



AinShamsUniversity  
Faculty of Engineering  
Department of Architecture

# **The Relationship between Social Transformation and Urban Fabric: Nasr City, Cairo**

A Thesis submitted in Partial Fulfillment  
of the Requirements of the  
**Ph. D. DEGREE IN ARCHITECTURE**

By Architect

**Moataz Abdel Fatah Mohamed**

B.Sc. Architecture - Ain Shams University, 2004

M.Sc. Architecture - Ain Shams University, 2010

**Prof. Dr. Yasser Mansour**  
Professor of Architecture

Faculty of Engineering  
Ain Shams University

**Prof. Dr. Muhammad Gabr**  
Professor of Architecture

Faculty of Engineering  
Ain Shams University

**Dr. Ayman Assem**  
Department of Architecture

Faculty of Engineering  
Ain Shams University

**Cairo, Egypt  
2017**



## **STATEMENT**

---

This thesis submitted to Ain Shams University for the Ph.D. degree in Architecture.

The included work in this thesis is accomplished by the author in the Department of Architecture, Faculty of Engineering, Ain Shams University, and During the Period from March 2013 to June 2017.

No Part of this thesis has been submitted before for any degree of a qualification at any other university or institute.

Name: Moataz Abdul Fatah Mohamed

Signature:

Date:



Ain Shams University  
Faculty of Engineering  
Department of Architecture

# **The Relationship between Social Transformation and Urban Fabric: Nasr City, Cairo**

By Architect  
**Moataz Abdel Fatah Mohamed**  
M.Sc. Architecture - Ain Shams University, 2010

A Thesis submitted in Partial Fulfillment of the Requirements of the  
**Ph. D. DEGREE IN ARCHITECTURE**

Research Date: / /2017

## **Board**

## **Signature**

---

**Prof. Dr. Sahar Abdul-Moneim Attia**

Professor of Architecture  
Department of Architecture  
Faculty of Engineering - Cairo University

---

**Prof. Dr. Hossam Eldin Hassan El Brombaly**

Professor of Architecture  
Department of Architecture  
Faculty of Engineering- Ain Shams University

---

**Prof. Dr. Yasser Mohamed Mansour**

Professor of Architecture  
Department of Architecture  
Faculty of Engineering - Ain Shams University

---

**Prof. Dr. Muhammad Ibrahim Gabr**

Professor of Architecture  
Department of Architecture  
Faculty of Engineering - Ain Shams University

---

Date: / /2017



*To Almighty Allah*

*To My Professors*

*To My Family*

*WE SHAPE OUR BUILDINGS AND THAN OUR BUILDINGS SHAPE  
US...(CHURCHILL)*





# ACKNOWLEDGEMENTS

---

After thanking Allah Almighty for accomplishing this work, I am indebted to many people who have directly and indirectly supported and encouraged me through the different stages of this research.

I would like to acknowledge my particular and extreme gratitude to Prof. Dr. Yasser Mansour, Prof. Dr. Mohamed Gabr, and Dr. Ayman Assem particularly under whose supervision this thesis accomplished.

I would like to convey my special thanks to my parents for their continuous encouragement and support. My finest gratitude goes to my loving wife for her perpetual support, directions, care, concern, and constant interest and motivation, and endless help throughout the duration of this thesis.

I would like to express my deepest gratitude and appreciation for my brother Mohamed Abdel Fatah for his great efforts and assistance in accomplishing the thesis through its different stages. Without his generous help and support, I would not have accomplished this thesis.

*Moataz Abdel Fatah Mohamed*

*June, 2017*

*Cairo, Egypt*



# ABSTRACT

---

The research studies the relationship between place (urban fabric) and person (resident in that urban fabric) and the mutual effect between them through studying Madinet Nasr as a case study (using its governmental boundaries) which was chosen because it is the best designed area in Cairo, and it is one of the first central independent governmental successful project after July revolution.

The researcher conducted a pilot study before starting this research in Madinet Nasr to study the change of urban fabric and study residents' opinions about their living area. The results showed major changes in urban fabric and most of the residents had a desire to move out from Cairo to new cities.

The research extracted the hypothesis depending on the last pilot study; as well, it determined the urban and social variables. Urban variables aim to measure the design and existing conditions to involve their change in the study, also QOUL (Quality of urban life) was chosen to express residents' feeling about their living area; questionnaire was designed using pilot study carried out on a small group of users. Results were analyzed and represented using GIS software and IDW tool.

The research recorded changes that happened in Madinet Nasr urban fabric (using landscape metrics) and residents' response (through QOUL assessment), then the results was analyzed through socio-economic status for residents, and finally maps were presented showing the relationship between urban fabric and residents' social response.

This PhD-thesis is divided into six parts. The first part is denoted preface and concerns the introductory steps, with the introduction, the research question and the research methodology.

The Second part of the thesis defines Madinet Nasr (study area) history and development until now.

The Third part studies the physical setting of study area through describing Madinet Nasr imageability, existing conditions and urban morphology characteristics.

The Fourth part covers the theoretical investigations of quality of urban life and its measuring methodology.

The Fifth part analyzes quality of urban life study outcomes through **Structural Equation Modeling** and **GIS** to connect the results to study the area maps.

The sixth part discusses the results of the relationship between physical setting and subjective assessment from users. Then conclusion and further research.

# Table of contents

<b>STATEMENT</b> .....	<b>III</b>
<b>ACKNOWLEDGEMENTS</b> .....	<b>IX</b>
<b>ABSTRACT</b> .....	<b>XI</b>
<b>TABLE OF CONTENTS</b> .....	<b>XIII</b>
<b>LIST OF FIGURES</b> .....	<b>XVI</b>
<b>LIST OF TABLES</b> .....	<b>XXII</b>
<b>LIST OF EQUATIONS</b> .....	<b>XXIII</b>
<b>LIST OF ABBREVIATIONS</b> .....	<b>XXIV</b>
<b>CHAPTER 1</b> .....	<b>1</b>
<b>1. INTRODUCTION</b> .....	<b>1</b>
1.1 Introduction.....	3
1.2 Reasons to choose Madinet Nasr as case of study .....	5
1.3 Research Problem .....	5
1.4 Hypothesis .....	6
1.5 Aim of Research .....	6
1.6 Research scope and limitations .....	6
1.7 Research design .....	10
1.7.1 Imageability.....	10
1.7.2 Existing conditions.....	11
1.7.3 Objective morphology.....	11
1.7.2 Subjective Morphology .....	15
1.8 Data Analysis and Presentation.....	16
<b>CHAPTER 2</b> .....	<b>19</b>
<b>2. MADINET NASR: CREATION AND GROWTH</b> .....	<b>19</b>
The Preface .....	21
2.1 Historical Background .....	21
2.1.1 Private Concessions.....	21
2.1.2 Al-Waqf Ministry .....	21
2.1.3 Governance Conflict.....	21
2.1.4 Financial Shortage.....	23
2.1.5 Housing Problem.....	24
2.1.6 Housing Policy .....	24
2.2 Establishing Madinet Nasr .....	24
2.3 Site Selection .....	26
2.4 Planning Team of Madinet Nasr .....	26
2.5 Master Plan .....	26
2.6 Urban Growth .....	29
2.7 Regulation.....	31
2.8 Population .....	31
Summary.....	32
<b>CHAPTER 3</b> .....	<b>35</b>
<b>3. URBAN FABRIC: PHYSICAL ANALYSIS</b> .....	<b>35</b>

