanwhile, the Addis Ababa Urban Planning and Development Bureau is responsible for approving urban plans, resolving land-use conflicts, and prepare parcellation plans and send them back to Land Development and Administration Bureau as per the request (See Figure 4-4 and Figure 4-5)

Despite the involvement of these institutions, there is still significant challenge in coordinating the institutions due to absence of a sole coordinating body. Specifically, no central body exists to regulate and manage data exchange processes, including timelines, standards, and accountability mechanisms. As a result, the flow of information between institutions is inconsistent and largely dependent on the responses of their results. Usually, data responses to the Land Development and Administration Bureau use to delay, sometimes requiring tedious steps. These inefficiencies in data sharing and communication substantially hinder the

implementation of regularization programs. Absence of an integrated and efficient data sharing platform further exacerbates the problem, leading to delays in service delivery and increasing public dissatisfaction and complaints. The following figure illustrates the existing organizational structure and the patterns of institutional interaction involved in the regularization process.

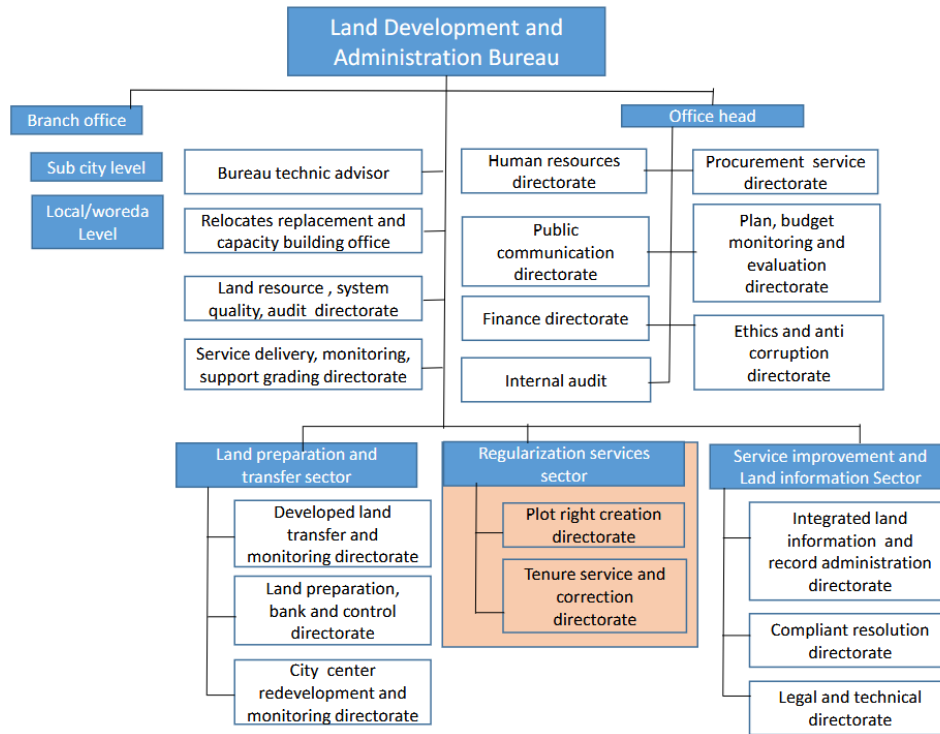


Figure 4-4: Organizational structure of Land development and management Bureau of Addis Ababa

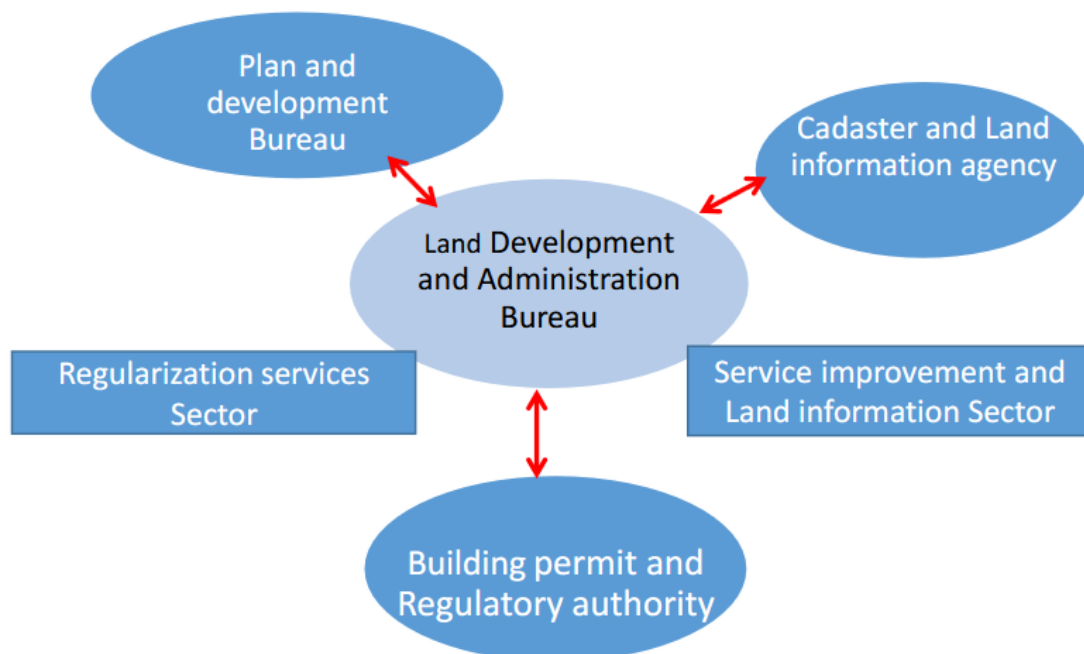


Figure 4-5: Feature of Institutional Interaction and Involvements

Most regularization projects are led by government authorities, focusing on formal surveying, adjudication, and infrastructure provision. The process and involvement of different institutions (See Figure 4-5) often suffers from limited community participation and can result in low standards of implementation (Magigi & Majani, 2006)

#### 4.3.5. Participation and Community Engagement

Informal settlements are best addressed through the regularization approach, as it provides a viable mechanism to improve the living conditions of urban low-income communities. The sheer scale of informal settlements globally and within rapidly urbanizing areas demands that informal settlers be recognized as having a legitimate “right to the city (UN-Habitat 2003).” This perspective aligns with the principles of Sustainable Development Goal (SDG) 11, which aims to make cities and human settlements inclusive, safe, resilient, and sustainable, ensuring access for all to adequate, safe, and affordable housing and basic services, and the upgrading of slums. Similarly, Target 1.4 emphasizes the need to guarantee that all men and women, particularly the poor and vulnerable, have equal rights to economic resources, as well as access to basic services, ownership, and control over land and properties. Despite these aspirations, significant challenges remain in practice. Evidence from key informant interviews with officials from the Addis Ababa Tenure Service and Correction Directorate, along with other stakeholders (See Table 4-4), reveals that participation and community engagement in regularization programs are often weak and less inclusive. In many cases, community leaders and brokers dominate decision-making processes, limiting genuine participation from broader community members. Furthermore, the lengthy and bureaucratic nature of regularization procedures discourages community involvement and delays the issuance of title deeds, creating further frustration among residents. Yet, community engagement remains critical to the success of regularization initiatives. It was noted that, meaningful participation enables residents’ land rights and local knowledge to be recognized, fostering trust between communities and government institutions and enhancing the legitimacy and acceptance of regularization programs (Magigi Majani, 2006, Neema Abiael Munuo, Jackson Wilbard Kombe 2025). Inclusive engagement also ensures the involvement of marginalized and vulnerable groups, particularly women and low-income households. Moreover, community participation contributes to the validation of base maps and

cadastral data, leveraging residents' intimate understanding of local conditions to inform future urban land use planning. Ultimately, participation enhances transparency, accountability, and a sense of ownership, all of which are vital for the sustainability and long-term success of informal settlement regularization efforts.

**Table 4-4:** Summary of Key Respondents' Feedback

| Category                                    | Summary of Major Issues Interviewed                                                                    | Summary of Responses                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Urban spatial planning guidelines and codes | Alignment of city plans (land use, infrastructure, building and land grades)                           | <p>Predominance (widespread nature) in the city that is not easy to address.</p> <p>Constructed on different land use (which against city plan regulations)</p> <p>Difficulty in organizing the actual data and settlers fear urban plans because they could not claim for tenure</p>                                                                                                                                                     |
| Use of digital data                         | Data retrieval and accessibility                                                                       | There is no complete, reliable, and recent database for decision making                                                                                                                                                                                                                                                                                                                                                                   |
| Policy and legal frameworks                 | Views of officials, experts and residents regarding informal settlements regularization in Addis Ababa | Informal settlers own the land by purchasing from farmers. Informal transaction undertaken through negotiations which sometimes lead to conflict among parties (Ethiopia land ownership is government). Two main reasons: the first is weak institutional and legal framework to house low-income residents. Secondly, speculation of land for better economic profit. Inner-city informal settlements arose in different government eras |
|                                             | Major challenges of informal settlements in preparing and implementing city plans                      | <p>Lack of consistent policy on how to address informal settlements.</p> <p>No specific policies related to informal settlements, but it is treated under urban land and development policies and either generic or inconsistent</p>                                                                                                                                                                                                      |
| Organization structure                      | Institutional coordination and integration                                                             | Lack of capacity and weak integration (land development and management, city plan, construction permit bureaus, and legal enforcement bureau)                                                                                                                                                                                                                                                                                             |
|                                             | Major intervention practiced so far                                                                    | Regularization: the government has given recognition to informal settlements built before 2005. No decision for the informal settlements built after 2005                                                                                                                                                                                                                                                                                 |

|                 |                                                                             |                                                                                                                |
|-----------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Participation   | Participation and involvement of stakeholders in the regularization process | Weak participation and involvement of stakeholders and the communities                                         |
| Recommendations | Suggested future directions                                                 | Creating a strong institution and legal system, well-organized digital data and innovative SMART city approach |

#### 4.4. Regularization of informal settlements Vs Urban Planning Exercises

##### 4.4.1. Introduction

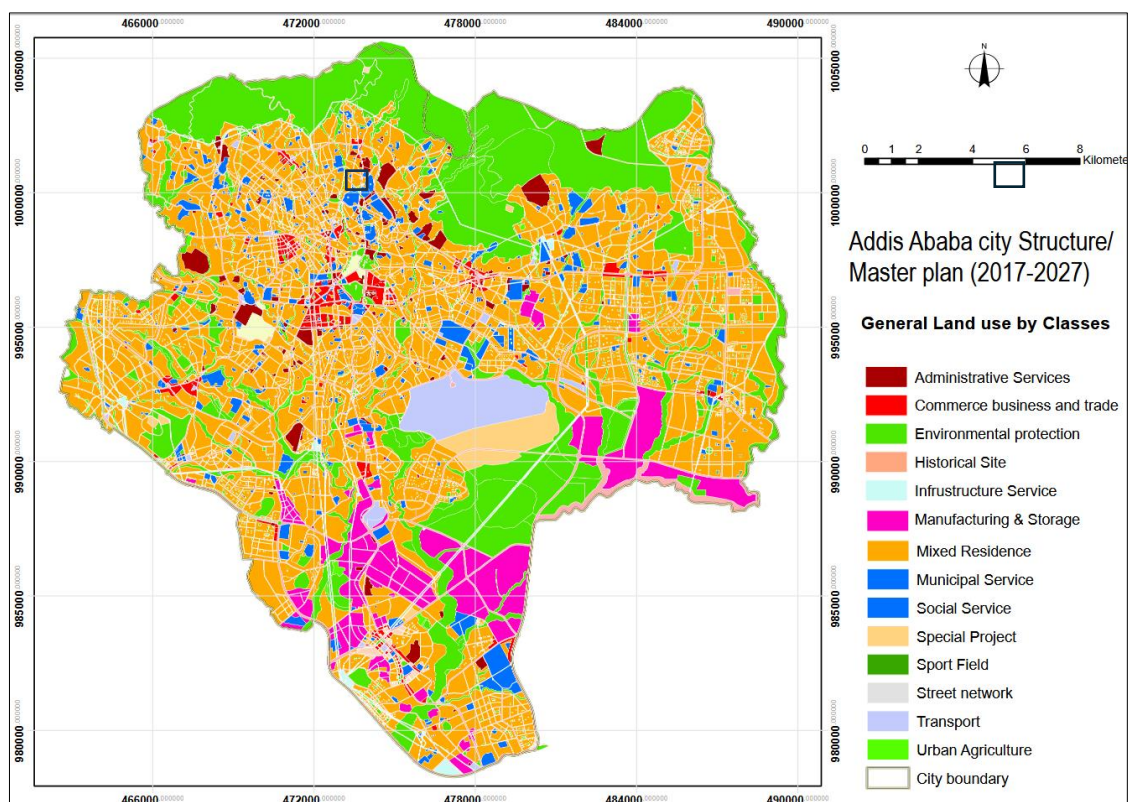
Informal settlements are one of the options for acquiring affordable housing (UN\_HABITAT, 2011). As the houses are built without an official permit from the city government, people get the opportunity to build whatever type of housing they can afford. Thus, from the affordability perspective, protection of such settlements remains a critical issue(AAPDC(Addis Ababa Plan and Development Commision), 2023). Other than this, in the context of Addis Ababa, most residents of such settlements were forced to build informally for lack of other alternative options to get a plot. Understanding the reality, the city government has been undertaking selective regularization. Since many of the informal house owners are located in inner and peripheral sites on land having little potential for the city's future development, these residents can easily be given legal tenure rights and be upgraded to a better standard. Those that are located on prime land both in the periphery and inner city could be relocated to other sites but with proper compensation so that residents could still build their own houses and not exert pressure on the already limited supply. Preserving such houses in both ways will add more to the city's affordable housing stock.

The major challenges are these settlements are built without consideration of urban plans sometime, the settlements are emerged in environmentally sensitive areas, where residents typically occupy land at night and utilize similar construction materials, such as corrugated iron sheet metal roofing and mud. These structures are sometimes assembled using corrugated iron sheet doors and windows, which are not intended for long-term use. In peripheral areas, informal settlements tend to occupy larger plots, while those in the inner city are generally smaller. The land in these areas

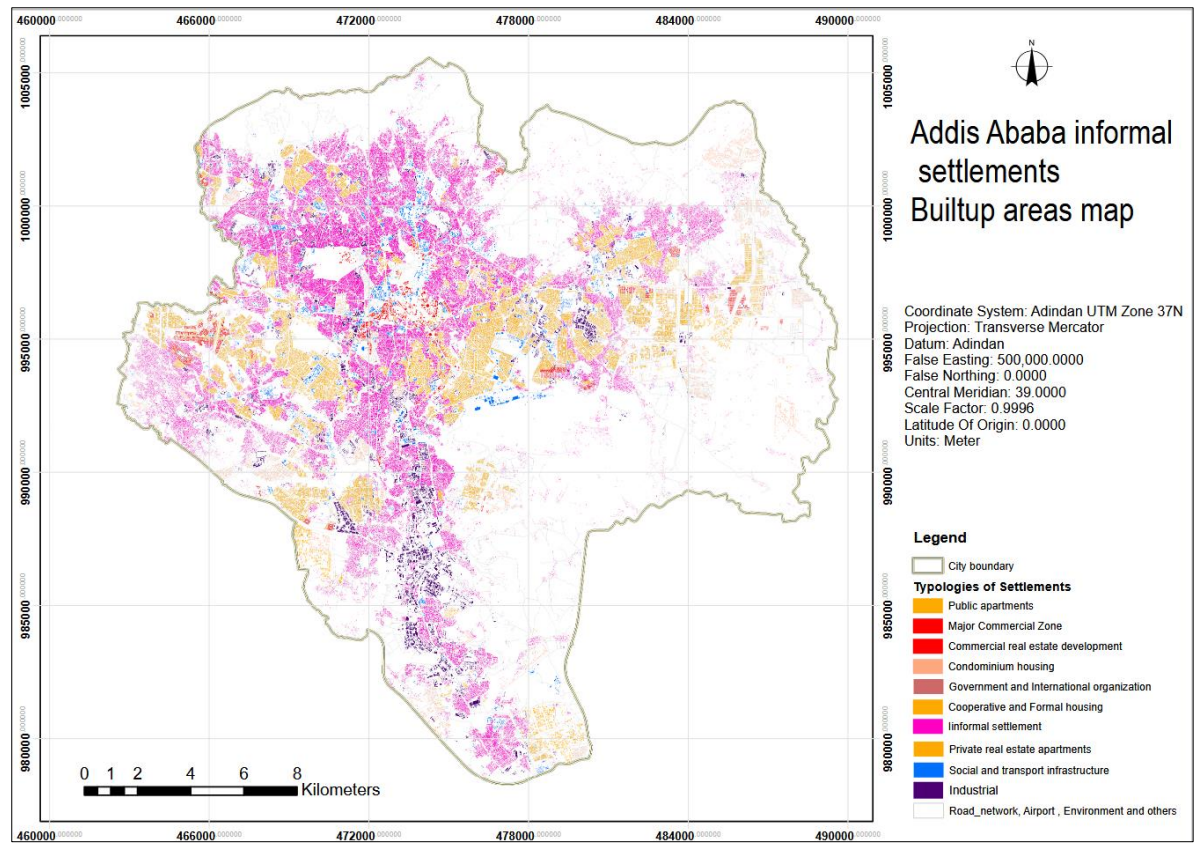
is often designated for agricultural or green use, posing risks such as flooding and landslides. Many of these settlements are established by migrant families or economically disadvantaged groups who can't afford the rental price of houses and constructed a poor-quality housing in most cases, and high-income speculators are limited, and they are rented their houses to either small rental prices or house guards so as waiting time for better profit. Residents commonly rely on communal bathrooms and kitchens, although some lack access to these facilities altogether. The construction of informal settlements on green land, urban plan roads complicates urban planning efforts and can lead to social crises, as demolishing these areas may disrupt families. Most informal settlers prioritize shelter over communal amenities, and the challenge of gathering accurate data is exacerbated by the reluctance of data sources to cooperate. Additionally, informal settlers often fear urban planning regulations due to their inability to claim land tenure, which presents significant obstacles for effective planning and implementation. The lack of official title deeds or documentation further complicates the identification of households for data collection, highlighting the rapid and complex nature of informal settlements patterns.

As indicated in the Map 4-12 below, which shows the location and coverage of informal settlements in Addis Ababa city. The existing settlements overlaid with urban planning regulations (See Map 4-11). It is observable that the land use plan consisting of different land use categories including (mixed residence, commercial use, services, administration, industries, infrastructures, rivers, Green and other environmental aspects). These land use categories overlaid with the existing informal settlements footprints. It is identified that the difference is visible that the informal settlements do not align with the planning regulations in terms of land use other urban planning guides. It is well understandable that the informal settlements are irregular and organic as a result of its development nature. The plot sizes, shape and area are irregular (See ,Map 4-13) and challenging to bring to the planning standards as per the exiting built. From these figures we can see the intervention practically show that it tries to regularize as it is with little urban planning and design regulation which can hinder the overall urban planning implementation and governance. The key interview results indicated that there is a gap between the regularization of plots and the urban planning guidelines which hindered the overall regularization processes. For instance, informal settlements in such areas do not comply with structure /master plan, building permits, or set back regulations. In fact, the lack of legal rights prevents residents

from making long-term investments in infrastructure and housing improvements. It also complicates efforts to integrate these areas into broader urban development plans. There is often severe overcrowding due to rapid urban migration where residents prefer to live there with small house rents. Basic services like water, sanitation, electricity, and waste management are often inadequate or absent. They are overcrowded and more susceptible to disease outbreaks, pollution and fire hazards. Urban planning in such areas is paperwork rather than implementation. Construction typically follows informal practices (See Map 4-12). As per the regulation, informal settlements built in environmentally sensitive or hazardous areas, such as flood and land slide risks, are not legible to get title deeds.



