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List of Abbreviations:

| | |
|--------|--|
| MoHUUD | Ministry of Housing Utilities and Urban Development |
| GOPP | General Organization for Physical Planning |
| NUCA | New Urban Communities Authority |
| HBRC | Housing & Building Research Center |
| TOR | Terms of References |
| CBO | Community Base Organization |
| NGO | Non-Governmental Organization |
| RDDoBW | Regional Development Department of Baden Württemberg |
| TCCM | The Tübingen City Council Municipality |
| TRDo | Tübingen City Redevelopment office |

Glossary

Harra: Narrow streets, Residential quarter حارة

Madrasa: School مدرسة

Sabil: Water supply, a place offer drinking water for the pedestrians سبيل

Barmestan: Hospital "بيمارستان" كانت تعني "دار المرضى"

Kotab: A place for teaching reading and writing كتاب

Al-Kasbah: Main road in Islamic city القصبية

Mashrabya: An Islamic architectural feature used mainly to attain privacy by making small openings in wood and small windows at the middle opens upwards and it especially used by women to attain complete privacy. المشربية

CHAPTER ONE: Research Introduction

Chapter One: Research Introduction

Introduction

From recent experiences in planning and development of urban districts in Egypt, the resultant of urban fabric and architectural principles did not respect the expected qualifications and essence like historical and indigenous areas did before them. In accordance, this was a motive behind the emergence of various acts and movements towards this issue.

Recently, several projects worldwide started to experiment on a process similar to that in historical cities and districts, where self-development and self-built approaches are taking place. They are becoming an attractive approach for architects and urban planners to be applied through different techniques and implementation processes. In light of self-development areas theories, concepts, implementation stages as well as the involvement of stakeholders, this approach can be scrutinized and turn into a successful neighbourhood housing product.

1.1 Research Problem

The main problem of this thesis is the vagueness of stakeholders' responsibilities towards the development processes of projects. This leads to the unclear urban fabric and undefined architectural principles of self-developed urban districts in Egypt.

The impact of this vague development process leads to the general deterioration and the loss of the main essence of a district nature. On one hand, the functionality of urban places becomes more problematic and unclear to the users and on the other hand, the architectural identity and character become lost as well. These lead to lose sense of comfort and belonging to the place and it affects the whole authenticity of the place and ultimately people's affinity to their own neighborhoods.

However, the existing historical districts that depend on the same idea of self-development reflect the opposite. They reflect an appreciated urban unity, fulfillment and satisfaction of society needs. Each building in these areas has its own essence and designated character that reflects the type of usage, user's taste and its time period. Diversity is also achieved as they built their houses according to their intuition and feelings. The entire district has its own inspiring nature next to its rules and regulations that were added to suit the way of life and to control the whole development process.

On the scale of international projects, an attention was paid in developed countries, like Germany, to recreate this traditional process in such a way that its products become appreciated by the public users as well as professionals. It is becoming a destination in itself to be visited exhibiting both the process and the product. These districts are neither low income class, nor challenging urban projects, nor unique architectural icons, but are usually rather middle class districts exposing many of the values and mechanisms of traditional districts from their initiation up to their post construction monitoring and management.

In Egypt, for example the national housing projects are adopted by the government to offer suitable and affordable housing for thousands of middle class residents and in some projects, trying to reach groups of lower income. However, some of the planned projects are still incomplete and do not gain a lot of acceptance from the users nor the professionals.

This research raises the problem of this lost indigenous process of self-developed areas that limits creating a functional and authentic product design. Today's designers and planners focus more on the end product design and try to imply it on urban development projects. However, they pay lack of attention and consideration towards the complete and holistic process behind the product and its complex conditions that led to it, while this should be their main concern.

1.2 Research Definitions

1.2.1 Urban Envelope

Urban Envelope is defined in this research as the composite of urban fabric and architectural principles.

1.2.2 Successful Urban Envelope

Based on author's perspective:

- Functionality of the spaces.
- Having its essence, taste and inspiration.
- Legibility in urban fabric is highly required.
- Presence of authenticity and affinity of the place.
- Performing the sense of belonging and achieving the maximum welfare, comfort to the citizens.

1.3 Research Questions

1. What are the factors and conditions influencing the process of urban envelope of self-developed areas?
2. Who are the stakeholders responsible for the design and planning process for a successful self-developed area in relation to the urban envelope?
3. What is the implication to develop an area by participatory design approach?
4. What are the reasons for the success of the urban envelope of the self-developed areas?
5. What are the challenges facing the urban envelope of the self-developed areas?

1.4 Research Objectives

1. To identify the process used in producing the urban envelope in historic and current self-developed Egyptian districts

2. To identify the role of the involved actors and their role as an integral part in the decision process of increasing the adaptability of the system
3. To know the effect of implementing the participatory design in a self-developed area.
4. To identify main reasons for the success of urban envelope in an Egyptian historical self-developed areas
5. To identify the main challenges facing the urban envelope of the current Egyptian self-developed area.

1.5 Research Limitations

1. The possibility of obtaining the rules and regulation of each district concerned within the survey of case studies.
2. Reliance on historical references (second hand references) to get data on the historical areas.
3. Short visits to the German case study.

1.6 Hypothesis

Participatory design is a tool to reach a successful urban envelop in the self-developed areas.

1.7 Methodology

A comparative analysis is carried out between different self-developed case studies based on a qualitative study with the aim of extracting the pros and cons of each case study. At the beginning of the research, a review of literature is required to explain the meaning of self-developed areas and understanding the concepts, methods, approaches and theories used in producing the self-developed areas. The methodology used starts with a desktop research by reading different reliable literature that discusses and explains the self-developed approach. These materials were attained through visiting libraries and archives as well as online resources, books and journals.

Chapter one represents an introduction to the research. It discusses the research problem, research definition, research questions, research objectives, research methodology and structure.

In Chapter two, the study of different theories and approaches related to self-development will be discussed. One of the major self-development theories applied to communities and explained in this chapter is 'Participatory Design'. Thus a thorough explanation will be conducted using the definitions of different experts and sources. The objective of this chapter is to detect the main aims and goals of the theory; and are attained by raising the different tools and methodologies used in implementation to achieve those goals. Stakeholders and involved actors are the main component in such a theory.

In chapter three, the research focuses on representing different self-developed areas; starting by the two Egyptian case studies. The first case study is a historical indigenous area 'Fatimid Cairo', a historical manifestation of self-development. This case study is important in demonstrating different aspects of the implementation process in comparison with new projects using similar approaches. The intuition behind the development was based on pure social, housing development to adapt the new Islamic Fatimid civilization in Egypt. The development is made based on the rules and regulations enforced by the authority to control and manage the area. Data gathered through the reliance of historical references and second hand references, in addition to a site visit helped the author to feel the essence of the current urban fabric; which still has the same urban fabric of the initiation period. During the visits; photographing the historical buildings was an important part of data gathering as it helped in analyzing and reaching the objectives of the research. Moreover, it helps in the detailed analysis of the façade architecture typology of this period to achieve the personal requirements of the users.

The second Egyptian case study: is a current self-developed area in Egypt one of the national housing projects: the 'Ebny Betik' project. This project aimed to be a self-developed area but from the approach of self-built only which means

early development phases are created by outsiders and people were responsible on building their houses. Most of this cases study sources are available in governmental organizations' websites and academic master thesis. Other sources such as newspapers represent the prior and current status. Interviews were conducted with users of the project. The aim of the interviews was to identify how the process is done, the role of the users; their objectives, the implementation and construction and how they delivered and perceived the project. Information also depended on the terms of references to be familiar with the main specifications achieved in the design and how the design process got about with different stakeholders. Further information will be explained in Chapter four.

Chapter five explains an example of a self-developed project in Germany known as the 'Southern Part of Tübingen'. The author had the opportunity to visit the project twice, once in 2010 with a group of planners and architects who participated in a sustainable workshop conducted by Stuttgart University. The tour guide was the planner of the project "Matthias Schuster" who explained and demonstrated the project. It was a fortune chance to be introduced to the project from a reliable source. The second visit in 2011 was conducted by the author for the fieldwork study to collect more data through organizing interviews with two responsible sources who worked on the project. ¹During the visit the author explored different zones of the project, met various residents and discovered the urban spaces represented by public open spaces and land uses, in addition to taking photos of various buildings that could help in the

¹ The first interviewee is 'Cord Soehlke' the senior planning officer in the Municipality of Tübingen and the senior planning officer of the municipality of Tübingen and, the second interviewee is 'Selina Heinrich' working in the 'Southern part of the Tübingen' developing project team. Both are residents in the project. The author also planned a tour with an inhabitant 'Thöne Günther' of Tübingen City who is interested in the project and finds the 'Southern Part of Tübingen' the most suitable neighborhood.

architectural character analysis. The project is an example of self-developed, and self- built project.

The study is based on analyzing and explaining the development processes attained to reach the current urban envelope product. The author draws a mental framework to help in reaching a sufficient comparative analysis between the different case studies. This mental framework is based on an ordinary sequence of any urban development process. Any project initiated has to identify the main stakeholders and responsible actors who will participate in establishing the project through identifying the role of each. Initiation of the process through setting the main objectives of the development and goals needs to be achieved. This is followed by raising the main regulations and identifying the rules of land ownership. One of the main concerns in self-developed project is the allocation of end-users in order to orient the project to fulfill their needs. After establishing the main bases, the design development starts through identifying the main design principles that are applied later in the implementation stage. The last step is identifying the responsible stakeholders on the management and monitoring of the project. The result of all these steps is the end product.

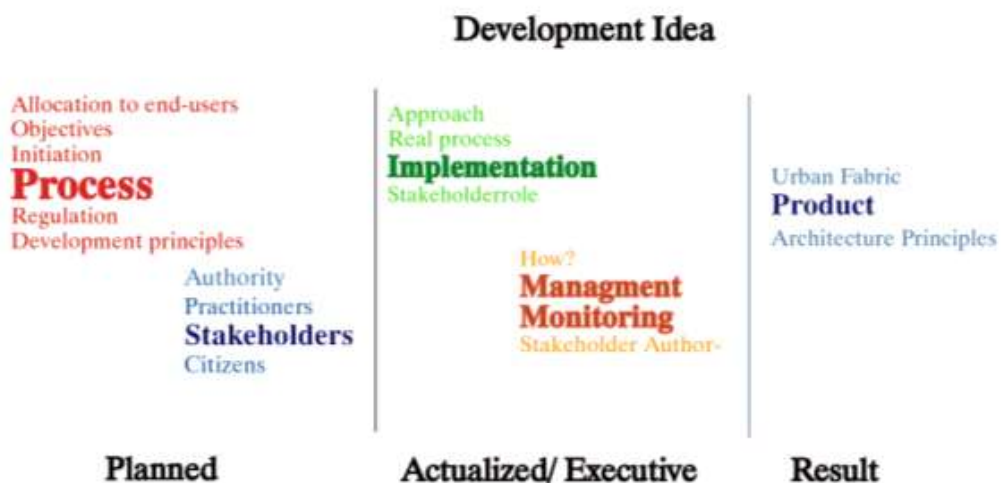


Figure 1: Methodology used to introduce the Idea of Development of the case studies (Source: Author, 2012)

The last chapter will include the conclusion and the recommendations. It summarizes all the cases studies from two main points: the process and product, with reflection to the theories and approaches. The research aims to reach a preliminary proposed process towards the creation of successful current Egyptian urban districts.

1.8 Research Structure

This research thesis is discussing self-developed areas relative to the process and product. This goes through dividing the research to six chapters and each is further divided into title and subtitles that help in fulfilling the arguments of the research. Chapters three, four and five are explaining the cases studies of the research and they get their input from chapter two that represents the theories and approaches of self-developments.

Chapter six is the outcome of the case studies chapters in relation to each other and to the theories.

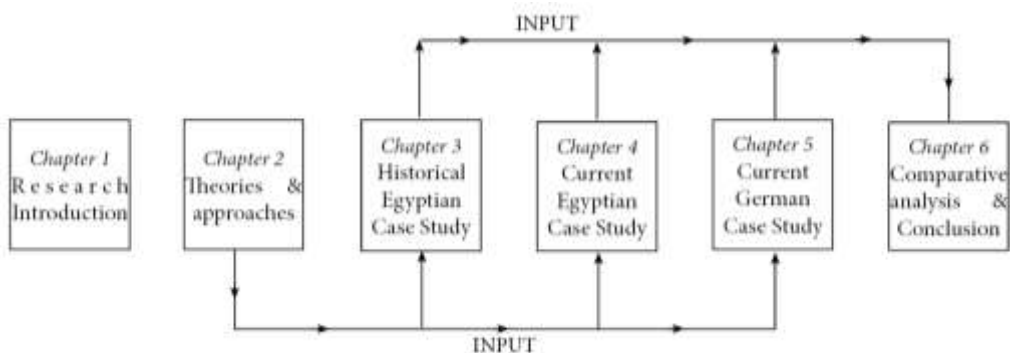


Figure 2 Chapters Division (Source: Author, 2012)

1.8.1 Research Introduction

This point is an explanatory chapter that identifies the research problem, questions, objectives and limitations. It also identifies the methodology and different tools used to reach the research results and outcomes and explain the main mental framework followed in the study to reach a compatible comparative analysis of the three case studies.

1.8.2 Theoretical review of community urban development: Approaches and Theories

Self developed areas depend on community initiatives, although the role of different stakeholders takes place. Bottom-up and top down approaches explains the stakeholders involvements in decision making and implementation processes. Participatory design in general depends on the involvement of different stakeholders as each has a major role in the development process. Nevertheless, this theory will lead to the role of the governance in such a development.

1.8.3 Historical Egyptian Case Study, Fatimid Cairo

This case study represents a very designative historical area which depends on self-development and self-build that leads to reach a product highly appreciated until nowadays from the community, planners, architects and visitors. Fatimid Cairo District is a good example for Islamic city that has a well-appreciated and acknowledged urban envelope. The study goes through analyzing the urban envelope of the district.

1.8.4 Current Egyptian Case Study, Ebny Betik Project

Ebny Beitik is an example of the current self-developed areas initiated by the government and aiming to solve the housing problem in Egypt. The approach used is self- build and the role of each stakeholder is identified from the start of the project but some changes occurred during the implementation. The research will discuss the intuition behind the initiation and the development of the project. Also the study will follow the same mental framework assigned by the author to get the required data for the comparative analysis of the three case studies.

1.8.5 Current German Case Study, Southern Part of Tübingen

This point discusses a current Self-developed process in Tübingen in Germany. The project is called the “Southern part of Tübingen” it is chosen by the author

as being a new self-developed project that attained a high credit between planners in Germany and its concept is applied later on in different areas in the Germany.

1.8.6 Comparative analysis and Conclusion

This part presents a comparative analysis between the three case studies from the theoretical approach. A comparative analysis is required to act as a base for recommendations through identifying the pros and cons of each case study. The conclusion is based on referring the case studies to the theories and approaches through the process and the product of urban envelope. A proposed self-developed model characteristics are presented in this chapter.

**CHAPTER TWO: Theoretical review of
Community Urban Development:
Approaches and Theories**

Chapter Two: Theoretical review of Community Urban Development: Approaches and Theories

2.1 Literature review

In recent years, researchers and professionals have focused on integrating the community with the urban development of any inhabited area. In an attempt to find out different ways to reach the optimum solution for such developments, more studies were conducted in the third world countries and the Middle East countries. This is due to the continuous degradation in many areas in these countries.

This chapter provides an overview on methods and theories conducted in response to the community and the social development. The chapter presents different definitions and methods with reference to theories and approaches that focus on the social developments. It explains the term self-developments and the Top-Down and Bottom-up approaches that discuss the role of stakeholders in decision- making. Afterward, explanation of the participatory design theory with its various approaches explaining the 'how, why and what' in the development process. Last section is about the co-housing concept that explains the community participation on development their neighborhood to suit their demands.

2.2 Self-Development

A house is meaningless without inhabitants; a building is just a block without the peoples' usage; a neighborhood means nothing without its society and the city becomes ruins if people do not live in. Thus a house cannot be treated only as a physical structure. It has to be built with consideration to realizing the socio-economic, cultural and environmental factors. Greed, (1998) "*A key feature of urban design practice is the ability to integrate a concern with the visual and aesthetic aspects of urban form with a strong social awareness of the need of user groups, plus a sensitivity to wider environmental and sustainability issues*". So as district planning is not concerned only about the

city and finding the relation between spaces and buildings, but also it targets who stays and functions the place; and which activities will be held. The society is considered as the main spirit of any urban project without which the project will be abandoned. The society plays an important role in the success of any development regardless its scale and objectives.

This leads to the need for analyzing the social dimension prior to the project in order to identify the culture, traditions and needs of the users. In this context, designers usually start to effectively cooperate with the society and allow them to interact in the decision making, implementation and other in between procedures so as to get a sustainable and fruitful product.

Oxford dictionary defined the word “Self” as “Self nature, one’s own personality” and “by one’s own efforts” while the “Land Development” is “the process of converting land for a new purpose of constructing buildings or making use of its resources: land suitable for development”. Based on the previous definitions “self-development” can be defined as: Converting the land for new purposes and making use of the available resources based on one’s own effort and personality.

The author defines “Self-developed areas” as: the areas raised and developed by its citizen efforts with the use of the existing resources.

Community development is defined as "the processes by which the efforts of the people themselves are united with those of government authorities to improve the economic; social and cultural conditions of communities, to integrate these communities into the life of the nation and to enable them to contribute fully to national progress" (Dewar, 1997 based on United Nations 1956, in Fitz Gerald, 1980).

2.3 Bottom-up Verses Top-down Approaches

Bottom-Up and Top-Down are two different approaches used by the community development. The objectives of both are better urban quality but with different strategies and urban policies. The approaches are implemented through identifying the stakeholder roles and their involvements in the development process.

The following table represents a comparison between the Bottom-up and Top-Down approaches. The comparison is based on the following set of points: The definition, the initiation of each approach, their objectives and strategies, the involved stakeholders and their role, the problems that faced the involved parties in the project and how these problems were solved and finally the implementation and the procedure followed to reach the product of each approach.

Table 1: Bottom-up and Top-Down Approaches (Source: Author, 2013)

| Point of Comparison | Bottom-up approach | Top-down approach |
|---------------------|--|---|
| Definition | <p>The approach is achieved by applying the Participatory planning theory and the deep involvement of the community in taking decisions.</p> <p>“... Individuals or groups take it upon themselves tough collective action to improve their income or perhaps make their escape from subjection to tyrannical exploitation” (Johnson,1983)</p> | <p>Decisions made solely by <u>externals from the government, urban planners and leaderships</u>, with very limited involvement of the community.</p> |

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| <p>Initiation</p> | <p>This approach goes back to the 60's and planners use it since then till nowadays. Roy and Ganguly (2009). This is a result of the failure of the Top-Down approach in many projects and governments could not fulfil the needs of the citizens in different countries that lead the citizens to take the initiatives to formulate the new approach. (Moser, 1989).</p> | <p>The early historical period of community development projects</p> |
| <p>Objectives & Purpose and goals</p> | <p><u>Community consistency</u> with accommodating of low-budget, improving the buildings designs and structure, creating of open spaces and neighborhood public services. (Scheurer, 2001).</p> <p>Transfer the power from the government to local community to create socio-cultural, economic and environmental developmental goals closer to the actual needs of the community. (Meijsmans,2007)</p> | <p>It is <u>a government initiated participation that controls the participation of the people</u>. (Sanoff, 2000). The government initiates the social programs. (Scheurer, 2001)</p> <p>The main aim is to formulate a framework of guiding the development towards an urban economy and social construction.</p> |
| | <ul style="list-style-type: none"> ▪ Successful community development programs/ projects. ▪ Community oriented behaviors based upon individual's perceptions. ▪ Improving the living standard of the community <p>(Larrison, 1999).</p> | |
| <p>Strategies</p> | <p>Based on (Larrison, 1999) study, the strategies basing to develop a Bottom Up</p> | <p>1. Use of professional external leadership who get involved in</p> |

| | | |
|---|--|---|
| | <p>approaches are:</p> <ol style="list-style-type: none"> 1. Participation of the community, 2. Motivating the local communities to participate, 3. Offering learning opportunities, 4. Improving and make use of the local resource and managing it, 5. Increasing of human development, 6. Encouraging the communication and interchange, 7. Focusing on the financial access. <p><u>Absence of trusteeship and external leaderships</u>; it depends on individuals to have internal motivations for community oriented development (Larrison, 1999) according to Karl Marx, 1840 theory, he argued that without trusteeship the process of development will go in the natural track.</p> | <p>the planning then the implementation and finally the evaluation of the community development (Larrison, 1999)</p> <ol style="list-style-type: none"> 2. Develop a general framework through the leadership. 3. The approach follows the trusteeship concept. Based on Cowen and Shenton argue that the <u>idea of trusteeship means “The intent of one to act on the behalf of another”</u> in another scale “Intent which is expressed by one source of agency, to develop the capacities of another” (Cowen, 1996) |
| <p>It requires problem definition and show the community enthusiasm to participate in the community development</p> | | |
| <p>Stakeholders</p> | <ul style="list-style-type: none"> ▪ Residence, ▪ Professionals or facilitators, ▪ Professionals providing technical | <ul style="list-style-type: none"> ▪ Professional leadership, ▪ Residence ▪ Residence follows the leadership and |

| | | |
|-----------------|---|---|
| | support. (Larrison, 1999) | gets involved in the services offered by the program. (Larrison, 1999) |
| Problems faced | Shortage in the financial resources. Time consuming. | Negligence of the community needs and initiatives. Usually the approach is applied on poor assumptions of social and environmental behavior. Cooksey and Kikula, (2005). |
| Problem solving | Community discussions to resolve problems based on knowledge and gaining a sense of empowerment. (Larrison, 1999) Cooperation between the community and professionals | Technical solutions applied to solve problems. (Cooksey and Kikul, 2005) |
| Implementation | Through the <u>theory of Participatory Planning</u> . This theory will be discussed in details later in this chapter. The approach is mainly operated by the residence following the points mentioned below according to Sanoff (2000, P.183) supported the view of Bratt (1987): <ul style="list-style-type: none"> ▪ Problem definition ▪ Action plan developments ▪ The community search for technical and financial support from external experts. ▪ Funding support after | Involvement of organizations/ planners not located in the development area. The planned development occurs through <u>external organizations</u> by collecting of data and start planning. Through a <u>bureaucratic way</u> , it starts by suggesting interventions to improve the community development programs. “Planners and bureaucrats proceed as if they were writing on a clean slate and possessing all the knowledge for improving people’s lives. In reality, they are making interventions in a well- |

| | | |
|---------|--|--|
| | <p>project initiation</p> <ul style="list-style-type: none"> ▪ Residence participation developed throughout the process ▪ Consumer precautions are integrated into the process. | <p>established community social system, which has survived over generations of struggles and interactions with the local environment”. (Cooksey and Kikula,2005)</p> <p>Most of the data collected are quantitative data through rapid analytical studies. Implementation based on the formulation of the master plan of the development area with a study of its feasibility and time management.</p> |
| Product | <p>The <u>product came from the community</u> with respect to their needs, focusing on priorities through finding out the community potential towards development, applying various ways with problems, improving self-help initiatives, making use of internal resources and minimizing the necessity of external resources. (Cooksey and Kikula, 2005).</p> <p>The community feels the ownership of the project.</p> | <p><u>Gives the government, the leadership, the sense of control and power</u> along with applying the bureaucrat method. (Cooksey and Kikula, 2005).</p> <p>It focuses on the cost effectiveness of the project.</p> |

From the previous comparison, the Bottom-up approach is summarized as a community oriented approach. It focuses on the community participation in the decision making and implementation processes. On the other hand, the Top-down approach is a leadership oriented approach, where externals and governmental organizations are responsible in the decision making process and possess full control of the project.

Reddy, N. (2002) gave an alternative to the Top-down approach that deals only with the government and leaderships decisions and he discussed the “Partnership Model” which states that both planning and decision-making processes have to be applied by the work of the governments and communities together.

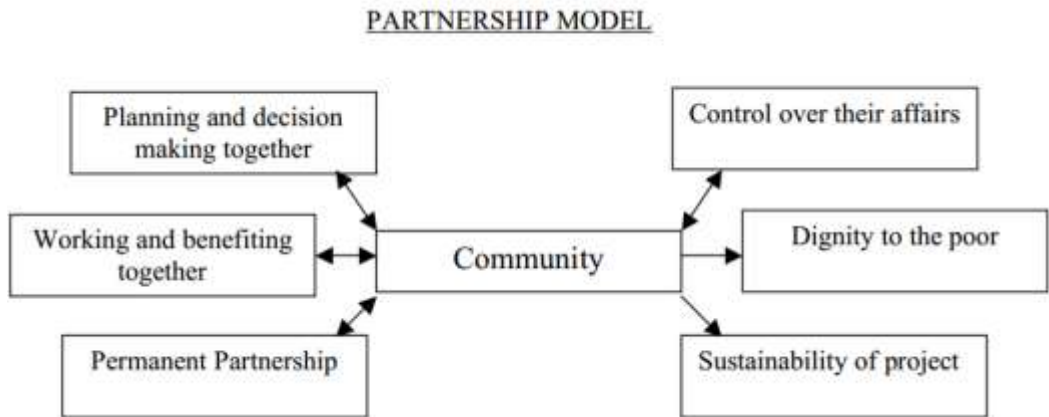


Figure 5: Partnership Model (Source: Reddy, N. (2002))

“The communities themselves also do the implementation of the plans. Such implementation is done parallel to the central government support programs that are of national priority in the form of what is known as basket funding.” (Cooksey and Kikula, 2005).

2.4 Participatory Design Theory

One of the theories used for recognizing the social aspects and needs within the design process is participatory design theory. According to Sanoff 1990, the reason of formulation of this theory goes back to the 1960’s on an international level when the planners and architects started to look back to the reason behind the dissatisfaction of the people with their built environment. They found that the reason behind that is the lack of proper connection between the inhabitants and the built environment. They followed two different approaches to figure out a solution. The first way was to go back in history and looking on the old historical traditional buildings and restoring them similar to newly constructed

buildings. The second way was finding linkage through the whole procedure between the planners, architects and the residents of either the building or the area. (Wulz, 1986). The second manner in particular meant that architects and planners had to play the role of a facilitator; in order to cope with the community needs. This is achieved through explaining to the citizens how to create designs responding to their needs and that can be implemented on the ground level in a scientific way that still follows the proper architectural concepts and planning theories. Accordingly the facilitator has a major role in taking actions that reflect the real life needs. The main concept of a participatory design is concerned with the creation of housing projects by setting dynamic development criteria that incorporate social and political aspects to attain a suitable sustainable housing project.

Sanoff, 2000 based on the scope of Social Architecture, 1984 Hatch, *describes an international movement based on the conviction that participation is crucial to the redirection of architecture and the city it creates. Social architecture is viewed as an instrument for transforming both the environment and the people who live in it.*

2.4.1 Definition of Participatory Design

Oxford dictionary defines the word participation as “The action of taking part in something”. Participatory design is defined as an approach for changing and creating an environment valid for community usage. According to (Sanoff, 1990) Participatory design is defined as a collection of data and information about local context, needs, wants and environmental conditions that improve the design process. It may lead to fulfill the human needs and aspiration. It includes a group of certain people sharing an almost similar lifestyle conditions.

World Bank’s Learning Group on Participatory Development defined participation as “*A process through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them*” (World Bank, 1996).

Participatory design is merely explaining the methodological intent, which is stemming from the assumption that designing ought to be a collective decision-making effort operating on the principle of a democracy. Democracy attained where participants, users and designers share ideas, goals and designs. Everyone plays as an active participant in the design process. The users have many jobs during the design process and after it; they are involved in evaluating the research results and developing recommendations on how to address problems that have been identified. This means that participant's role does not stop by finishing the design, but they also have to evaluate their work, so that they could make out what is still missing.

Participatory design can be also explained as a set of diverse ways of thinking, planning and acting through which people make their work, technologies, and social institutions more responsive to human needs.

2.4.2 The Ladder of Participation

Arnstein, 1969 made an intensive study on the differences between participation and non-participation. Figure 6 illustrates the ladder that represents the three levels of participation and the degree of citizens' involvement. The three main levels of the ladder identify the level of participation.

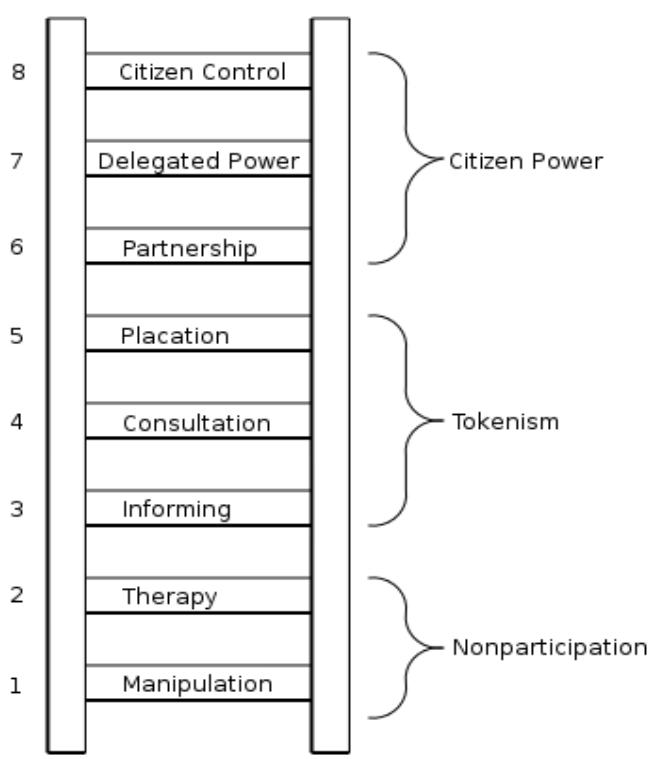


Figure 6: Ladder of participation (Source: Arnstein, 1969)

Manipulation and Therapy are at the bottom level of the participation ladder indicating that the authority does not focus on enabling the citizens to participate in decision-making and planning. The main aim should be to educate and advise the citizens through proposed plans and solutions and to gain public support through public relations. The second level on the ladder is Tokenism², which indicates Informing, Placation and Consultation through sharing ideas and information from meetings and surveys. Nevertheless, it still indicates that the end decision remains in the hand of the power holder. The third and the final level of participation is enabling Citizen Power through Partnership, Delegated Power and Citizens Control. These depend on negotiations between different stakeholders who are involved in the project whereby planning and decision-making are based on joint committees between the community and power holders. Citizens also have the power to take decisions and obtain the majority of power seats. This higher level of participation enables the community to be directly connected to the funding authorities.

