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学位の種類 博士（工学）

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学位授与の条件 学位規則第4条第1項該当 課程博士

学位論文題目 Investigation of Sustainable and Affordable Housing Policy and Planning Principles in Afghanistan  
(アフガニスタンにおける低中所得者用の実現可能な住宅政策原理と計画の調査分析)

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## 論文内容の要旨

This Dissertation has three main parts and one supplementary Part (which contains definitions, surveys, Ecotect simulations of main Afghan cities, and other similar data in appendix-format) in the following sequence:

1. Part one: Cover title with abstract of dissertation and other two chapters which are, Theory, Introduction of research and Literature background.
2. Part Two: The main Body of research including three chapters in which investigation and adaptation of affordable housing policy, planning and sustainable Architecture strategy as general conceptual framework for a sustainable Afghan community are discussed.
3. Part Three: Summary of Dissertation, Final Objective, Results, Conclusion of Dissertation and Future Research Plan.
4. Part Four, the Appendixes: This part contains the following appendixes:
  - A. Definitions and research terminology.
  - B. SiteSurveyData.
  - C. Site analysis and Ecotect Simulation data.
  - D. Case study sites, topology of existing housing, and statics data maps.

As short chapter-by-chapter summary Presented as following:

Chapter one: Chapter one is the introduction of the dissertation. A short background review outlined the current Afghan housing situation, identified the main problems concerning low-income Afghan housing. The main goal, Methodology and Approach were discussed as well, along with the research aim, research questions, significance of the research and the structure of the research. This chapter also highlighted alternative solutions for the problems of Afghan government institutions regarding Housing.

Chapter Two: As is common in PhD dissertations, the second Chapter provides a wide conceptual formwork of the literature in the housing sector, particularly adaptation of the Un-Habitat concept to the local level, and the pattern for adaptation. Different approaches adopted globally are examined, and a conceptual framework for sustainable and affordable housing Policy, planning and strategical action plan is provided.

Chapter Three: This chapter attempts to develop a conceptual framework of sustainable-affordable housing policy for Afghanistan. In this chapter the Afghanistan national housing policy is used as a base and foundation for future work. Affordable and sustainable housing for all Afghans, Goal of Sustainable-Affordable Housing, Socio-cultural Sustainability, Technological sustainability and Environmental sustainability are the main topics of this chapter.

Chapter Four: This chapter is about the investigation, analysis and conceptual design of interior and exterior housing layout planning in Afghanistan. Chapter four presents the current Afghan city planning, housing layout classification, the spatial structure classification, development action plan, and the urban development strategy. Arguments for upgrading more and more of the infrastructure in of existing settlements and legalizing tenure, developing an adequate primary infrastructure network which might accommodate the expansion of capital of Afghanistan, basic idea of zoning, Housing for the middle and low income classes, as well as both Neighbourhood design and street layouts in Afghanistan are also presented.

Chapter Five: To prove the findings of the research as a practical concept, three models for implementation are proposed as following:

- 1) A Conceptual Design Model for development of War Damaged Villages to Sustainable and Traditional Village Communities; a case study.
- 2) Indoor Comfort in Affordable Contemporary Courtyard Housing and Outdoor Welfare in Afghan Sustainable Neighbourhoods; a case study.
- 3) Principles of Sustainable and Affordable Housing Policy for Afghan Refugees Returning to Afghanistan. This chapter is the final chapter of the main analysis, and presents the whole study in three conceptual Models for urgent needy groups families

(War effected villagers, Government teachers with low income, and returnees to the country). First in Rural areas, second in urban areas, and third one is a mix of both rural and urban areas. Finally, this chapter analyzed the traditional courtyard housing, contemporary courtyard housing, housing layout and conceptual housing policy situation in the country. As proposed some conceptual design and the the reform of institutions (Ministry of Housing and Urban development, Ministry of Rural Rehabilitation and Development, and local municipalities) to consider in future.

Chapter sixth: The current chapter as the main sections are Summary of Dissertation, Final Objective, Results, Conclusion of Dissertation, and Future Research Plan.

## 論文審査結果の要旨

This dissertation has three main parts and one supplementary part (which contains definitions, surveys, Ecotect simulations of main Afghan cities, and other similar data in appendix-format) in the following sequence:

Chapter one: Chapter one is the introduction of the dissertation. A short background review outlined the current Afghan housing situation, identified the main problems concerning low-income Afghan housing. The main goal, Methodology and Approach were discussed as well, along with the research aim, research questions, significance of the research and the structure of the research. This chapter also highlighted alternative solutions for the problems of Afghan government institutions regarding Housing.

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- 1) A Conceptual Design Model for development of War Damaged Villages to Sustainable and Traditional Village Communities; a case study.
- 2) Indoor Comfort in Affordable Contemporary Courtyard Housing and Outdoor Welfare in Afghan Sustainable Neighborhoods; a case study.
- 3) Principles of Sustainable and Affordable Housing Policy for Afghan Refugees Returning to Afghanistan. This chapter is the final chapter of the main analysis, and presents the whole study in three conceptual Models for urgent needy groups families (war effected villagers, government teachers with low income, and returnees to the country). First in rural areas, second in urban areas, and third one is a mix of both rural and urban areas. Finally, this chapter analyzed the traditional courtyard housing, contemporary courtyard housing, housing layout and conceptual housing policy situation in the country. As proposed some conceptual design and the reform of institutions (Ministry of Housing and Urban development, Ministry of Rural Rehabilitation and Development, and local municipalities) to consider in future.

Chapter sixth: The current chapter as the main sections are summary of dissertation, final objective, results, conclusion of dissertation, and future research plan.

This dissertation has published as 3 refereed papers on international journals and the contents of this dissertation will be an important knowledge in the field of architecture and city planning in Afghanistan and the other countries. Four judges decide this dissertation has a value of Doctor of Engineering.