Map 4-11: Addis Ababa Structure plan regulation, land use plan (2017-2027)  
Source: Addis Ababa plan and development bureau



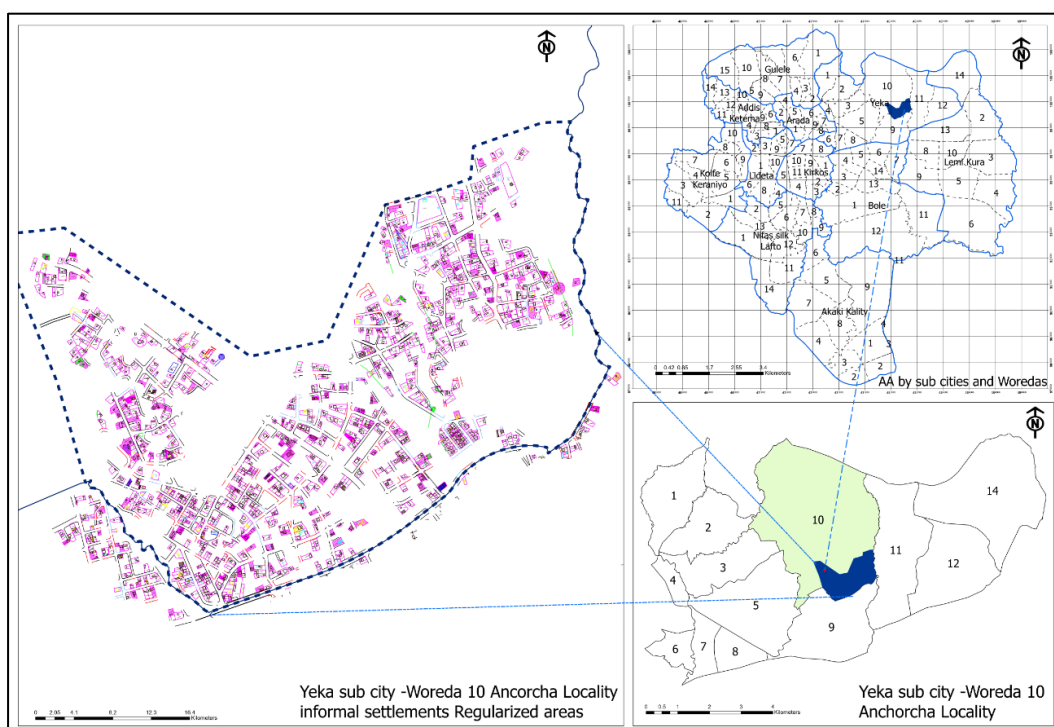
Map 4-12: Spatial extent of informal settlements in Addis Ababa

Source: Researcher analysis

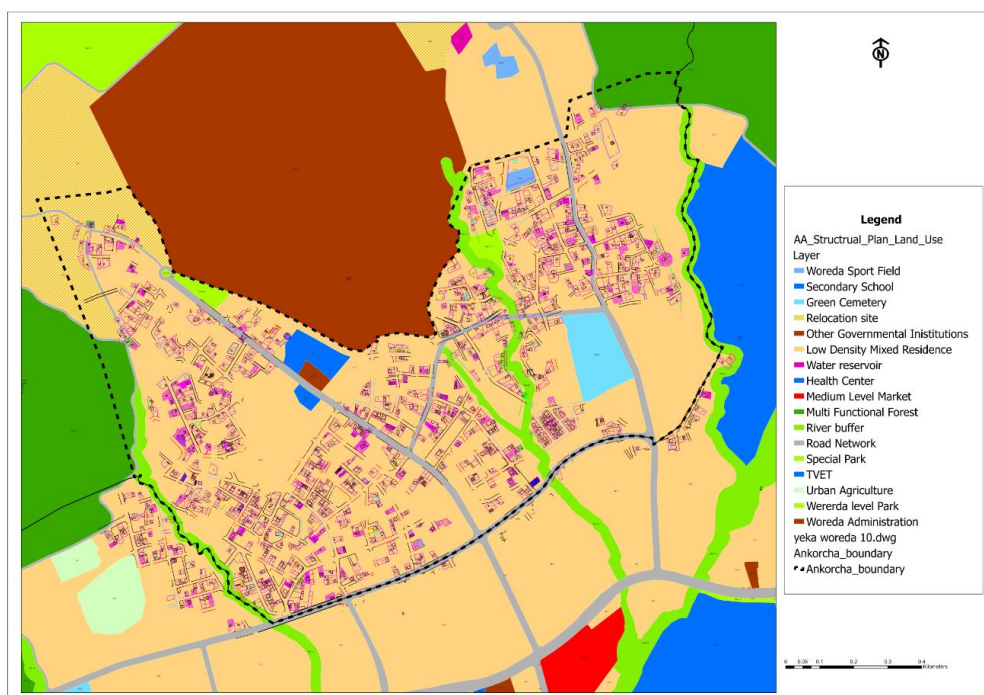
#### 4.4.2. Relationship Between Structure Plan Land Use and Informal Settlement Regularization

Regularization implementation in relation to urban planning is evaluated on selected areas of Addis Ababa chosen based on the implementation level. There are four selected sub cities which is found in the pre urban areas of Addis Ababa city. The sub cities under the evaluation are Yeka sub city woreda 10, Bole sub city woreda7, Kolfe keraniyo sub city Woreda 2 .and Nifas silk lafto sub city woreda 11. The results are indicated as follows:

a) Yeka sub city, woreda 10



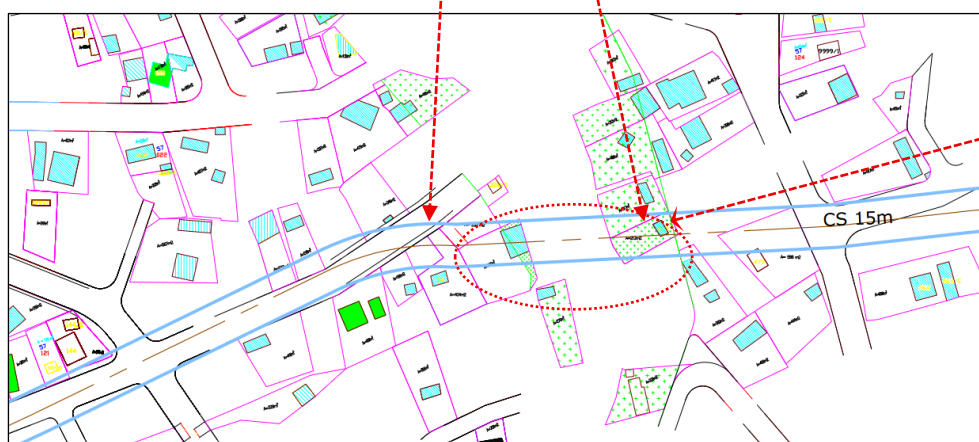
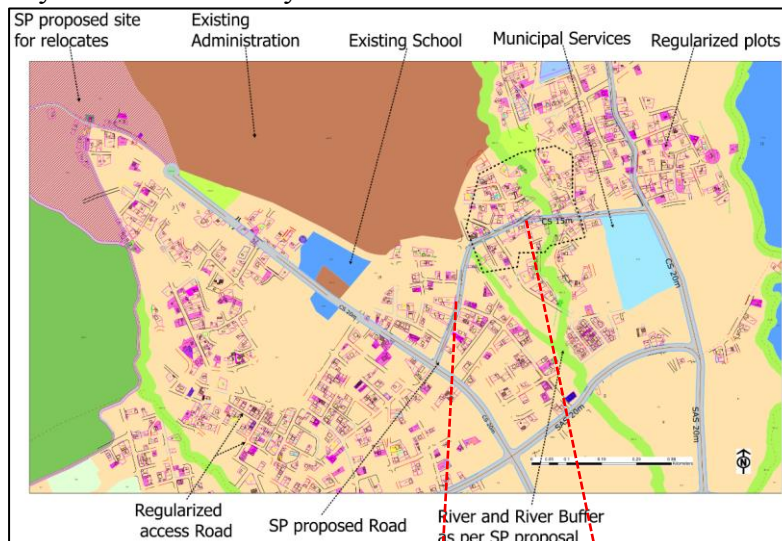
Map 4-13: Yeka sub city -Woreda 10 Ancorcha locality Regularization of informal settlements of the NHD



Map 4-14: Structure plan proposal and Regularized areas overlay map

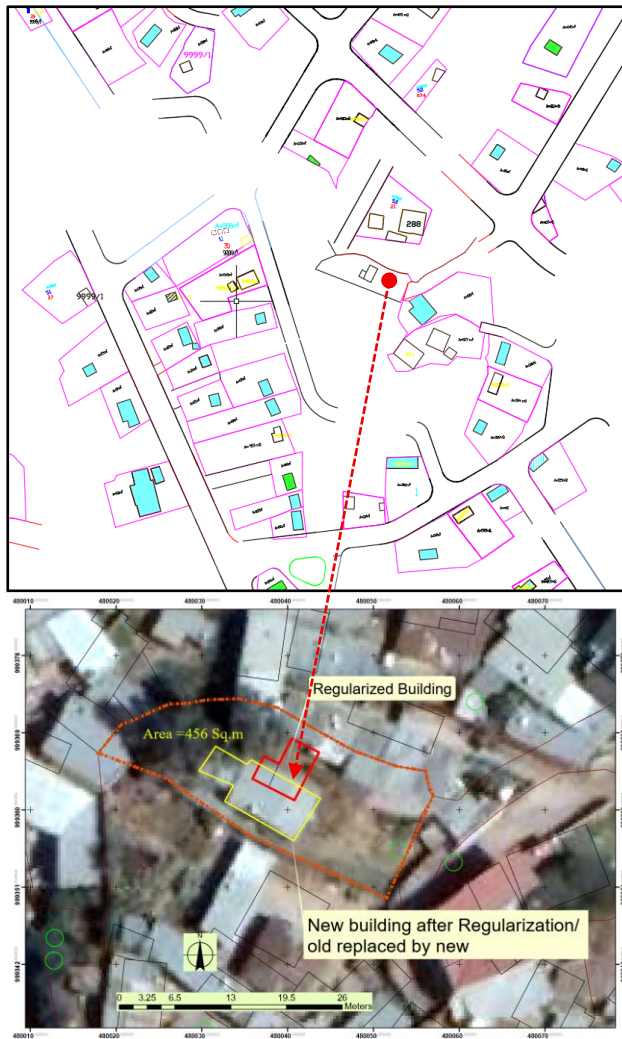


Map 4-15: Overview of the regularized informal settlements of Woreda 10 Yeka sub city Ancorcha Locality

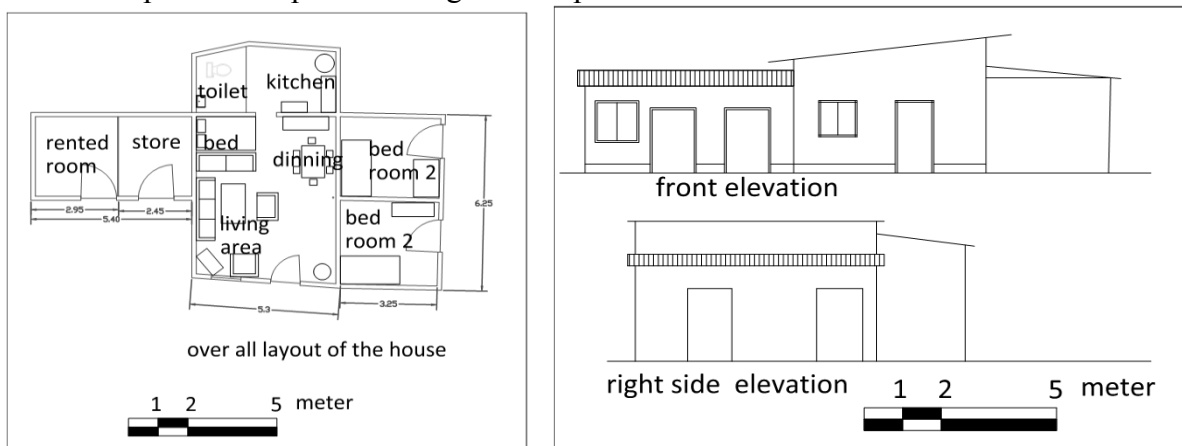


Mismatch or conflicting of Structure plan road and regularized access road. The structure road is not respected. The block and parcel forms and shapes not in harmony with structure plan.

Map 4-16: Structure plan Road, Block and parcel form of the regularized informal settlements of the Ancorcha Locality/Yeka sub city



Map 4-17: Shape of the Regularized plots of the informal settlements



Map 4-18: Building permits of the regularized plot

Source: Adapted from Philemon, 2019

Table 4-5: Comparison of Regularization site and Structure Plan Standards (2017-2027)

| <b>Land use</b>                        | <b>Regularized uses</b>             | <b>Urban plan standards</b>                                                             | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Land use</b>                        | Pure residence                      | Low density mixed residence                                                             | Minimum gross density (Housing units per hectare) with mandatory residence share of total Building Area 60%. But in the regularized areas this is not practical                                                                                                                                                                                                              |
| <b>Set back</b>                        | Undefined                           | 2-3m for local and collector streets                                                    | Local streets are not indicated in the structure plan as a result of the level of plan. Local streets are visible in Local Development Plan (LDP) or Neighborhood Development Plan (NDP). But local development plan may not be prepared in some regularized areas. Therefore, access roads for regularized areas follow the existing organic roads of informal settlements. |
| <b>Building height regulation</b>      | Majority G+0                        | The Minimum is not defined and maximum of 35m, 52.5- and 70-meters of building (Zone 4) | The structure plan building height regulation specified the height of buildings based on road width. Therefore, the regularized plots are not followed the structure plan standards.                                                                                                                                                                                         |
| <b>Road network and infrastructure</b> | 4, 6,8, 10 meters                   | As indicated in the table below                                                         | The minimum standard for local roads is 10m but the regularization plan considers 4m of access road in some regularized areas.                                                                                                                                                                                                                                               |
| <b>Social services and playgrounds</b> | Existing one primary school schools | Not indicated                                                                           | But as per the local development plan every neighborhood should fulfill all the necessary social services and playgrounds as per the catchment distance and population thresholds.                                                                                                                                                                                           |

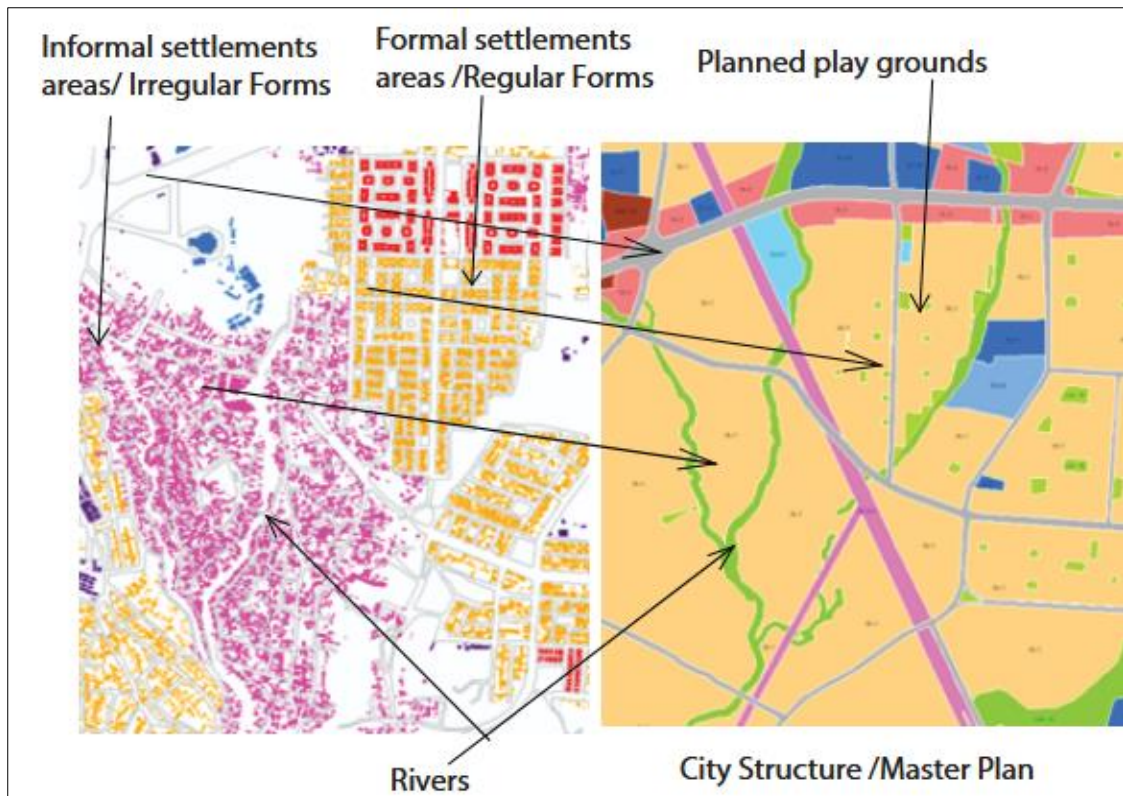
Table 4-6: Road network standards of the structure plan (2017-2027)

| Road Type                 | Width (m) | Standard Spacing | Design Speed                                          |
|---------------------------|-----------|------------------|-------------------------------------------------------|
| <b>Arterial</b>           | ≥40 Every | 2 Km             | >80 Km/hr                                             |
| <b>Expressway</b>         |           |                  |                                                       |
| <b>Partial expressway</b> | ≥40       | Every 2 Km       | High speed lane >80 Km/hr,<br>Side, lane 40-60 Km /hr |
| <b>Boulevard</b>          | 40        | Every 2 Km       | 40-60 Km/hr                                           |
| <b>Sub Arterial</b>       | 25, 30    | Every 1 Km       | 40-60 Km/hr                                           |
| <b>Collector</b>          | 15, 20    | Every 500 m      | 20-40 Km/hr                                           |
| <b>Local</b>              | 10        | 50-150 m         | <20 Km/hr                                             |

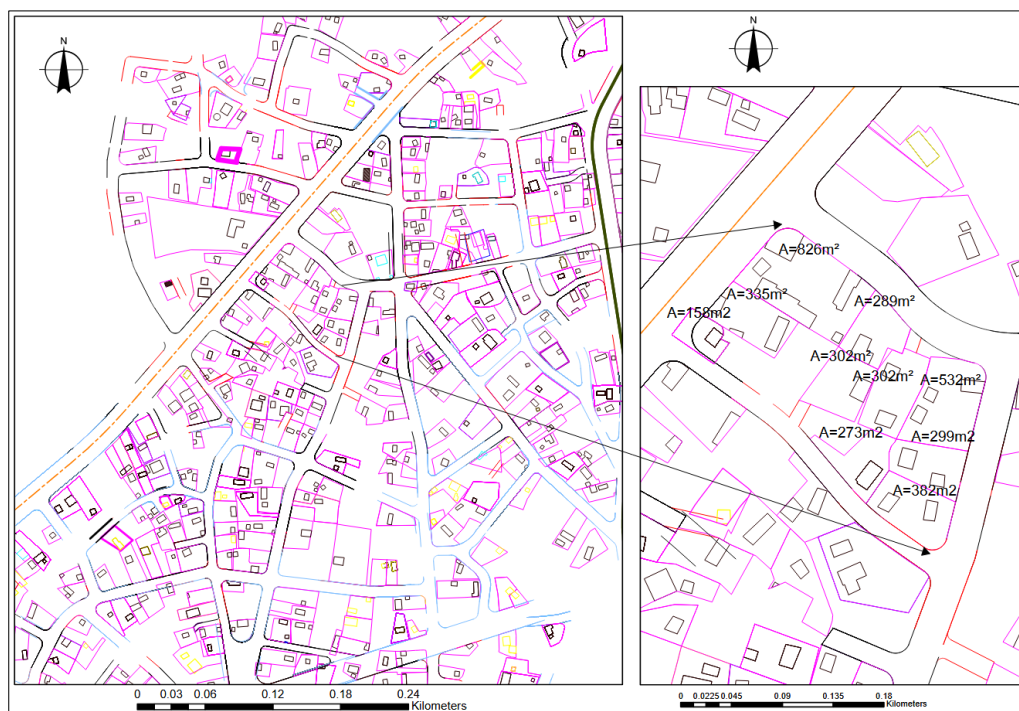
Source: Addis Ababa Plan and Development Bureau

Box 4-1: Mixed residence Categories with their density as per the Structure Plan of AA (2017-2027)

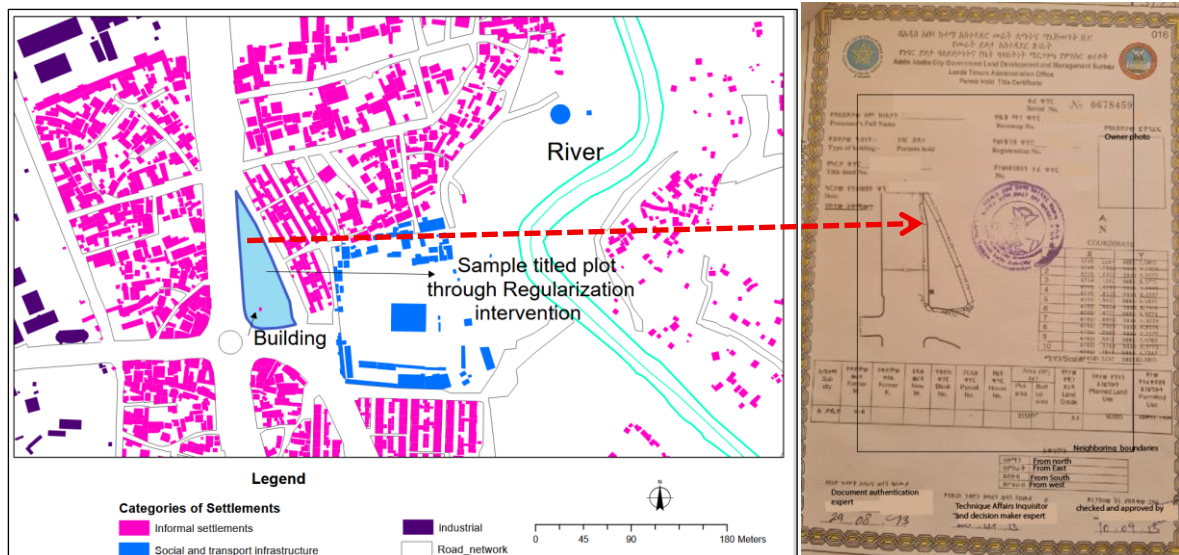
| Mixed Residence                       | Minimum gross density (Housing units per hectare) | Mandatory Resident Share of Total Building Area | Location                                                                     |
|---------------------------------------|---------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------|
| High density mixed residence (HDMR)   | 150hu/ha                                          | 40%                                             | Centers, corridors, high density mixed residence zones and commercial areas. |
| Medium density mixed residence (MDMR) | 100hu/ha                                          | 60%                                             | Mixed residence inside inner ring road.                                      |
| Low density mixed residence (LDMR)    | 50hu/ha                                           | 60%                                             | Mixed residence outside inner ring road.                                     |