2.4.3 Participation Typology

It is difficult to measure the effectiveness of participation, the impact on the peoples' decision-making and to underpin the influence exerted by people on it. Based on a study made by Pretty (1995) on how people participate in the development process and programs, Pretty extracted seven main types for the usage of the term 'Participation'. These typologies start from the manipulative and the minor participation of people in the decision making process and ends up with the people themselves taking initiatives.

- **Manipulative Participation:** Participation is just a simulation; a façade; people do not participate in electing their representatives.

² Tokenism defined as: The practice of making only a perfunctory or symbolic effort to do a particular thing. (oxford dictionaries)

- **Passive Participation:** People get introduced to the decisions already taken without being asked to give any feedback or listening to their real needs. Decisions are made by external leaders and professionals.
- **Participation by Consultation:** People participate through answering specific questions raised by the professionals and external consultants. There is no sharing of decision-making with people and their demands are totally ignored.
- **Participation for Material Incentives:** People participate by their work in return of incentives such as “money, food,...etc.” however there no participation during the learning process. Peoples' participation stops when incentives stop.
- **Functional Participation:** People participate in the decision making and there is an interactive involvement in the predetermined objectives of the project. The main objectives and goals decisions are made by external consultants with the aim of reducing resource costs.
- **Interactive Participation:** People participate in joint analysis such that they have the role in participating on action plans by the formulation of local groups who are in charge of local decisions and determine the local resource usage. Multidisciplinary participatory process share different viewpoints and learning methods.
- **Self-Mobilization:** People participate through independent initiatives; and even through there is a building of external contacts for technical supports, but the final decision goes back to the people.

2.4.4 Participation Means and Ends Approaches

The main perceptions of these two approaches are concentrating on what the goals and targets of the development are by identifying the involved stakeholder and their roles towards these goals.

The "Means" approach focuses on applying the specific goals of the project. It has predetermined goals that aim to make use of the available resources and improvement of the physical environment. This process has a Top-Down

perspective. The ‘Ends’ approach focuses on the community participation that create authority with the people and lets them have control on the goals and agenda of the project. Hence, this process is unpredictable and the goals are developed along the process. People have access to resources and control on the rules and regulations. This process on the other hand has a Bottom-Up perspective, Thwala, (2009) based on Moser (1989).

2.4.5 Participation Pseudo and Genuine Levels

Other two levels of participation as identified in 1985 by Deshler and Sock are ‘Pseudo’ and ‘Genuine’ levels. Those two levels emphasize on who are the participants that act on the process. ‘Pseudo’ level describes the process by informing the citizens of the decisions taken by external. This level is based on the manipulation and placation of the citizens to reach the product. The opposite is the ‘Genuine’ level, which is characterized by making citizens empowered through controlling the process and having the authority in taking decisions. Sanoff (2000)

2.4.6 Summary of Participation Approaches

The previous approaches are summarized in the following table:

Table 2: Summary of Participation Approaches

| Questions | Participatory Approach | Description |
|---------------------------------------|-----------------------------|---|
| What are the stages of participation? | The Ladder of participation | Difference between participation and non-participation. |
| How people participate? | Participation Typology | Categories of participation. |
| What is the purpose of participation? | Mean and Ends | Goals and Targets. |
| Who takes the decisions? | Pseudo and Genuine | Decision-making. |

The two main approaches that describe the participation levels and categories are the “Ladder of participation” and “Participation Typology”. Table (3) summarizes the two approaches in relation to the other approaches.

Table 3: Summarization of Participation Approaches in relation to levels of participation

| The Ladder of Participation (Arnstein, 1969) | Participation Typology (Pretty,1995) | |
|---|---|---|
| <p>Non-participation: Manipulation and therapy; No public decisions purpose to educate and advised the citizens through proposed plans and to gain the public support</p> | <p>Manipulative participation Passive participation; People listen to Decisions made by external leaders</p> | <p>1. Top-Down approach 2. Means approach 3. Pseudo approach</p> |
| <p>Tokenism: Placation and Consultation Sharing ideas and information however the end decision goes back to the power holder</p> | <p>Participation by Consultation: Answering of specific question Participation for Material Incentives: People get in return incentives</p> | <p>In between Top-Down & Bottom-up</p> |
| <p>Citizens power: Citizens control and taking decisions Planning and decision based on joint committees between the community and power holders</p> | <p>Functional participation: People decision making Interactive participation: Joint analysis & formulation of action plans Self-Mobilization: Independent initiatives & the final decision go back to the people</p> | <p>1. Bottom-up approach 2. Ends approach 3. Genuine approach</p> |

2.4.7 Participatory Design Stakeholders

Before getting in depth on the implementation processes of participatory design, the involved parties and participants in the process have to be introduced. As Bessette (2004) mentioned, the term community participation means the contribution of local communities, stakeholders, authorities and practitioners to facilitate the process of development. The community however is the main participant in the development process. This means full involvement is needed in the design process to decide their needs and demands since it is social constructionist and knowledge building. The designer meets the representatives of the community through different tools that will be explained later in the research. They are involved in the design process, design decisions, and proposals. Designers study the community cases, requirements, and simultaneously try to put their ideas into an effective design. Bessette (2004) defines the participatory development by identifying the researcher as a facilitator who gets involved with different participants from the community and stakeholders to define the problems and to reach the final product. In addition, Bassette identifies the stakeholders as the community itself beside the NGO's, local authorities and responsible parties. In addition, Salheen (2006) mentioned several factors that should not differentiate between the community members as the social standard, level of education or the age. That means that all people have the same rights in that process.

Involved stakeholders are likely to include participants from the government; such as the local government representatives in municipalities and governmental institutions; NGOs and Community Based Organization (CBO)'s in the area or interested in the area; academics such as Universities professors, researchers or interested students; businessmen; the users themselves, such as citizens and the area residents; and specialists in religious and cultural matters in the area. (Bass, Clayton, Pretty 1995)



Figure 7: Participation stakeholders (Source: Author, 2012 based on Bass, Clayton, Pretty 1995)

Figure 7 shows the different parties who are involved in participation stages. Externals might have individual interests and hidden agendas and that is referred to in Sanoff (2008) definition of participatory democracy by “A collective decision making is highly decentralized throughout all sectors of society, so that all individuals learn participatory skills and can effectively participate in various ways in the making of all decisions that affect them.

Particularly crucial in this conception of participatory democracy is the insistence that full democratization of decision-making within all local and private organizations is a necessary prerequisite for political democracy at the national level.”

2.4.8 Participatory Design Process Stages

The participatory design passes through five main levels to reach the final product. The first two levels concern the preparation and data collection. The third level is designed; while the fourth one is implementing the designs. The last step is monitoring and supervising the product.

Sanoff (1990) based on Burns (1979), stated that participation is divided into four main categories: Initiation and Awareness, Perception and Planning, Decision making and Implementation. According to these four classifications the degree of participation differs.

First, the Initiation and Awareness stage, there is an identification of the resources, the nature of the environment and people. This includes raising the awareness of people and trying to build an attached background for the project.

Second, the Perception and Planning phase, are through understanding the surrounding environment socially, culturally, economically and physically in which people have to share their previous experiences, objectives and expectations towards the project. This requires transparency to use the information as a resource for the project.

Third, the Design Making stage is based on the previous information, resources, in which participants' start to put real solutions, plans and designs. Proposals are collected to satisfy different interests. It is advantageous and necessary to involve the representatives of various interests and to hear from them. Professionals and facilitators modify the proposals to create the final designs.

Fourth, the Implementation means that the role of the participants should not stop at the previous stages only, but they have to participate in the process of

implementing so they can feel the place, know the “How, What, When and Who” of the whole process that incorporates the system of learning by doing. This can still allow the freedom to develop the citizens' own priorities.

Finally, the maintenance and monitoring through the: management of resources and skills.

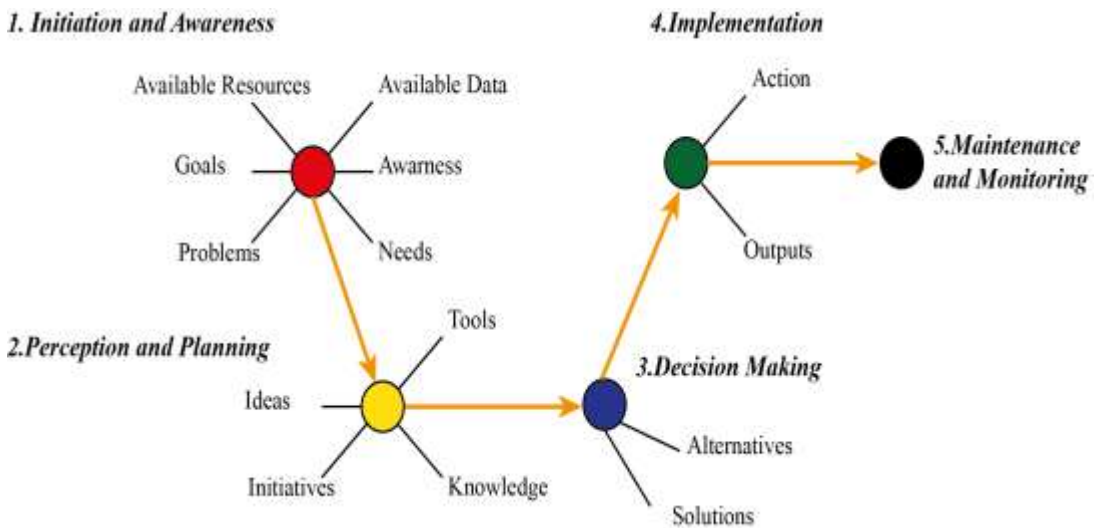


Figure 8: Participation Stages (Source: Author, 2012 based on Sanoff, 1990)

The community participation in each stage of the project determines the level of participation in projects.

Based on the previous participation stages the below figure represents the main idea of the development that will be implemented on different case studies of the research.

Development Idea



Figure 9: Development idea (Source: Author, 2012)

2.4.9 Participatory Design Tools

The concept of participatory design that has been applied in several projects lead to the formulation and the discovery of different tools that help in the process. In this research an overview of the main tools will be discussed that relate in one way or other in achieving a successful participatory design.

Different participatory tools can be placed under the umbrella of communication as the correlation between all participating members is important as explained.

Several ways of communication are used; one of these tools is visualization technique. Salheen (2006) explained the visualization technique in four steps. The **First** step is the data preparation through gathering an applicable number of the community and presenting to them the purpose of gathering the concept of participation. The **Second** step is, building consensus where the planner sets down several solutions and alternatives through visualized tools and explains them to the audience then allows them the flexibility to change or add ideas. The **third** step is related to the decision-making that requires a smaller number of participants and more precise participatory tools. **The last step** is the

prioritizing and budgeting by presenting the results to a maximum number of people from the community through semi-flexible tools that adapt the present changes but with limitation so as to get products.

The definition of the term visualization can be simplified as using tangible techniques and ways that helps in facilitating the observer to reach the meaning. Salheen mentioned different techniques of visualization: 3D models, satellite images, photographic images, geographic mapping and diagramming. 3D models illustrate and show the ideas in a simple way that reaches the community easily as it transform the ideas from words to reality. However, this type of visualization costs a lot of time and money. While Satellite images helps people to understand the areas profile, but it needs more illustration as it loses the third dimension and people might face difficulty in reading the map to determine their location. Photographic images are a simple way to show a general overview of certain points and are more used in early phases of data collection and analysis. With the geographic mapping there are two ways to present, first are maps that are professionally made by stakeholders which helps in the illustration of the area. The second is made by community in simple drawings that represent their visions. The last technique is diagramming and this mainly helps in arranging and categorizing of thoughts. Even though all of these techniques assist in facilitating the participatory process, the people themselves and the situation have an influence on choosing the techniques used.

Sanoff, (2000) mentioned some of the ways for the promotion and advertisement of the participatory design through holding cultural events, festivals and activities in the society. The purpose is to perform a comprehensive study to know all interested participants. That is applied through a kind of kick-off event opened to all citizens and different stakeholders such as mayors, city council, administration and representative of the government.

These kick-off events require proper advertising and publicity. First open event is for all participants introduction; the second open event for different topics to be introduced and discussed together. The open event method receives impulses and thereby provides the feedback of the public participation process of all stakeholders.

In conclusion, the process identification and prioritization of development issues is done by the people themselves, but facilitated by authorities and the government. Therefore, introducing of the community in the design process is considered one of the main reasons for achieving successful results. Various methods are being followed to know how the community will accommodate in the place and to get them involved in the process. Also, these methods help in deciding the available resources and determining the goals that needed to be achieved. This can be obtained through different tools such as: communications, surveys, reviews boards, workshops, neighborhood meetings, conferences, questionnaires, interviews and mapping. This helps a lot in collecting data about the users, place, and the general conditions. Hence, it makes the procedures easier for the designer and the community; and helps in knowing the nature of the place from different criteria as land topography, climatic conditions, environmental effects, resources and the available materials.

2.5 The Co-Housing Concept

On the coming part the author will explain one of the concepts that depends on community participating in creating their living neighborhood. This concept in 'Co-housing' concept is extracted from the world community cooperation. The author specified the co-housing concept it is discussing the neighborhood development based on community participation.

2.5.1 Initiation and Definition

Lietaert (2009) mentioned the Co-Housing concept in 1972 in Denmark. The project hosts 27 families by a Danish Architect who was influenced by a

psychologist article arguing that children should have one hundred parents. The concept emerged from the Danish word “Bofællesskaber” translated as “living communities” in English. McCamant & Durrett Architects firm a pioneer in applying this concept in United States coined the term ‘co-housing: that is derived from the English word “cooperative”.

In 1987, McCamant & Durrett Architects firm was initiated in California to adopt the co-housing concept after doing several researches on the co-projects in Denmark. Their main concern is people, the interests and the quality of their living. They defined co-housing as:

“These communities cluster 12 to 35 homes around common facilities. Residents participate in the planning and design process from the very beginning, ensuring that their community meets their needs, both individual and collective. Each household owns a private residence—complete with kitchen—but also shares extensive common facilities with the larger group. These common facilities, and particularly common dinners, are an important aspect of community life both for social and practical reasons.”(McCamant & Durrett, 2013).

In the other words, building Co-housing can be defined as: a group of people gather in one place, sharing the same aim to build their own as neighborhood and create their living community. Each participant owns an apartment that offers the main living aspects while sharing the other public facilities with the community such as gardens, workshops and public services...etc. According to a study held by a center for “Cooperatives-Wisconsin University” with collaboration with “cooperative development services”, it states that the idea of co-housing ownership is that each one owns his apartment or through renting it. Each participant also has to pay a monthly amount of cash to develop and upgrade the public facilities in the neighborhood.

2.5.2 Co-housing Main Characteristics

The main characteristics of co-housing are six, according to Lietaert (2009) based on McCamant & Durrett Architects:

- First the concept of co-housing is totally managed by the community through the theory of participatory design process, in addition to have help from professionals, experts, facilitators.
- Second characteristic is to design the urban space and landscape of the area through identifying the entrances, paths, Softscape and hardscape elements.
- This will direct to the third characteristic that focuses on the community common facilities that give the place its spirit.
- The fourth characteristic mentioned that a regular meeting has to be managed between representatives of the community that people choose them through voting or random choice. Wisconsin University study added that co-op work organized between the participants through identifying the role of each towards running the whole process to reach the final outcome. Through electing representatives and creating a board to operate the process and control the community participating. Then, having of constant meetings to be updated with the new developments and upgrade the ideas and on the other side solve any pop up problems.
- The fifth characteristic according to Lietaert is that all participants are equal and no hierarchical division all has the right in freedom expressing opinions and needs.
- The sixth characteristic is each participant has a separate income.

2.6 Conclusion

The previous points related to participatory design theory and the associated approaches, showed that the levels and typology of participation differ with regard to the community participation. The research shows the reflection of these approaches according to the Bottom-up and top- down approaches. Beside, explaining the involved parties and the stakeholders and the role of each in helping in the development. The role of the stakeholders was discussed in each approach as they act as the main players who affect the whole process. It also shows of different tools used to facilitate the process of the participation.

The concept of Co-housing linked the idea of Self developing. The housing neighborhood is managed and decisions are taken by the community through implementing the process of participatory design.

Self-developed areas depend on community initiatives and using of available resources to create a living environment for the community. Participatory design is a tool used to improve the self-development through collection of data and information about the local context to improve the design process of the project, its main aim is to fulfil the community needs.

**CHAPTER THREE: Historical Egyptian
Case Study - Fatimid Cairo**

Chapter Three: Historical Egyptian Case Study - Fatimid Cairo

The chapter demonstrates a case study in Egypt that follows the concept of the self-developed and self-organized areas. The area will be introduced through the main methodology stream and the mental framework previously explained in chapter one. The study of the project will focus on the implementation process by discussing the rules and regulations in addition to the role of the stakeholders that partake in the formulation of the project's product. The case study analyzed in this chapter focus is the historic district of Fatimid Cairo as it currently exists.

Fatimid Cairo was initiated based on a simple designed urban fabric (will be explained later) where it was formulated to suit the caliph and the Fatimid army, while the community was living in Al-Fustat and they were not allowed to enter Fatimid Cairo area without a permit. During the Ayyubid period, it was allowed for people to enter and live in Fatimid Cairo. (Al-Tarabely, undated). Nasir Khusraw, 1050 the Persian writer, traveler, and philosopher, wrote that *"No one may own a house or building [there] unless he has had it built himself"* the presence of a large number of citizens led to the increase of the marketing shops between the houses given Al-Fustat's the main market in Cairo in that period located in a great distance away from Fatimid Cairo (Raymond, 2007). Fatimid Cairo started to be a self-build and self-developed area that is developed by the citizens.

This chapter aims to analyze the objectives and initiation of Fatimid Cairo, and the development occurred during the periods that was based on social, housing development; to adapt the new Islamic Fatimid civilization in Egypt; moreover it demonstrates how the rules and regulation are determined and implemented to control the process and preserve the product.

3.1 Introduction to Fatimid Cairo

In the next part, an introduction on Fatimid Cairo will be explained through presenting the historical background of the area. The location of Fatimid Cairo and its extensions through the Islamic periods.

3.1.1 Historical Background

The Abbasid and Toulon period started in Egypt after the spread of Islam to Egypt. They directly collapsed by the beginning of the Fatimid period (969-1171) under the rule of El-Moez L'Deen Allah who settles down in the Northern Fustat city when the general Gawher Al-Sekili ordered to construct a wall surrounding the Fustat as a separator between Sunni and Shi'a (Antoniou, 1998). The Fatimid city 'Qahira' was intended to include the Caliph's palace, troop houses, fences, and to build a main icon "Al-Azhar" mosque. Fatimid Cairo was never intended to be a commercial city; instead the Caliph planned it to be a political power of the state and to hold the services and economical activities of the Fustat city (Raymond, 2007). After years, Fatimid Cairo started to change its role and became a vibrant city as explained later in the upcoming paragraphs. Figure 10 presents the time line showing the Islamic periods in Egypt.

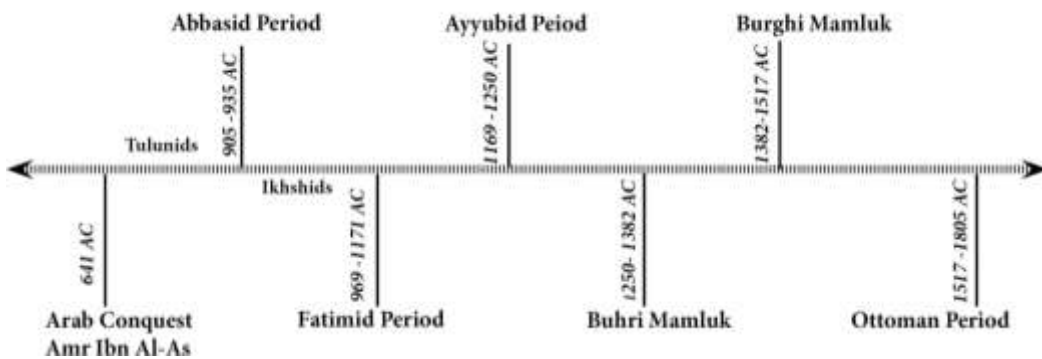


Figure 10: Islamic Period timeline in Egypt (Source: Eid, 1984)

3.1.2 Fatimid Cairo Location

Islamic Cairo was founded in 969 AD by Caliph El-Moez L'Deen Allah. It is located near Al-Fustat city. Later Cairo expanded to include the Fustat and other surroundings that are related to the Mamluk and Ottoman periods.



Figure 11: Islamic Cairo Map (Source: Eid, 1984)

- Fatimid Cairo district
- El Fustat district

3.2 Stakeholders

Based on readings and analyzing the history of Fatimid Cairo and Islamic Era in Egypt, the following table represents the parties involved in the development of Fatimid Cairo area highlighting the interests and actions of each stakeholder who participated in the development. (CPAS, OICC, 1990)

Table 4: Stakeholder of Fatimid Cairo District (Source: Author based CPAS, OICC, 1990)

| | Stakeholder | Interests & Action |
|---------------|-----------------------------|---|
| Authority | Caliph | Managing the city, takes decisions, set the rules & Solve problems besides organizing relations and solving problems between the people |
| | Sheikh El –Qabila | Helps the Caliph in previous tasks, in addition to be a supervisor and responsible for certain groups to make sure they follow the rules and to get back to the Caliph at any decisions |
| | Market inspector “Mohtaseb” | Control the street organization in term of urban and architectural rules besides the environmental and social relations. Controls market products & prevent cheating |
| | Muslim Jurists | Takes decision concerning buildings rules (priority, less damage) each building case judged individually |
| Practitioners | Craftsmen & Builders | Implement & participate with citizens to get an efficient building construction system |
| Citizens | Military families | Support their family and ensure a stable state |
| | Citizens | Residence and search for stability |

3.3 The Process & Steps of Development

In the coming part the main development objectives, land ownership and regulation, allocation of end-user, design development principles,

implementation, and finally the management and monitoring of the development process of the area will be discussed.

3.3.1 Main Development Objectives/Initiation

The Fatimid period was governed by Caliph El-Moez L'Deen Allah and the General Jawhar Al-Sekili. The latter one started to establish the city by identifying the location of the city's wall and gates to control and protect it. The General ordered to build two main buildings: the Mosque and the Caliph's Palace, which are considered as the central buildings of the city. These buildings were not built by architects or mastered builders, but built instead by army soldiers who had some building skills (Al-Sayyed, 1992).

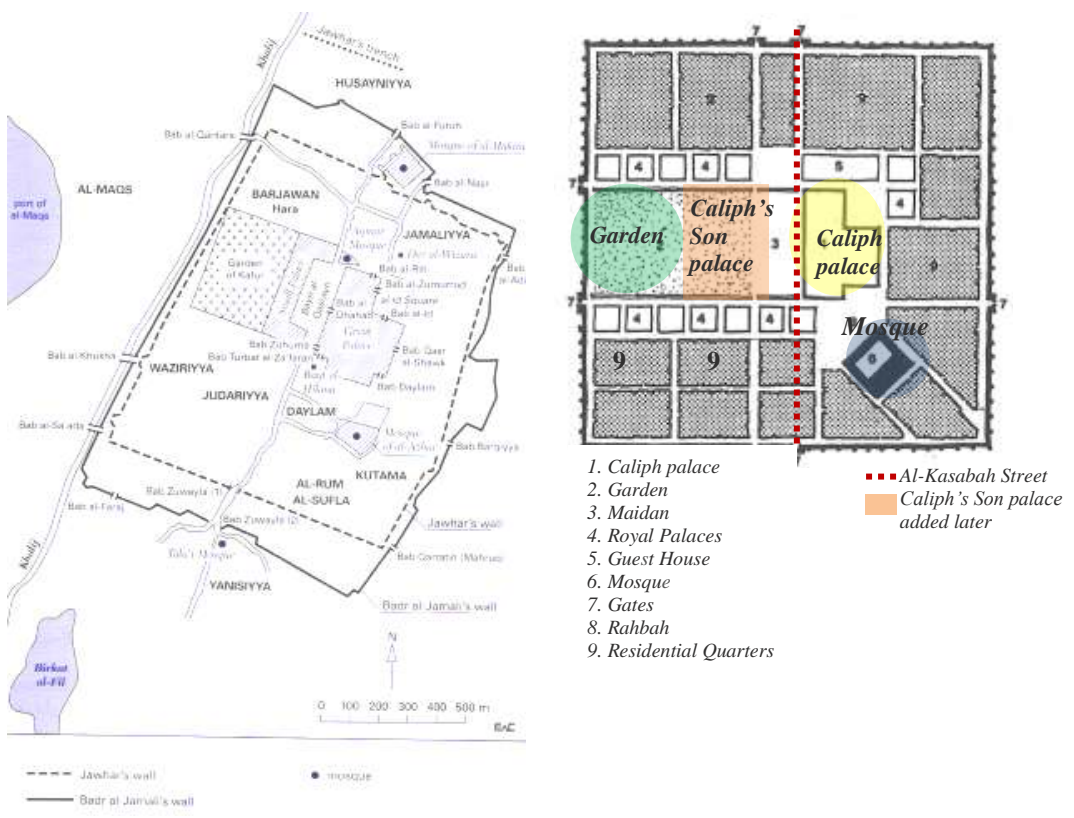


Figure 12: Master Plan of Fatimid Cairo during initiation (Source: Raymond, 2007 and Al-Sayyad, 1992)

The original urban plan of the early period of Fatimid Cairo has a square shape with a grid pattern (Cairo envisioned by Jawhar (reconstruction based on al-Maqrizi's ³description of the plan). During the Fatimid period, the focus was the Caliph's palace unlike the rest of other Islamic city where the mosque is the main building. The palace was located at the core of the city on Al-Moez Street (Al-kasabah⁴). All the victorious events and celebrations were held in the Kasabah Street. In front of the Caliphs' Palace a smaller palace that belonged to his son al-Aziz was located later. A wide open space used by soldiers and troops to settle down was also located between the Caliphs' Palace and his son palace (Antoniou, 1998). The mosque is the second largest building after the Caliphs' Palace and it is located near to the palace and its orientation is towards the Qibla. Royal palaces were surrounding the public open space. The people residential buildings were distributed almost in 20 Harra behind the royal palaces. (Wiet, 1964)

The primary objective was to create a new Islamic Fatimid city in Cairo. Jawhar's army attained to reach the requirements of life through building their own houses for their families and establishing the market to find their essentials. During the time taken to build the Mosque and Caliph Palace, the rest of the city was already constructed. (Wiet, 1964)

The Caliph planned the city to host himself and his army. It became more inhibited than expected; on the contrary, the armies' families started to inhabit the empty lands and execute commercial activities. (Raymond, 2007 based on Nasir Khusraw notes 105)

As mentioned in the stakeholder roles table 4 the Caliph is responsible in managing the city and taking of the major and essential decisions. From the

³ Maqrizi is a Muslim historian who devoted his life to research in Islamic history. Zaimeche, 2007

⁴ Al-kasabah: The Main road in Islamic city where most of the shops and activities took place.

previous description of the development objectives and initiation part, it shows that the Caliph had a general vision and that was to draw a general image of the city for his army, after which he gave them flexibility to create their own housing neighborhood.

Throughout the years ages innovative structures were constructed in the city starting by the Caliph's son who built El-Hakem mosque; at that time it was built outside the city wall to accommodate the Eid (feast) and Friday prayers. Further transformations and changes occurred after the Fatimid period. Each period with its Caliph such as the Ayyubid, Mamluk and Ottoman periods had its own rules, vision and goals. For example, in figure (13) it is shown that more buildings were constructed surrounding the existing mosques and the two palaces in the Ayyubid period while the city's walls expanded to accommodate the population growth. The reason of the formation of irregular patterns in residential areas will be illustrated later in the section of urban fabric principles.

3.3.2 Land Ownership/Main Regulation

Creating an Islamic society was the main concern of this development, such that each decision had to respect the Islamic rules and human rights. Authorities set limited rules and regulations to achieve human satisfaction and to guide the society to construct a well-developed Islamic city based on the main Islamic guide "Al-Shari'aa" represented on "Quran" and "Sunna". On one hand, social equity and justice are main concerns to determine these laws and rules through both physical and moral aspects. On the other hand, they gave freedom to society to design, construct and develop their own houses, workspace, and public areas that were adapted to their requirements and wishes. (CPAS, OICC, 1990)

- ***Land Ownership***

During the reign of the Caliph El-Mo'ez, no one from the society was allowed to own any residential or commercial property. All land ownership was for the Caliph and the inhabitants were only allowed to rent (Al-Sayyad, 1992)

Raymond, 2007 “Qahira was first a city reserved for the Caliph, his court and his army”. Nasir Khusraw, 1050 wrote “No one may own a house or building [there] unless he has had it built himself”.