The Preface .....	37
3.1 Imageability .....	37
3.1.1 The First Area .....	38
3.1.2 The Sixth Area .....	40
3.1.3 The Sixth Neighborhood .....	42
3.1.4 The Seventh Neighborhood .....	44
3.1.5 Al Tawfik .....	46
3.1.6 Rabiaa .....	48
3.1.7 Al Sharekat .....	50
3.1.8 Cinema .....	52
3.1.9 The Seventh Area .....	54
3.1.10 The Eighth Area .....	56
3.1.11 The Ninth Area .....	58
3.1.12 The Tenth Area .....	60
3.1.13 The East Sixth Area .....	62
3.1.14 Al Ahly Club .....	64
3.1.15 The 10 <sup>th</sup> Neighborhood .....	66
3.1.16 The International Garden .....	68
3.1.17 Al-Wafaa w Al-Amal .....	70
3.1.18 Al Golf .....	72
3.1.19 Masaken Al Mohandseen .....	74
3.2 Urban Fabric: Existing Conditions .....	76
3.2.1 Dwelling Types .....	76
3.2.2 Dwelling Levels .....	77
3.2.3 Floor Area Ratio .....	78
3.2.4 Dwelling Cost per m <sup>2</sup> unit .....	79
3.2.5 Schools Distribution .....	80
3.2.6 Health Facilities Distribution .....	81
3.2.7 Commercial Centers Distribution .....	82
3.3 Urban Morphology .....	83
3.3.1 Typology Analysis .....	83
3.3.2 Configuration Analysis .....	87
Summary .....	91

## **CHAPTER 4 ..... 95**

<b>4. QOUL ASSESSMENT .....</b>	<b>95</b>
The Preface .....	97
4.1 QOL and QOUL Measurements .....	98
4.2. Subjective Test Methodology .....	100
4.2.1 Selecting Needs .....	103
4.2.2 Questionnaire Design .....	109
4.2.3 Questions Design .....	112
4.2.4 Research Sample .....	112
4.2.5 Data Collection .....	113
Summary .....	113

## **CHAPTER 5 ..... 115**

<b>5. QOUL ASSESSMENT RESULTS .....</b>	<b>115</b>
The Preface .....	117
5.1 QOL Previous Study .....	117
5.2 Census Data .....	118
5.2.1 Human development index .....	118
5.2.2 Quality of life index .....	118
5.3. Questionnaire Findings .....	119
5.3.1 Demographic Data .....	120
5.3.2 Housing .....	122

5.3.3 Environment.....	127
5.3.4 Urban.....	137
5.3.5 Mobility.....	143
5.3.6 Social Life.....	147
5.3.7 Mental Life.....	150
5.3.8 Financial Life.....	151
5.3.9 Social Capital.....	153
5.4 Quality of life and Quality of urban life.....	157
5.4.1 Domains values.....	157
5.5 Structural Equation Modeling results.....	159
Summary.....	160
<b>CHAPTER 6 .....</b>	<b>161</b>
<b>6. RESEARCH FINDINGS .....</b>	<b>161</b>
The Preface.....	163
6.1 Change in Madinet Nasr.....	163
6.1.1 Urban Change.....	163
6.1.2 Social Change.....	166
6.2 Subjective Response Results Through SES Variables.....	172
6.2.1 Socio-economic variables.....	172
6.3 Social Response and Urban fabric Location Relationship.....	174
6.3.1 Urban Fabric Characteristics Location Maps.....	174
6.3.2 Social Response Location Maps.....	176
6.4 Research Findings.....	178
<b>7. RESEARCH CONCLUSION .....</b>	<b>185</b>
7.1 Research Conclusion.....	187
2. Further research.....	189
<b>REFERENCES .....</b>	<b>191</b>
<b>APPENDIXES .....</b>	<b>197</b>
8.1 Appendix 1.....	199
8.2 Appendix 2.....	240
8.3 Appendix 3.....	245
8.4 Appendix 4.....	264
8.5 Appendix 5.....	268
8.6 Appendix 6.....	269

# List of Figures

FIGURE 1-1 URBAN GROWTH MODEL .....	3
FIGURE 1-2 MADINET NASR ORIGINAL FIRST ZONE LANDUSE CHANGE AFTER FIFTY YEARS ..	5
FIGURE 1-3 SCALE-DEPENDENT URBAN ANALYSIS .....	7
FIGURE 1-4 AREAS SELECTED.....	9
FIGURE 1-5 TOPICS SELECTED TO STUDY IMAGEABILITY .....	11
FIGURE 1-6 ADAPTED SPACE VARIABLES .....	12
FIGURE 1-7 FLOW SYSTEM VARIABLES .....	13
FIGURE 1-8 URBAN QUALITY OF LIFE DIMENSIONS – HEPTAGON SHAPE .....	15
FIGURE 1-9 RESEARCH MAP .....	17
FIGURE 2-1 MADINET NASR LOCATION TO CAIRO .....	26
FIGURE 2-2 RESIDENTIAL BLOCKS DESIGNED BY SAYED KARIM.....	27
FIGURE 2-3 FIRST MASTER PLAN BY SAID KARIM .....	27
FIGURE 2-4 FINAL MASTER PLAN FOR MADINET NASR .....	28
FIGURE 2-5 A MILITARY PARADE WITH THE FIRST PHASE OF MADINET NASR 10-STORY APARTMENT BUILDINGS SEEN IN THE BACKGROUND.....	28
FIGURE 2-6 MADINET NASR URBAN GROWTH THROUGH LAST 45 YEARS .....	30
FIGURE 2-7 MADINET NASR IN 1970.....	32
FIGURE 3-1 MADINET NASR GOVERNMENTAL AREAS .....	37
FIGURE 3-2 THE FIRST AREA LAYOUT .....	38
FIGURE 3-3 MAIN LANDMARKS IN THE FIRST AREA .....	38
FIGURE 3-4 GLOBAL VIEW FOR FIRST AREA NEIGHBORHOOD .....	38
FIGURE 3-5 BUILDING TYPES IN FIRST AREA .....	39
FIGURE 3-6 BUILDING HEIGHTS IN FIRST AREA .....	39
FIGURE 3-7 LANDUSE IN FIRST AREA .....	39
FIGURE 3-8 HOUSING LEVELS IN FIRST AREA .....	39
FIGURE 3-9 THE SIXTH AREA LAYOUT .....	40
FIGURE 3-10 MAIN LANDMARKS IN THE SIXTH AREA .....	40
FIGURE 3-11 GLOBAL VIEW FOR SIXTH AREA NEIGHBORHOOD .....	40
FIGURE 3-12 BUILDING TYPES IN SIXTH AREA .....	41
FIGURE 3-13 BUILDING HEIGHTS IN SIXTH AREA .....	41
FIGURE 3-14 LANDUSE IN SIXTH AREA .....	41
FIGURE 3-15 HOUSING LEVELS IN SIXTH AREA.....	41
FIGURE 3-16 THE SIXTH NEIGHBORHOOD LAYOUT .....	42
FIGURE 3-17 MAIN LANDMARKS IN THE SIXTH NEIGHBORHOOD .....	42
FIGURE 3-18 GLOBAL VIEW FOR SIXTH NEIGHBORHOOD .....	42
FIGURE 3-19 BUILDING TYPES IN THE SIXTH NEIGHBORHOOD.....	43
FIGURE 3-20 BUILDING HEIGHTS IN THE SIXTH NEIGHBORHOOD .....	43
FIGURE 3-21 LANDUSE IN THE SIXTH NEIGHBORHOOD .....	43
FIGURE 3-22 HOUSING LEVELS FOR THE SIXTH NEIGHBORHOOD.....	43
FIGURE 3-23 THE SEVENTH NEIGHBORHOOD LAYOUT .....	44
FIGURE 3-24 MAIN LANDMARKS IN THE SEVENTH NEIGHBORHOOD .....	44
FIGURE 3-25 GLOBAL VIEW FOR SEVENTH NEIGHBORHOOD .....	44
FIGURE 3-26 BUILDING TYPES IN THE SEVENTH NEIGHBORHOOD .....	45
FIGURE 3-27 BUILDING HEIGHTS IN THE SEVENTH NEIGHBORHOOD .....	45
FIGURE 3-28 LANDUSE IN THE SEVENTH NEIGHBORHOOD .....	45
FIGURE 3-29 HOUSING LEVELS IN THE SEVENTH NEIGHBORHOOD .....	45
FIGURE 3-30 THE AL TAWFIK AREA LAYOUT .....	46
FIGURE 3-31 MAIN LANDMARKS IN THE AL TAWFIK AREA.....	46