Map 4-19:: Informal settlements overlaid with the city structure plan (2017-2027)



Map 4-20: Existing blocks and parcels of the regularized informal settlements

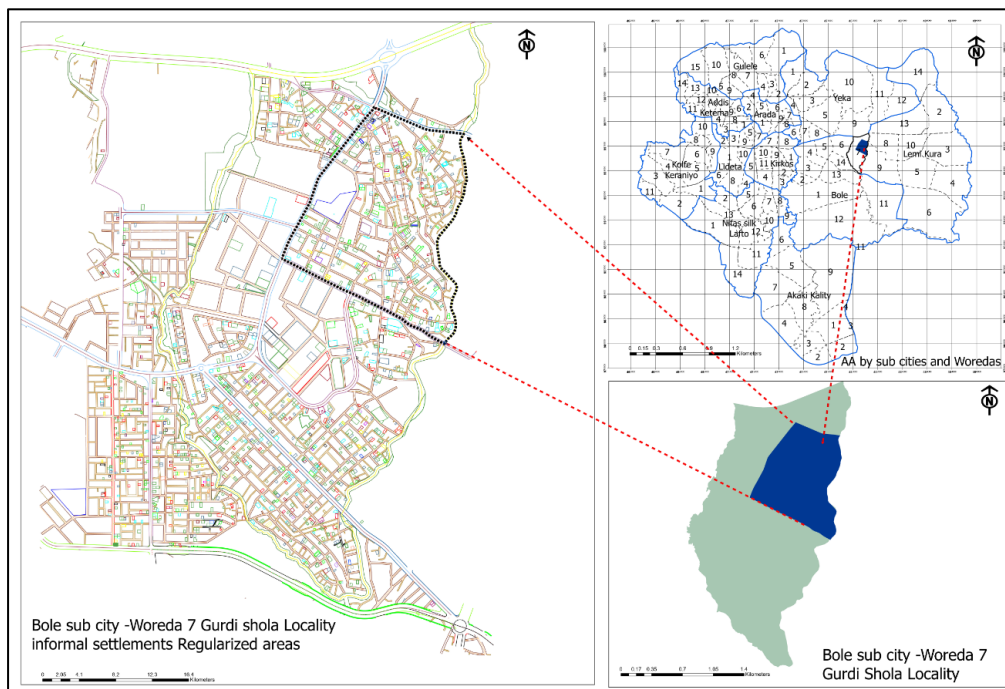


Map 4-21:: Sample title deeds for recognizing informal settlements

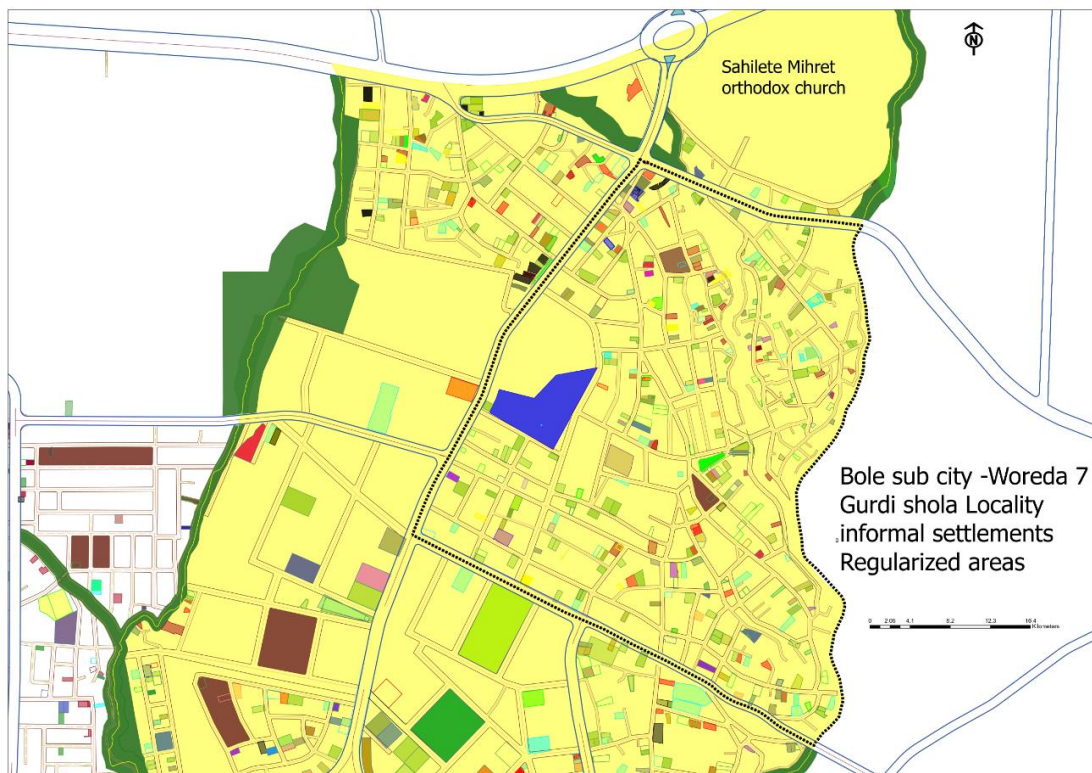
As indicated in Map 4-21 the title deeds as a sample are essential tools for recognizing and formalizing informal settlements so as to ensure secured tenure and thereby integrate it into Addis Ababa ensuring secure tenure and integration into the formal land management system. The regularization process begins with a request and concludes with the issuance of titled deeds. However, obtaining these title deeds is often tedious and time-consuming due to lengthy procedures. Moreover, the digital system which was intended to streamline the process, is frequently slow, causing further delays. The existing plots have irregular shapes, which make it difficult to comply with building permit standards and regulatory requirements. Therefore, re-parceling is essential to regularize plot dimensions by ensuring appropriate width and depth. This enables proper building construction, compliance with required setbacks, and more efficient use of scarce urban land.

Regularized plots also facilitate planned provision of infrastructure and utilities such as roads, drainage, water supply, sewage, electricity, and telecom. In addition, well-shaped and standardized plots improve accessibility and circulation within neighborhoods, and enhance connectivity between different urban areas, and support smoother movement for both pedestrians and vehicles. Overall, re-parceling contributes to a more organized urban structure, improved functionality of neighborhoods, and creat better urban image.

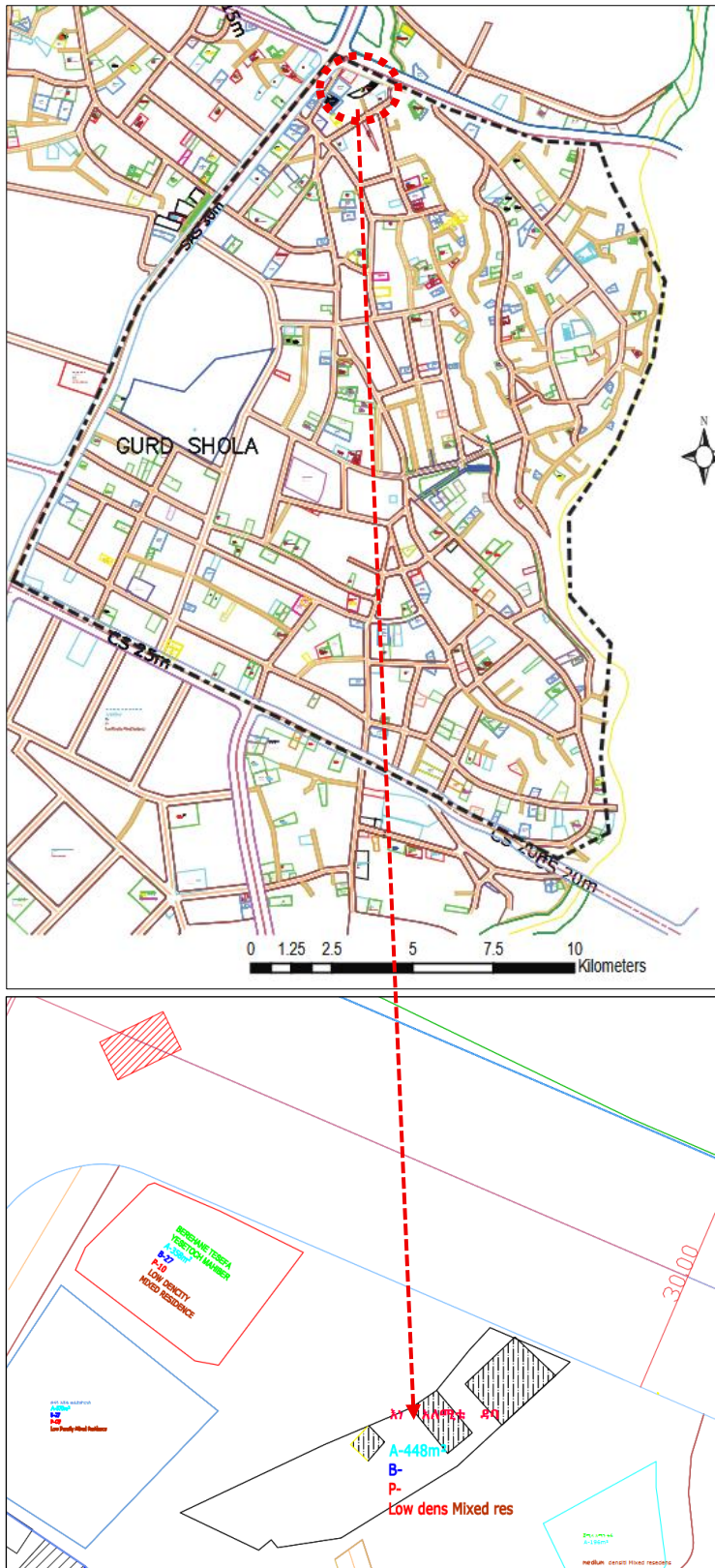
b) Bole sub city Woreda 07 Gurd Shola locality regularized areas



Map 4-22:Bole sub city -Woreda 07Gurdshola area locality Regularization of informal settlements of the NHD



Map 4-23: Structure plan proposal and Regularized areas overlay map

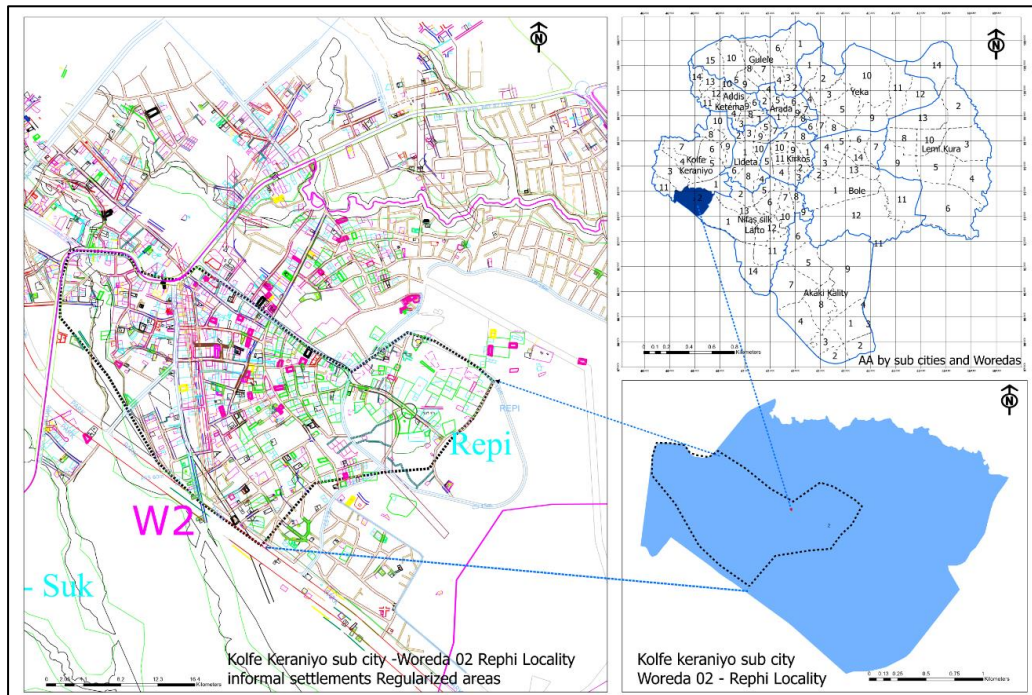


Map 4-24: Regularized informal settlements Local roads and shape of parcels

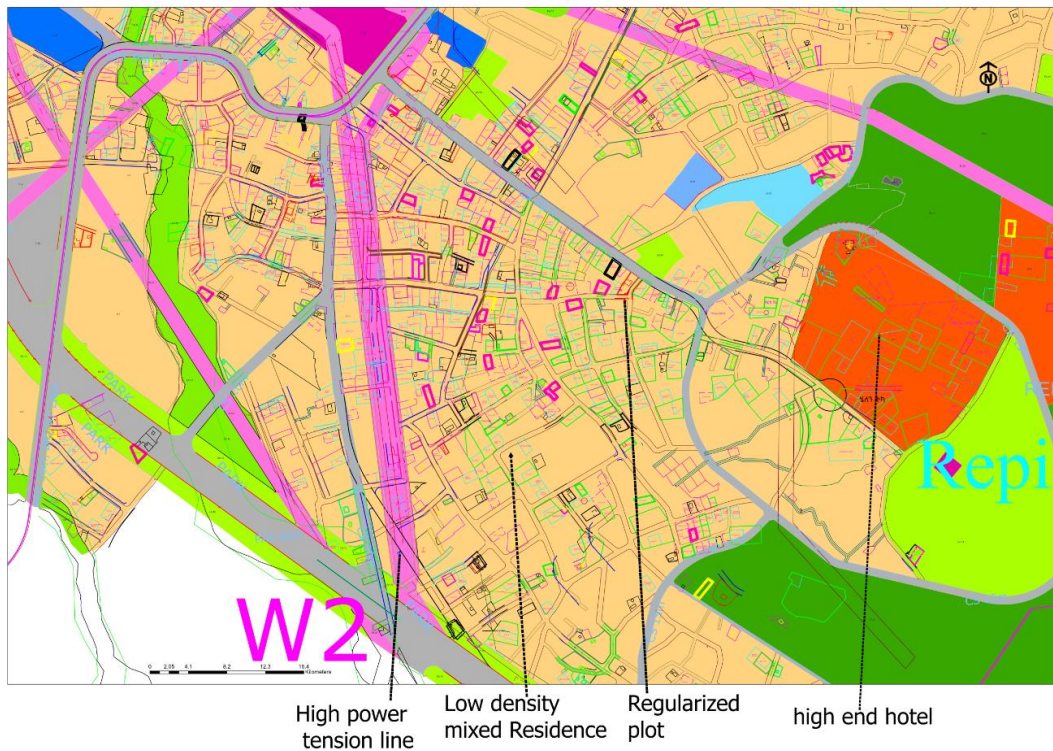
Table 4-7: Regularization of informal settlements and Structure plan standards (2017-2027) gaps

| <b>Land use</b>                        | <b>Regularized uses</b>             | <b>Urban plan standards</b>                                                                                  | <b>Description</b>                                                                                                                                                                                                                                                                                                            |
|----------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Land use</b>                        | Pure residence                      | Low density mixed residence                                                                                  | Minimum gross density (Housing units per hectare) with mandatory resident share of total Building Area 60%. But in regularized areas this is not practical.                                                                                                                                                                   |
| <b>Set back</b>                        | Undefined                           | 2-3m for local and collector streets                                                                         | Local streets are not indicated in the structure plan as a result of the level of plan. Local streets are visible in local development plan. But local development plans are not prepared in some regularized areas. Therefore, access roads for regularized areas follow the existing organic roads of informal settlements. |
| <b>Building height regulation</b>      | Majority G+0                        | Categorized as zone 4, and the minimum is not defined and the maximum are 35m, 52.5m and 70m of the building | The structure plan building height regulation specified the height of the buildings based on road width. Therefore, the regularized plots are not followed the structure plan standards.                                                                                                                                      |
| <b>Road network and infrastructure</b> | 4, 6,7,10, 25, 30 meters            | As indicated in the table below                                                                              | The minimum standard for local roads is 10m, but the regularization plan considered 4m of access road during implementation of regularization.                                                                                                                                                                                |
| <b>Social services and playgrounds</b> | Existing one primary school schools | Not indicated                                                                                                | But as per the local development plan, every neighborhood should fulfill all the necessary social services and playgrounds as per catchment distances and thresholds of population.                                                                                                                                           |

c) Kolfe Keraniyo sub city, Woreda 02



Map 4-25: Kolfe Keraniyo sub city - Woreda 02 Rephi locality Regularization of informal settlements of the NHD

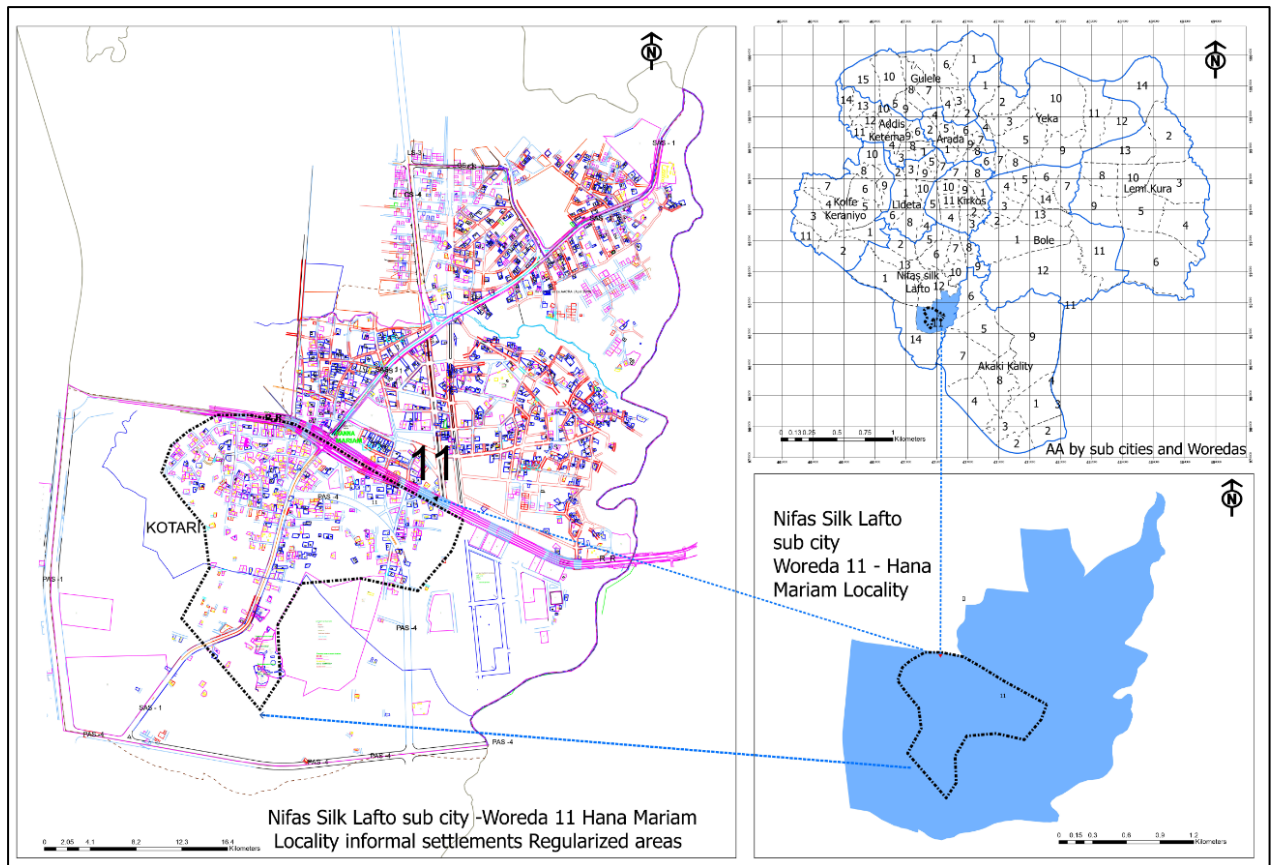


Map 4-26: Structure plan proposal and Regularized areas overlay map

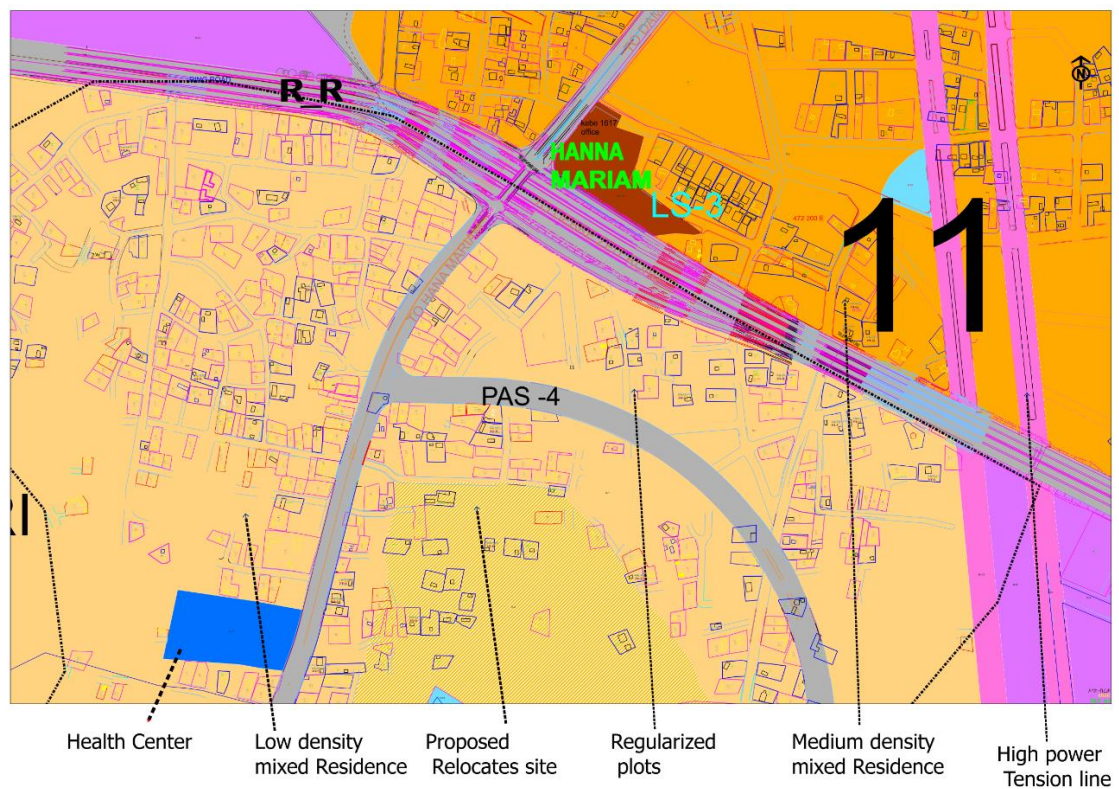
Table 4-8: Regularization of informal settlements and Structure plan standards (2017-2027) gaps