The policy followed of owning the building in the Islamic cities was based on Prophet of Allāh Mohammed (PBUH) says “One who revitalize a dead land, the land is his” «من احيا أرضا ميتا فهي له». The purpose of this policy was to develop the city and encourage people to build more houses in a short time. This policy helped the Islamic civilization to spread faster in different Islamic cities. (Fayyad, 2014)

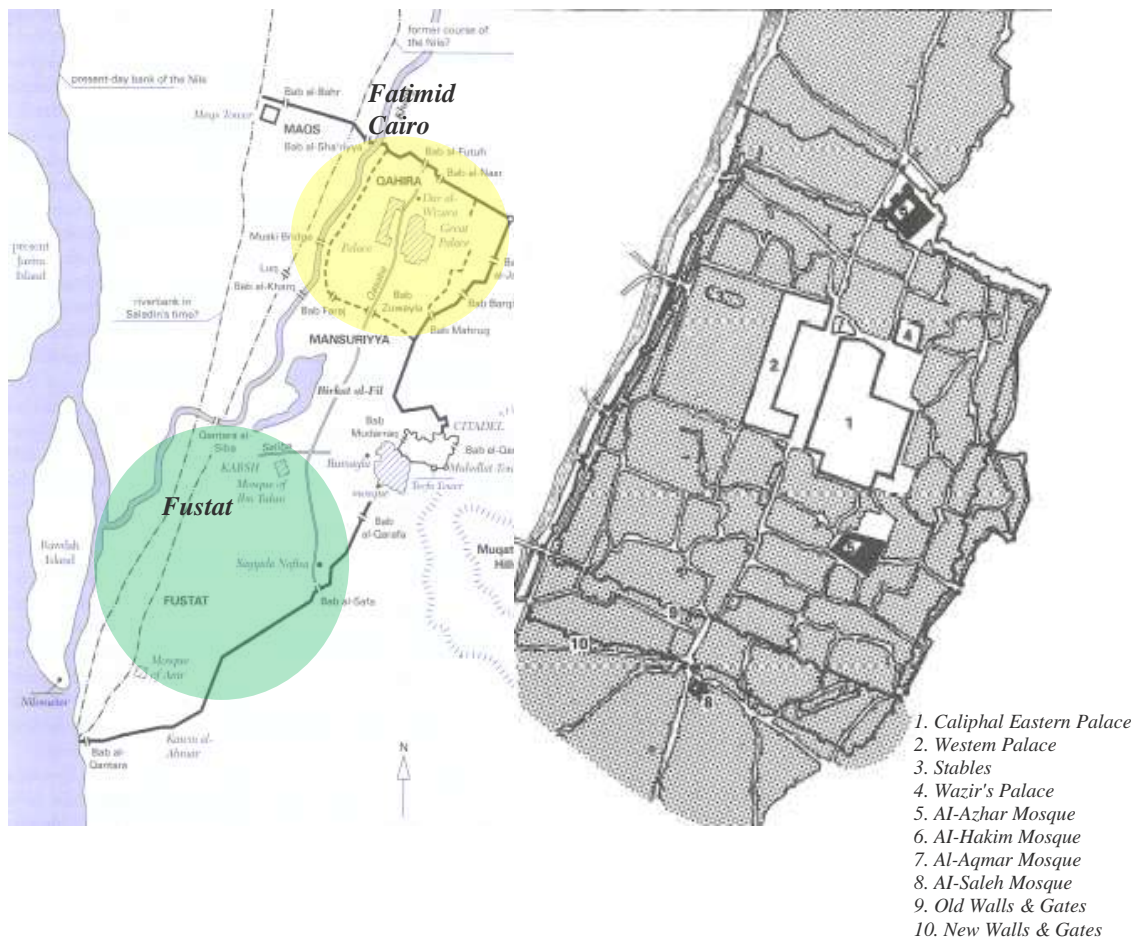


Figure 13 The Relation between Al-Fustat and Fatimid Cairo in Ayyubid period (Source: Raymond, 2007), Master Plan for Ayyubid period (Source: Al-Sayyad, 1992)

▪ ***Urban Planning & Architectural Regulations***

To create social equity that does not differentiate between rich, poor, old, young, educated or illiterate, the Prophet (PBUH) calls for equality by saying " People are equal like comb teeth «..... الناس سواسية كاسنان المشط ». People who share the same type of work that might bother others had to live near each other. This was controlled through the rule which states that "Harm is only accepted in neighborhoods that share the same harm". These rules were considered as general rules of the Islamic cities that leads to achieving a good neighborhood and cooperative society (CPAS, OICC, 1990)

All of the rules and regulations emphasized a good relation between neighbors. Prophet (PBUH) says "Do not over rise your building to obstruct the wind on him without his permission «...ولا تستطيل عليه بالبنيان فتحجب عنه الريح إلا بإذنه...» This helps in creating a collaborated community where each respects the property of the other. (Ibrahim, undated)

Authorities demanded that the architectural scale was derived from the Prophet of Allāh (PBUH) sayings. One of the main rules narrated by Saad bin Malik Al-Khudari (May Allah be pleased with him), Prophet of Allāh (PBUH) mentions a decree stating "There should be neither harming nor reciprocating harm." "لا ضرر ولا ضرار" (CPAS, OICC, 1990) People can do whatever they want as long as it do not cause any harm for their neighbors and the society. For example, inhabitants cannot build an extra room in his own house that might prevent sun and air to his neighbor's house. Another rule mentioned related to the case of damages that have to be done in the development process, Prophet of Allāh (PBUH) calls for a solution by saying the less damage is to apply. For example, in the case of an inhabitant who wants to construct a workshop in his house for improving his income, but this workshop will cause noise and his neighbor complained about that; the first inhabitant still keeps the right for constructing the workshops as less income might cause more harm to his family than the harm occurring from the noise. The purposes of these rules are

controlling how humans act toward the surrounding environment and also respect of neighbors to each other. (CPAS, OICC, 1990)

Another rule is “priority to the first” which gives the right to precedence if two neighbors have a dispute concerning an issue related to housing design. For example, if a neighbor opens a new window that prevents privacy for the neighboring house, the law would require from him seal that window (CPAS, OICC, 1990).

The street pattern had a maze shape and the width was the required for pedestrians and animals to pass together with their loads. The street was developed on the “principle of the least effort, and access was reduced to the bare minimum”. The factor of geographic coalescence of the city through the main three parts “Al- Qahira”, “Misr El-Adima” and “Bulaq”. (Eid, 1984)

According to Eid, 1984 other factors guided the development of the area in the era of Salah El Deen. Social factors of Islamic Cairo were based on the distribution of the population according to their social levels; religion and place of origin which were considered more important than the economical level.

However, in Islamic Cairo each period changed a bit in the rules and the authority added or neglect some of these rules to suit the period circumstances and conditions in regard to the stability and expansions of the city.

3.3.3 Allocation to End-users

As explained earlier the main citizens of the area are the army soldiers with El-Moez L’Deen Allah and the General Jawhar Al-Sekili who settled during the Fatimid conquest to Cairo and whose families came afterwards. In 1175 Salah Al-Din opened the city for populace which led to the formation of the current urban fabric of the medieval city (Eid, 1984). Afterwards people from each period settled in the city.

3.3.4 Design Development Principles

The following principles have been derived based upon the regulations explained above, the existing urban fabric and secondary resources on previous studies.

i. Urban Fabric Principles

The city urban pattern is featured by the existence of a wall surrounding the city that functions as the main defence line. This wall acts as well to protect the inner city from air pollution coming from the sand of the desert. The inner city is accessed through main streets emerging from the large city doors. This is where the commercial

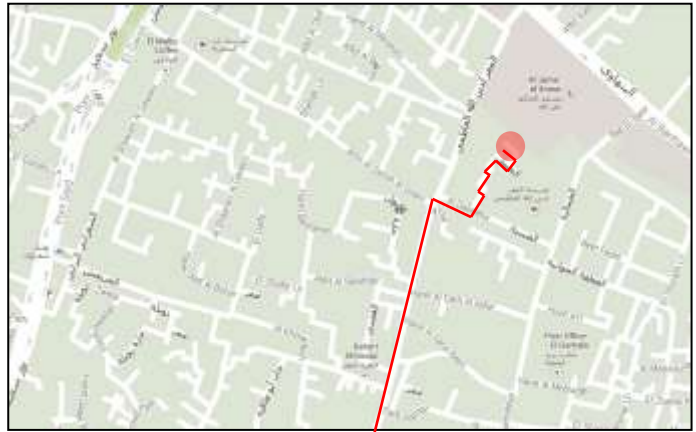


Figure 14: Fatimid Cairo map showing the urban fabric zones (Source: wikipedia, 2013)

activities are centered. Some craft activities also extend in the form of small contiguous shops and workshops that cooperate together in the production of various commodities (Ibrahim, 1996).

The Islamic urban patterns are categorized by having a spontaneous zigzag form and with dead end streets that vary in their width from public to private areas as shown in Figure 14.

The mosque occupies the center of the city (Al-Kasbah), followed by the Madrasa (Islamic schools), other associated workshops and commercial activities are concentrated around the mosque and Madrasa. Al-Kasbah assembles the main commercial streets in the city and the roads that branch to clusters of residential neighborhoods. Some of the commercial activities in the

Kasbah might be extended to cover some parts of the local streets of neighborhoods. (Ibrahim, 1996)

▪ **Public Areas, Squares and Street**

Open spaces were an important public gathering element. They were usually found in front of public buildings. Open spaces were designed either to be set in front of the building or through internal courtyards. The inner courtyard of the

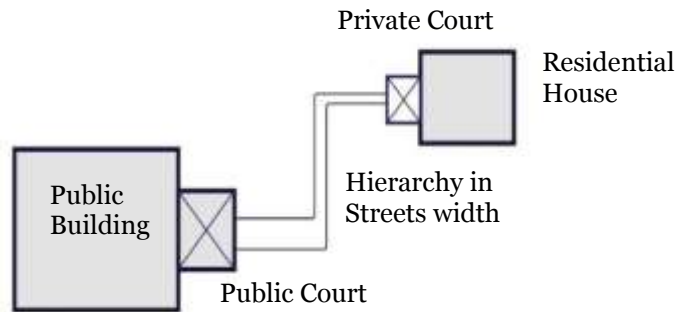


Figure 15: Relation between Public and Private zones (Source: Author, 2012)

house was a social phenomenon which copes with the need for better climate. The size of open spaces was determined according to its use and number of users. As illustrated in figure (15), it shows that the area in front of the houses is smaller than that in front of public buildings.

Table (5) it shows the hierarchy of the streets in the Islamic cities with respect to their maximum width.

Table 5: Street width on the Islamic cities (Source: Author based (CPAS, OICC, 1990)

| Street | Width by Arm |
|------------------|--------------|
| Main street | 70 |
| Secondary street | 20 |
| Zoqaq | 7 |

Street dimensions were recognized by their narrow widths and irregular shape; as they were mainly planned for pedestrians and transport means which were

camels at that time. The street width was determined by the camel's ability to access it. The minimum width of the street was 1.5 to 2.00 meters, which is approximately one lane such that only one load-carrying camel can pass through. The maximum width of streets was 10 meters width, which is almost two lanes for two directions that is applicable for two camels to pass mainly for public load.

▪ ***Spirituality and Religiosity***

From the early stages of the Islam, the mosque played a main role in spreading Islamic rules and providing citizens with places to perform the sacred prayers. The mosque, a symbol of the Islamic city, was located in the center of the city to be easily accessible and visible to all citizens. Different mosques were added later in different periods to symbolize each distinct period.



Figure 16: A transitional space in front of Al-Hakim Mosque (Source: Author, 2012)

To increase the spiritual factors in the mosque, a wide open public space is created in front of the building to act as a transitional meditation area between the public street and the mosque. Although it possesses a functional reason, it is usually used as an extension space of the mosque in events such as Friday prayers and Islamic religious feasts, as shown in figure (16) the space in front of Al-Hakem Mosque at al-Moaz street.

▪ ***Homogeneity***

The urban fabric of Fatimid Cairo has a very homogeneous design. The forms and dimensions of streets were built with hierarchal divisions. The building scale and heights have small variances that perform continuous skyline. In addition, the heights of the buildings respect the environmental conditions that

allow natural light and ventilation to get through the neighboring buildings. Buildings being attached to each other help in the formulation of visual compositions that have a homogeneous shape.

ii. Architectural Principles

Ibrahim, 1993, classified the Islamic architecture to two main principles: the first, by its secured society and respect of the economic hierarchy and the second, by its compatible form with the environment. The centrist Islamic can align both individual and community in the architectural characteristics. The 'Individuality' was reflected on the interior architecture of the houses and the community architecture was reflected from the building on the outside. The interior of the building is the owner's own private property, but the external facades are considered the property of the community and are subjected to social satisfaction. (Ibrahim, 1993)

▪ *Privacy and Introversions*

The builder cared about social values that Islam called for. Privacy was one of the main values that had to be achieved. Privacy attained by citizens was achieved through the neighborhood urban district, by respecting the privacy of neighbors. They care about the height of the buildings so as not to be exposing the privacy of the neighbor. The

relation of windows, entrances and terraces of surrounding building were extremely essential in order not to make the openings in front to each other. The openings on the ground floor were located at a higher level to prevent the street pedestrian from overlooking inside of the house. In addition, the concept of



Figure 17: The Mashrabiya (Source: Author, 2012)

‘Mashrabya’⁵, is located in front of the window leads to higher privacy (figure17).

The traditions and culture of the Islamic society enforce people to create their houses by considering the introversion criteria. They achieved it by making internal courts in their houses to overcome environmental and climatic conditions and to allow families to practice their activities while enjoying the nature and outdoors.

- ***Respecting others Territory***

To protect the land territory that creates respect between people, an external line is used to specify the sides of the street in housing buildings. On the upper floors, they used to make protrusion to get use of extra areas and provide street shading. (CPAS, OICC, 1990)

- ***Simplicity and Aesthetic***

The architecture of that time is characterized by using geometrical shapes: square, rectangle or circle. However, infinite forms are extracted from these basic shapes to create their buildings and decorative elements. The individuals were the main concern in designing a building with more attention towards the human scale and height.

The call of “All to disappear and immortality to GOD” is used as a decorative element in the important public buildings, while most of citizens’ houses are very simple. Buildings walls facing the street are featured by simplicity and minimum number of openings. However, the inside housing is characterized by its richness in the architectural details and interior decoration. This phenomenon differs from one house to another depending on the ability of the owner of the residence. The external public areas were designed to spread the

⁵Mashrabya is an Islamic architectural feature used mainly to attain privacy by making small openings in wood and small windows at the middle opens upwards and it especially used by women to attain complete privacy

spirit of equality, simplicity and homogeneity as a social character. However, the richness inside the residential areas express the freedom of the individual. (Ibrahim, 1996)

▪ ***Identity and Character***

There was huge emphasis on the landmarks and the public buildings such as Mosques, Madrasa, Sabils and Barmestan (school, water supply, hospital) through the decoration in facades, minarets and other architectural Islamic features that helps in enhancing the identity of the place.

Each period had its own highly evident architectural elements. This appear either in the creation of new creative forms or modification on the main building elements such as identifying its character by minarets, domes, portals, crenellations and decorations.

▪ ***Sustainability and Environmental Design***

Al- Qahira is known by its hot climate conditions. A vernacular design was achieved through direct contact between human and nature, by using local materials such as stones and bricks in their buildings. The usage of environmental friendly techniques helps in climate improvement inside the space. These techniques were Malqaf⁶, Mashrabya, courts orientation, windows opening size and orientation.

The internal courtyards were not only used as an open space for seating and enjoyment of the surrounding environment, but also for environmental aspects. The design of the internal courtyard took into consideration the wind direction and applies the most suitable orientation to benefit from the wind coming from the north and avoid the undesirable wind from the south. This was also done to improve the public health and atmosphere.

⁶ Malqaf: is a wind catcher. It is a traditional Persian architectural element to create natural ventilation in buildings.

The relation between building heights was studied to provide adequate environment and help on solving climatic conditions. Different buildings had cantilevered elements to provide shades to the streets and gives protection from sun heat. This allows the pedestrian to have some shades.

3.3.5 The Implementation of Fatimid Cairo

Fatimid Cairo is considered a good example of self-developed area. The city is surrounded by a great wall with different gates. The most known gates are Bab Al-Nasr, Bab Al- Fetouh and Bab Zwayla. There is a direct contact to El-Kasbah Street “Al-Moez” street. Antoniou, 1998 stated that at the fourteenth-century and until these days it is known as “Al-Kasbah” of Cairo. This means that the main street affords goods and society needs for the whole city. There is a presence of most of major public buildings on the street: which are “Al-Hakem” and “Al-Azhar” mosques and different Islamic schools and Sabil’s and Kutab’s. (CPAS, OICC, 1990) stated that these buildings are built by the craftsman and the builders under supervision of Muslim Jurists according to Al-Caliph orders based on community needs.

Along the street the presence of different commercial activities and workshops most of buying and selling took place. Different streets branched from Al-Kasbah led to the residential neighborhoods. These neighborhoods implementations are based on a self-build idea. They were constructed by citizens according to their needs, followed by decision making of the design through discussion between the residence, the designer and builder.

Figure 18 represents the implementation process once the citizen starts to find the land and then the construction starts, according to the final decision and based on approval of Muslim Jurists. However, in case the residence need to add other spaces in his house, it is accepted, but with respect to the neighborhood rules and regulations.

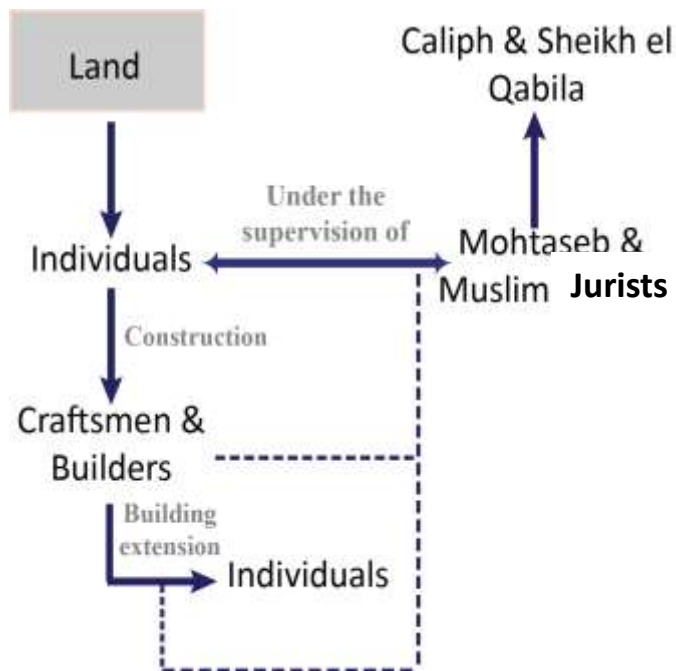


Figure 18 Diagram shows the implementation phase of Fatimid Cairo (Author, 2014)

3.3.6 Management & Monitoring

All the management and monitoring procedures were controlled by the Caliph, Mohtaseb and Muslim Jurists. The Mohtaseb had the job of controlling and organizing the streets in case of any violation of the rules. He is authorized to judge each case separately based on a fair judgment.

3.4 The Urban Envelope Product

The overall traditional urban fabric is the outcome of the process of interaction between Al-Shari'aa, climatic consideration, economic and industrial development. It is not possible to go back to the final product of the building such as mosques, houses and roads as a source of modern architecture and methods of design, while disregarding social aspects that contributed to shaping such an environment. The coming section will present the product of the urban envelope of Fatimid Cairo.

3.4.1 Urban Fabric

Many changes happened in the Fatimid area district from its initiation to these days. The specialists; could estimate and predict the planning of this area based on the location of the historical buildings and streets fabric and width.



Figure 19: Fatimid Cairo Area (Source: Google earth, accessed on 2012)

- ***Solid & Void Studies***



Figure 20: Solid and Void study-Fatimid Cairo (Source: Author based on Google earth map accessed on 2012)

Figure 20 presents a solid and void analysis map for the area. It shows that the percentage of solid is bigger than the void. Most of buildings are attached to each other to accommodate with the environmental climatic condition. There are small open spaces between some buildings as a public gathering element. Each cluster of houses shares a small open area; however the buildings depend on

internal courts such as mosques, Madrasa and some houses that perform private open spaces.

- ***Pathways and Circulation Studies***

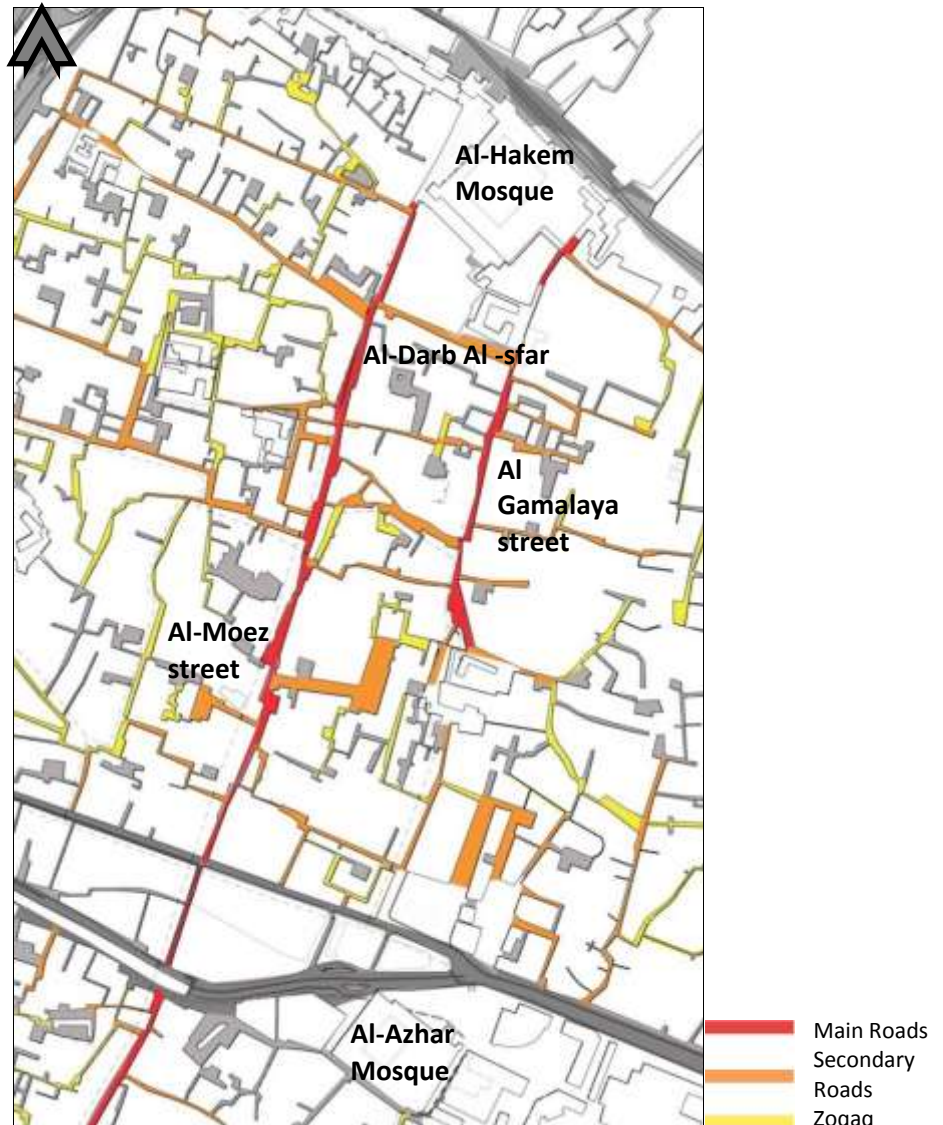


Figure 21: Pathway and Circulation study -Fatimid Cairo (Source: Author based on Google earth map accessed on 2012)

An irregular zigzag form shaped from pathways and streets are created due to the freedom given to the society for having the land as explained on the part of land ownership and main regulation. The main axial street “al-Kasabah’ El-

Moez L'Deen Allah Street longitudinally connects the two sides of the city together. Most public buildings and services are located on Al-Moez Street. Secondary streets deviated from Al Kasabah with narrower width; which connect the public with private zone. The Harra⁷ entrance starts with private zone is mainly shared by the families who live in a specific zone. The streets continue to narrow down till it reaches a totally private area "Zoqaq⁸" mainly used by the 2-3 families

The next map figure 22 shows the housing district "Al-Darb Al Asfar", it is much more obvious that the street's width vary from wider to narrower to reach the private zone. Al-Moez and Al- Gamalyia streets are two main pathways in Fatimid Cairo while Al-Darb El-Asfar Street is a secondary street that reaches several Harra's. A private court is located at the end of zoqaq which 2-3 families can share it for private usage and activities.

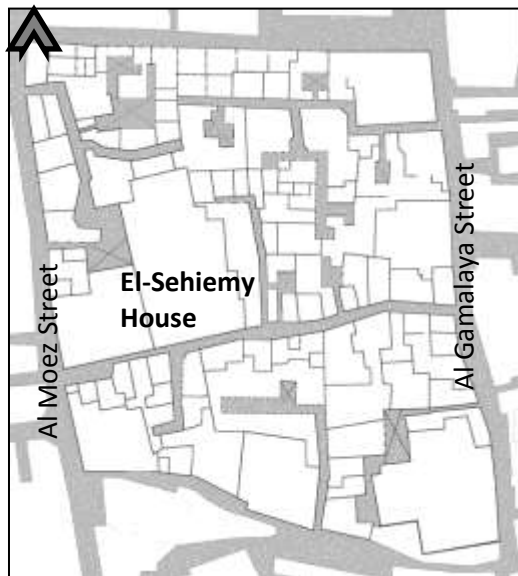


Figure 22: Zoom in on Street fabric (Source: Author based on Google earth map accessed on 2012)

⁷ Residential quarter with narrow streets

⁸ Narrow street leading to the private zone

- **Land Use Studies**

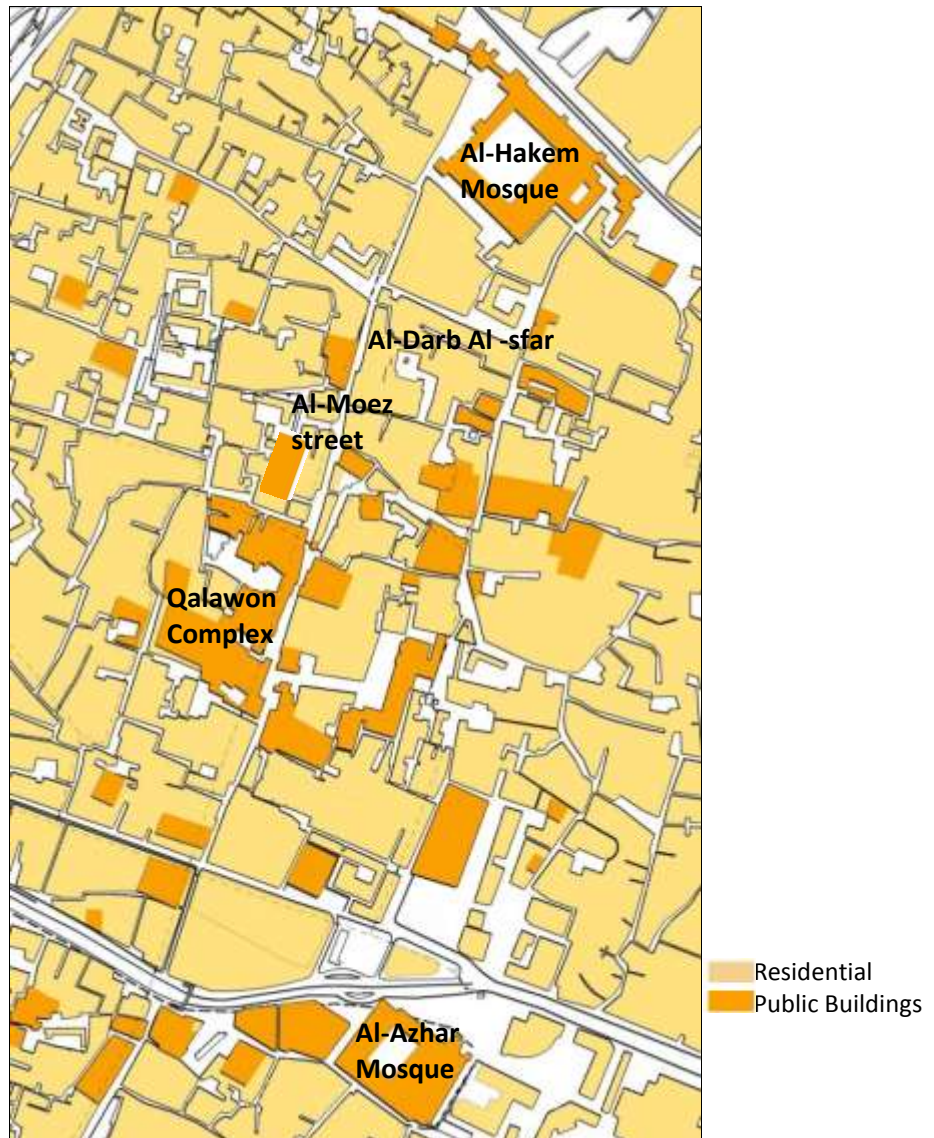


Figure 23: Land use -Fatimid Cairo (Source: Author based on Google earth map)

Al-Moez Street is considered as the most vibrant street of the city which has mixed-use activities. It combines between commercial shops and houses for the merchants. Many social buildings located within the street sides, as Al-Hakim Mosque, Qalawon complex, Mustafa Ga'far house, Sabil Katkhuda, show the importance of that street that hosts multi-usage social services.