FIGURE 3-32 GLOBAL VIEW FOR AL-TAWFIK AREA .....	46
FIGURE 3-33 BUILDING TYPES IN AL TAWFIK AREA .....	47
FIGURE 3-34 BUILDING HEIGHTS IN AL TAWFIK AREA .....	47
FIGURE 3-35 LANDUSE IN AL TAWFIK AREA .....	47
FIGURE 3-36 HOUSING LEVEL IN AL-TAWFIK AREA .....	47
FIGURE 3-37 THE RABIAA AREA LAYOUT .....	48
FIGURE 3-38 MAIN LANDMARKS IN THE RABIAA AREA .....	48
FIGURE 3-39 GLOBAL VIEW FOR RABIAA AREA.....	48
FIGURE 3-40 BUILDING TYPES IN RABIAA AREA.....	49
FIGURE 3-41 BUILDING HEIGHTS IN RABIAA AREA.....	49
FIGURE 3-42 LANDUSE IN RABIAA AREA .....	49
FIGURE 3-43 HOUSING LEVELS IN RABIAA AREA .....	49
FIGURE 3-44 THE AL-SHAREKAT AREA LAYOUT .....	50
FIGURE 3-45 MAIN LANDMARKS IN THE AL-SHAREKAT AREA.....	50
FIGURE 3-46 GLOBAL VIEW FOR AL-SHAREKAT AREA .....	50
FIGURE 3-47 BUILDING TYPES IN AL-SHAREKAT AREA.....	51
FIGURE 3-48 BUILDING HEIGHTS IN AL-SHAREKAT AREA.....	51
FIGURE 3-49 LANDUSE IN AL-SHAREKAT AREA .....	51
FIGURE 3-50 HOUSING LEVELS IN AL-SHAREKAT AREA.....	51
FIGURE 3-51 THE CINEMA AREA LAYOUT.....	52
FIGURE 3-52 MAIN LANDMARKS IN THE CINEMA AREA.....	52
FIGURE 3-53 GLOBAL VIEW FOR CINEMA AREA .....	52
FIGURE 3-54 BUILDING TYPES IN THE CINEMA AREA .....	53
FIGURE 3-55 BUILDING HEIGHTS IN THE CINEMA AREA .....	53
FIGURE 3-56 LANDUSE IN THE CINEMA AREA .....	53
FIGURE 3-57 IMAGES FOR THE CINEMA AREA .....	53
FIGURE 3-58 THE SEVENTH AREA LAYOUT.....	54
FIGURE 3-59 MAIN LANDMARKS IN THE SEVENTH AREA .....	54
FIGURE 3-60 GLOBAL VIEW FOR THE SEVENTH AREA .....	54
FIGURE 3-61 BUILDING TYPES IN THE SEVENTH AREA .....	55
FIGURE 3-62 BUILDING HEIGHTS IN THE SEVENTH AREA.....	55
FIGURE 3-63 LANDUSE IN THE SEVENTH AREA .....	55
FIGURE 3-64 HOUSING LEVELS IN THE SEVENTH AREA .....	55
FIGURE 3-65 THE EIGHTH AREA LAYOUT .....	56
FIGURE 3-66 MAIN LANDMARKS IN THE EIGHTH AREA .....	56
FIGURE 3-67 IMAGES FOR EIGHTH AREA .....	56
FIGURE 3-68 BUILDING TYPES IN THE EIGHTH AREA .....	57
FIGURE 3-69 BUILDING HEIGHTS IN THE EIGHTH AREA .....	57
FIGURE 3-70 LANDUSE IN THE EIGHTH AREA .....	57
FIGURE 3-71 HOUSING LEVELS IN THE EIGHTH AREA .....	57
FIGURE 3-72 THE NINTH AREA LAYOUT .....	58
FIGURE 3-73 MAIN LANDMARKS IN THE NINTH AREA .....	58
FIGURE 3-74 GLOBAL VIEW FOR NINTH AREA.....	58
FIGURE 3-75 BUILDING TYPES IN THE NINTH AREA .....	59
FIGURE 3-76 BUILDING HEIGHTS IN THE NINTH AREA .....	59
FIGURE 3-77 LANDUSE IN THE NINTH AREA .....	59
FIGURE 3-78 HOUSING LEVELS IN THE NINTH AREA .....	59
FIGURE 3-79 THE TENTH AREA LAYOUT.....	60
FIGURE 3-80 MAIN LANDMARKS IN THE TENTH AREA .....	60
FIGURE 3-81 GLOBAL VIEW FOR TENTH AREA .....	60
FIGURE 3-82 BUILDING TYPES IN THE TENTH AREA .....	61