| Land use                               | Regularized uses                    | Urban plan standards                                                                                          | Description                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Land use</b>                        | Pure residence                      | Low density mixed residence                                                                                   | Minimum gross density (Housing units per hectare) with mandatory residence share of total Building Area 60%. But in regularized areas this is not practical                                                                                                                                                                    |
| <b>Set back</b>                        | Undefined                           | 2-3m for local and collector streets                                                                          | Local streets are not indicated in the structure plan as a result of the level of plan. Local streets expected in the Local development plan. But local development not prepared in some regularized areas. Therefore, the access road for regularization areas follows the existing organic roads of the informal settlements |
| <b>Building height regulation</b>      | Majority G+0                        | Categorized as zone 3 and 4<br><br>Minimum is not defined and maximum of 35m, 52.5- and 70-meters of building | Structure plan building height regulation specified the height of the buildings based on the road width. Therefore, the regularized plots are not followed the structure plan standards                                                                                                                                        |
| <b>Road network and infrastructure</b> | 6,8,10, 20 meters                   | As indicated in the table below                                                                               | The minimum standard for local roads is 10m but the regularization plan considered 4m of access road in its regularization implementation                                                                                                                                                                                      |
| <b>Social services and playgrounds</b> | Existing one primary school schools | Not indicated                                                                                                 | But as per the local development plan every Neighborhood should fulfills all necessary social services and playgrounds as per the catchment distance and thresholds population                                                                                                                                                 |

d) Nifas silk Lafto sub city, Woreda 11



Map 4-27: Nifas Silk Lafto sub city -Woreda 11 Hana Mariam locality  
Regularization of informal settlements of the NHD



Map 4-28: Structure plan proposal and Regularized areas overlay map

| <b>Land use</b>                        | <b>Regularized uses</b>             | <b>Urban plan standards</b>                                                                                   | <b>Description</b>                                                                                                                                                                                                                                                                                                             |
|----------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Land use</b>                        | Pure residence                      | Medium and Low-density mixed residence                                                                        | Minimum gross density (Housing units per hectare) with mandatory Resident share of total Building Area 60%. But in the regularized areas this is not practical                                                                                                                                                                 |
| <b>Set back</b>                        | Undefined                           | 2-3m for local and collector streets                                                                          | Local streets are not indicated in the structure plan as a result of the level of plan. Local streets expected in the Local development plan. But local development not prepared in some regularized areas. Therefore, the access road for regularization areas follows the existing organic roads of the informal settlements |
| <b>Building height regulation</b>      | Majority G+0                        | Categorized as zone 3 and 4<br><br>Minimum is not defined and maximum of 35m, 52.5- and 70-meters of building | Structure plan building height regulation specified the height of the buildings based on the road width. Therefore, the regularized plots are not followed the structure plan standards                                                                                                                                        |
| <b>Road network and infrastructure</b> | 6,8,10, 20 meters                   | 20, 25,30 meters                                                                                              | The minimum standard for local roads is 10m but the regularization plan considered 4m of access road in its regularization implementation                                                                                                                                                                                      |
| <b>Social services and playgrounds</b> | Existing one primary school schools | Existing health center indicated<br><br>High power electric line as protection zone                           | But as per the local development plan every Neighborhood should fulfills all necessary social services and playgrounds as per the catchment distance and thresholds population<br><br>Informal Settlements under high power tension line                                                                                       |

## 4.5. Innovative Approach for Regularization of Informal Settlements

### 4.5.1. Land Governance, Informal Settlements and Urban Planning Practices of Ethiopia

Ethiopia's rapid urbanization over the past three decades has led to increased demand for land, services, and housing. The potential to provide affordable housing for the low- and middle-income groups are the issues which the city administration tried. For this reason, there is a greater number of housing demand and a common belief that most migrants prefer to look for accommodation in informal ways for easy entry and accessibility.

For instance, there is huge mismatch between demand and supply of housing in urban centers of Ethiopia. Specifically, Addis Ababa ,has faced the most pressing housing shortage, especially for low income households that account for 80% of the city's population(EDRI, 2018). Annual supply during 2004-2014 ranges from 10,000 units to 20,000 units depending on estimates from different sources(MUDC, 2015a). This annual supply is much higher than the period before 2004 (3,000 units), but less than half of the planned 50,000 units(MUDC, 2015a). A projected demand of 655,800 housing units during 2015-2025 is a great challenges to meet the challenges which is rarely addressed. It is observable that Addis Ababa's housing market is under considerable stress. There is a substantial imbalance in the demand for and the supply of housing: the supply could not keep pace with the rapid increase(EDRI, 2018). Based on these indications, it is unavoidable that the coverage of informality will increase probably vertically because of the limited supply of land in Addis Ababa, which is saturated and has no more pre-urban areas as a result of encircled by other city. As previously discussed, the key factor influencing the future growth of informal settlements is the city's housing stress. Evidences showed that single Addis Ababa city from the about 2500 urban centers in Ethiopia greatly wrapped up the greater number of housing as estimated nationally based on regions, the housing needs increasing over the years in the country in the period of 2008 - 2032 as shown in the (Table 4-9), below compared to all the other regions, the number of housings needed in Addis Ababa is among the highest. As previously discussed, the key factor influencing future growth of informal settlements is the city's housing stress. Expectedly, there is high level of informality and illegal construction of houses, mainly driven by this wide gap in supply and demand of housing(MUDC, 2015a); Shim & Mengistu, 2016).

Amongst regions, the housing needs in Addis Ababa is projected to be at the forefront followed by Oromia, Amhara and SNNPR (South Nation, Nationalities People's Region). It is a critical challenge that inevitably needs innovative policy focus which would curb the growth of informal settlements and other related challenges. (EDRI, 2018)

Table 4-9: Projected housing needs of urban Ethiopia by regions

| Region                                       | Housing needs (existent and projected) |      |           |      |           |      |           |      |           |      |            |      |
|----------------------------------------------|----------------------------------------|------|-----------|------|-----------|------|-----------|------|-----------|------|------------|------|
|                                              | 2008                                   | %    | 2012      | %    | 2017      | %    | 2022      | %    | 2027      | %    | 2032       | %    |
| Tigray                                       | 197,082                                | 7.2  | 244,307   | 7.1  | 331,493   | 7.1  | 449,562   | 7.3  | 602,226   | 7.5  | 790,794    | 7.6  |
| Afar                                         | 40,300                                 | 1.5  | 55,951    | 1.6  | 83,573    | 1.8  | 121,682   | 2.0  | 178,742   | 2.2  | 229,504    | 2.2  |
| Amhara                                       | 517,957                                | 18.9 | 665,961   | 19.4 | 935,762   | 20.0 | 1,299,793 | 21.2 | 1,736,117 | 21.5 | 2,275,143  | 21.8 |
| Oromia                                       | 758,759                                | 27.7 | 932,317   | 27.1 | 1,299,793 | 27.8 | 1,692,633 | 27.6 | 2,321,147 | 28.8 | 3,146,143  | 30.2 |
| Somali                                       | 106,253                                | 3.9  | 125,815   | 3.7  | 158,282   | 3.4  | 200,276   | 3.3  | 249,023   | 3.1  | 303,232    | 2.9  |
| Benshangul Gumuz                             | 25,421                                 | 0.9  | 35,569    | 1.0  | 53,108    | 1.1  | 76,213    | 1.2  | 108,007   | 1.3  | 148,855    | 1.4  |
| South Nations Nationalities peoples' regions | 378,243                                | 13.8 | 501,353   | 14.6 | 698,352   | 15   | 945,990   | 15.4 | 1,275,863 | 15.8 | 1,678,839  | 16.1 |
| Gambella                                     | 16,814                                 | 0.6  | 23,744    | 0.7  | 35,274    | 0.8  | 50,749    | 0.8  | 70,923    | 0.9  | 95,294     | 0.9  |
| Harari                                       | 27,646                                 | 1.0  | 32,840    | 1.0  | 40,790    | 0.9  | 50,308    | 0.8  | 61,540    | 0.8  | 73,696     | 0.7  |
| Addis Ababa City                             | 619,024                                | 22.6 | 756,532   | 22.0 | 952,542   | 20.4 | 1,147,584 | 18.7 | 1,342,938 | 16.6 | 1,528,615  | 14.7 |
| Dire Dawa city                               | 52,102                                 | 1.9  | 63,338    | 1.8  | 80,210    | 1.7  | 101,361   | 1.7  | 127,702   | 1.6  | 156,172    | 1.5  |
| Total                                        | 2,739,601                              | 100  | 3,437,727 | 100  | 4,669,179 | 100  | 6,136,151 | 100  | 8,074,228 | 100  | 10,426,287 | 100  |

Source: Ethiopia Development and Research Institute, 2018

To incorporate informality to formal land use system, the regularization policy came into effect following the enactment of the Informal Land Possession Regulation No 17, Regularization Regulation No 18, Compensation Regulation No 19/2014. This regulation was later changed and approved to Regulation No. 163/2024, Regulation Issued to Regulate Creation and Service Delivery of Land Tenure Rights regularization of informal settlements with emphasis of titling of properties and plots(AACA, 2014, AACALB, 2014, AACA, 2024, AAUPI, 2014).

For that reason, the regulation program is a current policy aiming to handle the informal settlements of the city residents to lever the large number of informalities which account for about 50 percent of the total. The other important challenge is the availability of land. Under Ethiopian law, all land is owned by the government(FDRE, 1995). People only have rights to use through a land lease system. However, the market value of land has risen to a very high level, dramatically escalating the cost of building houses is a critical issue in relation to the building standards. For this reason the low-income groups are looking for cheap housing (informal housing supply) wherever they are found at the periphery of the city from all corners. In this case the major issues regarding the informal settlements of Addis Ababa are weak, inconsistent digital data specifically spatial geo data that shows the planned and implemented location of informal owner detail attributes and profiles for the easy regularization and management of these settlements. The existing data is inconsistent and not well organized. Digital data is important for innovative planning and development as well. Somehow Ethiopia has mainly relied on limited formalization and widespread demolition, which have proven ineffective in halting the spread of informal settlements.

Currently regularization is selected as appropriate intervention policy instrument rather than demolishing settlements built before 2005. This can significantly change the situation of households and city governance by enhancing livelihoods, access to services, and legality; however, its effects are underexplored, especially in the context of Addis Ababa. Weak institutions, limited participation, and challenges in urban plan implementation often hinders effective regularization, contrasting with the literature that emphasizes on the importance of participatory governance and robust institutional frameworks. Of course, digital data can improve the accuracy of planning and transparency, but remains underutilized.

As indicated in the Table 4-9 the history of land governance in Ethiopia is not well supported by appropriate management in different era (from traditional land holding to the current lease system). Spatially the land information system is weak and not well known. The coverage of informal settlements increases from time to time as the paperwork does not appropriately guide the urban development in the country. The problem is highly apparent in the large cities of the country like Addis Ababa and in secondary cities as well.

. As indicated below, rapid urbanization and limited formal land supply resulted in an explosion of informal settlements, especially in Addis Ababa and regional cities. In recent years, local governments in Ethiopia have begun to recognize and initiate the regularization of informal settlements, particularly in Addis Ababa and several secondary cities. However, these efforts have largely been fragmented and reactive, being undertaken in the absence of a clear national-level regularization policy or framework. The interventions have been localized and inconsistent, often dependent on municipal capacity and political will. In general, informal settlements management, and urban planning practices in the country are characterized by weak governance which relies on traditional management approaches, and to be remain the major challenges to urban development. Their key features and associated challenges is summarized in the following (Table 4-10)

Table 4-10:: Summary of urban land governances, informal settlements and urban planning practices of Ethiopia

| Period                  | Summary of Urban land governance and its key features             |                                                                                                                                                                                                                                                                | Name of informal settlement                                                                                                                                                                                                                                                                                                           | Urban planning practices                                                                                                                                                                                                                                                                                                        |
|-------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | System                                                            | Key features                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                 |
| Pre-1975 (imperial era) | Traditional urban landholding under private ownership (landlords) | <ul style="list-style-type: none"> <li>- Land privately owned by nobles, church, and elite.</li> <li>- Urban land market largely informal and unregulated.</li> <li>- Minimal regulation in relation to urban planning and land use categorizations</li> </ul> | <ul style="list-style-type: none"> <li>- Not as such clear policy direction regarding informal settlements.</li> <li>-Proliferation of informal settlements due to lack of affordable housing and rural-urban migration.</li> <li>-Interventions were minimal and some demolition measures without resettlement strategies</li> </ul> | <ul style="list-style-type: none"> <li>- Urban planning was limited and influenced by European planning models.</li> <li>- Cities like Addis Ababa were designed without comprehensive planning frameworks.</li> <li>- Planning focused on elite and administrative quarters; peripheral areas developed informally.</li> </ul> |
| 1975-                   | Land Nationalization                                              | -Urban dwellers were allowed to                                                                                                                                                                                                                                | -Weak housing supply, and                                                                                                                                                                                                                                                                                                             | -Establishment of national level urban                                                                                                                                                                                                                                                                                          |

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1991<br>(Derg<br>Era) | Proclamation<br>(No. 47/1975<br>No policy and<br>legal frameworks<br>on informal<br>settlements                                                                                                                                                                                                                                                                                                                                                                                                                                  | build private<br>homes on state<br>land.<br>- Abolishment of<br>private ownership<br>of land (urban and<br>rural), and citizens<br>were given use<br>rights<br>- Allocation of<br>houses to urban<br>dwellers via<br><i>Kebeles</i> on rental<br>basis).                                                                                                                                                                                                                                                                                                                                                                                                  | therefore, urban<br>shortage of<br>housing<br>persisted,<br>resulted in the<br>proliferation of<br>informal<br>settlements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | planning institute NUPI<br>(National Urban<br>Planning Institute)<br>mandated to prepare<br>urban plans for urban<br>areas as a centralized<br>planning system of the<br>country.<br>-Limited coverage of<br>urban plans.<br>-Weak implementation<br>due to political<br>instability and lack of<br>resources.                                                                                                                                                                                                                                                                                                                                                                                                           |
| 1991 to<br>2018       | -The FRDE<br>Constitution of<br>1995<br>-Enactment of<br>Urban Land<br>Lease<br>Proclamation No.<br>80/1993<br>-Enactment of<br>Urban Land<br>Lease Regulation<br>No. 3/2002 by<br>Council of<br>Ministers<br>-Revision of the<br>previous<br>proclamation and<br>enactment of<br>Urban Land<br>Lease Holding<br>Proclamation No.<br>721/2011<br>-Enactment of<br>different<br>directives<br>regarding land<br>reform including<br>cadaster and<br>informal<br>settlement<br>regularization<br>directives for<br>Addis Ababa and | - Reinforces that<br>land belongs to the<br>state and the<br>people.<br>-Introduced<br>leasehold system<br>for urban land and<br>different<br>modalities for the<br>acquisition of land<br>(auction,<br>negotiation, etc.)<br>and reinforced full<br>lease system for all<br>urban lands.<br>- Requires that all<br>prior holdings be<br>gradually<br>converted to lease<br>system.<br>- Introduced<br>competitive<br>bidding as main<br>means of land<br>allocation method<br>- Efforts were<br>made to improve<br>land registration,<br>mapping, and<br>transparency.<br>- GIS and cadastral<br>systems were<br>introduced in some<br>cities but it was | -Rapid<br>urbanization and<br>limited formal<br>land supply<br>resulted in an<br>explosion of<br>informal<br>settlements,<br>especially in<br>Addis Ababa and<br>regional cities.<br>-Focused on<br>constructing<br>condominium<br>housing to absorb<br>low-income<br>residents, aiming<br>to reduce<br>informal<br>settlements but<br>land scarcity led<br>to continued<br>informal<br>settlements on<br>the urban fringes.<br>-Local<br>governments<br>began to<br>recognize and<br>regularize some<br>informal<br>settlements.<br>-No clear<br>national<br>regularization<br>policy, but<br>piecemeal<br>regularization | - Shift towards<br>federalism and<br>decentralization of the<br>responsibilities in<br>managing planning.<br>- Cities and regional<br>states were given<br>mandates to prepare their<br>own urban plans.<br>-Enacted Urban Plan<br>Preparation Proclamation<br>574/2008.<br>- Preparation of Structure<br>Plans and Local<br>Development Plans<br>(LDPs).<br>- Efforts were made to<br>standardize urban<br>planning through<br>manuals and guidelines.<br>- Regional urban<br>planning academies and<br>training institutions have<br>been established.<br>- Weak integration of<br>GIS and digital mapping<br>tools in urban planning.<br>- Participatory planning<br>has been gaining<br>attention but still limited. |

|                 |                                                                                          |                                                                                                                                                                                             |                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | secondary cities in Ethiopia                                                             | inefficient.                                                                                                                                                                                | activities in Addis Ababa and secondary cities.<br>- Lack of digital data, fragmented and inconsistency of data.<br>- The coverage is not known.                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2018 to present | Urban Land Lease Holding Proclamation No. 721/2011 has been activated and is ongoing on. | -Reforms on the use of digitization, despite its inefficiency.<br>- Anti-corruption efforts are underway in land management offices and new urban land regulations are under consideration. | Regularization of informal settlements as an intervention measure for different settlement categories (for those informally built before 1996 and in between 1996-2005), but the fate of those settlements built after 2005 yet not decided. | -Urban planning shifts in favor of corridor development plan which is efficient and changed the image of major corridors in the cities.<br>- Proper urban planning and implementation exercise is a recent phenomenon of the country.<br>-Rural corridor development is endorsed as a policy direction.<br>- Focus on sustainable urban development, smart city initiatives, and housing provision. |

*Sources:* (Alain Durand-Lasserve and Harris Selod, 2007, Gondo, 2011, Haile, 2019, Amare, Abebe, Wasihun, 2020)

## CHAPTER FIVE

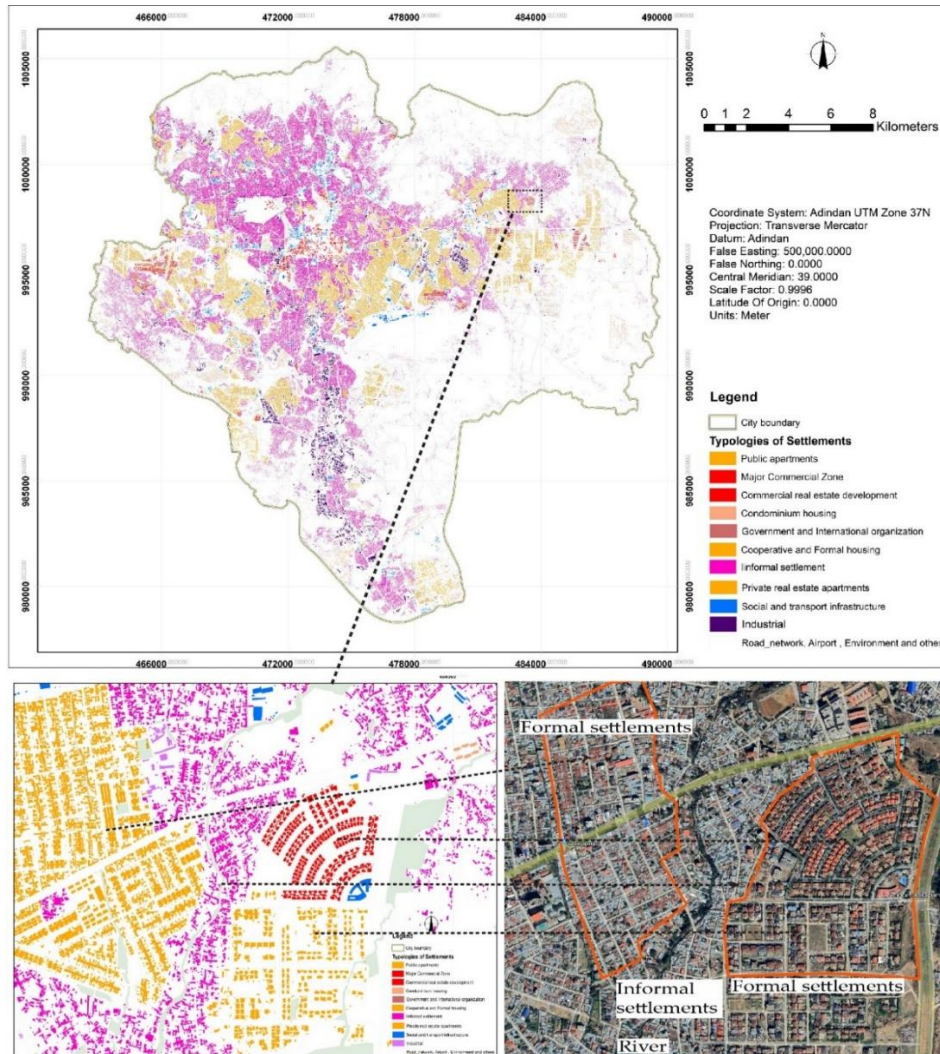
### 5. Discussion

This section discusses the findings of the research in relation to the reviewed literatures regarding the overall informal settlements' coverage, intervention approach specifically the regularization processes and urban planning exercises explicit to informal settlements in Addis Ababa Ethiopia.