Figure 24: Al-Moez Street (Source: Author, 2009-2012)

The mosque is a main building during the Islamic period in Egypt and all the Islamic countries. This has affected the planning of the surrounding streets as its location and orientation have to be directed toward the Qaibla. The surrounding streets act as an attraction for the merchants to sell their products. This is due to the high density of the pedestrians directed to the mosque for at least five times a day for prayers.

The residential buildings have irregular, spontaneous patterns and different land parcel.

On the secondary streets, the number of the public building depends on the number of stories of the residential building and inhabitant density. In the Harra's there are no public or commercial buildings as it is constructed for privacy and quietness of the area, Allah Said "And Allah has made for you from your homes a place of rest " Al-Nahl verse 80.

3.4.2 Architectural Principles

The following part analyzes the building architecture designs located at the distinctive areas of Al-Moez Street. Those buildings were chosen as they are considered as main distinguishing houses in the area and still found till nowadays. Each building was built in different periods and has its own architectural character but they all share the Islamic spirit and characteristics.



Figure 25: Residential Buildings - Fatimid Cairo (Source: Author based on Google Earth accessed 2012)

- ***Example 1 (Beit El-Sehiemy 1648 A.D)***

Figure 26 shows the entrance of Al-Darb Al Asfar district, the external façade design of the houses in Islamic period were not important as they were recognized by its simplicity and function.

The height of the main façade of the buildings was adjusted with the street skyline. The façade have very limited openings and some architectural elements such as Mashrabya to obtain satisfaction and privacy.



Figure 26: Al-Sehiemy & Mustafa Gaafar houses- Al-Darb al Asfar (Source: Author, 2009)

As explained earlier the interior façades of the houses differ than the exterior ones. Figure 27 different internal façades of Al-Sehiemy house, it shows the ornaments and variety in decorations through different shapes and elements. In addition, it differs in its size and caring with details, it represents a rich private house for this era. Nevertheless, it sets a good example that shows the techniques and the architectural elements used in the facades. The variations of openings shapes and dimensions of the opening are based on the spaces usage.



Figure 27: Al-Sehiemy House -Fatimid Cairo (Source: Author, 2009)

At the second floor, a wide terrace added overlooking the court is used as a seating area mainly for women. Different architectural features are added for decoration such as arches and Ablaq (painting style during the Islamic period) design and the Mashrabya covers the upper floor.

The ground floor was mainly used as a seating area for men and it is called “Takhtabosh⁹”. It creates an open space in the façade that makes a big contrast with the upper floor. It includes the wide Mashrabya that enables women to view the proceeding below.

▪ ***Example 2: Al-Amir Beshtak Palace 1339 A.D***

The palace is located on the eastern side of Al-Moez Street. The building is a three story height and is characterized by being a mixed-use building where

⁹ Takhtabosh: a Persian word means seats

shops are allocated at ground floor as its location in the Kasabah and the rent added to Al-Amir's income. That idea is taken from Roman models whose buildings often include shops in the ground floor. (Williams, 2008)

The palace had passed through different periods (Ayyubid and Mamuluk and Ottoman). The interior design of the space is a rectangular courtyard in the middle of the space. This was the reception hall of the palace. (Eid, 1984)

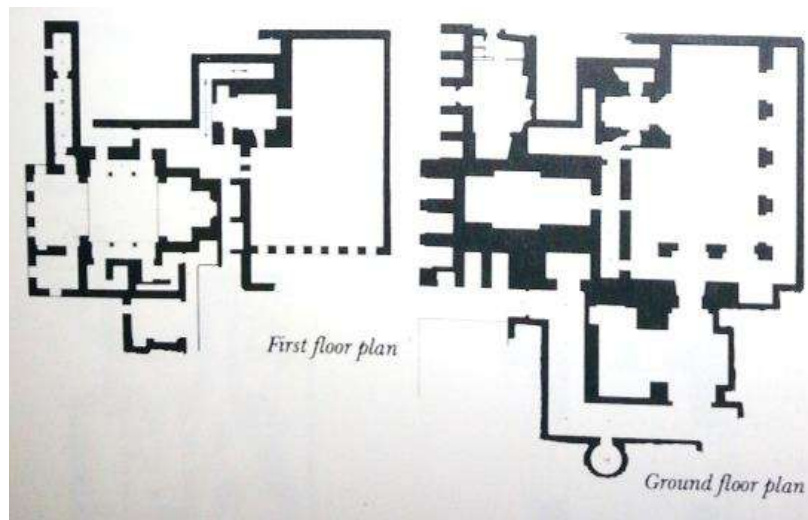


Figure 28: Al-Amir Beshtak Palace plan (Source: Eid, 1984)

▪ ***Solid & Void Study***



Figure 29: Solid and Void study- Al-Amir Beshtak Palace (Source: Author, 2012)

The façade is just a plain simple design with Mashrabiya that create projections on the façade. The solid is much bigger than the void in the facade. The void is mainly concentrated at the ground floor where the shops entrances were found.

The large space of solid in the façade has functional reasons, these reasons are: obtaining the privacy for the residents and for climatic reasons by limiting the opening sizes on the façade because of the hot climate of Al- Qahira.

▪ ***Architectural Facasds Elements Study***

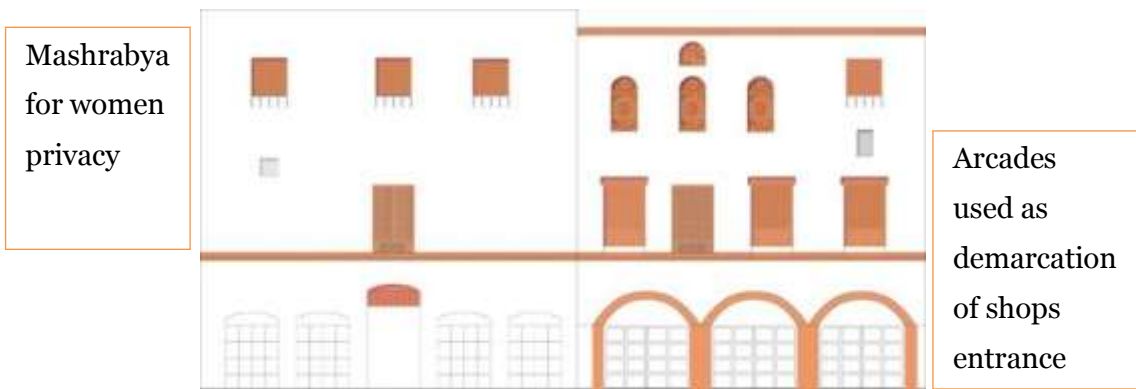


Figure 30: Architectural elements– Al-Amir Beshtak Palace (Source: Author, 2012)

Most of the architectural forms or colors were added while having a function and concept or to add more value for the place. Harmony through using of matched shapes as crenellations and the decorated windows; it also shows the construction methods as window lintel and palm trunks when used in the beams.

3.5 Conclusion

During the Islamic era the authority cared more about humanity. The clear vision of creating a new society based on equality. Fatimid Cairo is a self-developed area where citizens participated in creating their living environment based on their needs with respect to the surrounding environment to achieve

citizen's satisfaction. However, the Caliph and the authorities had a big role in examining what is going on the whole city, which gave them the power in monitoring and following up the whole development process. Good Structural measurements embedded at the start of the project: 1) All stakeholders are involved through all the development phases starting of the Caliph to the people. 2) Good communication between different stakeholders through the Mohtaseb and the Muslim jurists. 3) The development of the area was based upon people's participation of building their own area based on purest self-development.

The reasons of judgment on the success of the project are: 1) No clear plan for the area, but the continuous supervision and the rules set from the early beginning leads to the successful urban envelope product. 2) Respect of humanity 3) Respecting the traditions and culture giving the flexibility for each person but with respect to his neighbors. 4) The urban envelope of the Fatimid Cairo is a very appreciated design till the current days.

The factors and conditions that influenced the success of the process are: 1) People's participation in decision making and implementation processes of their houses based on their needs. 2) Society freedom in taking decision in creating their residence design and spaces, the flexibility given to them for future extensions but with respect to the neighbors. 3) Setting of the main rules that preserve human rights, Sharia'a rules where the main umbrella that everyone follows. 4) Good communication between different stakeholders 5) Continuous supervision and monitoring from the authority.

**CHAPTER FOUR: Current Egyptian Case
Study - Build your own house “Ebny Betik”
Project**

Chapter Four: Current Egyptian Case Study - Build your own house “Ebny Betik” Project

Having a house in the current period in Egypt is no longer an easy process, as it was in the past. This is due to several factors; the first is that housing is an expensive project, the second is that the rate of demand for housing does not go in parallel with the rate of economic development. A third factor is the migration from rural to urban areas with the absence of strategic policies and well thought off plans to address the housing problem: the housing market does not fulfil the needs.

Rageh, 2008 mentioned that in different third world countries authorities tried to find solutions to face the demographic growth in the urban cities. One of these solutions is creating the “Core house”¹⁰ projects. This kind of project failed in Egypt because of the long routine procedure that leads to increase in the estimated cost. The costs of completing the unit when performed by the resident far outweigh the costs if they are within the original time of implementation of the project. The other option is creating “Low-cost housing units”¹¹; however, it failed in Egypt because of the same above mentioned reason.

In Egypt during the last years the Ministry of Housing and utilities started to implement different “National Housing projects”, youth housing and future housing projects.

¹⁰ Core House: to establish a concrete base foundation of the building that performs as the ground floor base. Construct on a part the bathroom and leave the rest to a user to build it himself either on stages or at once according on his physical and financial capabilities

¹¹ Low-cost housing units: Constructing the exterior walls of the housing units and leave the interior for the user based on his needs.

The national housing projects were initiated by the Egyptian government due to the increase of population and the lack of houses to accommodate this inflation; especially in capital cities. The government declared several housing projects; such as family housing and rural housing, Ebny Betik and other to solve the previously mentioned problems. The location of these projects is concentrated in new cities: 10th of Ramadan, 6th of October, Badr, Obour, Shorouk, New Minya, New Sohag, New Borg El-Arab and El-Sadat. Sims (2010) stated that this kind of project had to be located on the state land. Thus; to find vacant state lands means looking outside the city in new settlements. These new settlements are located in remote distances away from the existing big cities urban settlements.

The next table shows the percentage of the national housing in the new cities in relation to other projects.

Table 6: Land use in new cities (Source: <http://www.moh.gov.eg>, Accessed February 2012)

| Land use in new cities | | |
|--|----------------|--------|
| Land Division | Area in Feddan | % |
| National social housing | 19000 | 40.7 % |
| Lot housing | 5787 | 12.4 % |
| Investor lands in sealed envelopes ¹² | 21077 | 45.2 % |
| Small investor lands | 802 | 1.7 % |
| Total | 46666 | 100 % |

¹² Sealed envelopes: each investor submits his technical and financial offer in accordance with the regulations of National Housing in the New Cities. NHNC make a technical evaluation to the offers and sell the land to the investor.

The divisions of new cities lands are divided between the investors sealed envelopes and the national social housing. The national social housing projects take 40.7% of the total area of the New Cities land.

4.1 Introduction to the project

In the next section, the research will discuss one of these national projects in details showing the initiation process, implementation and the product. This project is called “Ebny Betik” which means in English “Build your own house”. The name of the project represents the main idea of the project; which should be implemented through the participatory design approach with each owner who could build his own house according to his current and future needs with the help of the governmental institutions. This case study is chosen to show the current projects in Egypt that depend on self-development.

4.1.1 Ebny Betik in relation to the National Housing Projects

In 2005, the former president of Egypt ‘Hosny Mubarak’ initiated in his election’ program one of the biggest national housing projects in Egypt. The national housing projects claimed that they will provide 500,000 housing units in 6 years starting from 2005. The following table represents the division of the 500,000 unit on different housing projects planned by the Ministry of Housing of Egypt.

Table 7: Residential units division of the national program of housing (Source: <http://www.moh.gov.eg>, Accessed February 2012)

| The National Program of Social housing | No. Of Units |
|--|--------------|
| Ownership | 199,000 |
| Build your own house “Ebny Betik” | 89,000 |
| Underprivileged categories | 75,000 |
| Private sector | 100,000 |

| | |
|----------------|--------|
| Family Houses | 3,000 |
| Rental units | 26,000 |
| Country houses | 8,000 |

4.1.2 Location

Ebny Betik spreads along with 13 cities of Egypt; all with the same time frame.

Figure 32 shows different cities that accommodate the project and the number of plots at each city.

The research focuses on one of the projects located in 10th of Ramadan; a New Egyptian city near to Cairo



Figure 31: Ebny Betik projects location (Source: GOPP archive)

governorate. The purpose of establishing these new cities is to limit the urban sprawl of Cairo and control the urban growth. This is planned to be achieved by creating a border around the capital with these cities and with the new ring road. 10th of Ramadan is prioritized by its location as it is near to Cairo and the Delta governorates. It is under the supervision of the governorate of Al Sharqiyah.

10th of Ramadan is considered as a new city; planned to decrease the population of the Capital and to provide citizens with new housing areas near to their work in 10th of Ramadan city. This city is well known by being an industrial city and its main residence is the blue collars who work in different factories in the city.

4.1.3 Population

Ebny Betik project is an economical housing project for young families and was planned to accommodate a density of 150 person/ feddan. According to the Ministry of Housing Utilities and urban Development in 2008 a report stated that the eligible candidates were about 92,000 eligible candidates within an area of 9400 feddan.

4.2 Stakeholders

The national project “Ebny Betik” was initiated by the Egyptian Housing Government under the responsibility of The General Organization for Physical Planning (GOPP) and new urban communities Authority (NUCA). The following table shows the different stakeholders in the project and their interests and jobs as planned in the early phase of the project.

Table 8: Stakeholder of Ebny Betik project (Source: Author based on Ministry of housing utilities and urban development, Accessed February 2012 and Abdelhakem, 2009)

| | Stakeholders | Interests/ Actions/ objectives |
|---------------|--|---|
| Authority | Ministry of Housing Utilities and Urban Development. (MoHUUD) | Executing authority and identify the Term of References (TOR), choosing the locations of the projects, coordination with different stakeholders. NUCA Owns the land and sells it to citizens |
| | The General Organization for Physical Planning (GOPP) | |
| | New Urban Communities Authority (NUCA) | |
| Practitioners | Governmental engineering Faculties (Faculty of urban planning, Ain shams, Cairo, Helwan, Assuit) | Preparation of the master plan for the district and detailed plan. In addition to formulating the tender documents of infrastructure and designing the landscape. |

| | | |
|----------|---|---|
| | Housing & Building Research Center (HBRC) | Architecture scale: to set the housing prototypes. All with respect to the city rules and regulation. (overview on the national project, 2008) |
| | Contractors | The citizens hire them to build their house. |
| | Providers | Private sector: Ezz steel to provide the project with steel with reasonable prices. |
| Citizens | Egyptian youth with medium income. (Criteria in Allocation of end-user point) | Constructing of their houses and inhabit the place. |

4.3 The process/ Steps of the Development

This part explains the main project development objectives, land ownership and regulation, allocation of end-user, design development principles of the urban envelope, implementation, and finally the management and monitoring of the development process.

4.3.1 Main Development Objectives/Initiatives

Ebny Betik is an economical housing project for Egyptian youth who could not afford houses. The government initiated this project to help them find affordable houses. This project had to provide residences with all services and utilities according to the Egyptian standards. The governmental institutes were responsible for the implementation of the infrastructure but the design and technicalities goes back to the consultants.

The advertisement of the project was based on media especially the local newspapers as seen in figure (32) an article in Al-Ahram newspaper talking about the objectives, implementation process, and the locations of the projects.

The main idea of the project was proposing different plots with an area 150 m²/ each. Each user builds his own house based on specific architectural models and prototypes to follow during the construction phase. (AbdelHakem,2009).



Figure 32: Article on Al-Ahram about Ebnay Betik (Source: <http://www.ahram.org.eg/Archive/Arabic/Arabi.c1.htm> (Accessed April 2012)

The users have to build the ground floor within the first year of owning the land. Based on the users' future needs they can build an extension up to two floors later.

4.3.2 Land Ownership/Main Regulation

According to NUCA the project provided several plots with services and infrastructure for users with an area 150 m² with 70 EGP / m² and with a total cost 10,500 EGP for the plot. The user had to pay 10% down payment about 1000 EGP and the rest of the money payment can be paid along 7 years without any interests. (<http://www.urban-comm.gov.eg/>)

The government motivates the people to build faster through offering a sum of 15,000 EGP divided in three phases each with 5,000 EGP. The first phase was given after the excavation, construction of foundations and columns. The second phase was after finishing the ceiling of the ground floor. The third and

final phase was during the external finishes of the ground floor. The user gets the assigned architectural, construction, plumbing and electrical drawings approved by the government for free. (AbdelHakem,2009).

The government provided other incentives for the youth as they can pay the first instalment after acquiring the plot by 24 months. In case the user builds the first and second floor in the allocated time, the rest of the instalments are cancelled. In this case, the user has the right to sell or rent the building and the land but the building has to be without any contraventions. Moreover the new user has to follow the same restrictions of the user's criteria (discussed in the following section). (<http://www.urban-comm.gov.eg/>)

The approved area by the government to build on is written in the Terms of Reference. (TOR see appendix) The user can build on 50% of the total area that provides an area equal to 75 m²; but the user can build two more floors according to his requirements providing that the total build up area to be 225 m². The 75 m² area is divided into 63 m² for apartments and 12 m² for utilities such as the external stairs.

The building designs have to follow the planned prototype and each residential building has a maximum height which is ground and two typical floors. The usage of a green colored external plaster on the facades is a necessity.

4.3.3 Allocation to end-users

The Ministry of Housing Utilities and Urban Development sets specific criteria for the users. The project targets an age range between 20-40 years. The user's income must not exceed 1000 EGP per month for the single, and 1500 EGP per month for the married. The selection committee of the candidates calculates the income of the user who depends only on the national income. Another criterion is that, the candidate should not obtain or own any housing unit from the government. (overview on the national project, 2008). That shows that the project targets the low income group user to benefit from the project.

4.3.4 Design Development Principles

The following urban fabric and architecture design principles are based on the TOR and the reports of (GOPP) and (NUCA) where they set their vision of the project. These principles also are based on the consultant designs of the research case study 10th of Ramadan project.

i. Urban Fabric Principles

Being a national housing project, it aims to accommodate affordable living area to the citizens that suits their needs and offers of the main public services. It also aims to decrease the hierarchical division and increase equality between the citizens.

The next figure shows the land use of the master plan designed by one of Ain Shams University consultancy offices. The project is located in the 10th of Ramadan city. The total area of the project is 551 feddan. The design is very compact and lacks open spaces.



Figure 33: Land use of the project plots (Source: Author based on Master plan designed by IDG Consultant office)

▪ ***Residences and Services Plots***

The master plan of the project is planned to accommodate residential buildings and other main public service buildings: schools, health centers, shopping area, religious buildings, and administrative buildings. Each zone should accommodate three schools, two to three health centers, three to four mosques and a shopping area. The government's responsibility was to accommodate the main infrastructure services; the sewage system, electricity networks and fresh water pipes.

The urban grid of this project was designed by dividing the whole area to four main zones each has with a tree grid design. Each zone accommodates services that help the community, are easily accessible and caters for their needs. The main services and utilities are located at the core of the project.

▪ ***Accessibility***

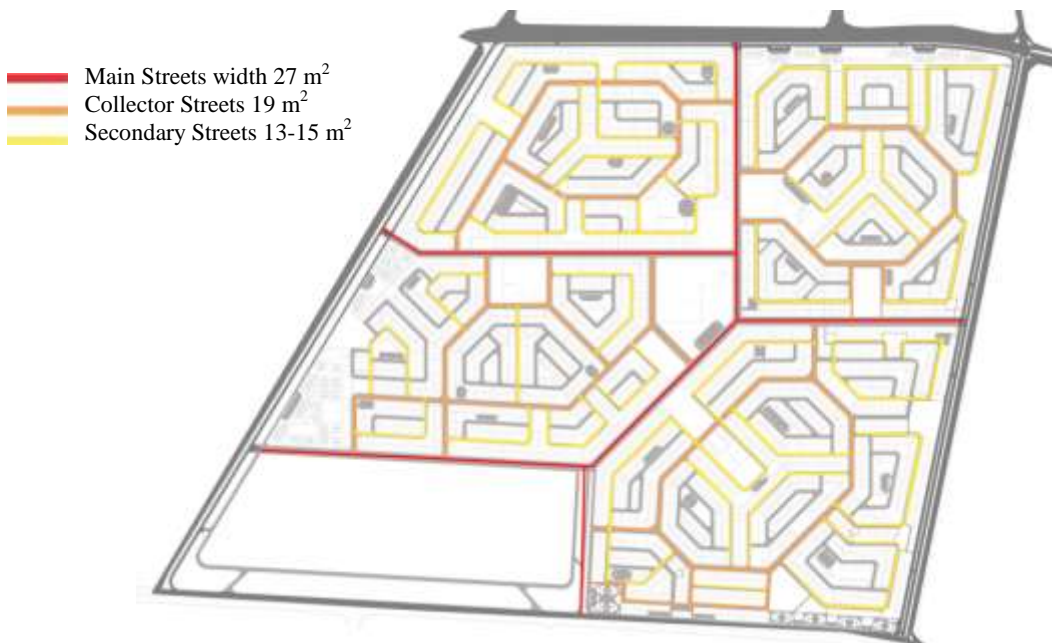


Figure 34: Pathway and circulation study (Source: Author based on Master plan designed by IDG Consultant office)

The consultant designed a good accessible network of streets. Pedestrian safety was considered in the plan by designing the street between main streets, collector streets and secondary streets. The design of this district has four main entrances to the four neighborhoods. Connectivity is mainly through the main axis lines “main streets” that connects the east to west and north to south.

- ***Equality***

The project’s aim was to provide an equal living standard for the users. This is achieved in the Master planning phase through applying a fixed plot size 150 m² and unifying the acceptable footprint of 75 m² for all users.

ii. Architectural Principles

The architecture building program defined in the TOR states that each apartment has to consist of two bedrooms, a living room, a kitchen, bathroom and terrace. The building materials should be of good quality, durable, authentic, and with an affordable cost.

- ***Economically and Affordability***

To area of 63 m²/ unit provide the users with an appropriate space which he can afford, to create economic affordable housing units that suit the medium income group residents. The practitioners designed a simple prototypes facade using a systematic design and affordable finishing materials such as external plaster as shown in figure 35.



Figure 35: Elevation proposals from consultants (Source: overview on the national project, 2008)

- **Privacy**

The design of the unit achieves a good level of privacy by separating the bedrooms and utilities from the reception area and the entrance as illustrated in figure36.



Figure 36: Ground Floor plan and Typical floor plan unit proposals by consultants (Source: overview on the national project, 2008)

- **Simplicity**

The purpose of simplicity might be to minimize the cost. Modern techniques had to be taken into consideration during design for identity and durability. The architectural design is very simple and lacks the idea of uniqueness it looks like any other housing building in Egypt, as a general critique on this architectural prototype design.

4.3.5 Implementation of Ebny Betik Project

The concept of self-development in Ebny Betik depends on the fact that each owner builds his own house according to a specific prototype assigned by the Ministry of Housing. These prototypes lead to the lack of owner participation at the beginning of the project, where the owner becomes an observer only. The owners depend on contractors for construction. The contractors became solemnly responsible for constructing the units instead of the users. (AbdelHakem, 2009).

The MoHUUD assigned the phases of plot construction which the owner has to follow in order to own the plot; as shown in the landowner ship and regulations section. In case the owner cannot follow the specified time of construction or building completion, the land is retrieved and given back to the government and allocated to another client.

This section of the research discusses the fact of the implementation process in 10th of Ramadan project based on different interviews held by the author with the citizens of the project. One of the residents “Fathy, 2013” said that most of the residents knew about the project from the newspapers and that they contacted the mood to get plots. The users started receiving the plots, the architectural drawings and follow the construction schedule set by the MoHUUD to guarantee getting the plot and not giving it back to the government. Most of the citizens had taken the prototype designs and assigned external contractors to build the houses, unless they are working on the field they build it by their own.

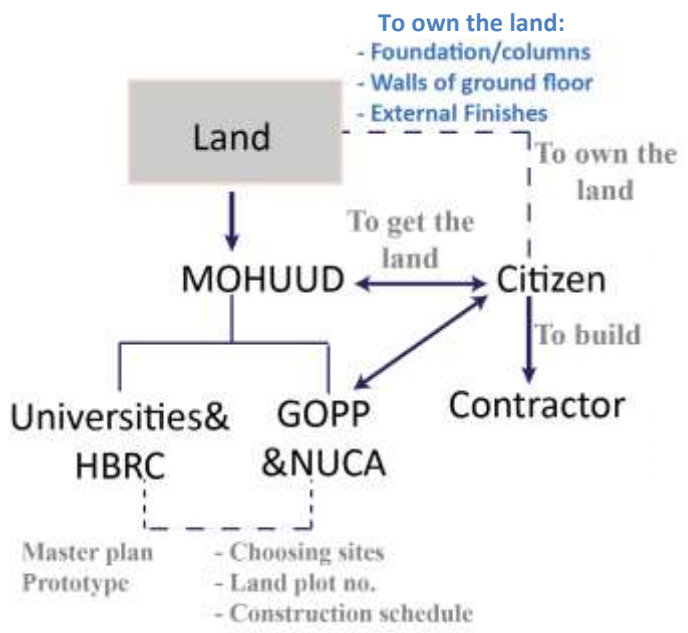


Figure 37 Diagram shows the implementation phase of Ebny Betik project (Source: Author, 2014)

They faced problems with the construction material as the price of steel increased during that time. This affected the estimated cost of construction. This price increase made some of them: 1) Stop the building process in early phases and did not get the benefits the MoHUUD offered 2) Lose the land and return it to the government 3) Ask the contractor to share with money to finish the construction.

According to Mr. Fathy who built his house in 2008 in Ebny Betik project located in 10th of Ramadan, he followed the architectural drawing given to him and built his house in the assigned plot size. The following pictures (Figure 38) represent Mr Fathy's house during the three main phases of the implementation the government gave residence to follow. Each phase took three months to finish. He mentioned that each resident built his house without sharing or participating with the other residents the materials, labourers or any facilities of the construction process.



Figure 38: implementation Phases (foundation/columns & walls& finishes)
(Source: Fathy, Building owner, Received 2013)

4.3.6 Management & Monitoring

It was the governmental institutions responsibility for the decision making on the project's early phases. But, during the implementation problems aroused and the government did not get involved in decisions or managing the defects.

4.4 The Urban Envelope Product

Ebny Beitik project located at 10th of Ramadan designed by the consultant of Ain Shams university the planned urban envelope followed the TOR rules. The

following part shows and analyses the implemented urban fabric and architecture design of 10th of Ramadan project.

4.4.1 Urban Fabric

As explained earlier the urban design of the 10th of Ramadan project divides the land into four quarters, each has its own services. Figure 39 represents the current situation of the project. The analysis explains the land use and the infrastructure status of the project.



Figure 39: Ebny Betik project at 10th of Ramadan (Source: Google earth, Accessed June 2013)

▪ Land Use

When it is compared to the planned urban fabric of the consultant as shown in Figure 33, it shows the lack of most of the service buildings of the district and only residential buildings constructed. Unclear service buildings are constructed based on individual initiatives.

Fathy,2013 said some residents did not respect the specified footprint. They built on 100 or 120 m² without permits. The government action should be to impose a fine and penalty to those who exceed the foot print limit.

Even though the service buildings were planned to be the government's responsibility, the government did not build all of them; which made the residents build retail shops (vegetables, bakeries, and small markets) for their needs. Others rented flats and transformed it into medical health centers. The mosques as well, were built on private investors' and the residents' effort and money.



Figure 40: a visualized landuse map of the current situation of the project (Source: Author based on Master plan designed by IDG Consultant office)

- ***Infrastructure***

There were complications in the infrastructure installments; such as a delay in supplying the area with fresh water, sewage and electricity connections. Unpaved streets are created. Lack of public transportation that leads to implies of extra cost to the citizens. (Ali, 2013)

4.4.2 Architectural Principles



Figure 41: Building styles (Source: GOPP archive &Fathy, Building owner, Received 2013)

A very simple design block buildings look like any other buildings in the city. The resulting urban experience is thus fair to be called as the “No style building

blocks”. Despite the existence of rules and regulations, but few follow them due to their weak enforcement and because of lacking of monitoring, people started to penetrate the rules, which led to that each building has its style, color, material and height that differ clearly from one user to another. The prototype implemented does not give the resident the option to fulfill his needs.

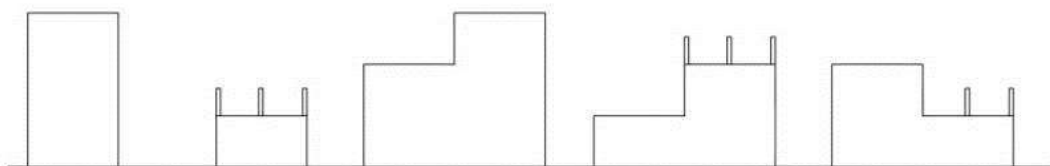


Figure 42: hypothetical Skyline shows the incomplete buildings and project (Source: Author, 2013)

No clear skyline design, meanwhile it is based according to the capability of each owner to build either one or two floors. Some buildings are left with columns on the top for the future extensions. All of these lead to unbalance and lack of authenticity in street cross section elevation design.