FIGURE 3-83 BUILDING HEIGHTS IN THE TENTH AREA .....	61
FIGURE 3-84 LANDUSE IN THE TENTH AREA .....	61
FIGURE 3-85 HOUSING LEVELS IN THE TENTH AREA .....	61
FIGURE 3-86 THE EAST SIXTH AREA LAYOUT.....	62
FIGURE 3-87 MAIN LANDMARKS IN THE EAST SIXTH AREA .....	62
FIGURE 3-88 GLOBAL VIEW FOR EAST SIXTH AREA .....	62
FIGURE 3-89 BUILDING TYPES IN THE EAST SIXTH AREA .....	63
FIGURE 3-90 BUILDING HEIGHTS IN THE EAST SIXTH AREA .....	63
FIGURE 3-91 LANDUSE IN THE EAST SIXTH AREA .....	63
FIGURE 3-92 HOUSING LEVELS IN THE EAST SIXTH AREA .....	63
FIGURE 3-93 THE AL-AHLY CLUB AREA LAYOUT .....	64
FIGURE 3-94 MAIN LANDMARKS IN THE AL-AHLY CLUB AREA .....	64
FIGURE 3-95 GLOBAL VIEW FOR AHLY AREA.....	64
FIGURE 3-96 BUILDING TYPES IN THE AHLY AREA.....	65
FIGURE 3-97 BUILDING HEIGHTS IN THE AHLY AREA.....	65
FIGURE 3-98 LANDUSE IN THE AHLY AREA .....	65
FIGURE 3-99 HOUSING LEVELS IN THE AHLY AREA.....	65
FIGURE 3-100 THE 10 <sup>TH</sup> NEIGHBORHOOD AREA LAYOUT .....	66
FIGURE 3-101 MAIN LANDMARKS IN THE 10 <sup>TH</sup> NEIGHBORHOOD AREA .....	66
FIGURE 3-102 GLOBAL VIEW FOR THE 10 <sup>TH</sup> NEIGHBORHOOD AREA .....	66
FIGURE 3-103 BUILDING TYPES IN THE 10 <sup>TH</sup> NEIGHBORHOOD AREA .....	67
FIGURE 3-104 BUILDING HEIGHTS IN THE 10 <sup>TH</sup> NEIGHBORHOOD AREA .....	67
FIGURE 3-105 LANDUSE IN THE 10 <sup>TH</sup> NEIGHBORHOOD AREA .....	67
FIGURE 3-106 HOUSING LEVELS IN THE 10 <sup>TH</sup> NEIGHBORHOOD AREA .....	67
FIGURE 3-107 THE INTERNATIONAL GARDEN AREA LAYOUT .....	68
FIGURE 3-108 MAIN LANDMARKS IN THE INTERNATIONAL GARDEN AREA .....	68
FIGURE 3-109 GLOBAL VIEW FOR INTERNATIONAL GARDEN AREA.....	68
FIGURE 3-110 BUILDING TYPES IN THE INTERNATIONAL GARDEN AREA.....	69
FIGURE 3-111 BUILDING HEIGHTS IN THE INTERNATIONAL GARDEN AREA.....	69
FIGURE 3-112 LANDUSE IN THE INTERNATIONAL GARDEN AREA .....	69
FIGURE 3-113 HOUSING LEVELS IN THE INTERNATIONAL GARDEN AREA .....	69
FIGURE 3-114 THE AL WAFAA W AL AMAL AREA LAYOUT.....	70
FIGURE 3-115 MAIN LANDMARKS IN THE AL WAFAA W AL AMAL AREA .....	70
FIGURE 3-116 GLOBAL VIEW FOR AL-WAFFAA W AL-AMAL AREA .....	70
FIGURE 3-117 BUILDING TYPES IN AL WAFAA W AL AMAL AREA .....	71
FIGURE 3-118 BUILDING HEIGHTS IN AL WAFAA W AL AMAL AREA .....	71
FIGURE 3-119 LANDUSE IN AL WAFAA W AL AMAL AREA .....	71
FIGURE 3-120 HOUSING LEVELS IN AL-WAFFAA W AL-AMAL AREA .....	71
FIGURE 3-121 THE AL GOLF AREA LAYOUT.....	72
FIGURE 3-122 MAIN LANDMARKS IN THE AL GOLF AREA .....	72
FIGURE 3-123 GLOBAL VIEW FOR AL-GOLF AREA.....	72
FIGURE 3-124 BUILDING TYPES IN AL-GLOF AREA .....	73
FIGURE 3-125 BUILDING HEIGHTS IN AL-GLOF AREA .....	73
FIGURE 3-126 LANDUSE IN AL-GLOF AREA .....	73
FIGURE 3-127 HOUSING LEVELS FOR AL-GLOF AREA .....	73
FIGURE 3-128 MASAKEN AL MOHANDSEEN LAYOUT.....	74
FIGURE 3-129 MAIN LANDMARKS IN MASAKEN AL MOHANDSEEN AREA .....	74
FIGURE 3-130 BIRD EYE VIEW FOR MASAKEN EL-MOHANSEEN AREA .....	74
FIGURE 3-131 BUILDING TYPES IN MASAKEN EL-MOHANSEEN .....	75
FIGURE 3-132 BUILDING HEIGHTS IN MASAKEN EL-MOHANSEEN .....	75
FIGURE 3-133 LANDUSE IN MASAKEN EL-MOHANSEEN .....	75
FIGURE 3-134 HOUSING LEVELS IN MASAKEN AL MOHANDSEEN NEIGHBORHOOD .....	75
FIGURE 3-135 DWELLING TYPES FOR MADINET NASR PLOTS .....	76

FIGURE 3-136 DWELLING LEVEL REFERENCES.....	77
FIGURE 3-137 DWELLING LEVELS FOR MADINET NASR PLOTS.....	77
FIGURE 3-138 FLOOR AREA RATIO FOR MADINET NASR PLOTS.....	78
FIGURE 3-139 DWELLING COST PER M <sup>2</sup> UNIT.....	79
FIGURE 3-140 SCHOOLS DISTRIBUTION.....	80
FIGURE 3-141 HEALTH FACILITIES DISTRIBUTION.....	81
FIGURE 3-142 COMMERCIAL CENTERS DISTRIBUTION.....	82
FIGURE 3-143 MADINET NASR TYPOLOGY.....	83
FIGURE 3-144 SHAPE INDEX MEAN VALUES DISTRIBUTION FOR EACH NEIGHBORHOOD.....	84
FIGURE 3-145 CORE AREA INDEX MEAN VALUES DISTRIBUTION FOR EACH NEIGHBORHOOD.....	85
FIGURE 3-146 GRID AXIALITY MEAN VALUES DISTRIBUTION FOR EACH NEIGHBORHOOD.....	86
FIGURE 3-147 MADINET NASR CONFIGURATION.....	87
FIGURE 3-148 GLOBAL INTEGRATION FOR MADINET NASR CONFIGURATION.....	88
FIGURE 3-149 AXIAL INTELLIGIBILITY R <sup>2</sup> VALUES DISTRIBUTION FOR EACH NEIGHBORHOOD.....	89
FIGURE 3-150 AXIAL SYNERGY VALUES DISTRIBUTION FOR EACH NEIGHBORHOOD.....	90
FIGURE 3-151 AFRICANS RESIDENTS IN TENTH NEIGHBORHOOD.....	92
FIGURE 3-152 NUMERICAL RESULTS FOR EXISTING CONDITIONS STUDY.....	93
FIGURE 3-153 NUMERICAL RESULTS FOR URBAN MORPHOLOGY STUDY.....	94
FIGURE 4-1 PEOPLE RESPONSE GROUPED INTO FOUR GROUPS.....	99
FIGURE 4-2 RELATIONSHIP BETWEEN QOUL, QOL AND LIFE DOMAINS.....	101
FIGURE 4-3 CONCEPTUAL FRAMEWORK OF QOUL BY MURDIE, RHYNE ET AL. (1992).....	102
FIGURE 4-4 A BROAD MODEL FRAMEWORK FOR INVESTIGATING SUBJECTIVE ASSESSMENT OF DETERMINANTS OF SATISFACTION WITH THE RESIDENTIAL ENVIRONMENT.....	103
FIGURE 4-5 MASLOW'S THEORY FOR HUMAN NEEDS.....	104
FIGURE 5-1 HDI VALUES FOR EGYPT THROUGH LAST MEASURES.....	118
FIGURE 5-2 QOL RESULTS BY NUMBEO.COM WEBSITE.....	119
FIGURE 5-3 SAMPLES AGE.....	120
FIGURE 5-4 CAR OWNERS.....	120
FIGURE 5-5 SAMPLES GENDER.....	120
FIGURE 5-6 MARRIAGE STATUS.....	120
FIGURE 5-7 DWELLING OWNERSHIP.....	121
FIGURE 5-8 EDUCATION.....	121
FIGURE 5-9 INCOME RATE.....	121
FIGURE 5-10 EMPLOYMENT STATUS.....	121
FIGURE 5-11 JOB/SCHOOL SATISFACTION.....	122
FIGURE 5-12 TIME LIVED IN MADINET NASR.....	123
FIGURE 5-13 TYPE OF DWELLING.....	123
FIGURE 5-14 PREVIOUS LIVING PLACE.....	123
FIGURE 5-15 MOVE TO MADINET NASR REASONS.....	123
FIGURE 5-16 PREVIOUS DWELLING LIVING TIME.....	124
FIGURE 5-17 MOVE FROM MADINET NASR.....	124
FIGURE 5-18 DESIRE TO MOVE.....	125
FIGURE 5-19 DWELLING COST (RENT OR BUY).....	125
FIGURE 5-20 DWELLING SATISFACTION.....	126
FIGURE 5-21 STREETS SWEEPING SATISFACTION.....	127
FIGURE 5-22 GARBAGE COLLECTION SATISFACTION.....	128
FIGURE 5-23 WATER TAP SATISFACTION.....	128
FIGURE 5-24 AIR QUALITY SATISFACTION.....	129
FIGURE 5-25 NOISE PROBLEM.....	129
FIGURE 5-26 MEDICAL WASTE POLLUTION.....	130