#### 5.1. Identification of Informal Settlements Coverage

The spatial extent of informal settlements is not well documented spatially. However, the estimation is made for cities of developing countries. The estimation varies from country to country, but estimated to be between 20% to 80% of urban growth and affecting on average 40% of the urban population of developing countries (UNHS, 1996, UN-HABITAT, 2003b, UN-HABITAT, 2015). The problem is highly visible in larger metropolitan areas, and according to a study conducted by the World Bank Group shows that 70–80% of the urban population live in slums with dilapidated housing conditions. (World bank, 2014) On the other hand, 50–80% of houses were built without the consent of the government which makes them informal (KDI, 2018). Empirical studies carried out so far have shown the coverage of informal settlements in Addis Ababa to be about 50%. On the other hand literature reviews that were undertaken based on the old boundary of the city show that the estimated proportion of informal settlements ranges from 50% to 80% (KDI, 2018). Of course it is difficult to obtain accurate data on informal settlements in many low-income cities (Collier et.al., 2019). The study shows that there is a widespread informal settlements in Addis Ababa, even if the coverage is not well recorded (Durand-Lasserve, 2002) following the administrative restructuring of Addis Ababa and the establishment of Shaggar city in 2022, there is lack of updated data that clearly indicates the current Spatial extent of informal settlements of the city. Identifying the spatial extent of informal settlements is important for appropriate policy direction and decision making by city governors (Sietchiping, 2005). More importantly these informal housing have limited social and economic integration of low-income urban households and can be restricted from social and physical benefits as compared to the formal one (Durand-Lasserve 1996 and KDI, 2018). Therefore, it is important to

integrate these settlements to the city's urban system and thereby make the community part of a planned urban settlements..



Map 5-1: Distribution of informal settlements in Addis Ababa

Source: Researcher's analysis

Spatially, around 53 to 60% of the dwellings in Addis Ababa and 70 to 90% at national level are classified as informal (ORAAMP, 2000). The study also found that the expansion of informal settlements was primarily caused by two factors. The first issue was rapid urbanization, followed by several socio-economic factors such as unemployment, housing shortage, low income, and poverty. The second important factor was institutional failure to control the situation, and malpractice is a major factor. In addition, frequent changes in city governments, officials, and employees, which resulted in lack of coordination among sectoral offices, are the main causes for the higher coverage of informality.

## 5.2. Examining the Regularization Process of the Informal Settlements

The study examines, process of regularizing informal settlements in detail, focusing on the sequential steps to obtain title deed. The findings indicate that the regularization process/ procedure of informal settlements in Addis Ababa is highly complex, lengthy, and time-consuming. Multiple institutions are involved, which further slows down progress and complicates coordination. These institutions include the Urban Planning and Development Bureau, the Building Permit and Regulatory Agency, the Cadaster and Land Information Agency of the city administration, and other related bodies, as illustrated in ( Figure 4-3 and Figure 4-4). Most of the time regularization policies have complex socio-economic and urban environmental realities in nature which involve multiple aspects of land, registration, financial, urban, and environmental laws which slow the implementation process(Neema Abiael Munuo, Jackson Wilbard Kombe, 2025). Local context findings more importantly, indicate that the regularization process is considerably slow and inefficient, often requiring residents to make multiple follow-up visits, on average two years, and remains a challenging task to get title deeds because of spatial or land use plan mismatch, legislative gaps and fragmented institutional setup, due to unclear roles and responsibilities of actors, extended bureaucracy, inconsistency in the implementation of policies and regulations, the discrepancy between the approved urban plan framework and the actual layout of regularized informal settlements. But theoretical perspectives from the literature indicate that poor land registration, financial aspects and environmental laws are the major factors which affect the implementation of regularization. It is understandable that the findings from the local context boldly articulate the major factors can be categorized into two three major factors: spatial or land use plan mismatch, legislative gaps and fragmented institutional setup.

1. Spatial planning: Which is the discrepancy between the approved urban plan framework and the actual layout of regularized informal settlements
2. Institution: Unclear roles and responsibilities of actors with extended bureaucracy.
3. Legal/Regulatory aspect: Inconsistency in the implementation of legal provisions resulting in inefficient execution.

Therefore, appropriate reforms with regard to spatial planning, institutional restructuring and legal amendment are required within a framework of proactive

urban planning in order to enhance the effectiveness of the regularization process. Studies suggested that residents of consolidated informal settlements are not evicted or relocated but can remain on the land they have occupied with access to better living conditions (Monkkonen, 2012). In this sense the regularization can promote social justice and economic development (Payne, 1997a).

Moreover, the platform for stakeholder involvement lacks transparency and efficiency. Stakeholders reported that interactions between different institutions are poorly coordinated, with limited information sharing and minimal opportunities for collaboration. Likewise, lack of a clear, transparent communication framework has also undermined trust in the process. Although the responsible institution initially established a project-based approach with the objective of completing the regularization of all informal settlements within one year, this target has not been met. Major challenges hamper the regularization process are:

1. Poor and unreliable online systems with limited efficiency, resulting in delays in processing ;
2. Lack of transparency and accountability among institutions, hindering smooth interaction and collaboration;
3. Weak stakeholder engagement, with low level of participation from community members and other relevant actors; and
4. Insufficient institutional and technical capacity, limiting the ability to manage and complete the regularization process across all affected areas.

These challenges collectively demonstrate the urgent need for systemic reforms, including stronger inter-institutional coordination, upgraded digital infrastructure, enhanced transparency and accountability mechanisms, and capacity-building programs to ensure timely and efficient regularization of informal settlements in Addis Ababa. As indicated in the process map below Figure 5-1, that undergoes 15 steps , the involvement of institution outside of the responsible organization can take a long time in the issuance of title deeds.

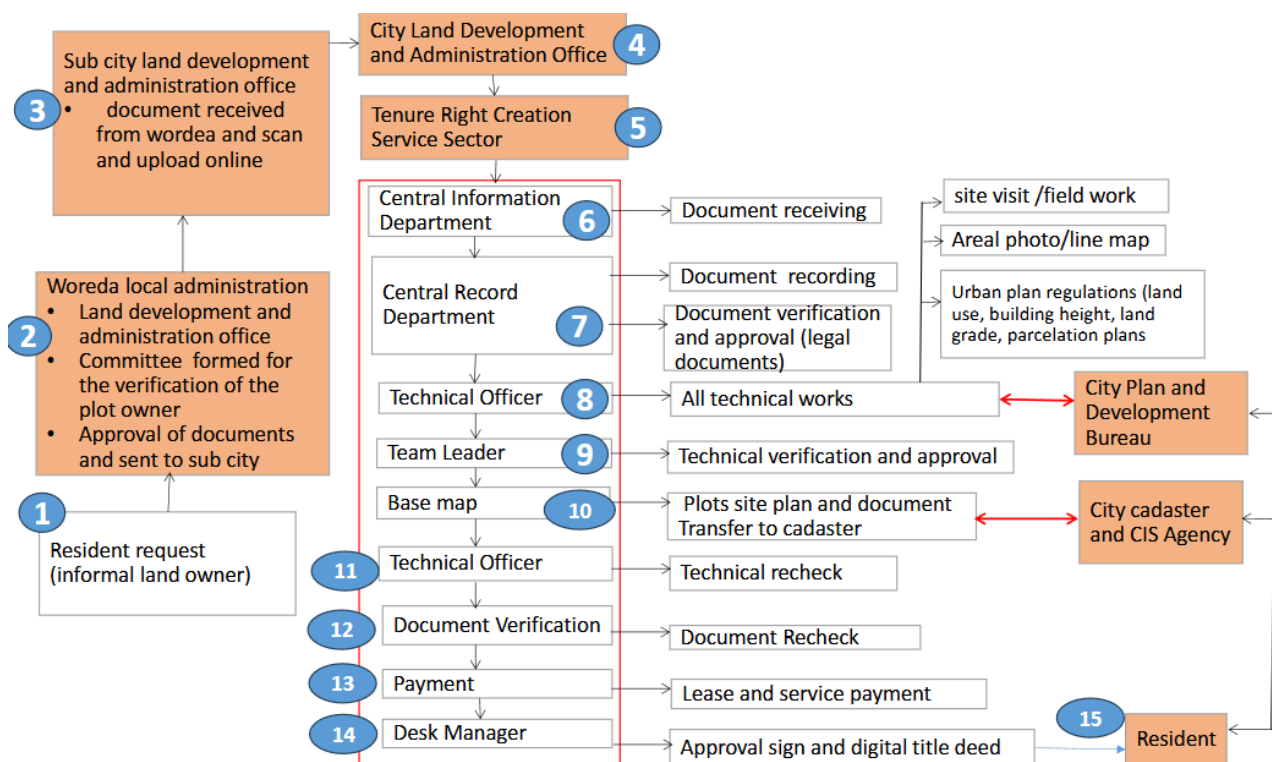


Figure 5-1: The Regularization Process by steps

Table 5-1: Regularization performance levels

| Major Tasks                                                                               | Measurement                   | Planned round /steps/ | Performed /steps/ rounds | Performance percentage | Gaps of round steps | Gaps in percent |
|-------------------------------------------------------------------------------------------|-------------------------------|-----------------------|--------------------------|------------------------|---------------------|-----------------|
| Identification and study on the regularized areas                                         | document                      | 2                     | 4                        | 0.5                    | 2                   | 0.5             |
| Undertake regularization activates                                                        | Title deeds                   | 8                     | 32                       | 1                      | 24                  | 1               |
| Registration of regularized plots                                                         | Number of plots/parcels       | 8                     | 24                       | 0.5                    | 16                  | 0.5             |
| Verification and correction of the data of regularized plots for land registration agency | Number of parcels/plots       | 2                     | 8                        | 0.5                    | 6                   | 0.5             |
| Compliant hearing and resolution                                                          | Number of resolved complaints | 1                     | 4                        | 0.5                    | 3                   | 0.5             |
| Follow up, support and feedback                                                           | Scheduled round               | 1                     | 2                        | 0.75                   | 1                   | 0.25            |

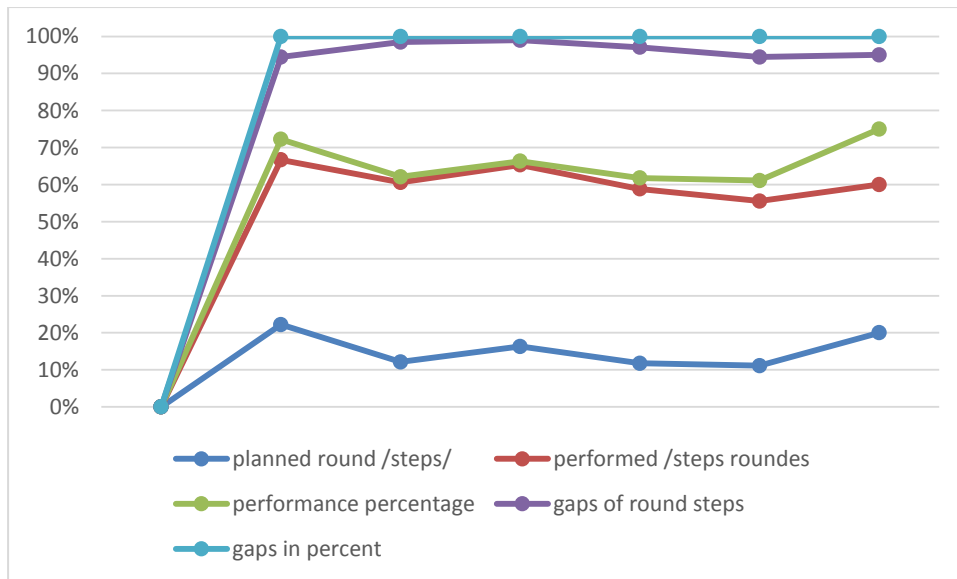


Figure 5-2:Regularization performance levels

Source : Computed From Land Development and Administration Bureau, property creation BPR reform (business process reengineering workflow document 2022)

### 5.3. Regularization of Informal Settlements Vs Urban Planning Exercises

Informal settlements are widespread and persistent phenomenon in Addis Ababa, which is largely driven by rapid urbanization, shortage of affordable urban housing, weak land governance, and weak policy and regulatory frameworks, that encourages residents to build housing outside the legal system, often without permits through violation of city land-use plans and other urban planning regulations(UN-HABITAT, 2015). Mostly, farmers in peri-urban areas informally transfer land despite the fact that the Ethiopia constitution doesn't permit the sell of land(FDRE Constitution, 1995). As a result, informal settlements have expanded even in environmentally sensitive areas such as river buffers, green spaces, mountains and high-power transmission buffer risk areas. Even if city directives, such as regulation No. 163/2024, allow for the regularization of informal settlements established before 2005 (nothing said for those built after 2005), many residents still lack secured tenure, infrastructure, and basic services. Urban planning response for such informally inhabited areas is very limited, not well specified, and only generalized approach as mixed zone areas.

Findings reveal that many informal settlements were developed without consideration of urban planning standards, including land-use regulations (current city structure plan not indicated pure residence in its land use category), building height (35m, 52.5m, 70m, 105m and unlimited height as per zones) setbacks (2m to 10m depth from property line), and road width/ infrastructure requirements. Some settlements are located in restricted and high-risk areas, such as river buffers, environmental protection zones, aviation restrictions zones, and power line corridors as urban planning guidelines. In addition, essential urban services, infrastructure, and public facilities are not supplied to such informal settlements. These all conditions reveal a significant mismatch between informal settlements and urban plan guidelines. It is also well identified in studies that there is a wide gap between urban land use plans and informal settlements, as urban spatial plans ignore the existence of informal settlements in large urban areas like Addis Ababa. Moreover, such spatial plans lack flexibility and appropriateness in land-use management systems (Huchzermeyer, 2021).

Regularization in all informal settlements that will be regularized during the planning period can be undertaken based on the principle of land use planning regulation. Many of the informally developed areas in the city are low rise and are not in harmony with urban planning guidelines and building codes (Map 5-2). As those settlements are built without official permit from the city government or any of its departments, people get the opportunity to build whatever type of housing they can afford. Thus, from the affordability perspective, protection of such settlements remains a critical issue. Other than this, in the context of Addis Ababa, most residents of such settlements were forced to build informally in the absence of other options of getting land/plot. Considering the reality, the city administration has been undertaking selective regularization measures based on the given time line so as to distinguish older settlements from the recent ones. As many of the informal settlements are located in peripheral areas, some of them are situated in environmentally sensitive areas where residents occupy lands at night time. Usually, the structures of their houses are assembled using corrugated iron sheets, second-hand old doors and windows that are dismantled from inner city renewal areas.

In peripheral areas, informal settlements tend to occupy larger plots of land, while those in the inner city are generally smaller. Of course, the land in these areas is often

designated for agricultural purposes or greenery particularly in areas that pose risks such as flooding and landslide. Moreover, many of these settlements are established by migrant families or economically disadvantaged groups, characterized by poor-quality housing. Residents commonly rely on communal bathrooms and kitchens, although some lack access even to these facilities.

Construction of informal settlements on green spaces and environmental sensitive areas complicates urban planning efforts and can also lead to social crises, as demolishing of these settlements may disrupt families. Additionally, informal settlers often fear urban planning regulations due to their inability to claim land tenure, and this also pose serious challenge in undertaking urban planning and implementation. Theoretically acknowledging the significant role of informal settlements has remained debatable amongst scholars, policy-makers and planners which fundamentally is challenging in urban planning (Hill, 2024). Basically, planning is a spatial technology or theory of domination tasked with organizing and controlling space' (Kamete, 2013). Adopting a sensitive planning model suggests a need to rethink the relationship between planning (structure, culture, governance, processes and decision-making) and informal settlements(Hill, 2024). Urban planning and management interventions in the African continent do not recognize informality in most cases and consider it a mark in the modern setting of urbanism(Kamete, 2013).

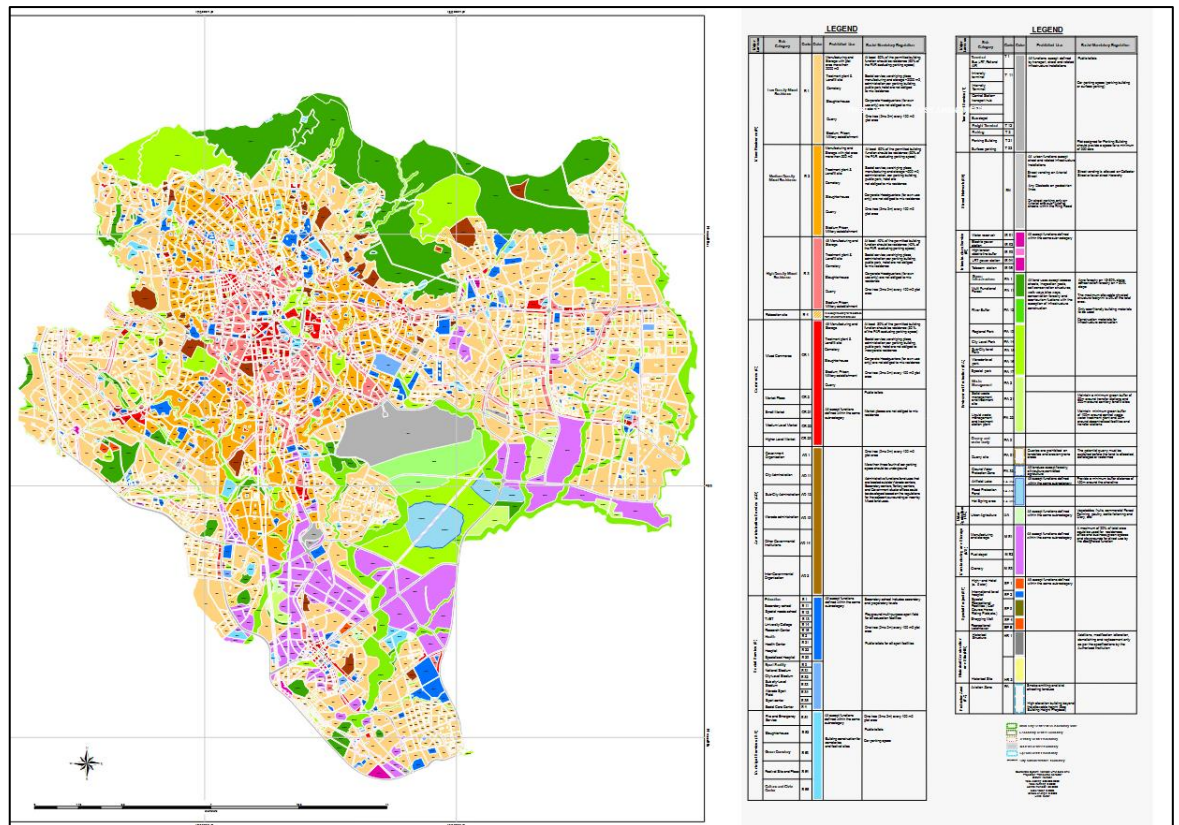
Land use categories in the structure plan of Addis Ababa (2017-2027) are overlaid with the existing informal settlements footprints. It is identified that the difference is visible and that informal settlements do not align with planning regulations in terms of land use, road network and building height regulations. It is well understandable that informal settlements are irregular and organic as a result of its development nature. Plot sizes, shapes and areas are irregular (see Map 5-4) and difficult to bring to the planning standards. From these figures we can understand that intervention could be made by regularizing the settlements merely with little urban planning and design approaches as the situation hinders the overall urban planning, implementation and governance efforts.