Residents complained from the small built-up area that does not accommodate their needs and the option of building extra floors will cost them more than they can afford. Another problem that faced the users in the early phases of the project; was that the area was unsafe and the construction materials were stolen. (Ali, 2013)

4.5 Conclusion

The project was based upon citizens’ involvement in the constructing their own houses, but the actual process leads them to initiate new services to fulfil their needs. The transformation of roles in the middle of the project without a clear vision and planning lead to deficiency in the reaching the project main objectives and an outcome that lacks identity.

Experience and public opinion show that the result is not so different in its success when compared to the other state managed projects. This is in respect

to the urban envelope and its appreciation by the masses of users as well as the professionals.

Signs of the non-appreciation of the project can be derived from the following:
1) Residents started to sell their houses. 2) Most of the residents left their homes in Ebny Betik due to lack of infrastructure and safety. 3) The Urban envelope product lacks identity, sufficiency, 4) The area is not self-sustained.

Some general factors and conditions influencing the non-success of the process are 1) The absence of the local government institutes represented on the governorates, the district to facilitate the communication between the different stakeholders. 2) The decisions were taken from early phases by the external authorities without any kind of user involvement 3) The phases also depended on the contractors to finish the construction phase which lead to non-economical efficient plans 4) Bureaucracy in taking decisions. 5) Shifting the role of government responsibility to individuals without planning for that and depending the results on that 6) Absence of management and monitoring 7) Increase of building material costs 8) Specifying prototype units without differentiation between socio-cultural needs 9) No commitment from the government to implement the main infrastructure 10) Unsafety resulted from choosing remote areas. 11) Lack of trust in the project made many people sell their lands.

**CHAPTER FIVE: Current German Case
Study - Southern Part of Tübingen**

Chapter Five: Current German Case Study - Southern Part of Tübingen

Sustainable social development is a thought-provoking process. Essential decisions are taken through identifying and knowing the needs of people. This chapter shows one of the projects of self-developed area in Germany specifically in Tübingen city. The city council and municipality offered a good environmental atmosphere to the citizens to participate in developing their own area. The purpose was producing designative neighborhoods that offer a new attempt of housing projects by applying the idea of building communities that cares with the citizens and users' needs. The development process takes on the consideration of the environment through introducing sustainability concepts and limitation of mobility.

5.1 Introduction of Tübingen city

Before going to the case study of Southern part of Tübingen, a general background on the city of Tübingen is mentioned. In this part, it explains Federal Republic of Germany division and the location, population of Tübingen city and problems faced the city that leads the city to direct its attention to the development of the Southern part of Tübingen.

5.1.1 Historical Background

Germany passed through different powerful ages; one of those periods is the Roman Empire; also one of the most effectual and considered as a transitional period in Germany was the period of the World War II (1939 to 1945 during the reign of Adolf Hitler. The countries in the WWII were divided into two powerful groups the Axis (Germany, Italy, Japan, others) and the Allies (UK, France, Poland, others). Germany started the war by invading Poland, and withdraws the treaty with the Soviet Union then announcing the war on it and by 1941 Germany invaded it. Between 1939 and 1941 Germany was considered the most

powerful empire in Europe through invading Italy, Northern France and Paris which surrendered peacefully to avoid the city damage. (Axelrod, 2008)

Germany lost the war and was divided into two parts east and west. The eastern part controlled by the Soviet Union with Berlin as the capital while the western part controlled by France, USA and UK and its capital is Bonn. The western part launched economic growth and initiated the concept of the European economic community that leads to a great economical differentiation between the two sides west and east. Moreover the Eastern part followed the political control of the Soviet Union. The eastern citizens kept moving to west searching for better social and economic standard.

In 1961 the Berlin wall was built to stop the immigration of citizens from east to west. Allies forces create three new states in the west of Germany one of these states is Baden-Württemberg where Tübingen city is located. Tübingen has been invaded by the French troops till the early nineties when they finally moved out.

5.1.2 Tübingen Location

Federal Republic of Germany is a Federal State and a decentralized country divided into 16 states (Brandenburg, Nordrhein-Westfalen, Berlin, Hamburg, Baden-Württemberg, Bayern, Others). Each State has its own rules, economic, political status, parliaments, governments and private agencies...etc.

Baden-Württemberg one of these states is located in the southern part of Germany. It consists of four administrative districts (Freiburg, Karlsruhe, Stuttgart and Tübingen), 12 regions and about 44 counties such as Stuttgart, Ulm, Tübingen and Freiburg. 1,101 municipalities, each of these counties has several municipalities each of has its own local government and has its responsibilities and aspects. (www.baden-wuerttemberg.de)

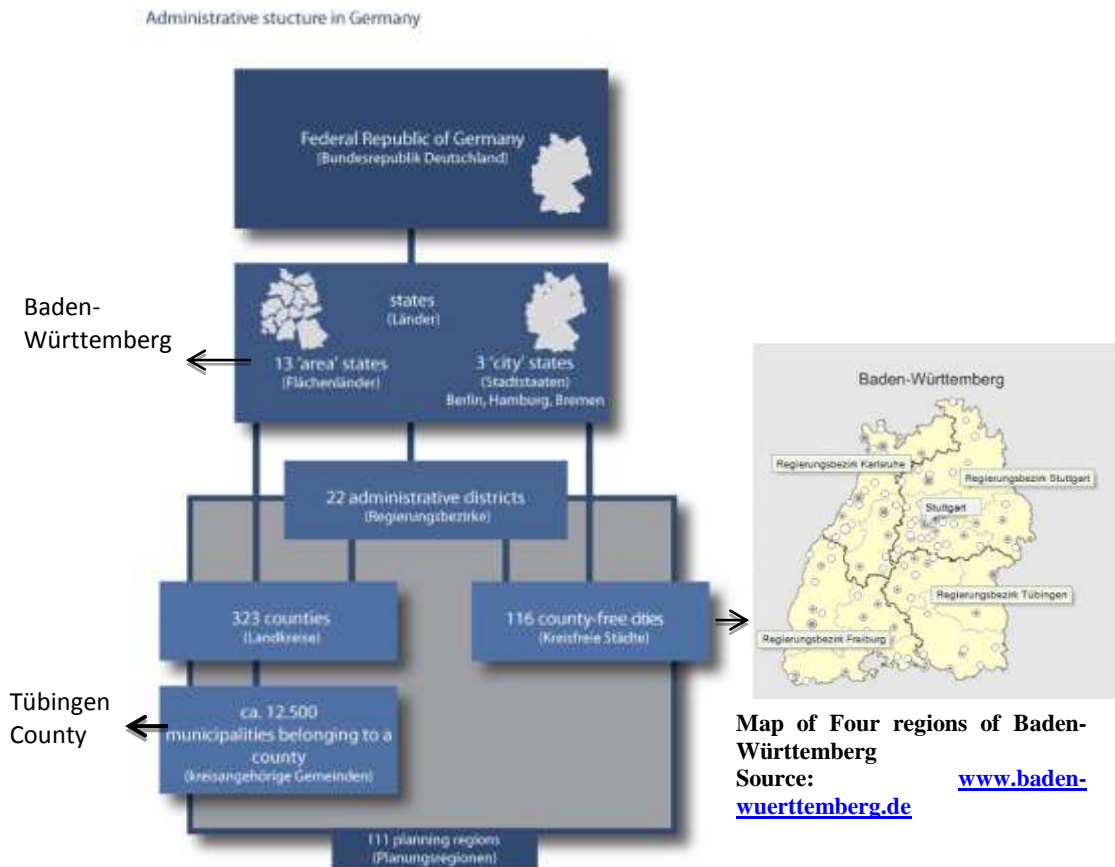


Figure 43: Tübingen city in regard to Federal Republic of Germany division (Source: COMMIN, the Baltic Spatial Concept Share <http://commin.org/en/bsr-countries/germany/1.-constitutional-system/1.1-general-description-of-the-constitutional-system.html>)

Decentralization towards planning takes place on these municipalities as each one is self-planned and has different rules that suits its mission and vision that vary from the other municipalities. Each has its own requirements, rules controlling powers and objectives to fulfill the needs of its inhabitants and citizens. In addition to each municipality it has the role to increase and develop its status and to put a successful futuristic vision. Eisenberg, 2011 mentioned the following during an interview that most of these municipalities have the power to take any decision and add its own rules. That is through depending on their internal income coming from self-investments and industrial projects that help to increase their capability to improve.

Tübingen city is located at the center of Baden-Württemberg State and away from the capital Stuttgart by 44 km that take almost one hour by train. Tübingen is characterized by its nature where the Neckar River passes through it adding a high environmental value. The city is naturally bordered in the North Schönbuch natural reserve forest, Oberen Gäu landscape area on the west and the Swabian Alp and Spitzberg mountains on the south. (Tourist & ticket center, 2009).



Figure 44: Neckar River passes through residential area (Source: Author, 2010)

5.1.3 Tübingen Population

About 87,000 inhabitants live in city of Tübingen in an area of 108.12 km². The reason of this population is that Tübingen is a center of education in Baden-Württemberg and also the presence of the University of Tübingen founded in 1477 and considered one of the oldest Universities in Germany. It accommodates around about 20,000 students on statistics made in 2009. (Tourist & ticket center, 2009).

5.1.4 Problems encountered by Tübingen City

The city faced the problem of population since the increase of the citizens especially that Tübingen is an attractive city for the students due to the presence of the University. According to (Schuster, 2004) about 20,000 of 81,000

inhabitants of Tübingen are students. In addition, the city suffers from lack of suitable housing projects fulfil the needs of this number. Selina, 2011 mentioned Tübingen is classified as the second highest land price after Munich. It was not simple to expand on suburb area and start urban sprawl as Tübingen topography has natural borders, as mentioned in the location section, performing a barrier for any further extensions to the outskirts areas.

The citizens of Tübingen suffer from lack of open spaces and public gathering spaces for holding different activities. Beside they face difficulty of long distance to reach any destination. For all above problems the idea of development of the southern part of Tübingen came.

5.1.5 Southern Part of Tübingen

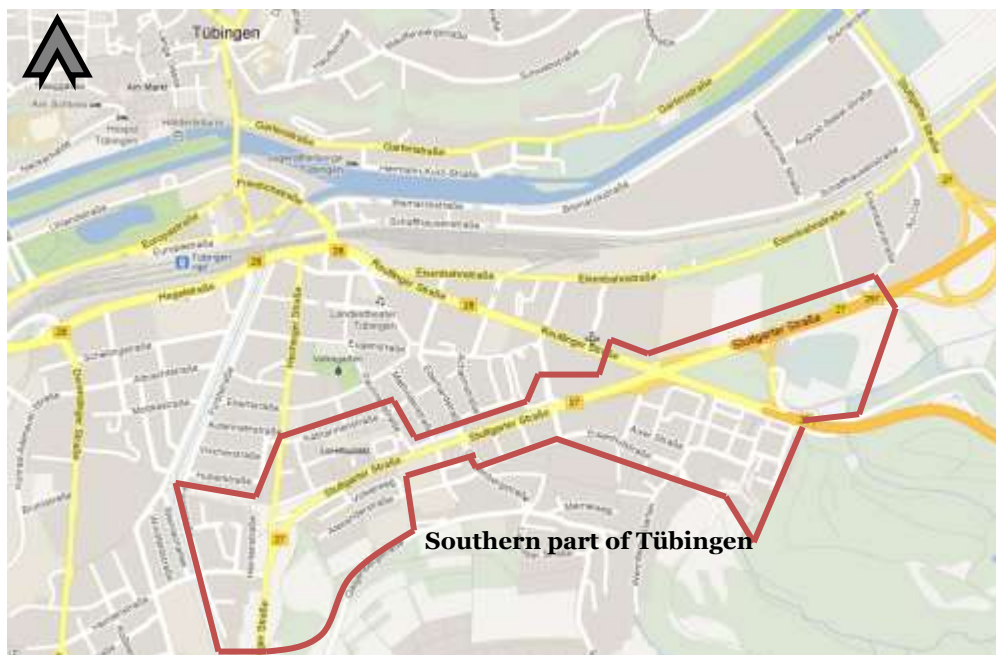


Figure 45: Southern part of Tübingen (Source: Wikimapia, 2012)

After taking the land of south Tübingen from the French troops, the city directed its attention towards it and started to think to get use of it. The city reached to create a residential development project in the area. This is due to 1) the area is large about 650,000 m². 2) The place was a brown field. 3) The

citizens of Tübingen are not welcoming to visit the area because of its bad reputation, and people are afraid of living or work in it. 4) Simply it is abandoned by people and became home for thieves, drug dealers and by that, it transformed to be an unsafe area. (www.cabe.org.uk/case-studies/tubingen-sudstadt)

5.2 Stakeholders

All stakeholders had an intensive role in the development projects. The following table explains the involved stakeholder and the interests of each in the project. The author reached the involved stakeholders according to the visit in 2011 of Tübingen city and especially to the southern part of Tübingen. During this visit, the author had the chance to interview two of the main stakeholders of the project Mr. Soehlke the Senior Planning Officer at the Municipality of Tübingen and Ms. Heinrich, who works for the Tübingen city council as “Economy demand Company”, she works as well in southern part developing project team; both are citizen in the French quarter. They explained the role of involved parties and how the development of the area occurred based on the interests and actions of each stakeholder.

Table 9: Stakeholder of Southern part of Tübingen (Source: Author based on interviews)

| | Stakeholders | Interests & Action |
|-----------|---|---|
| Authority | Federal Republic of Germany Regional development department of Baden Wurttemberg | They got the land from the French Military Thus, they owned the land before the development |
| | The Tübingen city council-municipality. Tübingen city redevelopment office. | Owns the land through taking it from the Federal of Germany by the previous law. Planning, designing procedure and adding the design principles, criteria, |

| | | |
|-------------------------------------|--|--|
| | | addressing responsibility, monitoring, defining users' criteria |
| Practitioners | Stuttgart planning LEHEN three office | Consultant and planning design office |
| | Various individual architects and consultancies | Designing buildings for residences |
| | Cooperative building association | |
| Citizens | Already live in the area. New residence who participated in the design. New residence-renting. | Better life, stabilization |
| | Students | Affordable places to live |
| | Workers and craftsmen | Availability & Suitable places for work places and workshops |
| | Employee, Businessmen and Investors | Income & profits and various opportunities through mixed-use project |
| | Children | Safety, entertainment places and availability of different open area and playgrounds |
| Visitors ¹³ and Tourists | Tourists Planners, architects and | Attractive and cheerful district attracts people's |

¹³ In 2010 Stuttgart University, organized a workshop for planners with a topic of sustainability. It includes different sustainable projects in different regions in Baden-Württemberg. An excursion to Southern part of Tübingen project held. The Author participated in this workshop and had the opportunity to get introduced to the project

| | | |
|--|----------|---|
| | students | interests. To learn & understand urban development project of building communities |
|--|----------|---|

5.3 The Process/ Steps of Development

The following part shows the main project development objectives, land ownership and regulation, allocation of end-user, design development principles of the urban envelope, implementation, and finally the management and monitoring of the development process.

5.3.1 Main Development Objectives/Initiatives

By 1991 Tübingen city council and Regional Development Department of Baden Württemberg targeted the reusing and development of southern part, declaring the intention to French quarter and Loretto Areal areas. “Andreas Feldtkeller” the head of the Tübingen city redevelopment office till 1997 took the initiative to develop the Southern part of Tübingen and started by putting vision and criteria for the project. The city council announced a competition held between several technical consultants and planning offices. Each of them tried to give an optimum solution and proposals for development in the area. About 52 proposals have been submitted to the city council and Stuttgart planning LEHEN three office won the project. (Ferber, undated)

At the beginning of the project people were afraid to participate in such a project due to the bad reputation of the location and afraid from financial risks. After announcing and publishing the idea of the project, the city made different advertisement concepts through several media fields as journals, magazine and

idea, and concept, and to know the main participating actors and the implementation process.

even publishing advertisement in the train station. The churches and social buildings had a role in announcing the idea of the development project. All of these ways helped in letting the idea reach the maximum number of inhabitants and interests. As a result, the city collected a lot of people encouraged to participate in developing the place. (Selina, 2011).

The main goal was to perform high quality housing with reasonable cost, an urban environment friendly housing neighborhood, mixed-use area and adaptive reuse of the existing buildings. The project duration is between 15 to 20 years and has planned to have an average between 6000 to 6500 inhabitant providing them with almost 2000 to 2500 jobs. (Ferber, undated).



Figure 46: Development Districts (Source: Tübingen city council archive)

The development project has been divided into main four quarters “French Quarter, Loretto Areal, Stuttgarter Straße, Muhlenviertel, and Alte Weberei” respectively to perform neighborhood differ than other typical housing project the main concern was inhabited and users of the place. Each of these quarters had its phase and duration; the French quarter (1996-2008), Loretto Areal (1996-2007) after finishing these two quarters, the planners saw that a

connection had to be created to facilitate accessibility. Stuttgarter Straße area planned to be part of the design development (2006-2012) to offer that connection. The next phase is Muhlenviertel district which took place in (2006-2010) and last phase is Alte Weberei which started in (2011-ongoing) the design still under development. (Kuhn, building community in Tübingen, 2011).

5.3.2 Land Ownership/Main Regulation

The process of owning the land is one of the factors of the success of the project, this part explains the land ownership. Regulations control the development process the following explains the main regulations of the Southern part of Tübingen project.

- ***Land Ownership***

Southern part of Tübingen was known as a French military area so barracks are found and military buildings are common in that area. The German buildings law provided Tübingen city the capability of renovation and adaptive reuse through the “Act § 165 Entwicklungsmassnahme which means urban Development Measures” states “...*the Acquisition of Land (for Military Purposes), and federally owned land in respect of which the municipality has been notified of an intention to use this land for purposes of national defense may only be included in an urban development zone with the approval of the relevant public body...*”(Federal Building Code, Germany) (See appendix)

Urban Development Measures Act allows Tübingen municipality to remain in control of the development process. The main purposes of the development project are to serve public interests especially to meet the increase of housing need in Tübingen and to offer new employment opportunities through the idea of mixed-use and establishment of different public facilities, in addition to transform an abundant land of Southern part of Tübingen to a productive mixed-use district.

▪ ***Urban Planning & Architectural Regulations***

The master plan divided the land into zones each with specific areas and boundaries but the building plots do not have fixed proportions, as shown in figure (47). Each group has the opportunity to determine the area needed to establish their own buildings based upon their interests, needs and proposed designs. (Schuster, 2005).

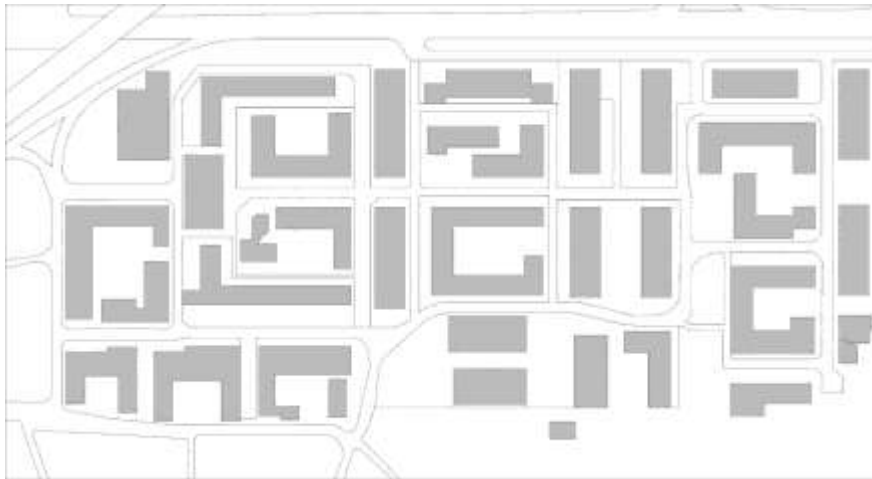


Figure 47: Grouping of buildings in the French quarter (Source: Author based on Tübingen city council archive)

Control on the heights are determined during the master plan phase by the city. Building heights vary between 3 to 5 stories. (Soehlke, 2011). Schuster, 2005 stated the concept followed in determining the buildings heights is adding the high buildings on important and special places as in street corners for emphasizing. While the lower building built in between to enable the light penetration and reaching the internal courts. This variation on building heights gives flexibility in design and alternatives for the users to choose according to their needs.

5.3.3 Allocation to End-users

The number of residences in the French Quarter is around 2,400 people within an area 100,000 m² based on statistic made by building communities in Tübingen, 2011.

The Tübingen city council set down some criteria for allocation and choosing of citizens of the area. According to Selina 2011, the category of prioritizing the users main concerns goes for the people who already live in the area and looks forward for better life standard. The city of Tübingen oriented its attention towards the people with low income who have a limited opportunity of affording a suitable house. In addition, they are concerned about the young families who start their new life and searching for a new home. In order to achieve the main concept of the “Mixed-Use development project” that also helped the city to get the land from the federal government, the city gave priority to people having a motivation and initiative of owning or establishing retailing shops, offices, and social facilities...etc. Last but not least, for achieving diversity in project preferable to allocate to people with different social standards and different age group.

Setting the criteria of choosing the citizens, it helps in creating a combined society that aims to have a suitable futuristic neighborhood and adapts to their needs and life. In addition, the city cares for limited income citizens and encourages the youth to start a new life. However, diversity in citizens’ characteristics is a main concept but this diversity is needed to achieve multi-thoughts that help in creating unique designs and also to have a mixed-use project with different ideas and concerns.

Schuster, 2005 explained that at the beginning of the project, there are various plots with minimum number of interested groups. After increasing building activities and the cooperative building association, it started to produce a tangible products and the trust grows that lead to the improvement of the condition which in turn lead to transformation of the system as the groups were created, then they start searching for a plot.

5.3.4 Design Development Principles

The author divided the principles into two categories the urban and architectural principles. These principles have been deduced during from the

two visits made by the author in the area in 2010 and 2011, and from the interviews with the architect and urban planner Schuster who works in LEHEN three architecture and city planning offices that planned the French quarter master plan. Moreover the author made a second tour in 2011 with Mr. Thöne a citizen in Tübingen city interested in the project of south of Tübingen. Which helped more to reach the following principles.

i. Urban Fabric Principles

The main principle of the development aims rehearsal of the past through adaptive reuse of the barracks building a way that suits the new development and adapts the needs of the new citizens of the area. The development main target is the formation of a mixed-use area that inhabit requirements and desires of the citizens to act as a small lively town.

▪ *Accessibility*

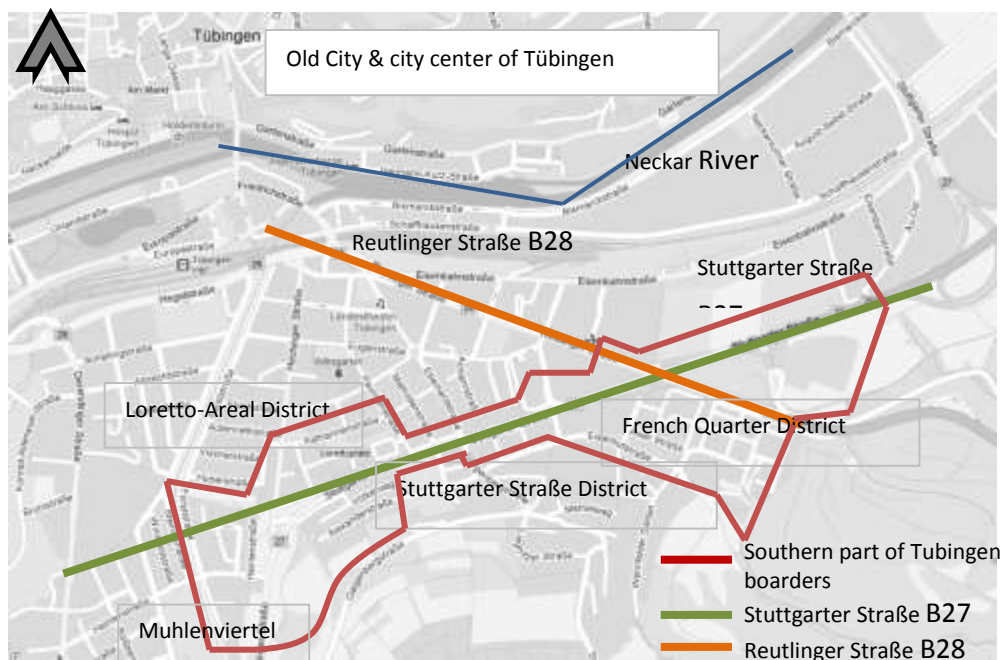


Figure 48: Main zones and streets in southern part of Tübingen (Source: Author, 2012)

An urban spine has been created between the southern part and city center of Tübingen city, to facilitate the accessibility and to be easily reached by all habitant, visitors and tourists of Tübingen city.

During the author's visit in 2011, it is noticed that the city succeeded in affording public transport stations represented on different lines directed to the southern part via the public buses considered as the main transportation in Tübingen city. This helps the easy access from the main station and is connected to the rest of the city borders.

- ***Respect to Nature***

Nowadays people love the area surrounded by a forest that create a great environmental atmosphere, offering a direct connection to the nature, which makes them leave their homes in the city center, and prefer living in caravans in these forests. This could be considered as a reason for the planners of Southern part of Tübingen to orient their vision of the project to be an ecological, sustainable and respect to nature highly appreciated and needed. The size of the land was restricted to the old land size without sprawl in the surrounded cultivated and green land.



Figure 49: Caravans (Source: www.panoramio.com, 2012)

- ***Adaptive Reuse***

The project depends on the conversion of a French military site to mixed-use neighborhood district. The old barracks and the existing buildings reused and restored for multi-functional usage. Most buildings converted into studios, residences, commercial spaces, offices and workshops.

“The Motto was, new construction, but do not erase the old, integrate it into the new.” Schuster, 2005



Figure 50: Archive picture for French quarter before development shows French barracks and military buildings (Source: Tübingen city council archives, 2012)

Some buildings and structures left with their original shape and design to be landmarks, symbols and a reminder for citizens with the WWII and that this place was a place for French invasion and French troops. However, the function of the places and buildings totally changed.

Schuster, 2005 explained that some of these buildings built by real estate firms through respecting the rules of the size and location of the set back and stick by unified row houses design. Soehlke 2011 mentioned that most of these renovated public building owned by the city except the students dorm owned by Tübingen University which was interested in affording a place for the students.

▪ ***Mobility Concept***

Mobility is created in a sufficient way that creates environmentally friendly atmosphere. The planned concept of the mobility in the French Quarter and Loretto Areal differs from that in Muhlenviertel.

French Quarter and Loretto Areal depend mainly on parking buildings that people have to adhere to it. The area is well designed to be a pedestrian and automobile-free.¹⁴

In French quarter, Ferber (undated) explained that the concept of the parking building came instead of parking in the streets or making a huge surface parking. The parking building set on the development in early phases through the planning office. The main parking building was built at the edge of the district about 300 meters of the building areas. Thöne, 2011 said that in the parking building the city care to use technological techniques to perform an efficient automatic multistory parking that serve the whole district. However, other smaller parking buildings were constructed within different parts of the districts to serve mainly handicapped and retailers. Later, some residents who live away from the main parking used those parking.

Not only cars are used as a way of transportation, but also the cycles, through connection of southern part of Tübingen to the main cycle network of Tübingen city. Also the connectivity to the public transportation of the Tübingen city covered through three bus lines that reach the area. Another way of facilitating the transportation issue and decreasing the number of cars, according to Ferber, is the way of determining different spots for car sharing. It allows citizens to rent a car instead of owning it by offering it based on an hourly rate.

¹⁴ Personal Feedback on Parking Allocation: While visiting French quarter in 2011 with Mr. Thöne he was my guide to the area and after visiting the parking building in French quarter I thought it will be difficult for residents to park their cars away from their homes and walk to reach their destinations. I had the opportunity to ask one of the citizens about not parking her car in front of her house when she confirmed to me the opposite, as she just walk for 3 or 4 minutes in gardens which she believes is a good chance to enjoy herself and have quality time before reaching home. Besides, by doing that she also has the opportunity to see and meet her neighbors.