FIGURE 5-27 SEWAGE POLLUTION PROBLEM.....	130
FIGURE 5-28 USE POWER SAVING EQUIPMENTS.....	131
FIGURE 5-29 USE CLEAN POWER SOURCE.....	131
FIGURE 5-30 USE CLEAN POWER SOURCE.....	131
FIGURE 5-31 KNOW ABOUT PRODUCT WHETHER RECYCLED OR NOT .....	132
FIGURE 5-32 BUY RECYCLED PRODUCTS.....	132
FIGURE 5-33 WHY BUY/NOT BUY RECYCLED PRODUCTS .....	132
FIGURE 5-34 USE RECHARGEABLE BATTERIES .....	132
FIGURE 5-35 REUSE YOUR WASTE.....	133
FIGURE 5-36 CLASSIFY YOUR WASTE .....	133
FIGURE 5-37 TIME TO REACH NEAREST GARDEN.....	133
FIGURE 5-38 HOW MANY TIME YOU VISIT GARDENS .....	133
FIGURE 5-39 STAT A GARDEN NAME.....	134
FIGURE 5-40 STREETS SWEEPING SATISFACTION.....	134
FIGURE 5-41 GARDENS AND GREEN AREAS SATISFACTION.....	135
FIGURE 5-42 ECOLOGY BEHAVIOR.....	136
FIGURE 5-43 EDUCATION SATISFACTION.....	137
FIGURE 5-44 KIDS' SCHOOL TYPE.....	138
FIGURE 5-45 HOW KIDS GO TO SCHOOL.....	138
FIGURE 5-46 HOW DIFFICULT TO REACH SCHOOL .....	138
FIGURE 5-47 COMMON DISEASES IN FAMILY OR FRIENDS.....	139
FIGURE 5-48 VISIT HEALTH FACILITY LAST YEAR .....	139
FIGURE 5-49 HEALTH SATISFACTION .....	139
FIGURE 5-50 GOODS QUALITY ARE DIFFERENT FROM AREA TO ANOTHER INSIDE MADINET NASR .....	140
FIGURE 5-51 THERE ARE STREET VENDORS IN YOUR AREA .....	140
FIGURE 5-52 CRIMES HAPPENED LATELY .....	140
FIGURE 5-53 CRIME RATE .....	140
FIGURE 5-54 SAFETY FEELINGS .....	141
FIGURE 5-55 YOUR BUILDING COMMITTED TO REGULATION.....	142
FIGURE 5-56 AUTHORITY RESPONSE FOR VIOLATION.....	142
FIGURE 5-57 PUBLIC FACILITIES MAINTENANCE.....	142
FIGURE 5-58 HAVE A GARAGE .....	143
FIGURE 5-59 USE CAR INSIDE YOUR NEIGHBORHOOD .....	143
FIGURE 5-60 OTHER PREFERRED TRANSPORT METHOD .....	144
FIGURE 5-61 HOW MUCH DO YOU USE THE PREFERRED TRANSPORT METHOD.....	144
FIGURE 5-62 ROAD NETWORKS PROVIDE SHORTCUTS .....	144
FIGURE 5-63 HOW HARD TO MOVE WITHOUT A CAR .....	144
FIGURE 5-64 STREET MAINTENANCE SATISFACTION .....	145
FIGURE 5-65 STREET SATISFACTION.....	146
FIGURE 5-66 HAVE FRIENDS NEARBY.....	147
FIGURE 5-67 KNOW YOUR NEIGHBORS NAMES.....	147
FIGURE 5-68 WHERE YOU LIVE.....	147
FIGURE 5-69 GATHERING PLACES .....	147
FIGURE 5-70 TEENAGERS WITHOUT SUPERVISION.....	148
FIGURE 5-71 DRUGS PROBLEM.....	148
FIGURE 5-72 ANNOYING NEIGHBORS.....	149
FIGURE 5-73 WANT TO BEAUTIFY YOUR STREET .....	150
FIGURE 5-74 WHAT IS MAJOR LANDMARK .....	150
FIGURE 5-75 USER SPENDING PER DAY .....	151
FIGURE 5-76 USER SPENDING PRIORITIES.....	151
FIGURE 5-77 DWELLING VALUE (BUYING).....	151
FIGURE 5-78 DWELLING VALUE (RENTING).....	151