For instance, informal settlements in such areas do not comply with the structure /master plan, building permits, or set back regulations. In fact, lack of legal rights prevents residents from making long-term investments in infrastructure and housing

improvements. It also complicates efforts in integrating these areas into broader urban development plans because construction typically follows informal practices. As per the regulation, informal settlements built in environmentally sensitive or hazardous areas, such as flood prone and land slide areas are not legible to get title deeds. Moreover, informal settlements that are found in areas designated for green spaces, new road and services areas are not legible for permanent regularization and may only be granted temporary recognition due to environmental and planning restrictions. In contrast, informal settlements situated within mixed-use zones may benefit from more flexible land use policies, as it allows for a variety of land use functions including residential, commercial, and institutional uses based on the provisions outlined for mixed-use areas. These patterns are illustrated in the figure below, which overlays the distribution of informal settlements with the city's land use classifications. However, the structure plan is organized merely at framework level and therefore lacks detailed land use classifications at community level including: kindergarten, playground, open spaces, local roads, health services, and similar other neighborhood level services. It is therefore imperative that a holistic local level plans and urban designs, that incorporate all neighborhood level infrastructures and services, should be considered during the process of regularization (See Map 5-5 )

#### 5.3.1. Land Use Plan of Addis Ababa

The structure plan of the city (2017-2027) including: Land use, Road network, Building Height Regulations, and other infrastructure related regulation were included by location in the document in relation to informal settlements.



Map 5-2: Land use of the structure plan provision (2017-2027)

Source: Addis Ababa Plan and Development Bureau

The structure plan sets three levels of a minimum gross density for mixed residential land use which are:

- 1) High Density Mixed Residence of a minimum of 150 housing unit (hu)/ households (HH) per hectare.
- 2) Medium Density Mixed Residence of a minimum of 100 hu/ HH per hectare.
- 3) Low-Density Mixed Residence of a minimum of 50 hu/ HH per hectare of land.

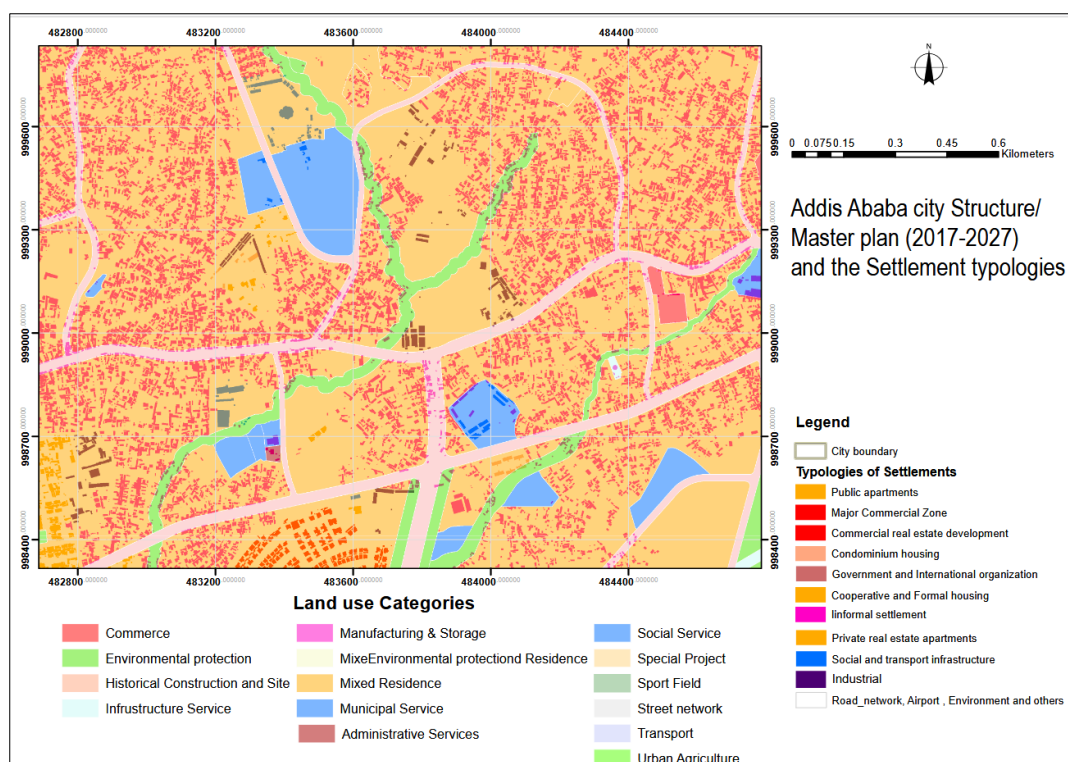
- 4) This density determination depends on location of residential units.

The mandatory share of residence from the total floor area is a minimum of 40% for high-density mixed residence; a minimum of 60% for medium-density mixed residence; and a minimum of 60% for low density mixed residence as indicated in the Table 5-2 below.

Table 5-2: Density standard in mixed residence land Use

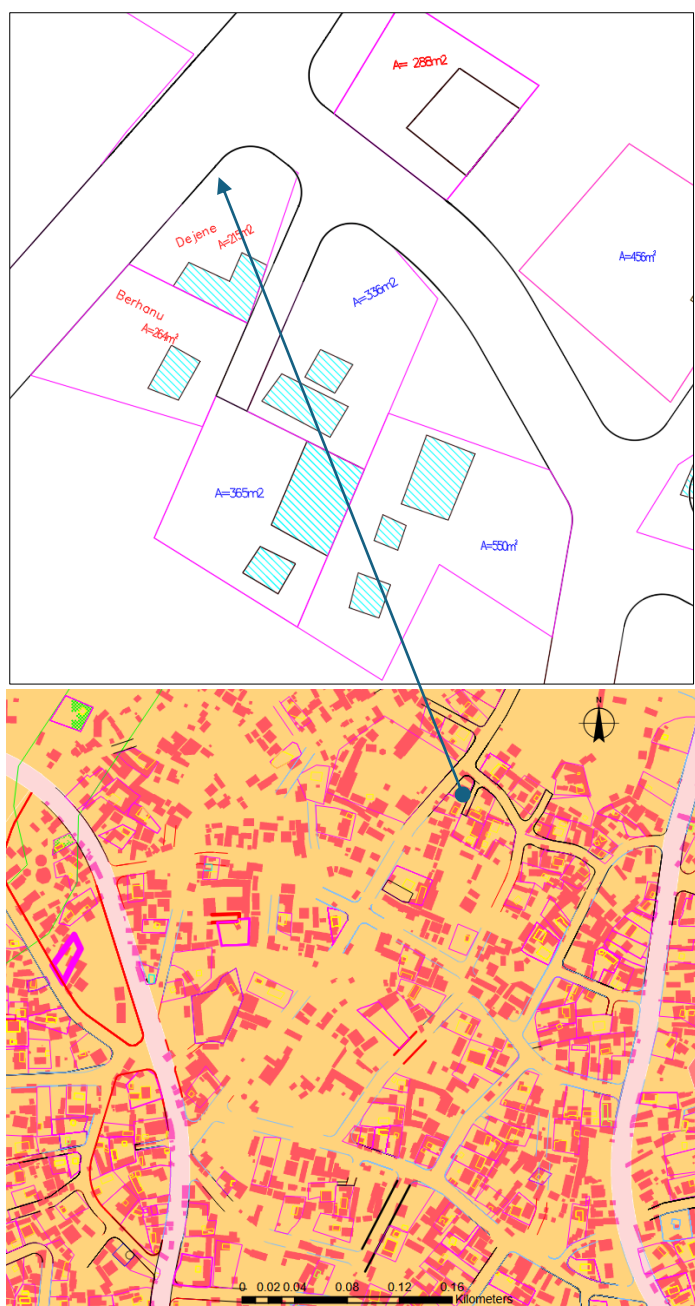
| Mixed Residence                | Minimum gross density (Housing units per hectare) | Mandatory Resident Share of Total Building Area | Location                                                                      |
|--------------------------------|---------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------|
| High density mixed residence   | 150hu/ha                                          | 40%                                             | Centers, main routes, High density mixed residence zones and commercial areas |
| Medium density mixed residence | 100hu/ha                                          | 60%                                             | Mixed residence inside the inner ring road.                                   |
| Low density mixed residence    | 50hu/ha                                           | 60%                                             | Mixed residence outside the inner ring road.                                  |

Source: Addis Ababa Plan City Structural Plan provision, 2017



Map 5-3: Structure plan land use regulation versus Informal settlement locations

Source: Addis Ababa Plan and Development Bureau



Map 5-4:Detail overlay of regularized plot and land use plan (2017-2027)

Source: Researcher's Analysis

The overly analysis of informal settlements with the designated land-use categories in the structure plan of Addis Ababa (2017-2027) reveals significant inconsistency with informality. The structure plan classifies land into three major categories in relation to residence such as high density, medium density and low-density mixed residences. However, the predominant land use within informal settlements is purely residential, a category that is not explicitly reflected in the structure plan land use designations.

This indicates a fundamental inconsistency between planned land-use allocations and the actual informal settlements.

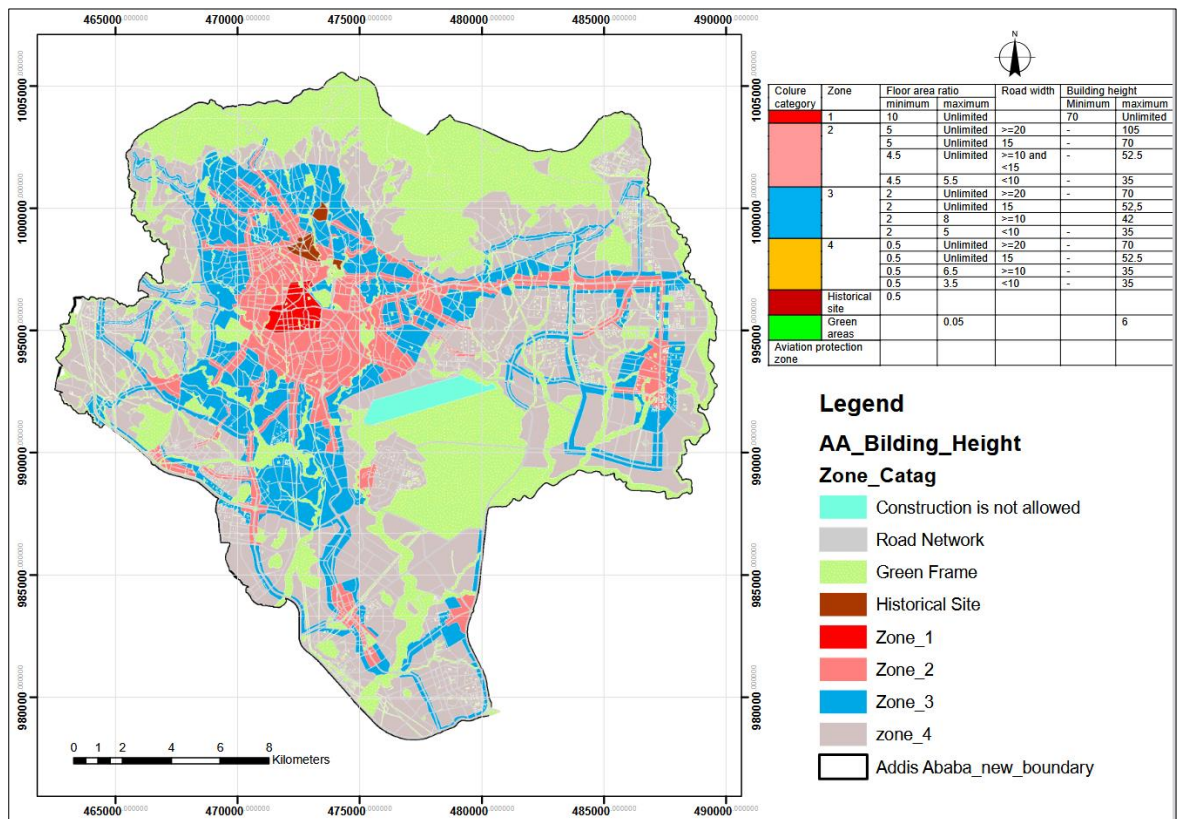
Regarding the road network, the structure plan indicates the streets hierarchically comprising of principal arterial streets, sub arterial streets, and collector streets, each with specified right-of-way widths. However, local streets the lowest tier in the hierarchy, are not incorporated, as the structure plan level primarily as structure plan is a framework rather than a detailed plan. In contrast, road networks within informal settlements evolved organically, resulting in irregular and undefined or inconsistent widths. This discrepancy creates a clear mismatch between the planned road and the existing road patterns, posing a major challenge in effectively implementing the structure plan but the regularization plan follows the existing.

In terms of building height regulation, the structure plan establishes different categories of height standards based on zoning classifications, which are determined by plot size and floor area ratio (FAR). However, these standards do not adequately consider the socio-economic realities of residents in informal settlements, particularly in relation to affordability. Similarly, setback regulations are also defined in accordance with road hierarchy, with maximum and minimum requirements (e.g., 10m and 5m for principal and sub-arterial streets, 3m for collector streets, and 2m for local streets) are often impractical in informal contexts, where plot configurations and space constraints do not permit compliance with such standards.

Furthermore, key planning concepts provide additional context for these challenges. Land grade refers to the classification of land based on its suitability, accessibility, and socio-economic value, with centrally located areas exhibiting higher land values compared to peri-urban zones. The urban planning codes constitute the regulatory frameworks governing land use, building standards, and development control to ensure orderly urban growth. In this regard, regularization involves the formal integration of informal settlements into the urban system through legal recognition, infrastructure provision, and administrative inclusion. But based on land grades the payments are unaffordable which delays the regularization process.



Map 5-5: Overlays of the Regularized plots and the structure Road (2017-2027)

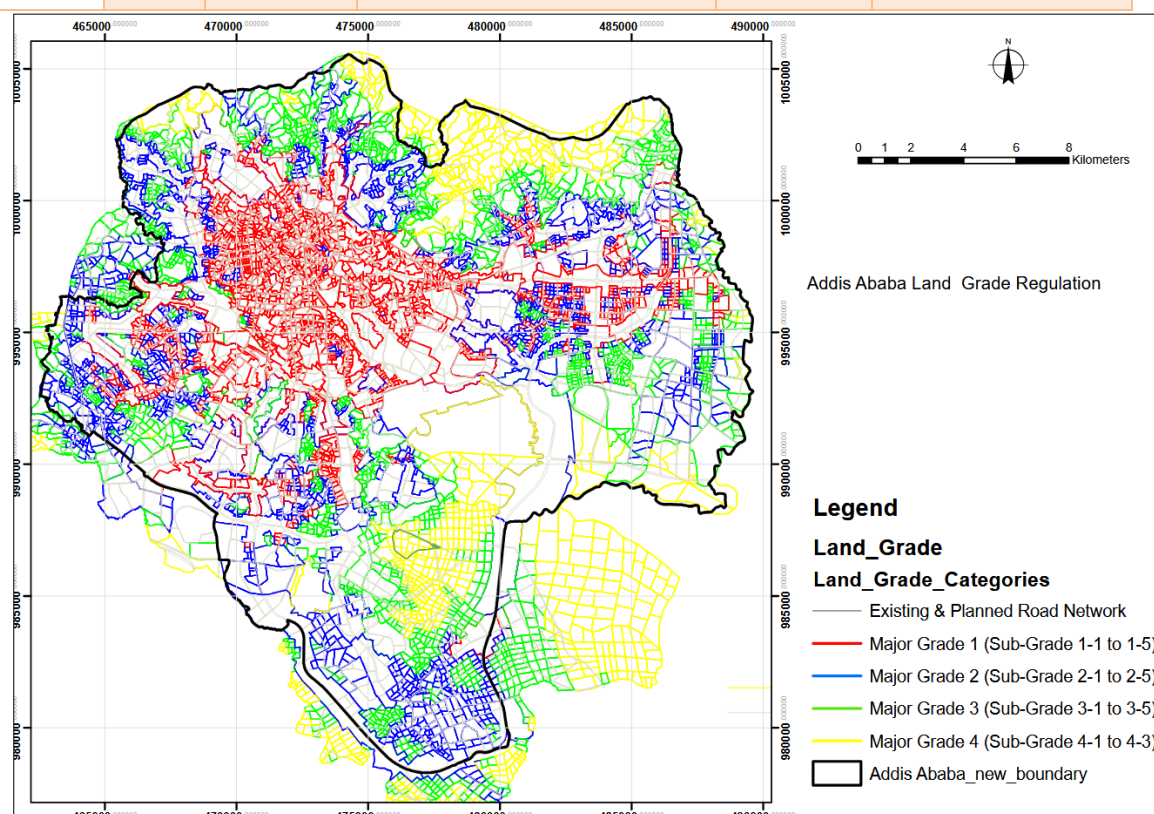


Map 5-6: Building Height Regulation (Structure Plan 2017-2027)

Source: Addis Ababa Plan and Development Bureau

Table 5-3: Building Height Regulation by Zones

| Zone | FAR |           | Road Width in meter  | Building Height in meter |      |
|------|-----|-----------|----------------------|--------------------------|------|
|      | Min | Max       |                      | Min                      | Max  |
| 2    | 5   | unlimited | $\geq 20$            | -                        | 105  |
|      | 5   | unlimited | $\geq 15$ and $< 20$ | -                        | 70   |
|      | 4.5 | unlimited | $\geq 10$ and $< 15$ | -                        | 52.5 |
|      | 4.5 | 5.5       | 10                   | -                        | 35   |
| 3    | 2   | unlimited | $\geq 20$            | -                        | 70   |
|      | 2   | unlimited | 15                   | -                        | 52.5 |
|      | 2   | 8         | $\geq 10$ and 15     | -                        | 42   |
|      | 2   | 5         | $< 10$               | -                        | 35   |



Map 5-7: Addis Ababa Land grade map in relation to affordability for the lease payments.

Source: Addis Ababa Land Development and Administration Bureau

## 5.4. Innovative Approach for Regularization of Informal Settlements

### 5.4.1. Regularization and Use of Spatial Data

Regularization efforts in Addis Ababa have been inconsistent and limited in scope. While the city administration has attempted to regularize informal settlements through regulations, the number and size of these settlements have continued to grow, especially in peri-urban areas. The regularization code approved by the city administration gives tenure right only for those which were built before May 2005. In localities where regularization was undertaken, there has been improved tenure security and access to services, but often failed to address the root causes of informality, such as inadequate housing supply and inefficient land governance. As indicated in the Figure 1-3, there is potential area of revenue (property tax and other related payments) to be collected from such large coverage of informal settlements, which of course is a means of additional income to the city administration. One of the major challenges to properly undertake regularization of informal settlements is associated with lack of well-organized digital spatial data of each plot of land which is instrumental for the regularization process Figure 5-3.

It is recommendable also that affordable and context based urban planning and integrating informal settlements into the urban system is essential to improve the living conditions of the low-income groups. Policy revision, alignment of regularization practices with urban planning standards, and promoting incremental and inclusive urban planning exercises to ensure accessible services, infrastructure provision, and environmental protection is important to minimize displacement and ensure inclusive urban development.