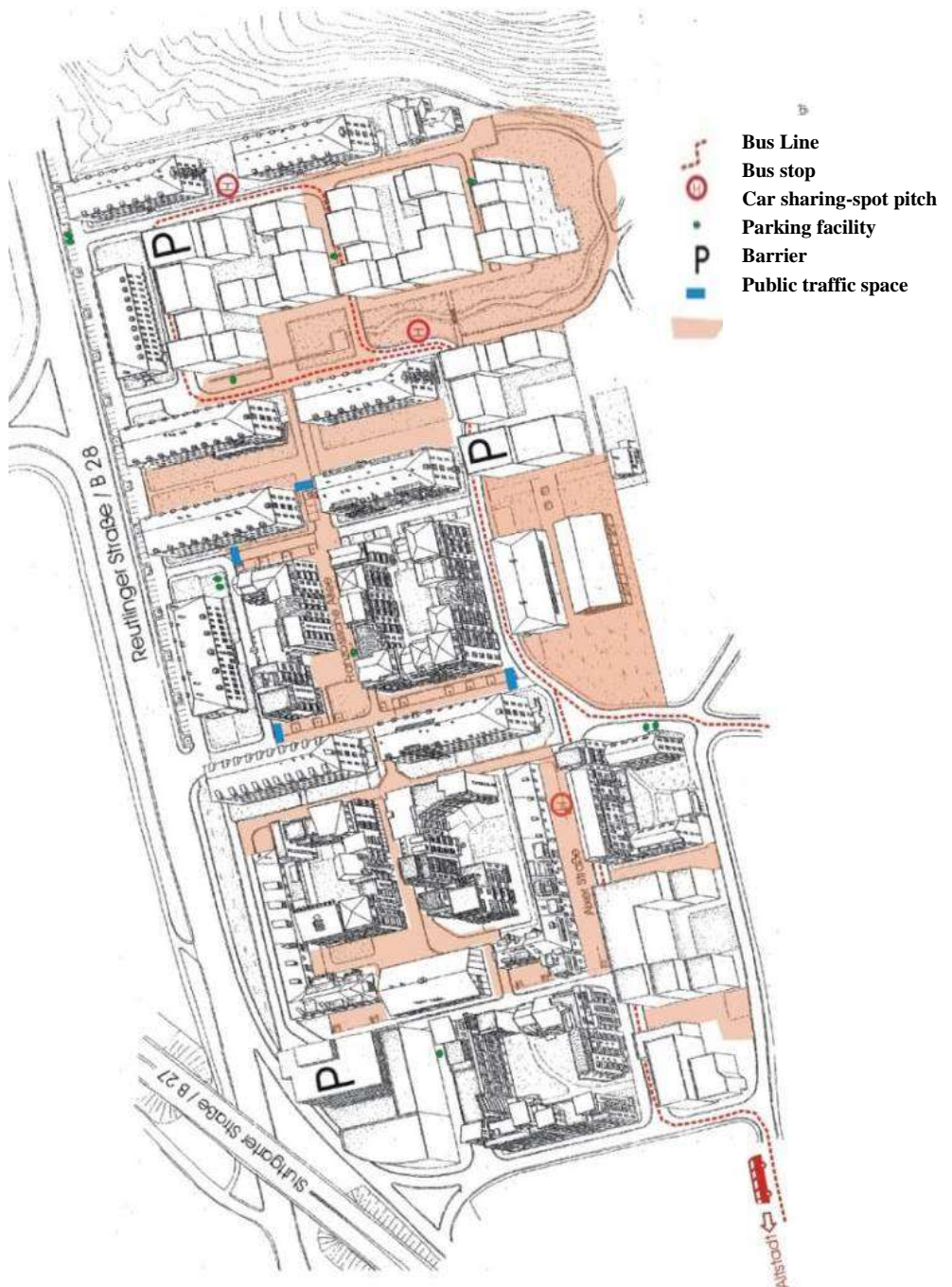


Figure 51: Mobility map in French Quarter (Source: Tübingen city council archive)

Different solutions for transportation and parking added in planning procedure in order to minimize the pollution and traffic caused by them. However, a little complain of some residents from French quarter and Loretto Areal from the parking building that is being away from their residence. That led the city to think of another solution in the other development project as in Muhlenviertel district. The parking is an underground parking, under each group with one entrance for more control. Connectivity and accessibility are much easier for the citizens.

In both cases the planner tried to offer a comfortable design through designing a maximum area of green public spaces surrounding the buildings to create an atmosphere of amusement and leisure during walking distance. This is explained in details in the next paragraph.

- ***Public Areas and Squares***

Outdoor areas have a major role in this project; the idea of making a connection between indoor and outdoor is a major criteria in planning and everyone have to respect it during designing its own home.

The outdoor areas are represented in the internal courtyards within the blocks where different groups of residents share it. These courts are semi private but accessible to public visitors, so the residents added signs asking for respecting their privacy. (www.cabe.org.uk/case-studies/tubingen-sudstadt). The residents of these blocks are in charge of designing the landscape of the court. They first got the approval from the city, then they started the implementation and afterward they were responsible for the maintenance of these courtyards. The cost was determined according to the different size of buildings while the maintenance carried out together by contractual agreement. Thus, the city ensures the increase of green area in the whole district. (Schuster, 2010)



Figure 52: Different open areas and courts in Southern part of Tübingen (Source: Author 2011, 2012)

ii. Architectural Principles

Schuster, 2005 states that the connection between ground floors and facades is required to perform connectivity and continuous design. Though, respect of neighbor privacy is also required concerning the façade design, it is preferable to add protruded terraces to help in creating contrast between the flat and recessed façade elements. The project calls for sustainability and environmental friendly design which demands the usage of natural materials, lively roofs and ecological building techniques. Another principle is the variety and colorful design themes that create identity and uniqueness of the project and all over the contrast between every building and its surroundings.

▪ Diversity and Variety

From low-budget project to the zero energy house, from the small town homes to large community project is a wide mix of concepts, lifestyles and budgets. (Building communities in Tübingen, 2011). Social diversity as mentioned before in the allocation of citizens' section is one of the goals in the development of the area through mixing between low and medium social standard classes.

Several investors involved in the architecture design, this helps in creating diversity in ideas and thoughts. Different architectural designs are implemented to formulate identity, uniqueness and individuality in the area. Each building design varies from other in its, façade, size, height and function of the ground floor.



Figure 53: Various building blocks in Loretto-Areal District (Source: Author 2011/ Tübingen city council archive)

▪ ***Mixed-use Project***

Not only being a neighborhood district, but also “Andreas Feldtkeller” aims to create a mixed area with 2,000 jobs. Each residential building has to include a commercial, business or social activities besides other functional buildings as schools, kindergarten or offices. All of that helps in creating a small town with most of the inhabitants needs. It became a rule in the project to establish continuous commercial shops on the ground floor, that help offering the citizens their needs and perform as a small town with different services.

Kindergarten



Shops



Figure 54: Mixed-use (Source: Author 2011/ Tübingen city council archive)

- ***Colorful and Lively***

Using colorful and cheerful designs, each group has to choose a strong color contrast to give it an identity and uniqueness. This led to artistic patterns and forms which appeared in building facades. Coloring is made up by different ways; plaster, materials, art paints or plants.



Figure 55: Colorful Building facades (Source: Author 2011)

- ***Sustainability and Environmental Design***

The idea of the project is providing a high quality of urban development instead of Brownfield industrial and vacant lots. Sustainability is a major principle in the project. The city council and the planner intended to attain a sustained neighborhood with zero energy.

According to Schuster (2010) the developers in the city council set down main rules concerning the citizens in designing their own buildings. Climate and resource conserving- energy optimized the building to reduce the energy at least by 15%. Eco-friendly techniques such as solar panels in facades, roof gardening system and grey water recycling have been used. Constructing the building façade oriented to the south direction and using of glass in the façade, this applied the sunlight to go through the building. Sustainability obtained through using local materials as wood on constructing the buildings.

Concept of automobile free and depending on walking distance and cycling helped in achieving the idea of having a pedestrian area and less vehicle usage.



Figure 56: Sustainability techniques (Source: Tübingen city council archive, Author 2011)

5.3.5 Implementation of Southern Part of Tübingen

Schuster, 2005 explained that Tübingen case prioritizes by long-term procedure through continuous planning but with a fixed strategy and concept. This means that the process and the stages followed is almost the same in the four districts in southern Tübingen. The main way used in the process that the city cares to follow is the citizen participation in all the development process.

As an example, French quarter planning took almost three years between different stakeholders then the construction started by the renovation of old barracks and the making of 100 apartments but with smaller mixed-use projects. (Schuster, 2005).

- ***Building Communities***

The process of the development goes under the concept of “baugemeinschaft” which means ‘building communities’. It is defined as a group of people creating, renovating and developing their own houses and neighborhoods together. They can build residential, business or commercial buildings either to use it themselves, rent it or sell it. (www.baugemeinschaft.org/)

Building communities’ the inhabitants are early involved in designing their buildings and their neighborhood. The community engaged in the project from early phases where it was aiming at the participation of the users at every

planning and design phase. In the case of Tübingen the citizens accepted the idea of involvement on the establishment of their district.

Building communities concept is implemented through events and platforms established to gather citizens for introducing themselves and discussing their own district's needs. Schuster, 2005 mentioned that the tools used to facilitate the development process was the theory of participatory design. The 3D model tool was used to share people ideas between themselves easily. The result would be that every building establishes its own identity and uniqueness while maintaining the integrity of the whole block.



Figure 57: Participatory design workshops (Source: Tübingen city council archive)

▪ ***Citizens Grouping***

Soehlke, 2011 said in Southern Part of Tübingen people “future residents” have to come in groups to get their own plot to build. They choosed the area needed to fulfill their aims. The group has specific criteria that the city has to accept through being a cooperated group. In addition, the design of the submitted project has to cover the following criteria: 1) the building has to achieve the concept of sustainability and ecological system used to attain the project principles. 2) The space usage in the ground floor has to add a value to the project and be effective on the surroundings. Professional developers were involved in designing phase to make sure of the building efficiency that cope with the architectural standards regulations.

The group had to share the same interests and ideas related to the architectural, interior and façade designs, this step served as an information exchange and

initial basis for discussion. They had to settle down the function of the ground floor, the required budget and all over a cohesive social structure to facilitate dealing together.

The group has the option of assigning an architect for designing their plot. They gathered with him to share ideas and needs. The architect gives more flexibility in the design and provides a wide opportunity on attaining the needs of the group. After the group agrees on the design, they have to show it to the city council to take the approval. In case the design lacks something, the design goes back to the group to go through development until they reach the suitable design. This procedure almost takes six months before starting the construction. (Selina, 2011)

From the advantages of dealing with groups, is the affordable cost. The costs of the common expenses as the building shell, the building envelope, the technical equipment, and interior areas such as stairwells and basements are divided on all the users of the building.

According to Soehlke 2011 each of these groups had to choose a representative. The representative did not have any authority or even be a bossy on the group; he was just playing as a communicator between the group and city council to facilitate the process. Each of these representatives joined the working team supported by efficient planners and architects to bring their ideas to reality.

These stages require compromise in taking decisions between all parties. The architect begins to follow a coherent concept and present it through establishing a framework with subsequent discussions. The architect uses a cooperative and compromise and prudent way. (Scharf, building communities in Tübingen, 2011).

The working teams were responsible for submitting the final ideas and the designs to city council.

- Tübingen "Stuttgarter Straße/Französisches Viertel" -

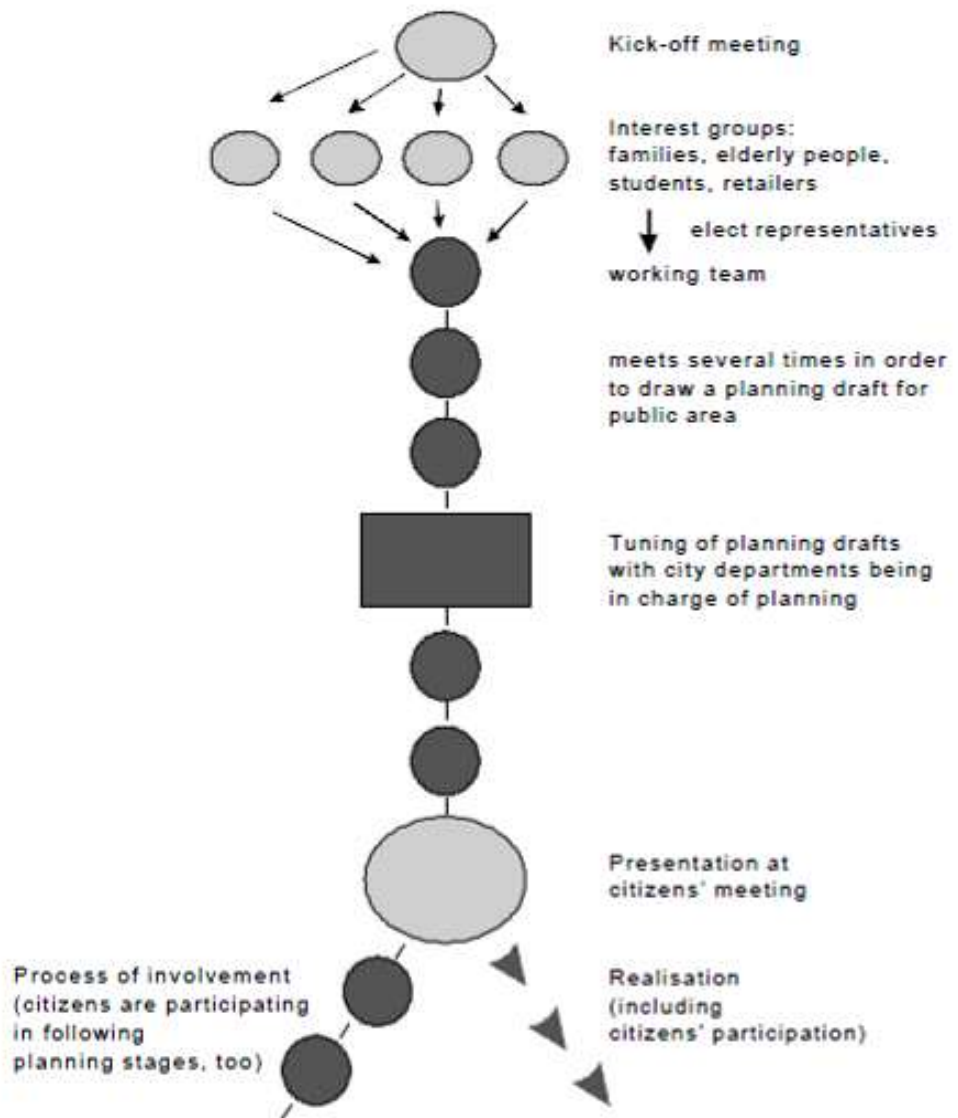


Figure 58: Participatory design procedure (Source: Ferber, undated)

▪ **Example: Stuttgarter Straße Area**

The idea of development of the Stuttgart street zone came after finishing both French quarter and Loretto Areal areas, in order to connect the two previous areas together; Stuttgarter Street zone covers about 22,000 m² area to be implemented. The urban plan divided the land into three zones; each zone

planned to be implemented in two years, starting from 2006 to 2012. The design of the zones performs as an enclosure by having an internal court that gives the citizens an open space to interact with nature.



Figure 59: Stuttgarter Straße area (Source: Author based on Google earth accessed 2011)

Main citizens of this zone are Turkish and Arabs who share similar traditions, cultures and religion in addition to the common language between most of the participants. This is clearly shown in the way of advertisement of events by using Arabic language. The participation includes all ages, no gender differentiation. All have the opportunity to share their ideas with the others.

The methodological tools used in applying the participatory design concept, through general events give an opportunity to people to be introduced to each other. This happened through making advertisements of the event by making posters and flyers including welcoming invitation to an open day hosted by the resident office of the Stuttgarter Straße area. The goal of the open days is to discuss citizens' future and to share ideas, problems and solutions for the redevelopment of the area. The resident office wrote a motivation by saying they were looking forward to stay and live in better environments in their own

district. Besides, the office made the event by in a friendly way by saying for this occasion they want to invite all the residences to the “open day” and for coffee and cake to have the opportunity to get to know each other, and they look forward to meet them all. They care to make it in a vacation day “Saturday” to make sure that most of the people are free to participate.



Figure 60: Participatory design Advertisements (Source: Tübingen city council archive)

After workshops for setting the main objectives each group recommended a representative team to represent them in front of the architects and the cooperative building association and the city council. Development of ideas occurred through model making, flip charts, sketches, diagrams and pictures. Several meetings and workshops were set by the representatives to reach suitable and adaptable design solutions. Gathering platform and presentation have been made for all the citizens then the discussion starts to realize the pros and constrains of the design.



Figure 61: Participatory design methodology (Source: Tübingen city council archive)

5.3.6 Management & Monitoring

In order to make sure of the success of the project for a long period, responsible authorities had to conduct a way and set authorities to assure management and monitoring. The management control of the project have been made up through the “urban renewal office” as a coordinator and the “urban development office of Tübingen city” as a project director. The major actors in supervision and control on the project assured that no one penetrates the rules and regulations and do respect his neighbor's property and do not exceed his allowable foot print. (Schuster, 2005)

Selina 2011 said that the owners can sell the apartment at any time. There is just a price fixation for the first 10 years to stop fast price rising and extreme "money making". However, any change of ownership of land or apartment has to be checked by the “urban development office of Tübingen city administration” which has the authority to accept or refuse.

5.4 The Urban Envelope Product

The French Quarter is the first district in the development; following is the analysis of the district in refers to the urban fabric and architectural principles. The area played as an attraction point to many citizens and is considered as a touristic place, besides lot planners, architects and students visit it as a successful self- developed urban development project.

5.4.1 Urban Fabric

To perform the urban fabric by successful way major measures were taken in consideration on the procedure of designing the master plan. Schuster, 2005 stated that during the design they care in dealing with the project as a large-scale reorganization with caring with the existing building and make the maximum use of it. He added that constructing of attached and row houses overlooking the streets and courts to create outdoor life for the citizens, to perform a leisurely atmosphere for pedestrian. There is a variety of mixed-use projects that facilitate the opportunities for citizens to find all their needs.



Figure 62: Aerial view for French Quarter (Source: Tübingen city council archive)

- **Solid & Void Studies**

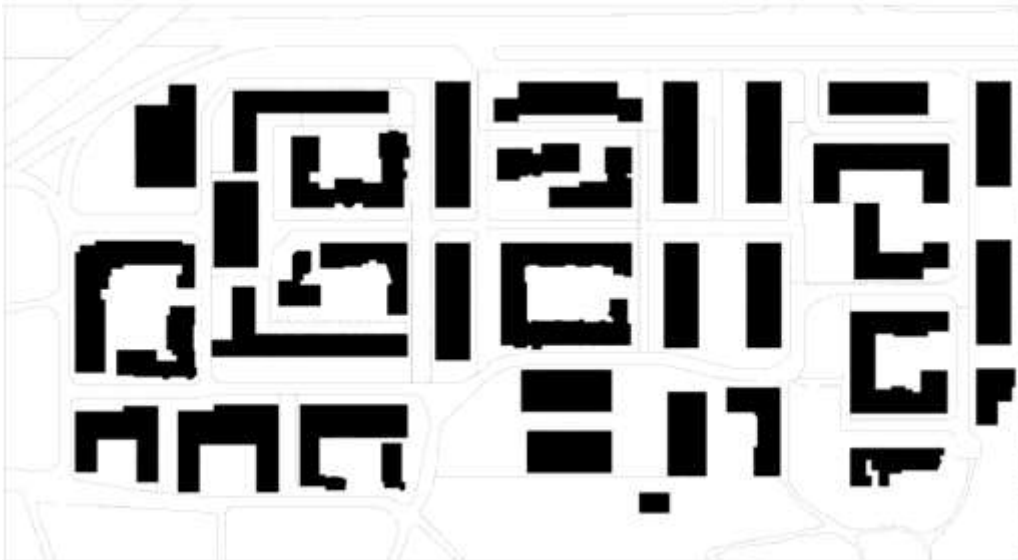
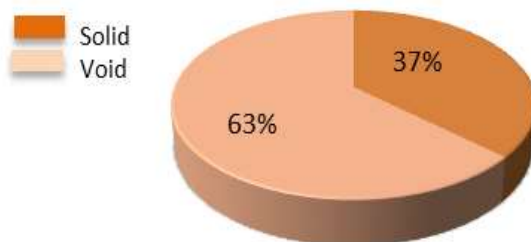


Figure 63: Solid and Void study-French Quarter (Source: Author based on Tübingen city council archive)

The following pie chart represents the percentage between solid and void in the French quarter district. The percentage of outdoor and open space (63%) is near to the double in relation to the buildings (37%). That displays the success in implementing one of the main principles of project development to make different outdoor places for the community. Allocating large spaces of outdoor areas helps in creating the concept of sustainability from transforming the Brownfield area to green areas full of life activities.



▪ *Pathways and Circulation Studies*

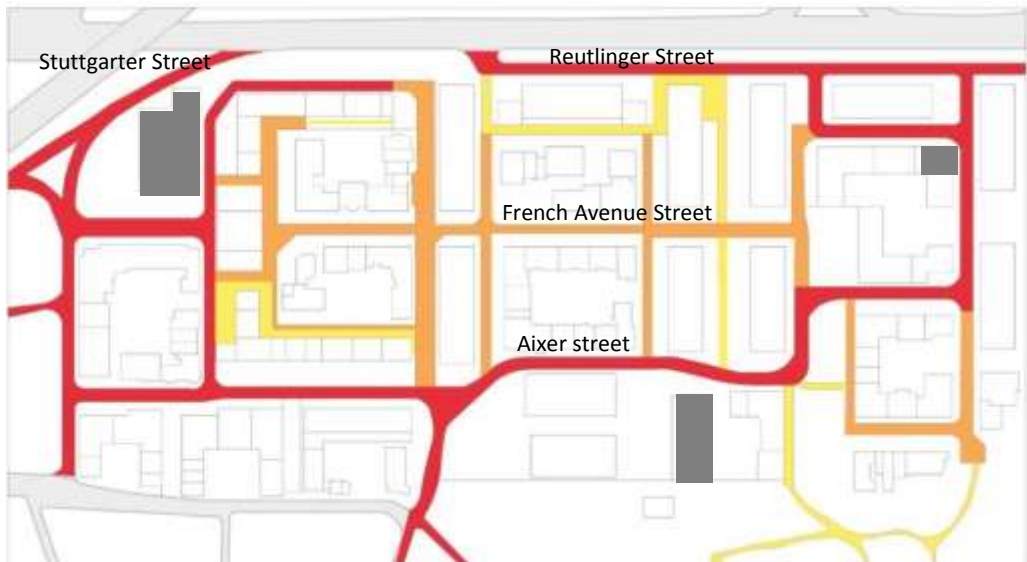
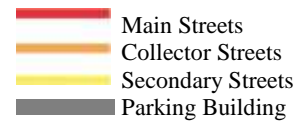


Figure 64: Pathway and circulation study-French Quarter (Source: Author based on Tübingen city council archive)



The main streets play a major role in connecting the French Quarter with the surrounding areas and old part of Tübingen city. ‘Aixer Street’ is an active main street and most of public transportations stations are located on it. The main parking buildings are located over the main streets and are easily accessible and connected. Collector streets are mainly used as transitional streets. However, the French Avenue Street is a major street in the district that connects east to west it is commonly used by the residence.

▪ *Land Use Studies*

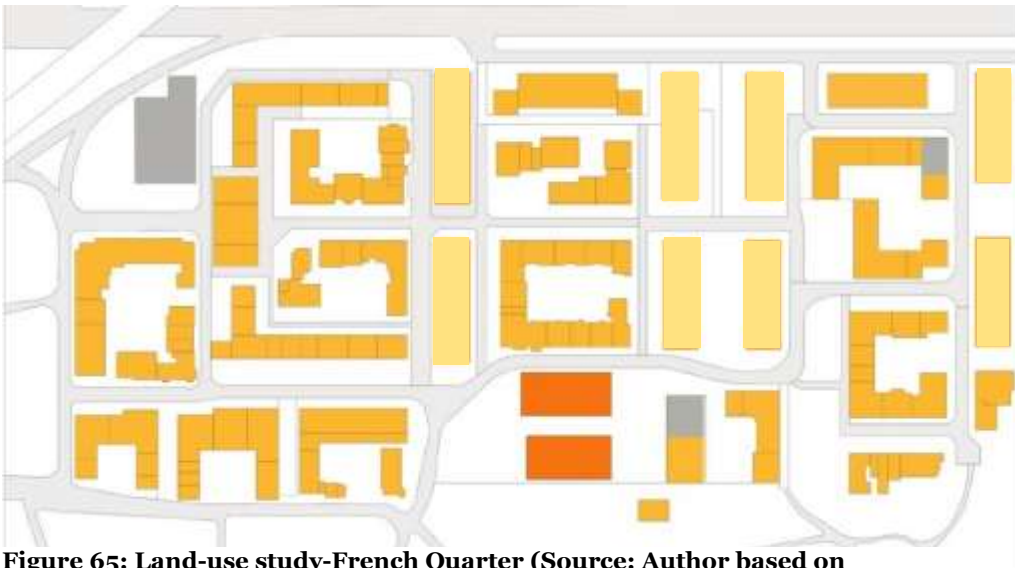
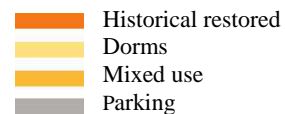


Figure 65: Land-use study-French Quarter (Source: Author based on Tübingen city council archive)



The implementation of the concept of a mixed - use project successfully satisfied the citizen's needs. Figure 65 illustrates the maximum number of the mixed-use buildings. The idea of making the ground floor a commercial, office, nursery or services is successfully achieved and resulted in a self-sufficient district. The parking buildings are located on the borders of the project.

5.4.2 Architectural Principles

General architectural principles are introduced in the early stages of urban development to produce a homogeneous design. Buildings varied, but at the same time are integrated through the main principles and regulations that have been settled at the early phases of the project. These architectural principles help in creating identity and character for every building in the district that reflect the inhabitant personality.

The following figures show the sections taken by the author to make the architectural studies on different buildings in the French Quarter.

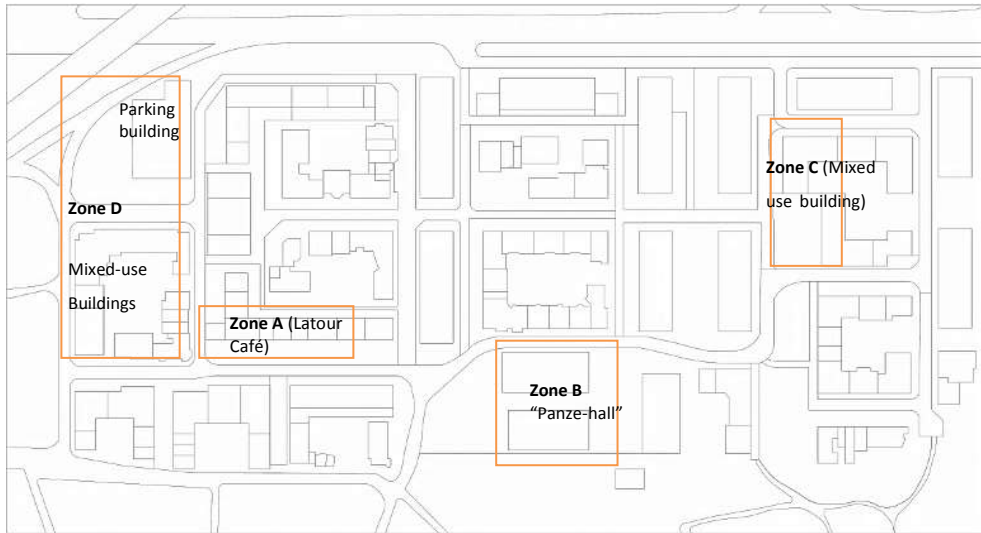


Figure 66: Master Plan-Section location (Source: Author 2012)

▪ ***Example of Adaptive Reuse buildings- Zone A***

The Latour Café building succeeded in combining both mixed-use and renovation of an old horse stables. Schuster, 2005 the building accommodates two large apartments and roof theatre terrace. The ground floor is the Café Latour, which offers an atmosphere of living room for the district that represents comfort and relaxation for the citizens. Besides, it offers enough space for holding parties and performing a children’s theatre. (Building communities in Tübingen, 2011).

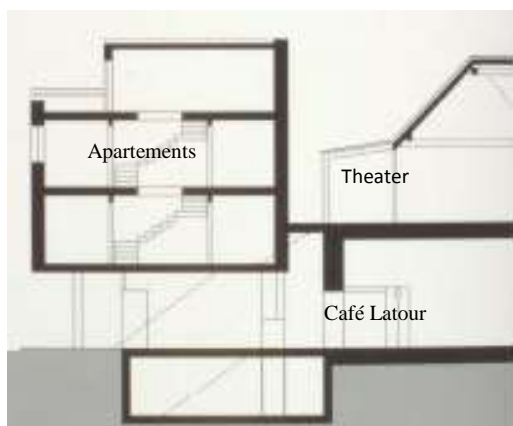


Figure 67: Plan and Section of Latour Café building & building after usage (Source: Schuster, 2005 & Author, 2011)

Attached to Latour Café another renovated one floor building was used as horse stables during WWII and now is used to accommodate different workshops for wood or bicycle repairing, Figure 68.



Figure 68: Wood workshop (Source: Author 2011)

- ***Example of Adaptive Reuse buildings- Zone B***

Thöne 2011 explained that the case in “Panze-hall” a tank structure of the French quarter used by French troops for their tanks. Nowadays, it is considered as a major gathering space open public space where different activities are held such as children playing area, parties, and celebrations.



Figure 69: Renovation and adaptive reuse of “Panze-hall” a tank structure- multipurpose usage (Source: Tübingen city council archive)

According to Soehlke, in the renovation of old buildings in French quarter, the facades do not match with the rest of the district as only tilted squares added to the windows that do not reflect any idea. However, another opinion on renovating buildings from Thöne 2011 stated that these tilted squares are a very simple idea but adds modernity to the building.

- ***Example of Mixed-use building- Zone C***

The building is a new six floors residential building with commercial facilities on the ground floor. It accommodates six families in six apartments with an

area 767 sq.m/ 6 units. It suits two commercial shops on the ground floor with an area 93 sq.m/ 2 units. Gross costs including land: 1.538 € / sq.m (Kahun, 2010)

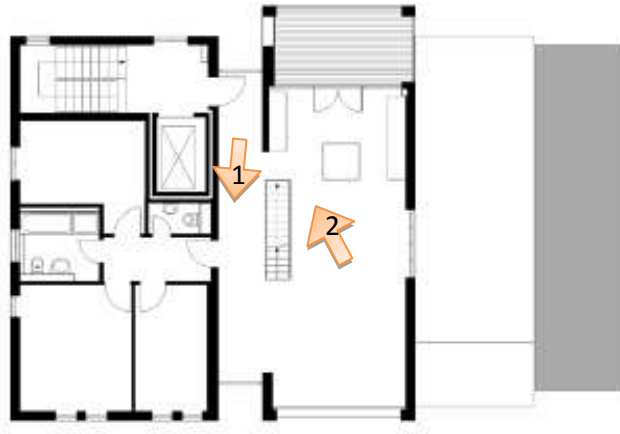


Figure 70: Architectural plan of residential unit of the upper floor of the building (Source: Schuster, 2005)



Figure 71: interior of residential unit of the building (Source: Schuster, 2005)

Solid & Void Studies of the Mixed-use building- Zone C

Contrast principle is clearly shown in this façade through solid and void, vertical and horizontal elements represented on window openings. The percentage is almost the same between solid and void. Using of solid façade at the bedroom spaces for privacy, however at the living room glass façade is added.