FIGURE 5-79 ATTEND CONDOMINIUM MEETING .....	153
FIGURE 5-80 BEING CONDOMINIUM PRESIDENT .....	153
FIGURE 5-81 REMEMBER CONDOMINIUM PRESIDENT NAME.....	154
FIGURE 5-82 GO TO RELIGIOUS PLACE TO SOLVE PROBLEM.....	154
FIGURE 5-83 MEET NEIGHBORS TO FIND SOLUTION.....	154
FIGURE 5-84 BEING POSITIVE TO NEIGHBORS PROBLEMS .....	154
FIGURE 5-85 GOVERNMENT PERFORMANCE SATISFACTION.....	155
FIGURE 5-86 SERVICE COST SATISFACTION .....	156
FIGURE 5-87 SOCIAL CAPITAL SUMMARY .....	156
FIGURE 5-88 RELATIONSHIP BETWEEN PLACE AND QOL DOMAINS SATISFACTION .....	159
FIGURE 6-1 INCREASE EXISTING BUILDING HEIGHT OR REBUILT OLD SHORT BUILDINGS ....	163
FIGURE 6-2 CHANGE IN LANDUSE REACHES HIGHER FLOORS .....	164
FIGURE 6-3 CHANGE IN FACADES.....	164
FIGURE 6-4 USERS EXCEEDS PUBLIC AREAS .....	165
FIGURE 6-5 GDP PER CAPITA FOR EGYPT .....	166
FIGURE 6-6 WORK STATUS POPULATION VALUES.....	167
FIGURE 6-7 JOB TYPE POPULATION VALUES .....	169
FIGURE 6-8 WORK STATUS POPULATION VALUES.....	170
FIGURE 6-9 WORK STATUS POPULATION VALUES.....	171
FIGURE 6-10 EDUCATION LEVEL AND WORK TYPE .....	172
FIGURE 6-11 INCOME RATE AND EDUCATION LEVEL .....	172
FIGURE 6-12 INCOME RATE AND WORK TYPE .....	173
FIGURE 6-13 URBAN AND SOCIAL VARIABLES OPTIMIZED RESULTS .....	177
FIGURE 6-14 EXISTING URBAN CONDITIONSRESULTS DISTRIBUTION .....	180
FIGURE 6-15 URBAN MORPHOLOGY RESULTS DISTRIBUTION.....	180
FIGURE 6-16 SOCIAL RESPONSE RESULTS DISTRIBUTION .....	181
FIGURE 6-17 DIRECT RELATIONSHIP BETWEEN URBAN FABRIC AND SOCIAL RESPONSE.....	182
FIGURE 7-1 CHANGE CYCLES THROUGH URBAN FABRIC.....	187
FIGURE 7-2 CHANGE CYCLES ELEMENTS .....	188

# List of Tables

TABLE 1-1 URBAN GROWTH MODEL DEFINITIONS.....	4
TABLE 1-2 SHYAKHAT (AREAS) SELECTION CRITERIA .....	8
TABLE 1-3 SELECTED GEOMETRIC ANALYSIS VARIABLES .....	11
TABLE 2-1 MADINET NASR POPULATION .....	31
TABLE 2-2 TIME LINE OF MADINET NASR EVOLUTION .....	33
TABLE 2-3 TIME LINE OF MADINET NASR EVOLUTION .....	34
TABLE 4-1 EXAMPLES OF QOL INDICATORS THAT CAN BE USED TO INVESTIGATE QOUL IN CITIES AND NEIGHBORHOODS .....	100
TABLE 4-2 LANG’S BASIC NEEDS .....	105
TABLE 4-3 LANG’S HIGHER LEVEL NEEDS .....	105
TABLE 4-4 FOCUS GROUP RESPOND TO BASIC NEEDS.....	106
TABLE 4-5 FOCUS GROUP RESPOND TO HIGHER LEVEL NEEDS .....	107
TABLE 4-6 PILOT STUDY RESULTS MEANS VALUES .....	108
TABLE 4-7 QOL INDICATORS RELATED TO DIFFERENT LEVELS .....	110
TABLE 4-8 HUMAN NEEDS SELECTED FROM PILOT STUDY REMAPPED INTO LIFE DOMAINS. ....	111
TABLE 4-9 SAMPLES DISTRIBUTION OVER DEFERENT NEIGHBORHOODS .....	113
TABLE 5-1 RESPONSE TO POLLUTION MEAN VALUES.....	135
TABLE 5-2 RESPONSE TO GREEN AREAS SATISFACTION MEAN VALUES .....	136
TABLE 5-3 RESPONSE TO COMMON SOCIAL PROBLEMS MEAN VALUES .....	149
TABLE 5-4 RESPONDENT’S SCORES MEAN VALUES FOR QUALITY OF LIFE DOMAINS .....	157
TABLE 5-5 QOUL LEVELS RESPONDENTS MEAN SCORES .....	157
TABLE 5-6 DOMAINS MEAN VALUES FOR EACH SHYAKHA.....	158
TABLE 6-1 MADINET NASR EDUCATION STATUS THROUGH LAST FOUR POPULATION.....	167
TABLE 6-2 MADINET NASR JOB TYPE THROUGH LAST FOUR POPULATION.....	168
TABLE 6-3 MADINET NASR WORK STATUS THROUGH LAST FOUR POPULATION.....	170
TABLE 6-4 MADINET NASR MARITAL STATUS THROUGH LAST FOUR POPULATION.....	171
TABLE 6-5 EXISTING URBAN CONDITION OPTIMIZATION RULES .....	174
TABLE 6-6 URBAN MORPHOLOGY OPTIMIZATION RULES.....	175
TABLE 6-7 EXISTING URBAN CONDITION OPTIMIZATION RULES .....	176
TABLE 8 DETERMINE SAMPLE SIZE FORM GIVEN POPULATION .....	264

# List of Equations

<b><math>CIPQ = 4\pi AP^2</math></b> .....	EQUATION 1 .....	12
<b><math>GA = (Nb \times 2) + 2Nax</math></b> .....	EQUATION 2 .....	13
<b><math>CAI = aicai (100)</math></b> .....	EQUATION 3 .....	13
<b><math>Integration = 1RRA</math></b> .....	EQUATION 4 .....	13
<b><math>RRA = RAiRAD</math></b> .....	EQUATION 5 .....	14
<b><math>RA = 2(MD - 1)L - 2</math></b> .....	EQUATION 6 .....	14
<b><math>MD = DL - 1</math></b> .....	EQUATION 7 .....	14
<b><math>D = j = 1L - 1dj</math></b> .....	EQUATION 8 .....	14
<b><math>Dr = SrUr</math></b> .....	EQUATION 9 .....	181

# List of Abbreviations

<b>1</b>	<b>MADINET NASR FOR HOUSING &amp; DEVELOPMENT</b>	<b>MNHD</b>
<b>2</b>	<b>CENTRAL AGENCY FOR PUBLIC MOBILIZATION AND STATISTICS</b>	<b>CAPMAS</b>
<b>3</b>	<b>QUALITY OF LIFE</b>	<b>QOL</b>
<b>4</b>	<b>SUBJECTIVE QUALITY OF LIFE</b>	<b>SQL</b>
<b>5</b>	<b>OBJECTIVE QUALITY OF LIFE</b>	<b>OQL</b>
<b>6</b>	<b>QUALITY OF URBAN LIFE</b>	<b>QOUL</b>
<b>7</b>	<b>STRUCTURAL EQUATION MODELING</b>	<b>SEM</b>
<b>8</b>	<b>GRID AXIALITY</b>	<b>GA</b>
<b>9</b>	<b>CORE AREA INDEX</b>	<b>CAI</b>
<b>10</b>	<b>SOCIO-ECONOMIC STATUS</b>	<b>SES</b>
<b>11</b>	<b>INVERSE DISTANCE WEIGHTED</b>	<b>IDW</b>







# **CHAPTER 1**

## **1. INTRODUCTION**



## 1.1 Introduction

Urban fabric contains all social activities; its characteristics can increase or decrease certain types of behavior. Urban fabric and social activities relationship has two-way effect on both as function of time, urban fabric has a life cycle, and it starts and may never end at all but still go on cycles.