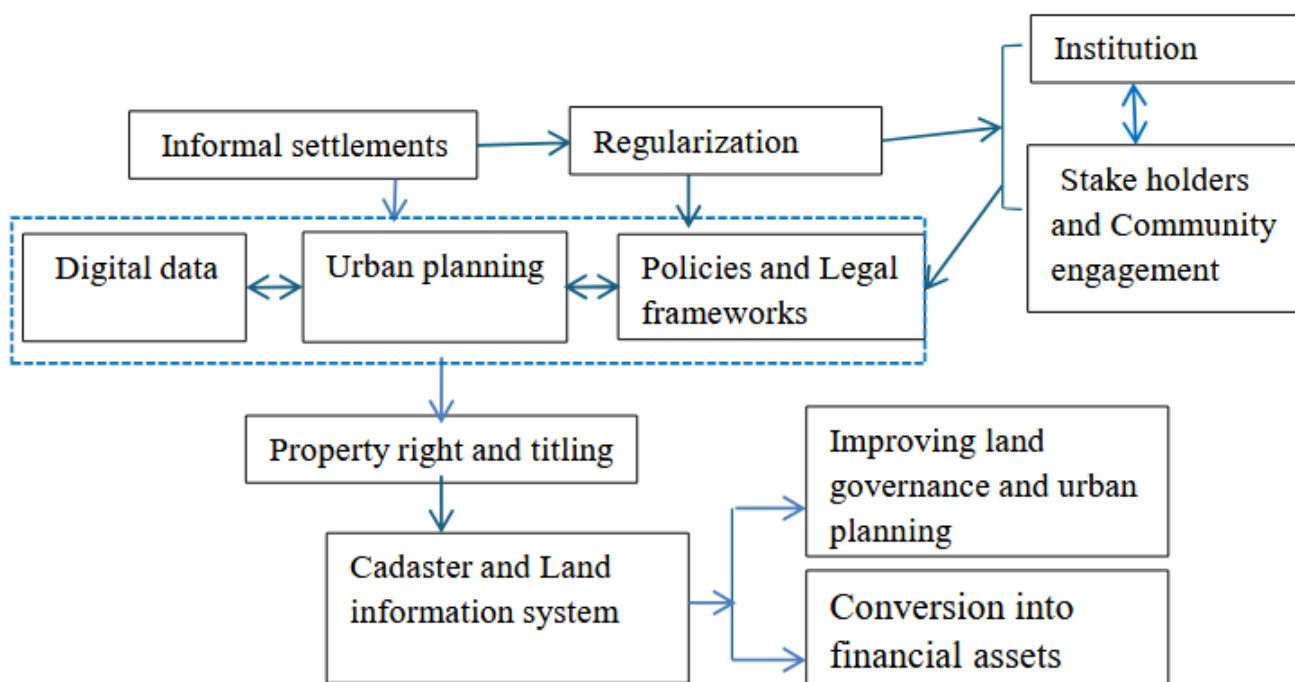


Figure 5-3: Schematic Option for Informal Settlement Regularization

**Box 1.1: Summary of key informant interview (KII) results regarding informal settlements challenges and regularization of informal settlements**

Key informant interviews were conducted in May, 2024 and on June 25 - 28 2025, with key government institutions directly involved in the management and intervention of informal settlements. The purpose was to triangulate findings and gain a deeper understanding of the challenges associated with informality. The interviews included senior experts, officials, and community representatives, guided by a structured set of questions. Institutions that were engaged in the KII are the following:

**1. Ministry of Urban and Infrastructure: urban Land and Cadastre , Housing Development and Administration Chief Executives**

The findings indicate that, at national level, there is no comprehensive policy or legal framework specifically dedicated to informal settlement control and administration. Instead, the issue is addressed indirectly through various thematic policies via piecemeal approach. Although the government has made considerable efforts, informal settlements remain a persistent challenge. Moreover, major bottlenecks including: rapid expansion of informal settlements across both metropolitan areas and smaller towns, lack of reliable data, limited institutional and technical capacity, absence of dedicated institution, and weak regulatory frameworks.

**2. Addis Ababa Land Development and Administration, Property Right Creation Sector**

At city level, particularly in Addis Ababa, the government has introduced regularization measures for informal settlements established before 2005. However, there is policy gap concerning settlements developed after the designated year of 2005. Key challenges identified are: limited capacity for regularization, shortage of land supply, bureaucratic and complex procedures, weak stakeholder coordination, urban planning constraints, and insufficient

and poorly organized data systems. Additional issues also include: delay in the regularization processes, affordability constraints related to lease payments, design and boundary-setting problems, and broader project management and implementation capacity limitations.

### 3. Addis Ababa Land Registration Agency

From land registration perspective, challenges including: weak data management systems, unclear roles and responsibilities of actors, lack of integration among institutions, corruption and administrative interferences, and absence of clear regulatory directives to support decision-making.

### 4. Addis Ababa Plan and Development Bureau

Urban planning institutions highlighted that the existing structure plan does not adequately address the spatial location or intervention strategies for informal settlements. There is also lack of detailed local development and parcelation plans, weak institutional coordination, spatial data limitations, inconsistencies between plans, and overall capacity constraints.

### 5. Addis Ababa Building Permit Authority

Similarly, the building permit authority identified issues such as : mismatches between land use plans and residents' economic capacity, weak coordination with regularization bodies, lack of spatial data, frequent violations of planning regulations, and institutional capacity gaps.

Overall, the findings reveal out systemic challenges including: policy and regulatory gaps, institutional fragmentation, limited technical and financial capacity, and inadequate data systems all of which hinder effective management and regularization of informal settlements.

## CHAPTER SIX

### 6. Conclusion, Recommendation and Further Research Studies

#### 6.1. Conclusion

High population growth in Addis Ababa, that resulted from migration from rural and urban areas, leads to the proliferation of informal settlements. According to the National Urban Development Plan of Ethiopia, this growth is expected to continue in the future (MUDC, 2015). Basically, urbanization is challenged by environmental hazards, housing inadequacy, poverty, unemployment, and informal settlements. To tackle such challenges, we have to think on the concept of inclusive cities or sustainable urbanization which can be realized through appropriate regulatory instruments and strategies. It is indicated that the housing demand in Addis Ababa is a chronic challenge, especially for low-income residents, as a result of which they are looking for accessible housing options (informal settlements). These low-income households, try to address their housing needs by obtaining land informally in peri-urban areas from farmers; and peri-urban farmers are usually the principal suppliers of land for such informal housing (Mersha, 2020).

As pointed out in the objective section, this study has attempted to review the nature and spatial extent of informal settlements of Addis Ababa particularly after its territorial restructuring with Shaggar city. This study therefore tries to explore the existing spatial extent of informal settlements of Addis Ababa based on data collected from different sources. Of course, current coverage of informal settlements in Addis Ababa is estimated to be 50%; and the city administration is challenged due to lack of spatial data related to informal settlements, as these data are helpful in devising policy instruments so as to properly manage resources, climate change, environmental protection and thereby improve the livelihoods of the urban poor.

Generally, in addressing informal settlements, little is done in urban development and land management policies of the country. So far, the city administration of Addis Ababa has approved intervention regulation for informal settlements on the basis of which houses that were informally built up to the year 2005 were regularized. The regularization process, however, did not include those houses built after 2005, and as

the result the issue of so many affected citizens have remained in limbo state as long as the problem of housing in Addis Ababa and large urban centers persists.

## 6.2. Recommendations

The study has explored issues related to informal settlements and associated social, economic, environmental and land governance aspects for which various forms of policy implications/directions are forwarded in an effort of addressing land management, affordable housing, data organization and management and of course coping with informal settlements.

### 6.2.1. Spatial Extent of Informal Settlements and Data Related Policy Implications

As shown in the study, informal settlements are highly apparent in Addis Ababa that have developed over the years because of the city's rapid population growth and the mounting demand for affordable housing. Without proper policies and plans the expansion of such settlements is likely to exacerbate, and therefore addressing this basic housing issue requires effective policy direction and careful planning. This helps ensure the notion that everyone has the right to safe and secured living conditions as stipulated in the various international and globally endorsed documents, upholding the basic principles of human rights, including in the SDG as well as the Constitution of the Federal Democratic Republic of Ethiopia.

In this regard, it is recommended to have a holistic policy and legal framework that supports the provision of affordable housing particularly to low income social groups and thereby manage the proliferation of informal settlements in all cities. To this effect, the necessary spatial and socio-economic data should be organized (using the digital technology) so that it will serve as important input for policy and decision makers.

### 6.2.2. Regularization Processes Related Policy Implications

Currently, the regularization process is undertaken as an intervention legal framework for formalizing informal settlements through adjustment of land uses in alignment with the structure plan of the city. The process has been undertaken in accordance with the regularization code enacted by the city administration in 2014, and which was revised in 2024 (AACA, 2024). During the regularization process, settlements were categorized based on their years of establishment (those before 1996 and the

others in between 1996 to 2005). Despite such regulatory codes, the regularization process is considerably slow and inefficient, often requiring multiple follow-up visits (on average up to two years) and thus remains a challenging task to issue title deeds to beneficiaries due to spatial or land use plan mismatch, legislative gaps and fragmented institutional setup. Therefore, appropriate reforms regarding spatial planning, institutional restructuring and legal amendments are required proactively so as to enhance effective implementation of the regularization process.

Moreover, regularization procedures are often tedious and time-consuming due to the involvement of multiple institutions far beyond the mandate of the sole implementing agency. This complexity is further exacerbated by fragmented and inconsistent systems, legal frameworks, and master plan documents, which at times create overlaps and delays in the execution process. Furthermore, weak coordination, limited stakeholder involvement, and inadequate community participation adversely affected the timely acquisition of the required title deeds.

Thus, appropriate policies and legal frameworks must guide the process of regularization to ensure that everyone has access to safe and secured housing. To that end, well-structured institutions are required to implement these policies effectively. Moreover, community involvement is also crucial so as to make their views heard by appropriate decision makers. Furthermore, creating appropriate platform for proper interactions among stakeholders enhances institutional collaboration to efficiently implement the process. On the other hand, well-organized digital data (spatial, socio-economic, environmental, governance, etc.) helps enhance the accuracy of planning and hence decision-making. Generally, addressing these issues holistically fosters inclusive, efficient and sustainable urban development in harmony with social equity.

### 6.2.3. Urban Planning Related Policy Implications

From the findings of the study, it is learnt that the existing land use plans of the country (Structure, Strategic or Basic Plans) don't consider the issue of informal settlements, despite the fact that the problem widely exists as a major challenge in many urban centers, particularly in large cities. Of course, city administrations like Addis Ababa have been addressing the issue, on ad-hoc basis, through the enactment of a regulation/directive that helps regularize such informal settlements.

Thus, to address the existing problem associated with informal settlements, proactive and context-based urban planning approach that helps integrate informal settlements into the formal urban system is essential. Moreover, urban plans should consider the issue of access to affordable housing with basic urban infrastructures and services so as to ensure inclusive and sustainable urban development. Moreover, land use plans should also consider for mechanisms of sustainable income development of low income social groups (through job creation approach) so that they could lead decent urban life for which there need be policy direction/legal framework that supports alignment of regularization practices with urban planning standards, and the promotion of incremental and inclusive urban planning exercises.

#### 6.2.4. Innovative and SMART Planning Approach for Informal Settlements

As a result of poor land governance and inadequate urban planning, informal settlements have mushroomed and expanded in the city. Their proliferation has been accelerated over the years, driven by rapid urbanization across the country, with the phenomenon most pronounced in the primate city of the country, Addis Ababa. So far it is observed that there is serious challenge in managing informal settlements, though intervention has been adopted as a strategy to recognize and integrate informal settlements through regularization process. Therefore, to address this issue in sustainable manner, it requires innovative planning approach for which implementable policy instrument is needed to ensure that everyone has access to safe and affordable housing.

The desired policy instrument should be supportive in integrating low-income social groups into the city system by enabling them to have affordable housing. In doing so, well-structured and organized institutions are necessary to implement the enacted policies and legal frameworks effectively. Moreover, community involvement is also crucial to make their views heard for appropriate decision-making. Furthermore, creating proper platform for interaction among pertinent institutions can enhance collaboration and integration so that the implementation process will be enhanced by avoiding unnecessary bureaucratic hassles. On the other hand, perusing SMART and innovative approach with well-organized digital spatial and socio-economic data helps enhance the planning process accurately as it creates favorable and informative condition for decision-making. Generally, addressing these issues holistically fosters

inclusive and sustainable urban development that balances urban development with social equity.

### 6.3. Further Research Studies

To fully comprehend the issue of informal settlements in urban settings, a comprehensive research studies are imperative so that all socio-economic, environmental, spatial and institutional dimensions should exhaustively be assessed so as to get the full picture of the problem and thereby come up with the necessary recommendations.

- I. **Socio-economic studies of regularization:** The socio-economic dimension of informal settlements, the regularization process and its implications after formalization should exhaustively be studied so as to shed light on the issue of social inclusion and equity. Studying the social and economic details of informal settlements helps provide valuable information and empirical evidences for policy/decision makers to arrive at informed decisions.
- II. **Relationship between environment and informal settlements**  
Informal settlement does have environmental repercussions as the nature of such settlements are arbitrarily undertaken, including in environmentally sensitive places. Those practices of settlements adversely affect the environment in many respects (pollution, degradation of forest areas and water bodies, etc.). On the other hand, such settlements could expose dwellers to various forms of hazards (flood, land slide, sanitary problems, etc.). Thus, such environmental and social risks should in detail be studied in relation to the city of Addis Ababa and its immediate neighbor, Shaggar city, so that the necessary lessons could be drawn for future development.
- III. **Spatial influences of regularization:** Informal settlements and their subsequent regularization processes could have impact on morphology, infrastructure as well as social and physical amenities of the affected land uses for which the immediate and far-reaching consequences should be studied in detail so as to wisely and

sustainably plan for the future.

- IV. Institutional cohesiveness:** Institutional and stakeholder alignment and collaboration among the various stakeholders (government and non-government institutions, the community, the private sector, other partners) should be part of the solution in alleviating the issue of informal settlement for which a coordinated effort should be considered. Here the digital technology should be supportive in creating SMART cohesion among stakeholders so that all available resources could efficiently be mobilized and put into action.

Generally, this study attempts to shed light on the prevailing challenges related to informal settlements coverage and their associated legal, institution, spatial, and regularization aspects in context of Addis Ababa city. In undertaking the study there were constraints related to spatial and socio-economic data; but despite such constraints the study came up with visible issues that should be tackled comprehensively. To conclude, the proposed policy implications of this study with the suggested points of investigations/studies should further be considered to sustainably overcome the problem.

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## ANNEXES

### 1. Checklists

|                                                            |                                                                                                     |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| s.no                                                       | Check lists for interview guides                                                                    |
| <b>Part I: Bureaucratic Nature Related Question guides</b> |                                                                                                     |
| 1                                                          | The regularization process takes a significantly longer time than expected.                         |
| 2                                                          | Corruption significantly exacerbates the regularization process and causes delays.                  |
| 3                                                          | The complexity and length of the regularization process contributes to significant delays.          |
| 4                                                          | Brokers' abilities in managing regularization processes contribute to delays.                       |
| 5                                                          | The involvement or capacity of owners or families delays the regularization process.                |
| 6                                                          | The high prices for land causes delays in the regularization process.                               |
| 7                                                          | Delaying tactics are used as a strategic device to gain benefits, contributing to causing delays.   |
| 8                                                          | Boundary or ownership disputes significantly contribute to delays in the regularization process.    |
| 9                                                          | Informal settlements have become easier to formalize and transact due to regularization policies    |
| 10                                                         | Political interference in bureaucratic decisions is made the regularization process longer          |
|                                                            | Inconsistent or unclear guidelines for regularization created delays for regularization processes   |
| 11                                                         | Lack of accountability among officials contributes to inefficiencies of the regularization process. |
| 12                                                         | Excessive document required and too many forms to be filled contribute to                           |

|                                                                                             |                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                             | delays in the regularization process.                                                                                                                              |
| <b>PART II: Institutional Capacity and Organizational Structure Related Question guides</b> |                                                                                                                                                                    |
| 1                                                                                           | The financial capacity of the institution contributes to delays in the process.                                                                                    |
| 2                                                                                           | The lack of materials (e.g., offices, computers, printers, photocopy machines, surveying instruments, vehicles) in responsible institutions contributes to delays. |
| 3                                                                                           | The level of human resources (experts' knowledge, number, capacity of profession) can determine the process of regularization delays                               |
| 4                                                                                           | High turnover of experts or officials contributed to the delay of the process.                                                                                     |
| 5                                                                                           | Overlapping and duplication of efforts challenge the efficiency of the process                                                                                     |
| 6                                                                                           | A centralized system negatively impacts the process and creates delays.                                                                                            |
| 7                                                                                           | Low performance in registration and a lack of a well-organized cadaster system contribute to delays.                                                               |
| 8                                                                                           | Fragmented and uncoordinated institutional integration among line institutions delays the process.                                                                 |
| 9                                                                                           | Unclear decision-making processes and poor management affect the progress of regularization                                                                        |
| 10                                                                                          | Lack of understanding of the regularization plan, concepts, and activities results in low performance.                                                             |
| 11                                                                                          | Insufficient competence, skills, and commitment in institutions affect the efficiency of the process.                                                              |
| 12                                                                                          | Deficiencies in capacity-building efforts, such as training, negatively impact performance.                                                                        |
| 13                                                                                          | High vacant space or scarcity of staff create delays in the process.                                                                                               |
| 14                                                                                          | Failure to openly address challenges, take responsibility, and prevent negligence contributes to delays.                                                           |

| <b>Part III: Transparent Urban Planning, guidelines and other regulatory frameworks</b> |                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                                                                                       | Available policies, legal frame works specific to informal settlements at Federal level                                                                                      |
| 2                                                                                       | Updated base maps, satellite images, orthophotos, line maps, and other topographic maps enhanced the timely completion of cases.                                             |
| 3                                                                                       | Compatibility and alignment of plans improve the implementation and progress of regularization processes.                                                                    |
| 4                                                                                       | Up-to-date regulations, working manuals, codes, standards, and guidelines support the efficiency of the regularization process.                                              |
| 5                                                                                       | Land use plans at higher levels that consider local contexts facilitate the implementation process.                                                                          |
| 6                                                                                       | The presence of detailed plans, such as LDPs and parcellation plans, accelerates the regularization process.                                                                 |
| 7                                                                                       | Building height regulations and building permits that align with residents' capacities aid in efficient implementation efforts.                                              |
| 8                                                                                       | Alignment between land use plans and regularization plans ensures a smooth regularization process.                                                                           |
| 9                                                                                       | Providing compensation for individuals affected by infrastructure developments (roads, utilities, open spaces, community centers, etc.) supports the process and continuity. |
| 10                                                                                      | Clear boundaries between owners, regular blocks, and parcels simplify planning and facilitate the processes.                                                                 |
| 11                                                                                      | The use of digital data exchange systems ensures efficient and timely regularization processes.                                                                              |
| 12                                                                                      | Master plan proposals that are carefully adapted to on-site conditions positively impact the process.                                                                        |

|                                                               |                                                                                                                                                              |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13                                                            | Over procedures and minimal interference from officials and political actors support effective implementation.                                               |
| 14                                                            | There is no conflicting interest among actors in implementing regulation                                                                                     |
| 15                                                            | The regularization process is guided by cities' urban spatial plans                                                                                          |
| 16                                                            | The urban spatial plan provided enough clearness and transparency regarding regularization                                                                   |
| <b>Part Iv: Participation and Involvement of Stakeholders</b> |                                                                                                                                                              |
| 1                                                             | All actors are fully involved in developing regularization laws                                                                                              |
| 2                                                             | There is strong vertical and horizontal collaboration in implementing regularization laws                                                                    |
| 3                                                             | There is a coordinating organ in resolving compliances which improved the regularization process                                                             |
| 4                                                             | The regulatory framework encourages collaboration between stakeholders in urban development                                                                  |
| 5                                                             | Public participation helped in improving the quality of regularization outcomes                                                                              |
| 6                                                             | The feedback provided by the public is taken seriously by urban planners and regulators                                                                      |
| <b>Part V: Suggested and possible Recommendations</b>         |                                                                                                                                                              |
| 1                                                             | The existing regulatory framework is adaptable to the needs of diverse communities                                                                           |
| 2                                                             | Technology is effectively used to improve community engagement in regulatory processes                                                                       |
| 3                                                             | Incentives are in place to encourage citizen participation in regular discussions                                                                            |
| 4                                                             | Third-party organizations, such as NGOs or academic institutions, play an effective role in supporting overall regularization of informal settlements reform |

|   |                                                                                                                                                                     |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 | Innovative regulatory models from other cities or countries are adapted effectively to improve the regularization processes and sustainable planning and management |
| 6 | Improvement in law and procedures required                                                                                                                          |
| 7 | Making employees more efficient through training                                                                                                                    |
| 8 | Responsive institutions need to be established which avoids conflicting interests                                                                                   |
| 9 | Participation and involvement of stakeholders required for better planning, implementation, monitoring important                                                    |

**Additional  
information**.....

.....

.....  
.....

## 2. Interview questions

### Introduction

Dear Informant

The primary purpose of this interview is to gather primary information on the topic entitled” Identifying the Spatial extent of informal settlements in Addis Ababa, Ethiopia for better Management and policy directions. The success of this study depends on your genuine responses, and the result of this study will be used only for academic purposes and be confidential. And finally, you are cordially requested to give your respond to those questions.

**Instructions:** Please provide the appropriate response to the following questions from options provided after each of the questions.

**Thank you in advance for your cooperation!**

Name of institution ..... position  
..... profession..... email .....  
Phone no.....