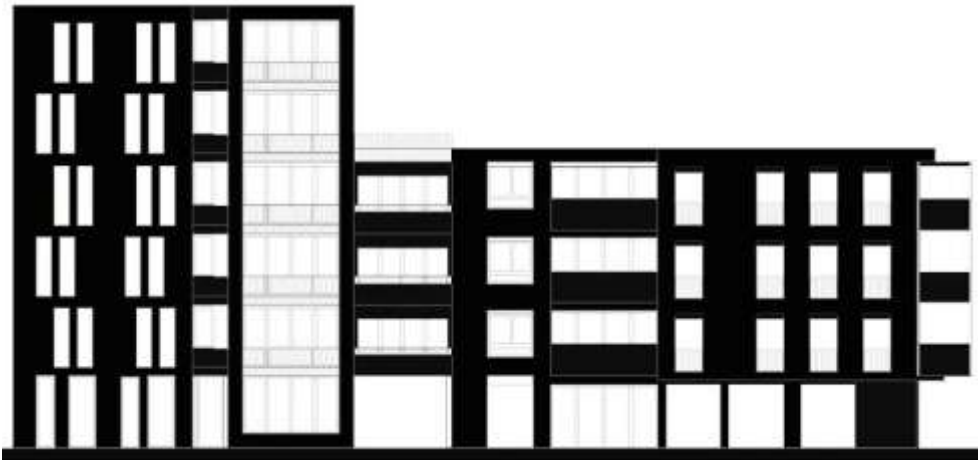
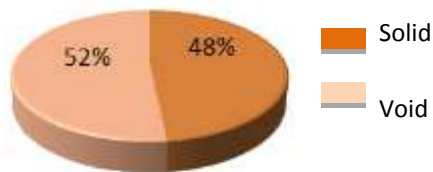


Figure 72: Solid and Void Studies of the building elevation (Source: Author 2012)



Color Scheme Studies of building -Zone C

The façade coloring is based upon the users' tastes and preferences. Colorful and livable colors are used in the buildings. This is clearly obvious in the next figure (30) the great contrast of yellow, red and gray colors in the façade. The space division of the architectural plan is reflected on the façade where each space recognized by a specific color. Using of a large red frame of the window strip of the living room helps to create unity and continuity in the facade; the same with the yellow color representing the bedroom space.

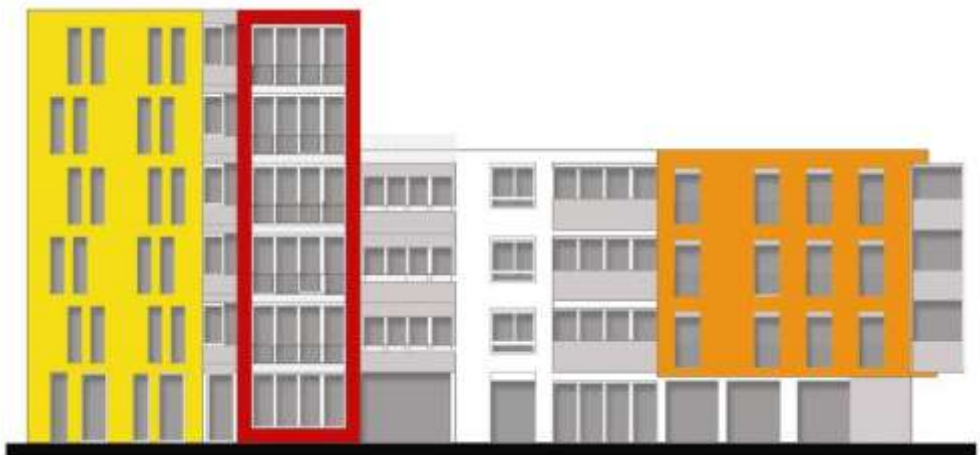


Figure 73: Color scheme (Source: Author 2012)

Skyline Studies of building -Zone C

The great shift between the heights of the two building gives contrast to the viewer.



Figure 74: Sky line (Source: Author 2012)

- ***Example of Parking building & Residential Mixed-use buildings- Zone D***

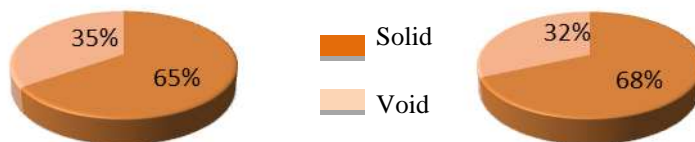
This example shows a new mixed-use buildings and the main parking building in the French quarter district. The parking building has a simple shape in relation to the rest housing buildings.

Solid & Void Studies of building -Zone D

Concerning the parking building the percentage of solid is higher than void with almost 30% and it is concentrated on one part of the building. Small openings added to provide natural lighting inside the building. In the mixed-use buildings the percentage of solid and void are almost equal to that in the parking building. The design of the façade distributes the difference of solid and void along the façade based on the space usage behind. The void of the ground floor of the parking building is more than the solid due to the existence of the cars entrance.



Figure 75: Solid and Void Studies of cross section (Source: Author 2012)



Color Scheme & Material Studies of building - Zone D

There is a contrast in color in each building with surrounding buildings. The parking building in addition has an orange color strip at one side to achieve a major role which is breaking the continuity and width of the building.

The mixed use building, its façade design consists of different materials and colors. Materials are represented in plaster, steel, glass and wood for

sustainability. This differentiation of materials leads to change in colors beside adding the pink reddish plaster for achieving more contrast.



Figure 76: Color scheme Studies of cross section (Source: Author 2012)

Skyline Studies of building -Zone D

The mixed-use buildings skyline performs leveling that breaks the continuity and helps in making variety of heights. However, harmony between levels is required and the planners achieve that through identifying the building height from early phases of planning.



Figure 77: Skyline of cross section (Source: Author 2012)

Façade planes of building -Zone D

The façade variety is obtained through playing in its openings. Windows shapes, dimensions and the kind of glass used; transparent; mirror; shaded varied from one building to another. Besides the shading devices used has several shapes, materials and techniques. The change in balconies shape, material, depth and protrusion creates a good layering in the façade. Moreover, variety is achieved by playing with the masses through protruding or recessing on the façade of the building. Even the roofs, not all of them are flat; some are sloped, has a pediment shape or leveled.



Figure 78: façade planes of cross section (Source: Author 2012)

5.5 Conclusion

Southern part of Tübingen is considered as a successful development project. It transformed an ignored military Brownfields to an attractive sightseeing neighborhood and outdoor recreational interests of plenty green areas. The idea of developing the southern part of Tübingen project is not only need a good vision of the city, but also the process used in applying for a project. This has been achieved through: 1) the building community concept 2) community participation in decision making and implementation processes. 3) Flexibility by offering the citizens the option to choose their lot size and location and have the opportunity to design, create and construct their house. 4) Setting main objectives as mixed-use and sustainability concepts. 5) Making use of Federal codes to achieve the objectives of the project.

The product is highly appreciated and creating of a lively and cheerful neighbourhood, which succeed in 1) implementing the idea of mixed-use project which helps in offering the citizens their daily needs with a walking distance besides providing the opportunity to work within the neighborhood 2) The project is significant through the uniqueness in building architectures especially in facades that reflects the inhabitant character. 3) Integration versus privacy through offering various outdoor spaces either public or private. 4) Adaptive reuse of old buildings with a great integration with the new ones. 5) It is becoming a destination in itself to be visited exhibiting both the process and product. 6) The project is a remarkable development model that received The German Award for city planning in 2001.

Last but not least, continuous supervision and control from Tübingen city limited any violations of the rules. Trustful and dependable monitoring and supervision are a continuous job that guarantees a successful project. Through a good structural measurements embedded at the start of the project 1) The clear responsibility of each participant/ Each of the stakeholders has an identified job to do through the project. 2) Good communication between different stakeholders, the project continues to be successful.

CHAPTER SIX: Comparative analysis and Self-Developed Models

Chapter Six: Comparative Analysis and Self-Developed Models

In chapter three, four and five the researcher explained and analyzed in details three of the self-developed areas from the perspective of the process and the product. Chapter six describes the core outcome of the research. It presents the theoretical contributions to help on the case study assessment. A recommended self-developed model focusing on the process will be presented in this chapter to reach a successful urban envelope.

6.1 Comparative Analysis based on the research key findings

6.1.1 General Framework

The following table is a comparison divided into four subjects (Land before development, objectives, development main idea, land property) to describe the general framework of the three case studies.

Table 10: General framework of the three case studies (Source: Author)

| Point of comparison | Fatimid Cairo | Ebny Beitik | Southern part of Tübingen |
|--------------------------------|--|---|---|
| Land before development | Desert | Desert | Military area-Brownfield |
| Objectives & Goals | . Creating a new Fatimid Islamic city . Settling down | . Housing project for youth of the middle class. .Presidential program | . Creating of a mixed-use neighborhood area. . Renovation and adaptive reuse |
| Development main idea | . Construction of new buildings/mixed-use neighborhood | . Construction of new buildings/housing neighborhood | . Construction of new buildings/mixed-use neighborhood |

| | | | |
|----------------------|---|---|--|
| | | | . Adaptive reuse |
| Land property | . No one may own a house or building unless he has had it built himself | . The Government . Citizens purchase through the governmental institutions | . The City . Citizens purchase through the city |

From the previous comparison the three cases aim to create a new development housing neighborhood. In Ebny Betik project there was another objective which is creating a different national project that serve the presidential election program, this made the project to have a political orientation not only a social one. This political input affected the process and has a factor of the incomplete product.

In the light of the land property, Fatimid Cairo, the authority gives the citizen the motive to build and finish his house in order to own the land. The opposite in Ebny Betik the government sells the land to the citizens and asking people to finish their building in a limited time without studying the feasibility or the provision of the construction materials. This shows that in Fatimid Cairo the focus was on the social satisfaction and motivating the people to create and self-develop their own neighbourhood. In Ebny Betik project the focus was on selling the lands without respecting the social aspects.

In the Tübingen development project the case was different as the land was owned by the Federal and the city had to take it by the “Act § 165 urban Development Measures” that gave them the right to own the land but they will have to develop the district. This lead the city municipality to strictly choose the users of the place; people who have the motivation to build and develop; then the land was sold to them.

6.1.2 Design Criteria

Table 11, is a comparison between the three case studies in the points of design criteria (pilot project or spreading, land plot size and location, implementation process and prototyping).

Table 11: Design criteria of the three case studies (Source: Author)

| Point of comparison | Fatimid Cairo | Ebny Beitik | Southern part of Tübingen |
|--|--|---|--|
| Initiation idea Pilot project or Spreading | Initiation and creating of the Fatimid City. | Spreading the project all over the country. | Pilot project. |
| Land plot size | Flexible | Fixed | Flexible |
| Land plot selection | Flexible | Toss | Flexible |
| Implementation & construction “Infrastructure & Public Buildings” | A joint process between the government and the citizens. | Planned to be Site & Services. | A joint process between the government and the citizens. |
| Prototype | N/A | Yes | N/A |

At the Tübingen project the city implemented the French quarter area then had the opportunity to study the advantages and disadvantages of the urban design and the process of how the people act towards the project. From this experiment they made modifications on the next phases of the project. The city implemented the projects at the French quarter & Loretto Areal areas then by knowing and studying the project defects they made the modification in the other areas Muhlenviertel and Alte Weberei area. The opposite in the Ebny Beitik project, it spreads all around the country at the same time without knowing the rate of citizens’ satisfaction of the project or studying the capability

of the involved governmental institution to proceed with all the projects at the same time. The third case “Fatimid Cairo” is basically initiation of new Fatimid city. However, they implemented the same process, rules and design principles of Islamic cities.

The projects land plot size and selection has a major rule on the success or the failure of the project. The citizens has the flexibility in choosing the required area and location of the land on both Fatimid Cairo and Southern part of Tübingen projects. In Ebny Betik the land plot size is fixed, 150 m² and people can build on 63m² only, the location is based on toss, Ebny Betik land rules do not suit all the needs of the owners.

The idea of implementation and construction of the infrastructure and public buildings in Fatimid Cairo is a joint process between the government and the citizens. In Ebny Beik and Tübingen projects it is considered as a site and service projects which means that the authority has the role to implement the services and the citizens get the benefit from using it. In fact at Ebny Betik project the government did not afford the infrastructure and services. In Tübingen project the city succeeded in finishing the infrastructure and for the public buildings it is a joint process. The government is responsible of adaptive reuse buildings while the citizens are responsible of implementing the idea of mixed-use buildings.

From the above comparison, both Fatimid Cairo and Tübingen cases do not have a fixed prototype in the unit design. In instead they gave flexibility to the owner to build his house according to his own vision but with giving him the main guidelines. In Ebny Betik project the prototypes made restrictions and limited the creativity of the owner that led to dissatisfaction of the users and some have to violate the rules and change in the design to suit their needs.

6.1.3 Stakeholders

The following comparisons between the three areas in relation to the involved stakeholders on the development procedures: initiation, decision making, management and monitoring.

Table 12: Stakeholder participation in main development phases (Source: Author)

| Point of comparison | Fatimid Cairo | Ebny Beitik | Southern part of Tübingen |
|---------------------------------------|--|--|---|
| Main Stakeholders | .Caliph .Sheikh El-Qabila . Mohtaseb . Muslim Jurists .Craftsman & Builders .Military Families/Citizens | Governmental institutions (MoHUUD, GOPP, NUCA) .Public Universities .HBRC .Contractors .Citizens/ Low income Youth | .Federal of Germany .Regional development department of Baden Wurttemberg. (RDDoBW) .The Tübingen city council-municipality (TCCM) . Tübingen city redevelopment office (TRDo) . Master planner . Architects . Citizens |
| Initiation | Caliph – Sheikhs | Governmental institutions | Tübingen city |
| Decision-making Urban planning | . Mohtaseb . Citizens | . Governmental Institutions .Public Universities . HBRC | .The Tübingen city council-municipality. . Master planner |

| | | | |
|-------------------------------------|---|---|--|
| Decision-making Architecture | . Muslim Jurists .Craftsmen & builders . Citizens | . Governmental Institutions .Public Universities .HBRC Contractors | .Different Architects assigned by government . Citizens |
| Management &Monitoring | . Mohtaseb . Muslim Jurists | .Governmental Institutions | . Tübingen City Council-Municipality. |

Based on the previous table, the stakeholder analysis is made to examine the position and the involvement of each stakeholder and to know the potentials and the defect of each case study.

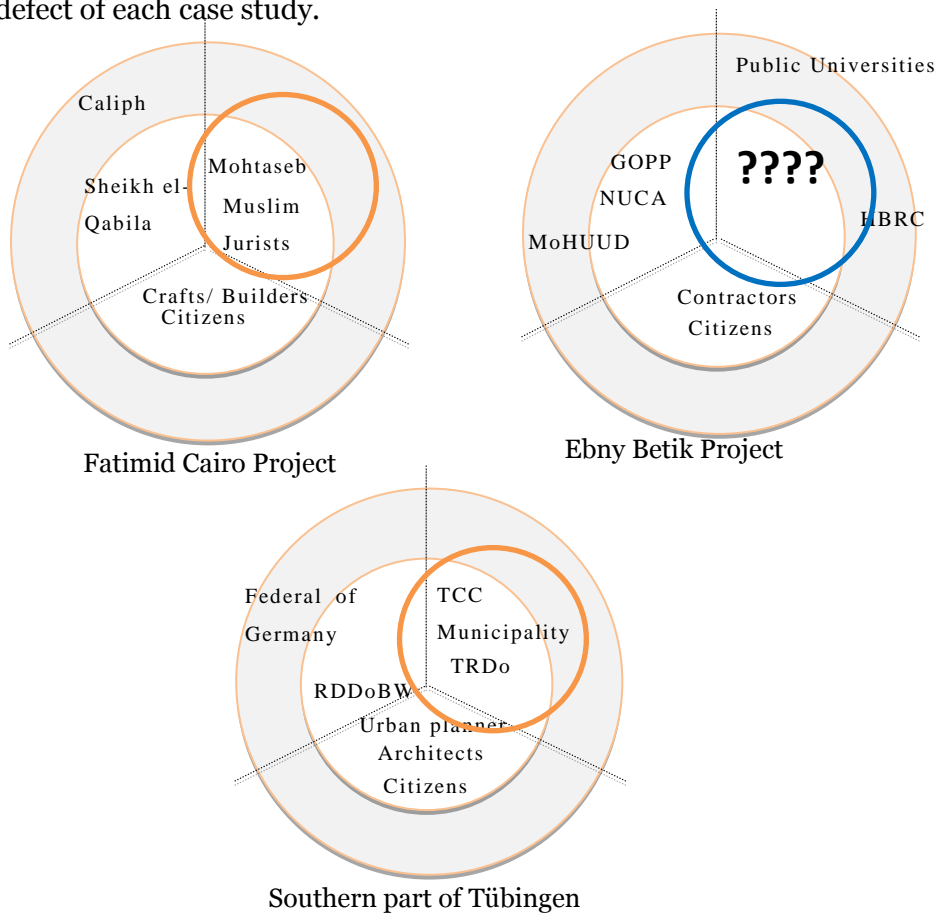


Figure 79: Stakeholder analysis (Source: Author, 2013)

From the above diagrams, the stakeholders are classified into three levels: The first level in the three areas includes the big umbrella of the governmental authorities. The second level consists of governmental authorities but who are in charge and in direct contact with the area and the citizens. The last level is the local includes the citizens, architects and practitioners.

On Fatimid Cairo the role of the Mohataseb and Muslim Jurists is very important to control the whole process as their role was to follow the daily activities and give advices to the citizens. In Southern part of Tübingen, the city plays the transnational actor between the different actors. The main actors on the second level perform as a transitional phase and create a good communication between all stakeholders. Ebny Betik project lacks the representative of the second level which led to the defect of the process and lack of communication between different parties.

6.2 Reflection on Theories

This part shows the relation between the theory and how it is applied in each of the three case studies.

6.2.1 Bottom-up-Versus Top-down Approaches

The following part is an explanation of the main five developmental stages: objectives, regulation, implementation, process, decision making, and management of each case study in relation to the theories and approaches.

i. Fatimid Cairo

▪ *Planning Process Versus Theory*

Table 13 shows the relation between the planned development stages in relation to the involved stakeholders.

Table 13: Development stages in relation with Stakeholder (Source: Author, 2013)

| <i>Development Stages Verses Stakeholders</i> | <i>Governmental Institution</i> | <i>Community</i> | <i>Practitioners</i> |
|--|---------------------------------|------------------|----------------------|
| Objectives | • | • | ∅ |
| Regulations | • | ○ | ○ |
| Decision-making (Urban Planning) | • | • | • |
| Decision-making (Architecture) | ∅ | • | • |
| Implementation/ Construction Management and Controlling | • | • | • |
| | • | ∅ | ○ |

● Full Involvement ∅ Partial involvement ○ No involvement

The Fatimid Cairo city has a clear development process; the main objective was creating equity in the society through community participation while creating their own places. It has been initiated based on the Top-down approach mixed with a bottom-up approach. The Caliph and city authorities set some rules based on Islamic Sharia'a and their vision towards establishing a new Fatimid Islamic city in Egypt. Then they left the decisions of implementation of residential and community buildings for the citizens with the help of practitioners.

▪ ***Implementation Process Versus Theory***

All the stakeholders are involved by all their power in each phase.

Table 14: Development stages in relation with Stakeholder (Source: Author, 2013)

| Development Stages Verses Stakeholders | Governmental institution | Community | Practitioners |
|---|---------------------------------|------------------|----------------------|
| Objectives | • | • | ∅ |
| Regulations | • | ○ | ○ |
| Decision-making (urban planning) | • | • | • |

| | | | |
|---------------------------------------|---|---|---|
| Decision-making (architecture) | ∅ | • | • |
| Implementation/ Construction | • | • | • |
| Management and Controlling | • | ∅ | ○ |

● Full Involvement ∅ Partial involvement ○ No involvement

It is same as planned process, Top-down approach mixed with a bottom-up approach.

ii. Ebny Betik

▪ *Planning Process Versus Theory*

Table 15 it shows the relation between the planned development stages in relation to the involved stakeholders.

Table 15: Development stages in relation with Stakeholder (Source: Author, 2013)

| Development Stages Verses Stakeholders | Governmental institution | Community | Practitioners |
|---|---------------------------------|------------------|----------------------|
| Objectives | • | ○ | ○ |
| Regulation | • | ○ | ○ |
| Decision-making (urban planning) | ∅ | ○ | • |
| Decision-making (architecture) | ∅ | ○ | • |
| Implementation/ Construction | • | • | • |
| Management and Controlling | • | ○ | ○ |

● Full Involvement ∅ Partial involvement ○ No involvement

From the above data, the situation of Ebny Betik project as being a community development project is following the self- build idea. The main power during the initiation phase and decision making was the governmental institution and the practitioners. The role of the citizens was limited to the implementation and the construction phase only based on the architecture prototypes assigned by

the practitioners. The management is the government responsibility. Therefore; the process planned to be a Top-down approach.

- **Implementation Process Versus Theory**

Table 16: Implementation in relation with Stakeholder (Source: Author, 2013)

| Implementation Stages Verses Stakeholders | Governmental institution | Community | Practitioners |
|--|---------------------------------|------------------|----------------------|
| Objectives | • | ∅ | 0 |
| Regulation | • | 0 | 0 |
| Decision-making (urban planning) | ∅ | ∅ | ∅ |
| Decision-making (architecture) | ∅ | ∅ | ∅ |
| Implementation/ Construction | 0 | • | ∅ |
| Management and Controlling | 0 | ∅ | 0 |

● Full Involvement ∅ Partial involvement 0 No involvement

No clear implementation of participatory design in any of the designing or the construction phases. Also lack of coordination and management the whole process. Some citizens took initiatives to solve some of the district problems and manage their districts and find their unsecured and unofficial ways to get their needs fulfilled. The process turned from Top-down approach to Bottom-up approach without planning for it.

iii. Southern part of Tübingen

- **Planning Process Versus Theory**

Table 17 shows the relation between the planned development stages in relation to the involved stakeholders.

Table 17: Development stages in relation with Stakeholder (Source: Author, 2013)

| Development Stages Vs Stakeholders | Governmental institution | Community | Practitioners |
|---|---------------------------------|------------------|----------------------|
| Objectives | • | ∅ | ∅ |

| | | | |
|--|---|---|---|
| Regulation | • | O | • |
| Decision-making (urban planning) | • | ∅ | • |
| Decision-making (architecture) | ∅ | • | • |
| Implementation/ Construction Management and Controlling | • | • | • |
| | • | ∅ | ∅ |

● Full Involvement

∅ Partial involvement

O No involvement

Governmental institution “Tübingen city municipality” and practitioners “Planners” have the authority on the first phases to set the main design principles and decisions and the regulation.

The objectives phase included a limited involvement of the community to feed the leadership authorities with their visions and needs.

The decision making of the urban planning is a role of both Tübingen city and the practitioners and limited involvement from the citizens. The opposite is in the decision making of the architectural design, where the main role goes back to the citizens and the practitioners, then they have to get the approval of the city.

The three involved parties are involved in the implementation and construction phases. The city mainly was in charge of constructing public buildings as parking buildings and the adaptive reuse and renovation of old buildings. The citizens are responsible for establishing their houses. Both get the help of the practitioners. At the urban scale, all are responsible in creating the public open spaces as courtyards; the city set the area and the layout while the citizens made the design and identified the activities. The management process is the city responsibility with the support of citizens and practitioners.

Participatory design applied through the involvement of all parties in decision making and implementation. Each knows his mission and role and did not violate the rules. Southern part of Tübingen project is initiated to be a mix of Top-down and Bottom-up approaches.

▪ **Implementation Process Versus Theory**

All stakeholders are involved by all their power on their assigned role

Table 18: Development stages in relation with Stakeholder (Source: Author, 2013)

| Development Stages Stakeholders | Vs | Governmental institution | Community | Practitioners |
|---|-----------|---------------------------------|------------------|----------------------|
| Objectives | | • | ∅ | ∅ |
| Regulation | | • | 0 | • |
| Decision-making (urban planning) | | • | ∅ | • |
| Decision-making architecture | | ∅ | • | • |
| Implementation/ Construction | | • | • | • |
| Management and Controlling | | • | ∅ | ∅ |

● Full Involvement

∅ Partial involvement

0 No involvement

It is same as planned process, Top-down approach mixed with a bottom-up approach.

6.2.2 Ladder of Participation

This part of the research explains the development criteria of each case study in relation with Arnstein ladder.

▪ **Fatimid Cairo Area**

In Fatimid Cairo area the development process planned to be Top-down approach mixed with a bottom-up approach. The citizens have intensively joined in developing their area. They participated in setting the objectives and the initiation ideas, decision making and implementation, construction phases. While still the management and regulations are in Tokenism phase. That led to the involvement of the community on the main phases that created their life and still the leadership authorities had the role of management and monitoring.

The purpose of the above sequence shows that the rules and regulations have to be a top-down approach for controlling ad management. While the rest of the process is a bottom-up approach that requires the people participation and involvements in the development process.

That led to the success of the development process that shows the involvement of each actor in each phase.

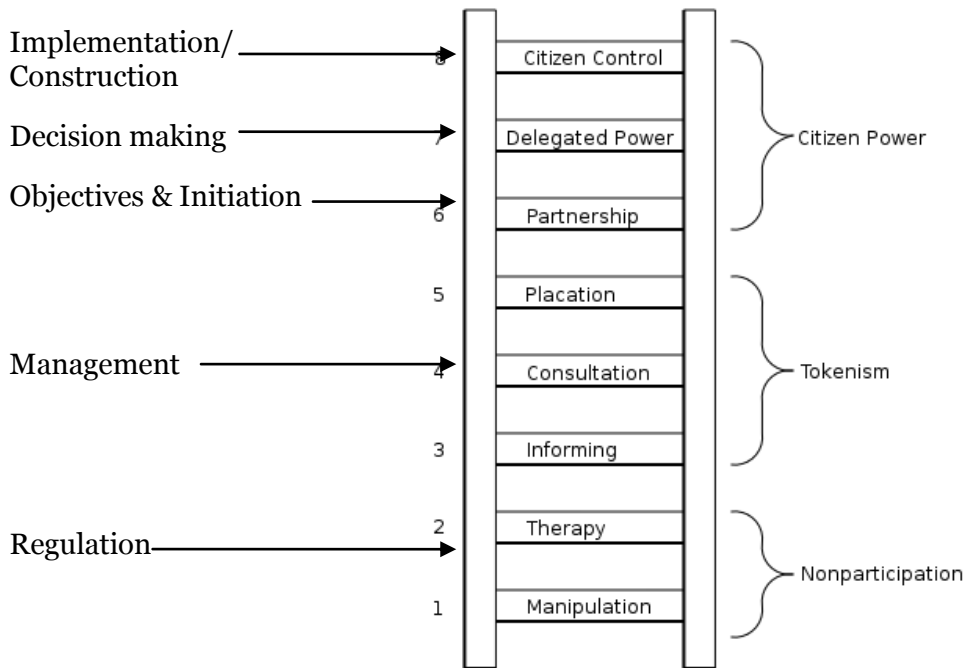


Figure 80 Fatimid Cairo area development process versus ladder of participation. Source: Author 2013 based on Arnstein 1969

▪ ***Ebny Betik Project***

The project is planned to be a top-down approach where objectives, initiation, regulation, management and decisions should be the authority responsibility, which have the upper hand on taking the lead. In Ebny Betik project the citizens are planned to participate only in the implementation and construction phases. Ebny Betik project should be located at the bottom level of the ladder of participation which is characterized by non-participation and citizens' manipulation and therapy approaches.

In fact the role of the authority and external leaderships were in the initiation phase and setting the regulation of the project only. Decision making and management have been transformed to be citizen's role; that was not planned to be; which led the process to be located on the Tokensim step at the ladder of participation.

This led to failure of the project in some phases and the incompleteness of the project. It was not successful to shift the roles in the top-down approach to include the users participation in intermediate phases and to change the orientation of the project from being top-down to bottom-up without planning.

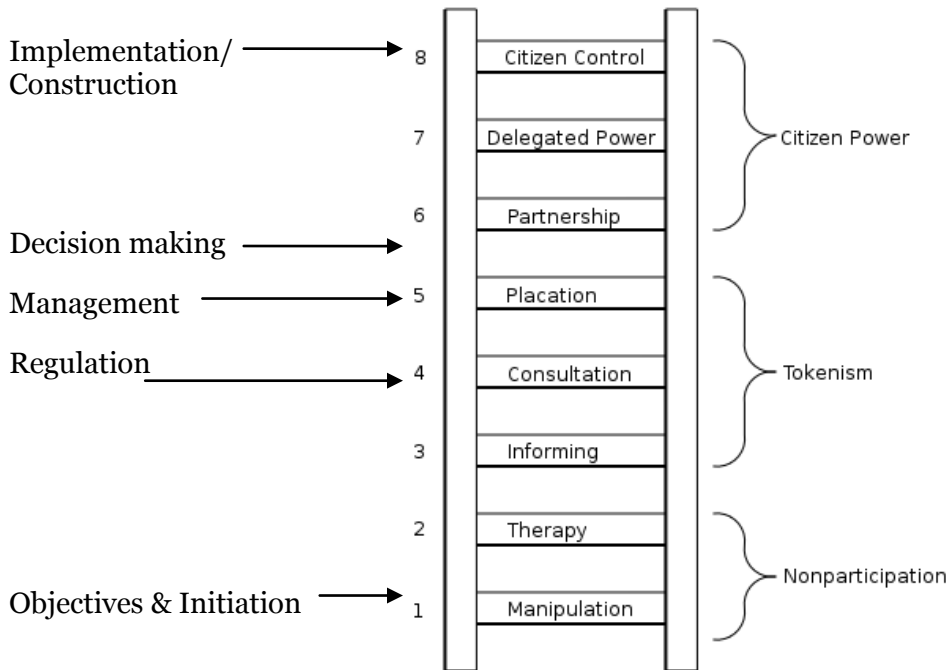


Figure 81 Ebny Betik project development process versus ladder of participation. (Source: Author 2013 based on Arnstein 1969)

▪ ***Southern Part of Tübingen Area***

The development process of the Southern part of Tübingen was planned to be Top-down approach mixed with a bottom-up approach. The process is a mix

between full citizen's participation and also the non-participation. Citizens have the role of implementation and decision making of most of the architectural and urban spaces. The city has the role of defining the regulations. Both are involved in identifying the objectivities.