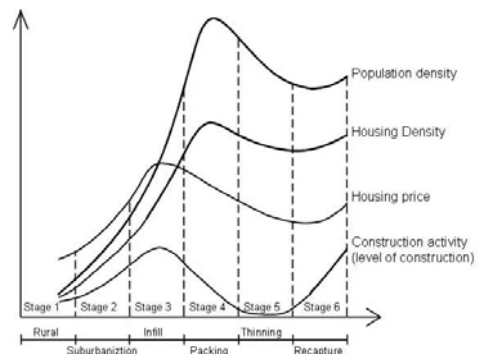
**Yang, Brown et al. (2001)** suggested a method (adapted from **Birch (1971)**) for identifying neighborhood growth, which have six stages of development Figure 1-1.

The relation between urban fabric and social activities are different through urban growth stages. At early stages urban starts to affect social activities until urban growth reaches its stability stage (packing stage) the social activities starts to affect the urban setting physical elements (buildings, streets and alleyways, sidewalks, open spaces, and other microenvironments that represent the settings of everyday life) in the recapture stage.

Recapture stage relays on invasion and succession model.

This occurred when social activities or human groups come to occupy and dominate a territory.

Table 1-1 shows the definition for each stage.



**Figure 1-1 Urban growth model<sup>i</sup>**

Change, by definition is overcoming inertia, embodies an effort that stasis does not, Individuals react diversely to change, sometimes is welcomed more often resisted. It is an undeniable part of urban life, affects urban setting and users.

People respond to change (concept or occurrence) through their own benefit and culture, a group cope to benefit from it, other resist the change because it is harmful for them, here the culture are the scale that motive this change and control it. for example an investor (change initiator) decide to open a mega store in a residential area that have already small business, residents will be happy they will get all stuff from one place with a discount, small business owners won't, cause they running out of customers. residents will cope and owners will resist this happens in the case of low social culture residents, they do not know that will drive small business owners to leave

<sup>i</sup> Yang, Y., W. Brown, et al. (2001). "Using neighborhood growth stage model to analyze new residential development in ten counties in Hudson River Valley area, New York State." Population and Development Program Working Papers.

and let the only mega store control everything without competitors. In high levels of social culture, residents may approve the mega store opening with certain limits or even resist it at all to help their area to be vibrant and competitive.

Change is a challenge, users respond to it in many ways at real life:

1. Deny that change is happening or needs to happen. (deny and isolated)
2. Accept that change will happen, but resist it by all means. (Resisting)
3. Bend, moderate, or attenuate change to ease its burden of adjustment. (Diplomacy)
4. Encourage change as an opportunity, a new vista over the horizon. (Full cope)

Users switch between previous steps depending on their benefits and culture, change is continued non-stoppable cycles initiated internally (users) or external force (government).

users have to understand change and switch it into a general benefit for their area especially if they can not stop it from happening "both-and" and do not push each other to leave their area as a solution "either-or" that speed up invasion and succession process and all users will lose.

The most successful way to manage urban area or even building is both-and method which depends on win-win for all parties.

Stages		Description
1	Rural	Low population density, a predominance of single family units and absence of multi-unit structures, very little housing construction.
2	Suburbanization	Increasing population density, high rates of new construction of mainly single family units, and absence of multi-unit structures.
3	Infill	Increasing proportion of multi-unit structures, high property values and rents, moderate population density, low and decreasing rates of housing construction.
4	Packing	Maximum population densities, aging housing stock, overcrowded living condition, low rates of housing construction.
5	Thinning	Continuing deterioration of housing units, absolute population decline, little or no housing construction.
6	Recapture	More profitable use of properties, high density, Tear Down and Replace with Stage Three.

**Table 1-1 urban growth model definitions<sup>i</sup>**

<sup>i</sup> Ibid.

## 1.2 Reasons to choose Madinet Nasr as case of study

Madinet Nasr selected as a case of study for many reasons; discussed as follows:

1. The first planned area after Cairo's master plan in 1956.
2. It is the icon of victory in many occasions (1952 revolution, Triple aggression, 6<sup>th</sup> October war victory).
3. It was built through four different political zones.
4. It was the first governmental sponsored project (and was successful).
5. It is still expanding horizontally and vertically till now.
6. It is one of Cairo's most attractive places to residents and other different activities.

## 1.3 Research Problem

There are negative remarkable transformations in Madinet Nasr urban fabric as **Eid, El-Khorazaty et al. (2012)** confirmed that land use in Madinet Nasr had changed in response to an economic, social and political situations, and the direction of transformations was determined with population social, cultural background (Figure 1-2).

Also buildings frontages and buildings heights had changed over time from style to another.

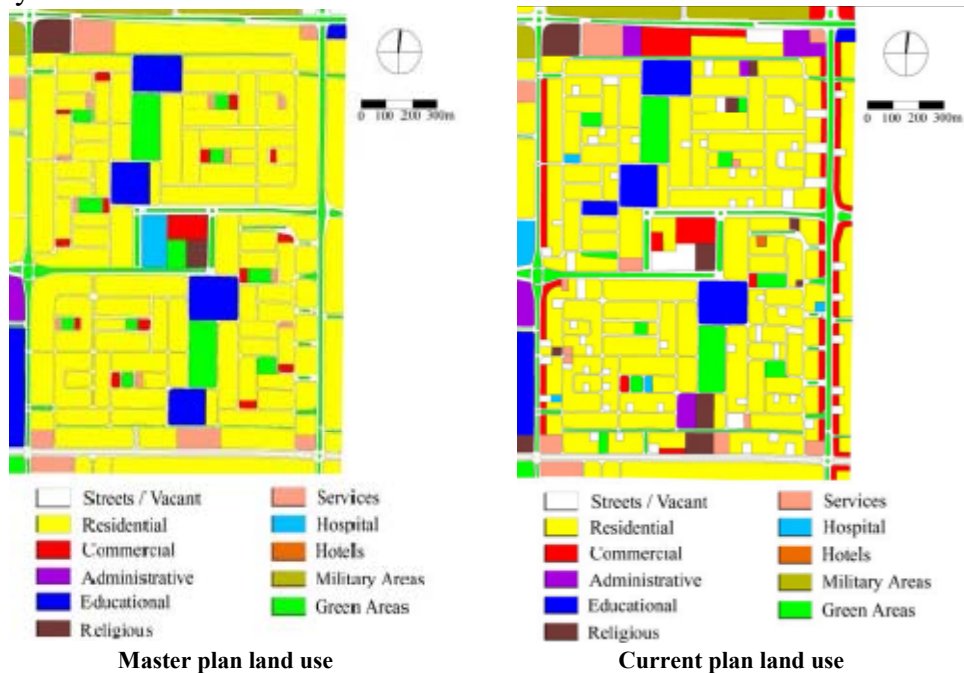


Figure 1-2 Madinet Nasr original first zone landuse change after fifty years<sup>i</sup>

<sup>i</sup>Eid, Y., et al., Nasr City: Land Use Transformations, not published, 2012: p. 13.