### A. Key informant Interview for, officials and expert in the city

1. How do you understand informal settlement
2. Deas the extents spatial and coverage of informal settlement known in Addis Ababa after or before the new boundary with Shaggar city
3. What are the main differences of inner city and peripheral informal settlements
4. Is there availability of data /fully digital spatial data that digitally searchable and extractable for decision making
5. Challenges of informal settlements in relation to city plans
6. Role of Bureau in managing informal settlements
7. Do you think the availability spatial data important, for what purpose
8. What are the major challenges observed so far as a result of lack of spatial data

9. When do you think the time of construction, where how
10. Are there any policies and legal frameworks available in managing informal settlements
11. What are the lists of policies and legal frameworks
12. Are there any gaps observed regarding policies legal framework
13. Who are responsible institution and actors involved regarding the management of informal settlements
14. How do institutions interact in controlling informal settlements
15. Can you mention each role and responsibilities
16. What are the major interventions practiced (success and failure)
17. What policy & strategy frameworks will recognize & deliver the necessary improvements to the lives of informal settlers and creating sustainable urban development
18. Who are what are the major challenges in relation to building permits and regulatory processes
19. What is the future plan
20. Any additional recommendations

| S.no | Institution                                               | Position   | Number |
|------|-----------------------------------------------------------|------------|--------|
| 1    | Addis Ababa land development and management               |            | 2      |
| 2    | Addis Ababa regularization of informal settlement office  |            | 2      |
| 3    | Addis Ababa plan and development bureau                   |            | 2      |
| 4    | Addis Ababa building permit and regulatory bureau         |            | 1      |
| 5    | Addis Ababa housing development and administration bureau |            | 1      |
| 6    | Ministry of urban development and infrastructure          | Urban plan | 1      |
|      |                                                           | Land       | 1      |



በአዲስ አበባ ከተማ አስተዳደር መሪነት ልማትና  
አስተዳደር ቢሮ  
የባለቤታት ማረጋገጫ የምስክር ወረቀት



Addis Ababa City Government Land  
Development and  
Administration Bureau  
Title Deed Certificate



ባለቤታት ሙሉ ስም

የክርክር ቁጥር  
Property No

ባለቤታት ሙሉ የቅጂ ስም  
owner photo

Possessor's  
full name

417  
Building No

የክርክር መለያ  
Plot Code

Q  
Land Grade

የክርክር ቁጥር  
Title deed No.

ካርታው የተሰጠበት ቀን  
Date issued

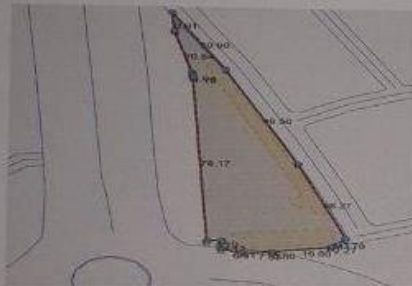
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Transfer Type

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Possession Type

የክርክር ሁኔታ  
property status



Map/የቦታ አቀማመጥ



Cordinates/የቦታ የስፋት መጠን  
ነጥቦች

|       |     |       |     |
|-------|-----|-------|-----|
| 47457 | 521 | 9885  | 138 |
| 47456 | 328 | 98856 | 377 |
| 47456 | 381 | 98856 | 477 |
| 47456 | 286 | 98856 | 237 |
| 47455 | 748 | 98866 | 833 |
| 47455 | 684 | 98866 | 922 |
| 47455 | 421 | 98866 | 927 |
| 4745  | 346 | 98866 | 742 |
| 47455 | 942 | 98866 | 583 |
| 47456 | 833 | 98866 | 657 |

1/10/Scale 1:100

የቀድሞ ክርክር ቁጥር  
old title deed nO

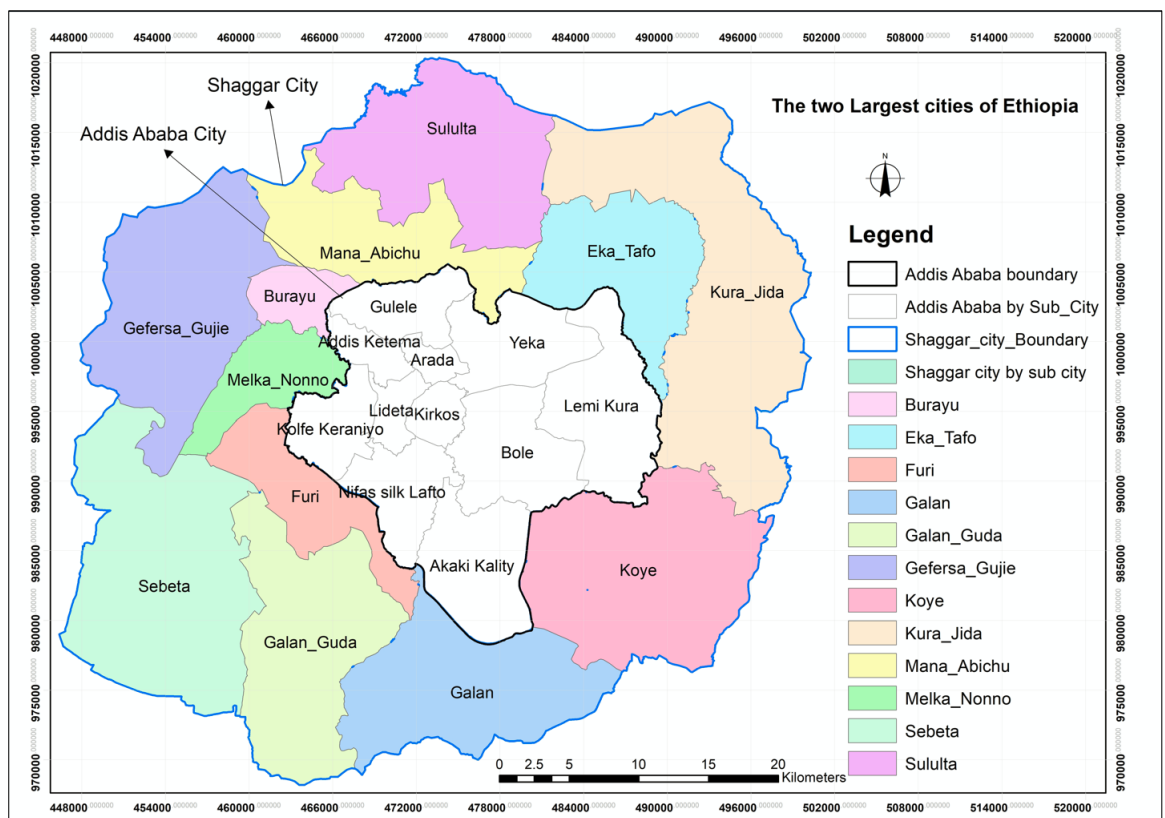
ስም  
Sub city

የመዝገብ ቁጥር  
Folder No.

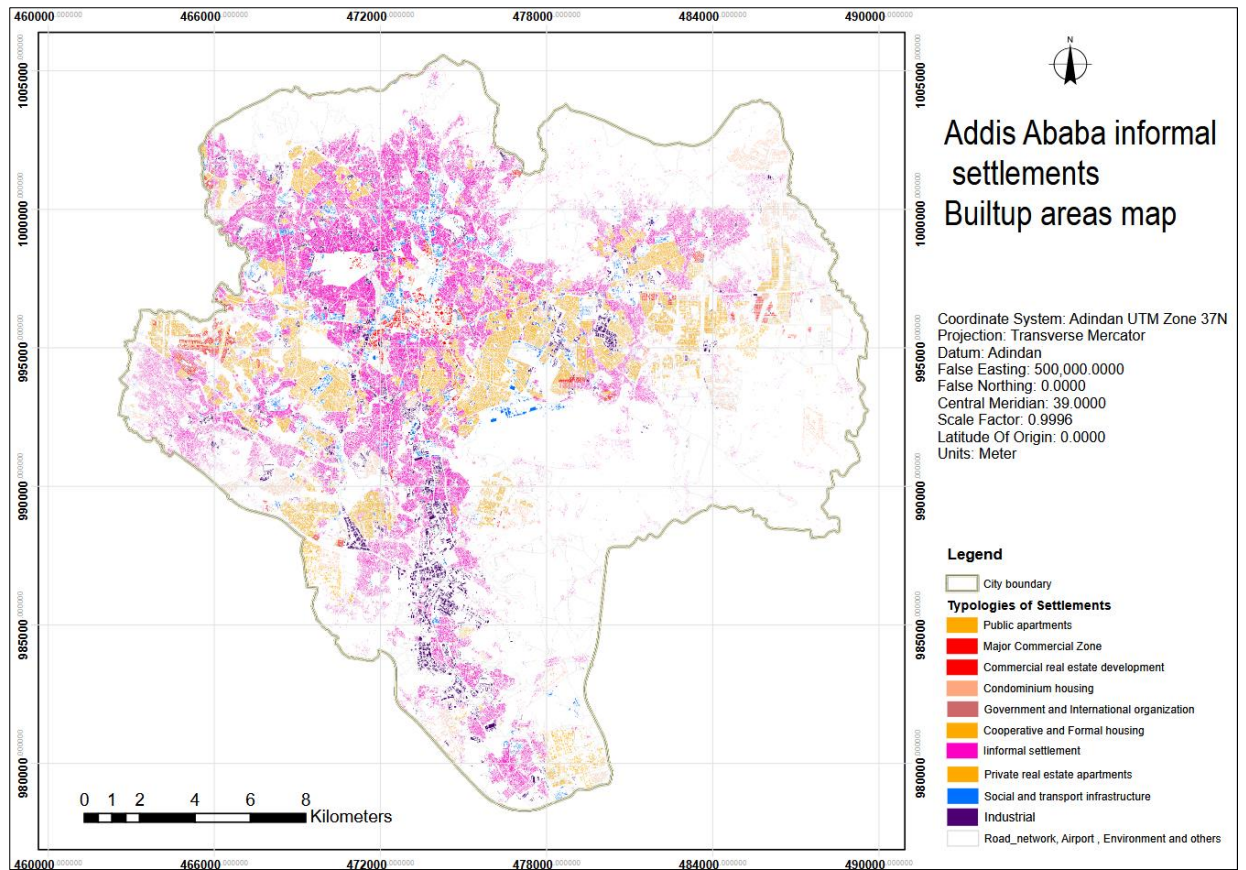
| የግንባታው ቦታ | የተገንባው የግንባታው ደንብ  |        |            |           |        |                    | የተገንባው ደንብ |             |       |           |                                                                                                                                                                                                       |  | የግንባታው ደንብ | የግንባታው ደንብ |
|-----------|--------------------|--------|------------|-----------|--------|--------------------|------------|-------------|-------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------|------------|
|           | ግንባታው የግንባታው (FAR) |        | የግንባታው ደንብ | ግንባታው ደንብ |        | ግንባታው የግንባታው (FAR) |            | የግንባታው ደንብ  |       | ግንባታው ደንብ |                                                                                                                                                                                                       |  |            |            |
|           | ግንባታው              | ግንባታው  |            | ግንባታው     | ግንባታው  | ግንባታው              | ግንባታው      | ግንባታው       | ግንባታው | ግንባታው     | ግንባታው                                                                                                                                                                                                 |  |            |            |
| 1         | 10                 | የግንባታው | -          | 70        | የግንባታው | 10                 | የግንባታው     | -           | 70    | የግንባታው    |                                                                                                                                                                                                       |  |            |            |
| 2         | 5                  | የግንባታው | >CS        | -         | 70     | 5                  | የግንባታው     | >=20        | -     | 105       | <p>በሁሉም የከተማዋ አካባቢዎች ውስጥ የግንባታው ደንብ የሚገኝ ነው፡</p> <p>የሚገኙ ናቸው፡</p> <p>በሁሉም የከተማዋ አካባቢዎች ውስጥ የግንባታው ደንብ የሚገኝ ነው፡</p> <p>የሚገኙ ናቸው፡</p> <p>በሁሉም የከተማዋ አካባቢዎች ውስጥ የግንባታው ደንብ የሚገኝ ነው፡</p> <p>የሚገኙ ናቸው፡</p> |  |            |            |
|           | 4.5                | 5.5    | >LS        | -         | 35     | 4.5                | የግንባታው     | >=10 እና <15 | -     | 52.5      |                                                                                                                                                                                                       |  |            |            |
|           | 4.5                | 5.5    | <10        | -         | 35     | 4.5                | 5.5        | <10         | -     | 35        |                                                                                                                                                                                                       |  |            |            |
| 3         | 2                  | የግንባታው | >CS        | -         | 35     | 2                  | የግንባታው     | >=20        | -     | 70        |                                                                                                                                                                                                       |  |            |            |
|           | 2                  | 5      | >LS        | -         | 35     | 2                  | የግንባታው     | >=10 እና <15 | -     | 52.5      |                                                                                                                                                                                                       |  |            |            |
|           | 2                  | 5      | <10        | -         | 35     | 2                  | 5          | <10         | -     | 35        |                                                                                                                                                                                                       |  |            |            |
| 4         | 0.5                | የግንባታው | >CS        | -         | 35     | 0.5                | የግንባታው     | >=20        | -     | 70        |                                                                                                                                                                                                       |  |            |            |
|           | 0.5                | 3.5    | >LS        | -         | 35     | 0.5                | የግንባታው     | >=10 እና <15 | -     | 52.5      |                                                                                                                                                                                                       |  |            |            |
|           | 0.5                | 3.5    | <10        | -         | 35     | 0.5                | 3.5        | <10         | -     | 35        |                                                                                                                                                                                                       |  |            |            |
| ታሪክ ቦታዎች  | 0.5                | -      | -          | -         | 21     | 0.5                | -          | -           | -     | -         |                                                                                                                                                                                                       |  |            |            |
| ከፊት       | 0.05               | -      | -          | -         | 6      | 0.05               | -          | -           | -     | -         |                                                                                                                                                                                                       |  |            |            |

## 4. Maps

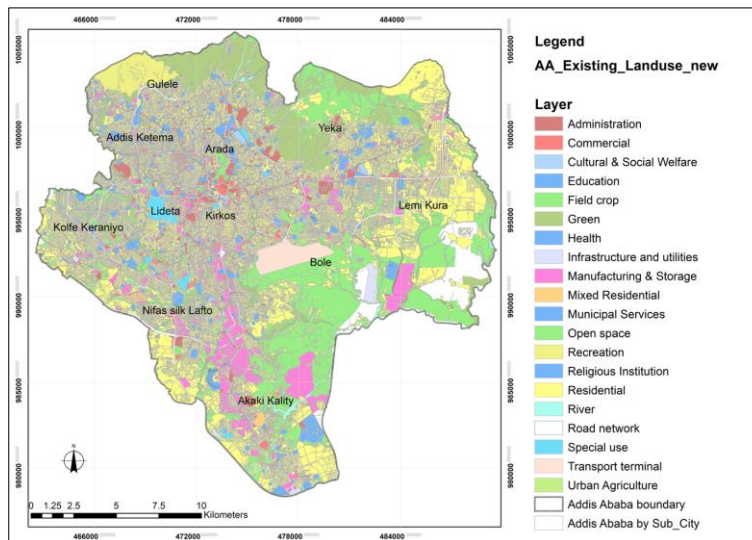
Administrative boundary (Addis Ababa and Shaggar city)



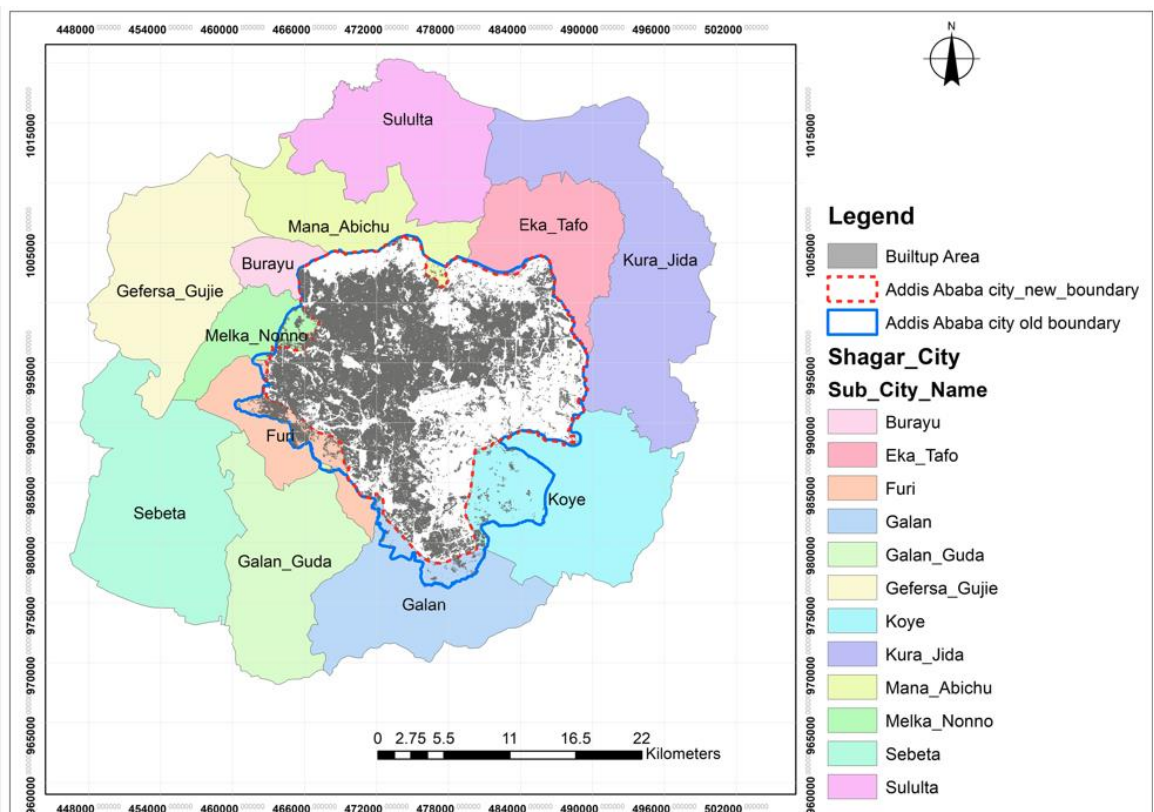
Addis Ababa informal settlements map



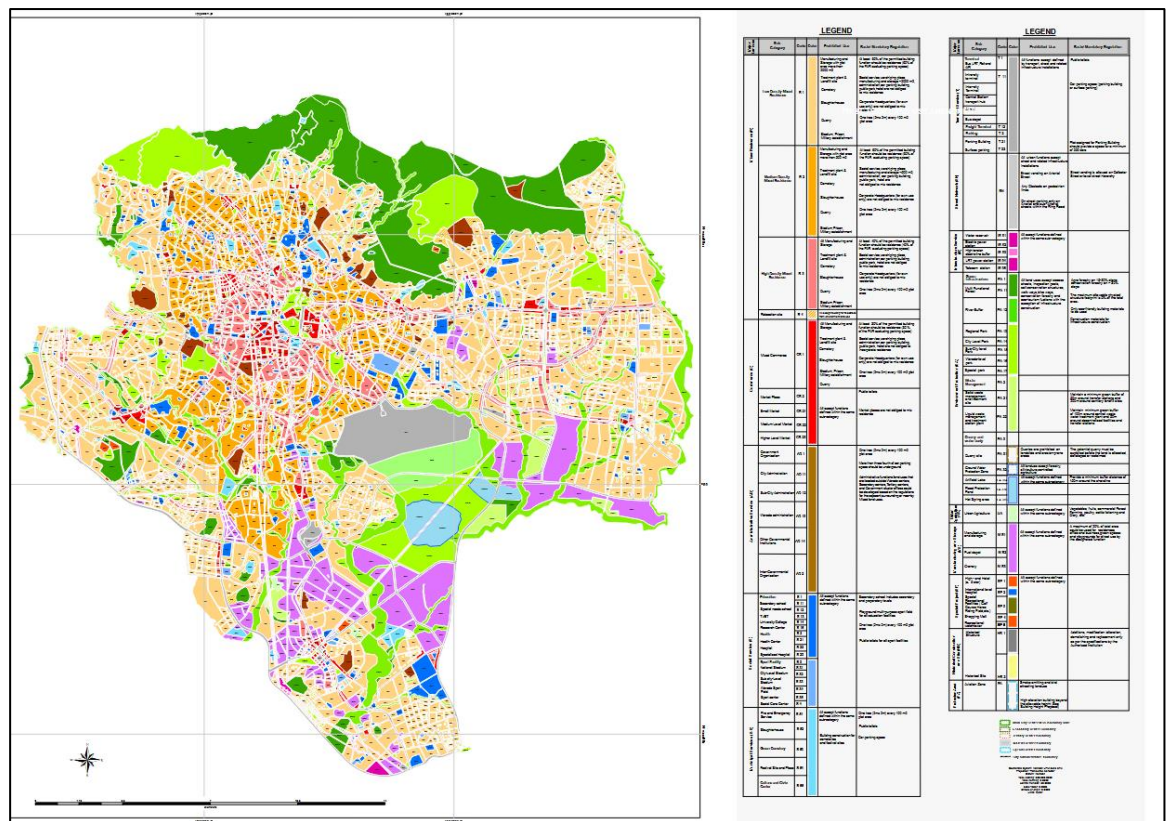
Addis Ababa existing Land use map (2023)



Addis Ababa built up area map



# Addis Ababa Structure plan (2017-2027)



# Articles