Management and control is the city role but with informing the citizens with decisions.

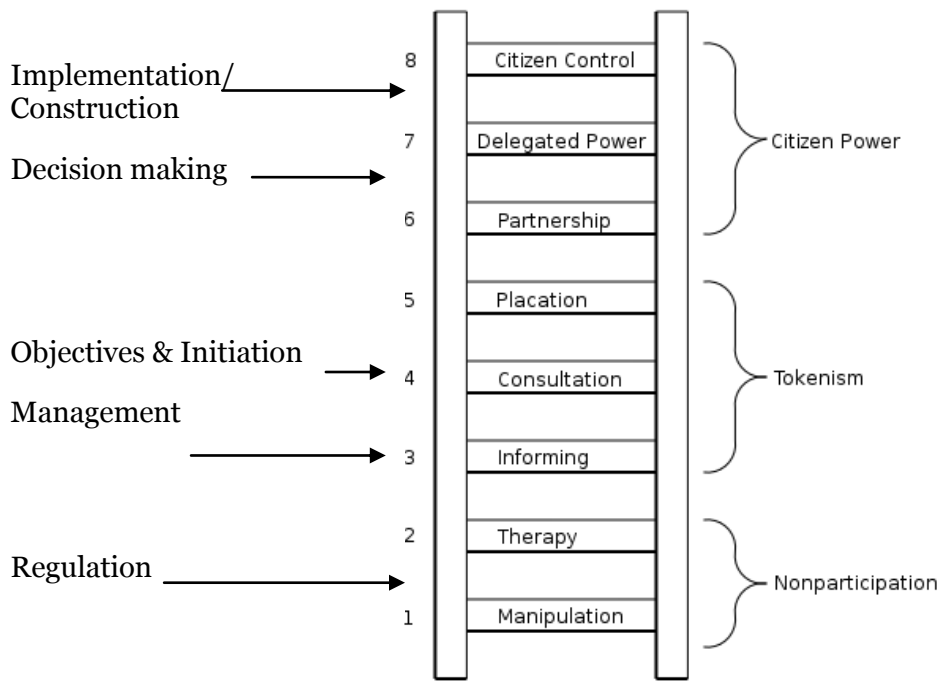


figure 82 Southern Part of Tübingen development process versus ladder of participation (Source: Author 2013 based on Arnstein 1969)

6.3 Stakeholders Role and Stages of Participation

The following table summarizes the involvement of all stakeholders in the project and the rate of citizens' involvements in the development phases.

Table 19: Cases studies summary (Source: Author, 2013)

| | Stakeholders role | | | Stages of citizen participation | | | | | |
|---------------------------|-------------------|---------------|-----------|---------------------------------|------------|-----------------------|------------------------------|----------------|------------|
| | Government | Practitioners | Community | Objectives | Regulation | Decision making Urban | Decision making Architecture | Implementation | Management |
| Fatimid Cairo | • | ∅ | • | • | 0 | • | • | • | ∅ |
| Ebny Betik | ∅ | ∅ | ∅ | ∅ | 0 | ∅ | ∅ | • | 0 |
| Southern part of Tübingen | • | • | • | ∅ | 0 | ∅ | • | • | ∅ |

This table shows the lack of citizens' participation in Ebny Betik project in most of the development phases. This lack is not substituted by full government involvement which led to an incomplete project. However, in Fatimid Cairo and Tübingen project the full commitment of all stakeholders each had his role and task to implement in the development process.

The next diagrams show the development process and product at each case study in relation with the involved stakeholders of each phase.

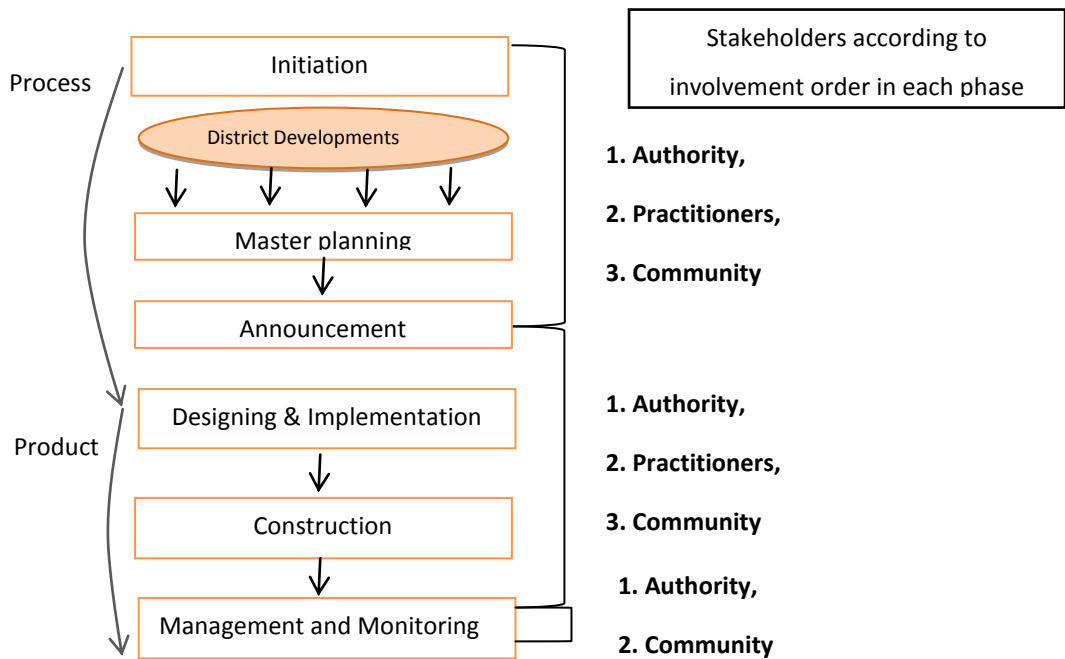


Figure 84 Fatimid Cairo Development phases in relation with Stakeholder & Process and Product (Source: Author, 2013)

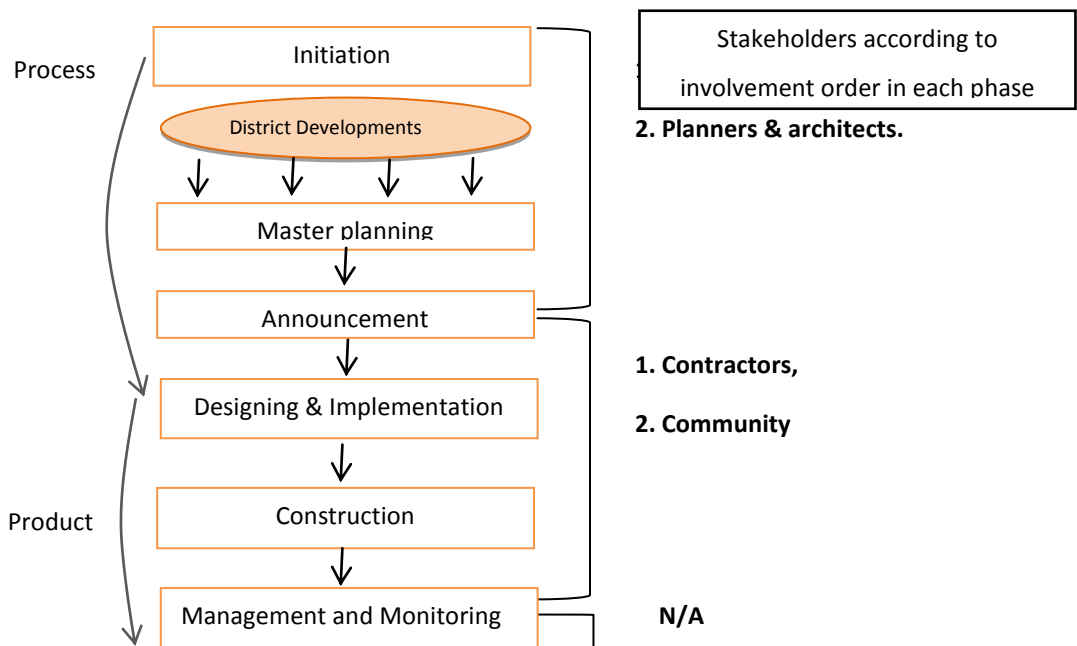


Figure 83: Ebny Betik Development phases in relation with Stakeholder & Process and Product (Source: Author, 2013)

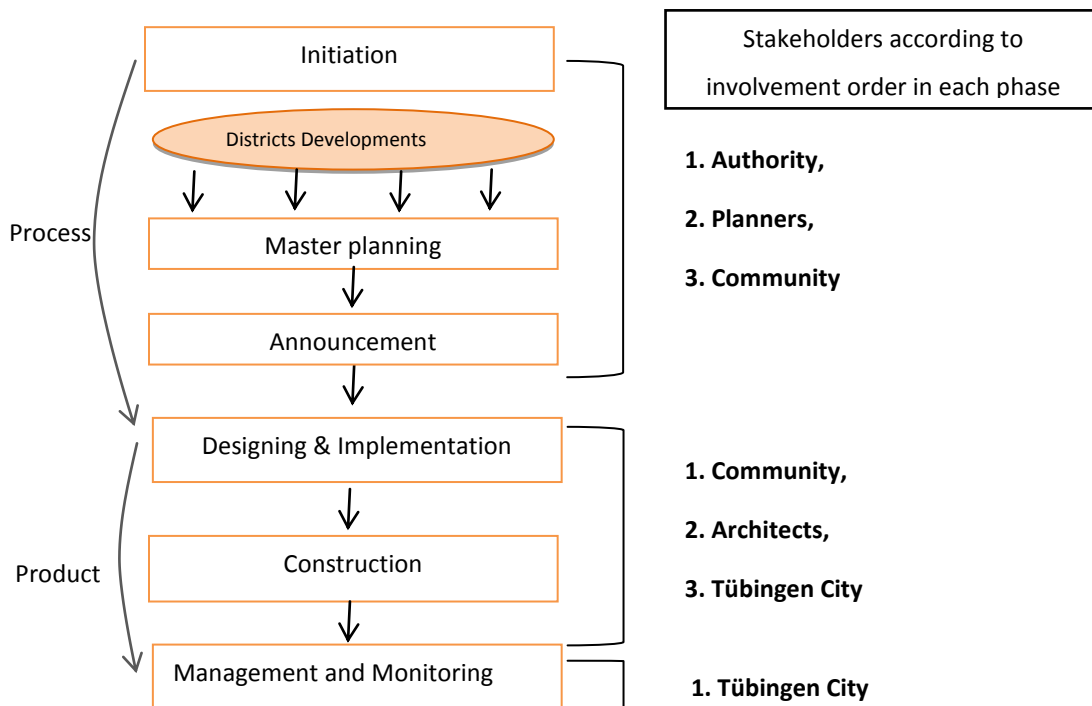


Figure 85 Tübingen Development phases in relation with Stakeholder & Process and Product (Source: Author, 2013)

The previous diagrams show the stakeholders and their relation with implementing process and the product. Ebny Betik lacks the involvement of the government in all phases after the initiation and master planning design. This led to drop in the project to reach all of its objectives. While in both Fatimid Cairo and Southern part of Tübingen the full commitment of all stakeholders in all phases were as planned.

6.4 Self-Developed Areas Model

In the final part of the research the author extracted the main principles and factors that affect the development process to get a successful self-developed area and appreciated urban envelope.

6.4.1 General Framework & Design Principles

Self-developed areas initiation should have a clear vision of the project objectives and goals in order not to shift for another unplanned goal or transfer for personal advantages that might lead to the failure of the development, as

well as a strong motive to let the people implement the idea of self-built and create their own neighbourhood.

Differentiation between the self-development and self-built: in self-developed areas the users have the chance to participate in each phase of the project however, in self-built area people are involved in the construction phase without any interfering in the process of designing of their houses.

The land property is one of the major factors in the success of the project, having clear regulations of getting and owning the land that preserves the peoples' rights and making use of the existing rules. People should find a motivation to finish their buildings within the time frame of the project, as in Fatimid Cairo they got the motivation by owning the land after they finish the construction of their houses.

The difference between the pilot and the spreading project is great; the pilot project gives the developer the opportunity to study the project after implementation and construction. Self-development cares about people themselves, the idea of the pilot projects gives the opportunity to implement the post occupancy evaluation approach that study the sufficiency of the user with the place. That leads the developer to modify the defects in the next phases.

Flexibility for the people in designing their houses and neighborhoods is a must, as well as giving them the possibility of choosing their land plot location and size. This helps in obtaining creativity and leads to that each one of the users find his needs within the frame of the project when setting the main rules and regulations.

6.4.2 Stakeholders

One of the main factors of the success of the self-development is identifying the role of the stakeholders and their responsibility. Distribution of stakeholder levels and categories is a must. The representative of the authority at the second

level has the main role played in the development process to facilitate the communication and updating the other involved parties.

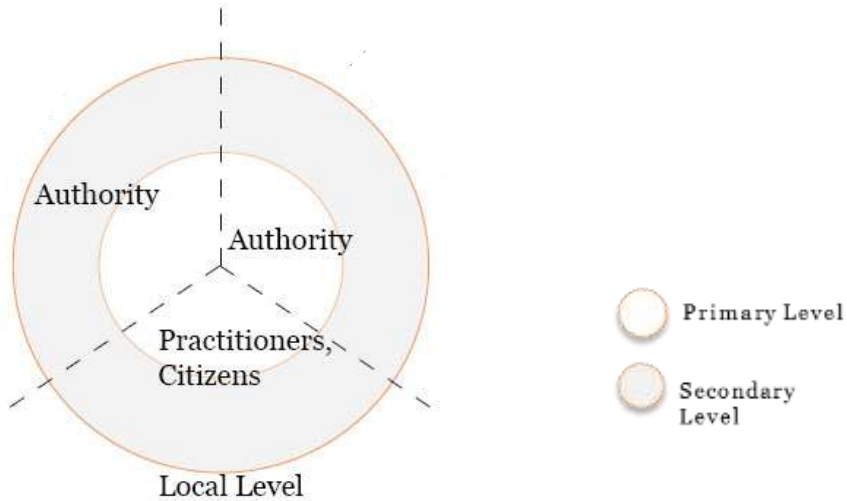


Figure 86 Stakeholders levels in self-developed areas (Source: Author, 2013)

6.4.3 Self- Development Phases based on Ladder of Participation

A mixed approach between top-down and Bottom-up approaches: First, the objectives and initiation of the development phase is a joint phase where both the authority and the citizens share the ideas through different workshops but the final decision goes back to the authority power holder. Setting the regulation does not require the citizens' involvement as it is based on the authority decisions. The next phases are the implementation and construction, decision making phases, the citizens are in control to take decisions, these decisions are raised through a joint committee between the citizens and the authority. The management phase is a joint process but the action and the decision has to be taken by the authority.

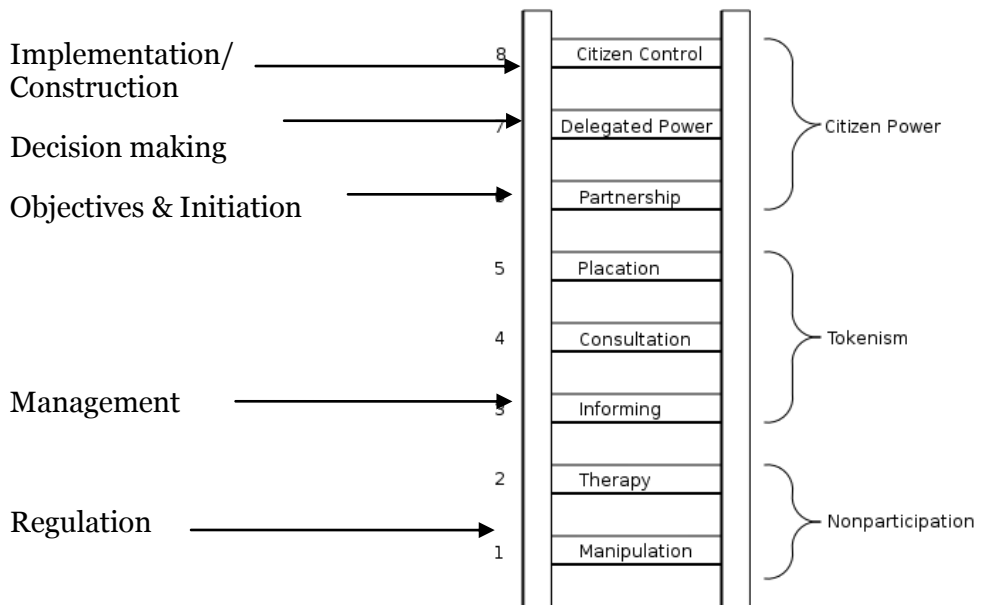


Figure 87 Self- Development phases based on ladder of participation (Source: Author, 2013)

6.5 Self-developed Areas Success Factors

Based on the analysis made by the author throughout the research, here are some factors that affect the success of self-developed areas combined from the literature review and the case studies are deduced:

- ***Factor 1: Clarifying the process of development***

Putting a plan and vision is essential; a clear image in the process of the development has to be planned from the initiation phase. According to different approaches of community developments explained in chapter 2, each project has to identify whether it is “Top-Down” or “Bottom-up” or “mixed’ in the early phases, as well as the development phases in comparison to the participation typologies that identify the role of community in each phase.

It has to be a well-planned process through identifying the objectives, regulation, and implementation procedure and stakeholder roles.

- ***Factor 2: Stakeholders role***

The stakeholders have to be identified from the first phase and their role in the whole phases of the development process. Each has to be committed to his role. The target of having a successful self-developed area requires a continuous supervision and monitoring. A Good communication between different stakeholders assures a good successful self-developed project. The main thing recognizing the self-development is the involving of the citizens in decision making.

- ***Factor 3: Rules***

Flexibility by offering the citizens the option to choose their lot size and location and have the opportunity to design, create and construct their house, all with respect to the rules that preserve human rights and should be attained and followed by all involved parties on the project. Also; making use of the available rules that helps in achieving the purpose and the objectives of the project. Security of land tenure that preserves the peoples' rights.

- ***Factor 4: Monitoring***

The most important point is the continuous supervision and monitoring from the authority. Through setting the rules and applying it to all without differentiation between different stakeholders.

- ***Factor 5: Choosing a good location of development***

The site of the project has to be easily accessible and nearby public services and well connected to the city infrastructure, and near to different resources as building materials and labor with affordable prices. It should also ensure the safety of the space.

Last but not least, Self-developed area does not mean that citizens have to do everything in order to have their own district. Each of the stakeholders has an identified job to do through the project. Development projects in Egypt have become very complex and expensive process. They are no longer held individually or in collaboration effort with relatives and neighbors. There are

many other factors effecting housing nowadays: 1) Availability of building materials and infrastructure, 2) designing units and urban planning 3) Investment and financing issues 4) Construction, building and marketing plans. There have to be solved through collaboration between the communities and the government.

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APPENDICES

Appendix 1: Ebny Betik Terms of References

النواحي الفنية

مادة (١) موضوع الدراسة:-

- ١-١ إعداد التخطيط العام والتفصيلي ومستندات طرح أعمال شبكات البنية الأساسية للأراضي المخصصة بالمدن الجديدة لإقامة المشروع.
- ١-٢ إعداد التصميمات والرسومات التنفيذية ومستندات طرح أعمال نماذج الإسكان الخاصة بالمشروع .

مادة (٢) منطقة الدراسة:-

طبقاً للمواقع والمساحات بكل مدينة والمحددة بمحاور الطرق المحيطة والموضحة بنسخة الاسطوانة المدمجة المرفقة.

مادة (٣) الهدف من الدراسة:-

تهدف الدراسة الى الحصول على الرسومات التنفيذية النهائية ومستندات الطرح لإعمال شبكات البنية الأساسية مستوفاة المعايير والمعدلات التخطيطية في إطار فكرة تخطيطية مبتكرة لمشروع يلبي الاحتياجات الأساسية للسكان من الخدمات ومرافق وبيئة عمرانية حضرية ، مع الأخذ في الاعتبار أن الكثافة السكانية ١٥٠ شخص / فدان .

ويتكامل معه الحصول على الرسومات التنفيذية النهائية ومستندات الطرح لإعمال النماذج السكنية بفكرة تصميمية مبتكرة تحقق عوامل الكفاءة الوظيفية وإعتبارات المتانة والجمال والإقتصاد للوحدة السكنية على قطعة أرض بمساحة ٢م١٥٠ و بنسبة بنائية ٥٠% - المسكن بمساحة صافية ٢م٦٣ مع سلم خارجي بمساحة ٢م١٢ - مكون من أرضى و دورين متكررين .

مادة (٤) نطاق عمل الجامعة:-

إعداد التخطيط العام والتفصيلي وتصميم شبكات البنية الأساسية وتنسيق المواقع على الاراضي المخصصة لإقامة المشروع وتصميم النماذج السكنية وإعداد مستندات طرح كافة الأعمال، وذلك في إطار المخطط العام للمدينة .

٤-١ المرحلة الأولى :

٤-١-١ الأعمال التكميلية الحقلية:

انتاج الاعمال التكميلية الحقلية (الاعمال المساحية - جسات تربة إسترشادية)
للموقع المخصص بالمدينة موضوع التعاقد طبقا لمواصفات الهيئة العامة للمساحة
والكود المصرى لميكانيكا التربة والاساسات والمواصفات المرفقة.

٤-١-٢ المخطط العام (بمقياس رسم ١ / ١٠٠٠ أو ١ / ٢٥٠٠)

- المخطط العام للمشروع :

- استعمالات الأراضي (إسكان / خدمات / مناطق خضراء... الخ) ميزانية
استعمالات الاراضى / الاشتراطات البنائية .
- مراكز الخدمات و برنامج الخدمات.
- تنسيق الموقع العام.
- الطرق (تدرج / قطاعات / مداخل المنطقة) .
- شبكات المرافق (مياه/ صرف/ كهرباء/ غاز/ اتصالات) .

تقدم الجامعة عدة بدائل تخطيطية للموقع موضوع التعاقد (بدائل استعمالات الاراضى)
بما يتلائم مع المستوى الاجتماعى والاقتصادى و تقييم البدائل التخطيطية وصولا للبدائل
الأمثل مع الأخذ فى الاعتبار عناصر التقييم المختلفة .

٤-١-٣ المشروع الابتدائى لتصميم نماذج الإسكان - عدد ٢ نموذج سكنى

لكل مدينة (بمقياس رسم ١ / ١٠٠) :

البرنامج المعماري لنموذجى الإسكان:

مساحة قطعة الأرض المخصصة للمسكن ٢م١٥٠ / مساحة الوحدة السكنية ٢م٦٣ مع
سلم خارجى ١٢ م / عدد الأدوار بالمسكن ثلاثة (ارضى + دورين متكررين) / كل
دور يحتوى على وحدة سكنية بمسطح صافى ٢م٦٣ بخلاف السلم - والوحدة السكنية
تتكون من غرفتين نوم وصالة معيشة ومطبخ وحمام وبلكونة صغيرة / مواد التشطيب
المستخدمة يراعى فى اختيارها الجودة والمتانة والجمال والملائمة لبيئة وطبيعة المكان مع
الاقتصاد فى التكلفة.

التصميم المعماري للنموذج (الموقع العام/ مساقط أفقية/ واجهات/ قطاعات) :
المساقط الأفقية للأدوار الأرضي والمتكرر / الواجهات الرئيسية / القطاعات /
منظور خارجي.
تقوم الجامعة بإعداد بدائل تصميمية (لا تقل عن بديلين لكل نموذج سكني) ويتم
تقييمها وصولاً للبديل الأمثل مع الأخذ في الاعتبار عناصر التقييم المختلفة.

Appendix 2: FEDERAL BUILDING CODE [Baugesetzbuch – BauGB]

In the version amended by the Act to Amend the Federal Building Code and to Reorder Spatial Planning Law [BauROG], issued on August 18th 1997 (BGBl. I p. 2081)

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Part Two

Urban Development Measures

Section 165

(1) Urban development measures in town and country planning, for which the public interest requires consistent preparation and speedy execution, shall be prepared and carried out in accordance with the regulations contained in this Part.

(2) The purpose of urban development measures within the meaning of para. 1 is to subject local districts or other parts of the municipal territory to development for the first time in a manner which is in keeping with their particular significance for urban development within the municipality, or which is in accordance with the desired development of the federal state district or the region, or to make such areas available for new development within the framework of urban reorganisation.

(3) The municipality may by resolution formally designate an area in which urban development measures are to be implemented as an urban development zone, where

1. The measure conforms with the aims and purposes mentioned in para. 2;

2. Implementation of the measure is required in the public interest, in particular in order to meet an increased demand for housing and places of employment, for the construction of public facilities or consequential developments, or in order to return derelict land to productive use,

3. The aims and purposes being pursued by means of an urban development measure are not capable of being achieved through the use of urban development contracts or where, on due consideration of the provisions of Section 166 para. 3, owners of the plots affected by the measure are not prepared to sell their plots to the municipality or to the developer appointed by the municipality at the price arrived at by the application of Section 169 para. 1 no. 6 and para.

4. Speedy implementation of the measure can be guaranteed within a foreseeable period.

Public and private interests shall be duly weighed.

(4) Prior to the formal designation of an urban development zone, the municipality is required to carry out or to commission whatever preparatory investigations are necessary in order to acquire the information required to provide a basis for determining whether the conditions for designation set out in para. 3 have been fulfilled.

Sections 137 to 141 apply *mutatis mutandis*.

(5) An urban development zone is to be limited in such a way as to allow expedient development. Individual properties not affected by the development may be excluded, either wholly or in part, from the development area. Built-up areas may be included in an urban development zone where spaces, existing buildings or other physical structures contained therein are not being used in a manner which is in keeping with the proposed urban development and organisation. Land serving the purposes described in Section 26 no. 2 and Section 35 para. 1 no. 5, land of the types described in Section 26 no. 3, and land

in respect of which a hearing has been initiated under Section 1 para. 2 of the Acquisition of Land (for Military Purposes) Act, and federally owned land in respect of which the municipality has been notified of an intention to use this land for purposes of national defence may only be included in an urban development zone with the approval of the relevant public body. The public body shall grant approval where, notwithstanding the duties with which it is charged, an overriding public interest exists in the implementation of the urban development measure.

(6) The municipality shall formally designate an urban development zone by the adoption of an appropriate resolution as a local statute (development statute). The development statute shall describe the urban development zone.

(7) The development statute requires permission from the higher administrative authority; applications for permission are to be accompanied by a statement setting out the grounds to justify the designation of an area as being in need of development. Section 6 paras. 2 and 4 applies *mutatis mutandis*.

(8) Public notice shall be issued of the development statute and of permission having been granted in the manner customary in the municipality. The municipality may opt merely to advertise the fact that permission has been granted; Section 10 para. 3 sentences 2 to 5 applies *mutatis mutandis*. Attention is to be drawn in a public notice issued pursuant to sentences 1 and 2 to the requirement of permission under Sections 144, 145 and 153 para. 2. The development statute becomes legally binding on the issuing of public notice.

(9) The municipality shall notify the land registry of the development statute having become legally binding. This notification shall list each plot affected by the development statute. The land registry shall enter notes in the land registers for each of these plots to the effect that an urban development measure is to be implemented (development note). Section 54 paras. 2 and 3 applies *mutatis mutandis*.

Section 166 Competence and Responsibilities

(1) Where nothing has been decided to the contrary under para. 4, the development measure is prepared and implemented by the municipality. The municipality is responsible for the preparation without undue delay of legally binding land-use plans in respect of the urban development zone, and, where a particular responsibility does not lie with another body under other statutory provisions, for taking any other measures required to implement the proposed development in the urban development zone.

(2) The municipality is charged with providing the necessary conditions to create a viable local community which, in both the structure of its economy and the composition of the population, is consistent with the aims and purposes of the urban development measure, and for which provisions have been made to ensure the proper supply of necessary goods and services to the population.

(3) The municipality shall acquire the land located within the urban development zone. It shall establish whether, and in what legal form, the previous owners intend at some later date to acquire land or rights within the provisions of Section 169 para. 6. The municipality shall refrain from purchasing land where

1. in the case of land which has been built on, the type and extent of building are not to be altered in the course of implementing the urban development measure,

or

2. The owner of the land for which a use has been or can confidently be determined in accordance with the aims and purposes of the urban development measure is in a position to and undertakes to put the land concerned to an appropriate use within a reasonable period of time.

Where the municipality does not acquire a property, the owner is obliged to make a financial settlement to the municipality to correspond to the rise in the land value of the property resulting from the development measure.

(4) The preparation and implementation of a development measure may be transferred to a planning association in accordance with Section 205 para. 4.