The researcher conducted a pilot study among Madinet Nasr residents, and new cities residents. The study was an online questionnaire asking Madinet Nasr's residents about their intentions to move out to other places, and other areas' residents about their previous living area.

The results ensure that most of the residents moved from Madint Nasr have major issues to move, also most of Madint Nasr residents have intentions to move out to the same issues (crowdedness, services, privacy, etc...).

**Also Tipple (2000)** (after studying sixth district in Madinet Nasr) confirmed that the price of residential governmental units is now highly raised from the actual price, which also affects the urban fabric by the force of economy changes.

### 1.4 Hypothesis

The social transformation (as related to socio-economic changes) affects it is containing urban fabric.

Socio-economic transformations in Madinet Nasr based on invasion and succession model, which helps to replace some of population with others from different social class due to unnatural value increasing which filter other lower classes. The disproportionate new social fabric pushes some other populations to leave and replaced by others, which may be also different too due to the continuous increasing with the value.

### 1.5 Aim of Research

The research aims to study the relationship between socio-economic transformations and urban fabric change, through analyzing the integration between objective morphology and subjective morphology aspects to help predicting any possible urban fabric change caused by social fabric change.

### 1.6 Research scope and limitations

The research studies Madinet Nasr urban fabric in the scale of morphological study see Figure 1-3, and then studies QOUL to measure users' place satisfaction. Then study the relationship between urban fabric characteristics (objective) and QOUL (subjective). Research analyzes the case of study in the scale of neighborhoods, comparing morphological characteristics with subjective users' response for each neighborhood.

Research uses limits defined by government for neighborhoods (shyakhat) in the analysis. In addition, research concerns about residential areas only exist in each neighborhood (mixed use with residential were included). Moreover, it is précised to three limitations as follow:

#### A. Continuity of urban area

Connected urban fabric through residential areas will confirm the sharing of problems like traffic jams, crowd, environmental issues...etc.



B. Residential to shyakha area

The study focused on users living in Nasr city and connected to governmental boundaries (shyakha) location and physical properties. The research exclude areas that under 15% of residential area.

C. Regulated areas

The research limits its scope to regulated area only; to create a standard needs pattern easily which expand when study slums due to the lack of basic needs in these areas.

Research excludes the areas that pass minimum 2 limitations and exclude areas that pass only one limit. Third limit is a must (the area had to be regulated). After applying the limitations only 19 areas were selected as (Table 1-2), the excluded areas were six areas, three areas (Al-Estad, AL-Sarayyat El-shrqeyah and AL-Sekkah Club) were far (unconnected) and have residential percentage below 15%, two areas (Ezzbet Al hagganh and Ezzbet Al arab) were illegally built, and the last area (Al-Azhar University) has no permanent residential area.

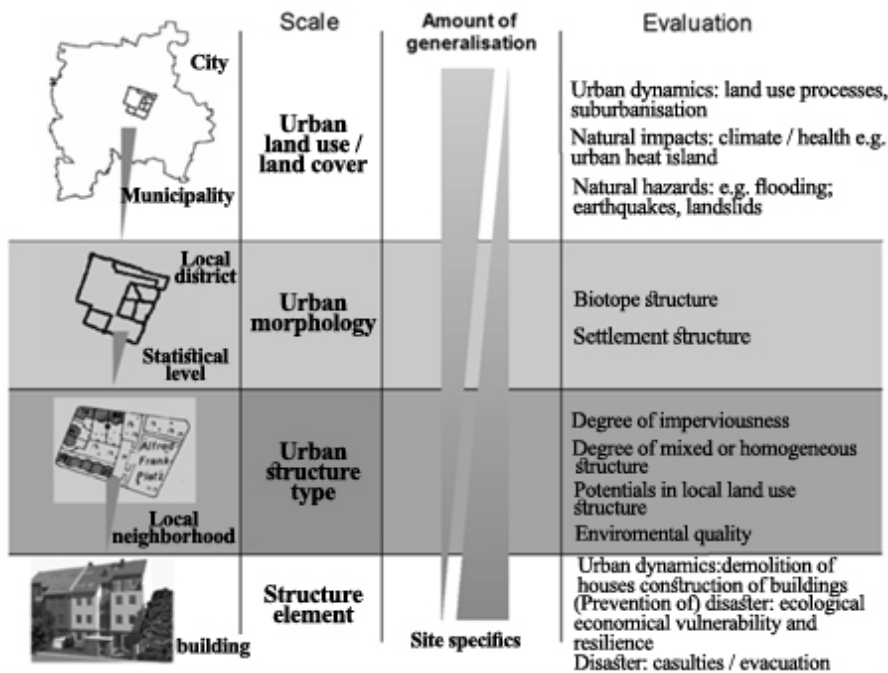


Figure 1-3 Scale-dependent urban analysis<sup>i</sup>

Geographical location for each area with it is naming appears in figure 1-4, green areas (neighborhoods) are the selected by previous limitations and red areas are the excluded neighborhoods.

<sup>i</sup> BANZHAF, E. & HÖFER, R. (2008) Monitoring urban structure types as spatial indicators with CIR aerial photographs for a more effective urban environmental management. Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS), 1, 129–138.

No.	Neighborhood	Shyakha (Area)	Continuous urban	Residential ratio	Regulated area	Passed
01	East Neighborhood	Al-Sharekat	Yes	35%	legal	YES
02		Al-Tawfeek	Yes	72%	legal	YES
03		Rabiaa	Yes	35%	legal	YES
04		Al-Cinema	Yes	28%	legal	YES
05		1 <sup>st</sup> Area	Yes	74%	legal	YES
06		6 <sup>th</sup> Area	Yes	75%	legal	YES
07		East 6 <sup>th</sup> Area	Yes	48%	legal	YES
08		7 <sup>th</sup> Area	Yes	49%	legal	YES
09		8 <sup>th</sup> Area	Yes	89%	legal	YES
10		Al-Wafaa w Amal	Yes	4%	legal	YES
11		9 <sup>th</sup> Area	Yes	49%	legal	YES
12		10 <sup>th</sup> Area	Yes	79%	legal	YES
13		10 <sup>th</sup> Neighborhood	Yes	13%	legal	YES
14		Al-Golf	Yes	35%	legal	YES
15		Masaken Al-Mohandseen	Yes	25%	legal	YES
16		International Garden	Yes	57%	legal	YES
17		Al-Ahly Club	Yes	22%	legal	YES
18		Ezzbt El-Hagganh	Yes	65%	Not legal	No
01	West Neighborhood	AL-Estad	No	14%	legal	No
02		AL-Sekkah Club	No	1%	legal	No
03		7 <sup>th</sup> Neighborhood	Yes	69%	legal	YES
04		6 <sup>th</sup> Neighborhood	Yes	36%	legal	YES
05		Ezzbt EL-Arab	Yes	45%	Not legal	No
06		AL-Sarayay El-shrqeyah	No	13%	legal	No
07		AL-Azhar University	Yes	0	legal	No

Table 1-2 Shyakhat (areas) selection criteria<sup>i</sup><sup>i</sup>By Author

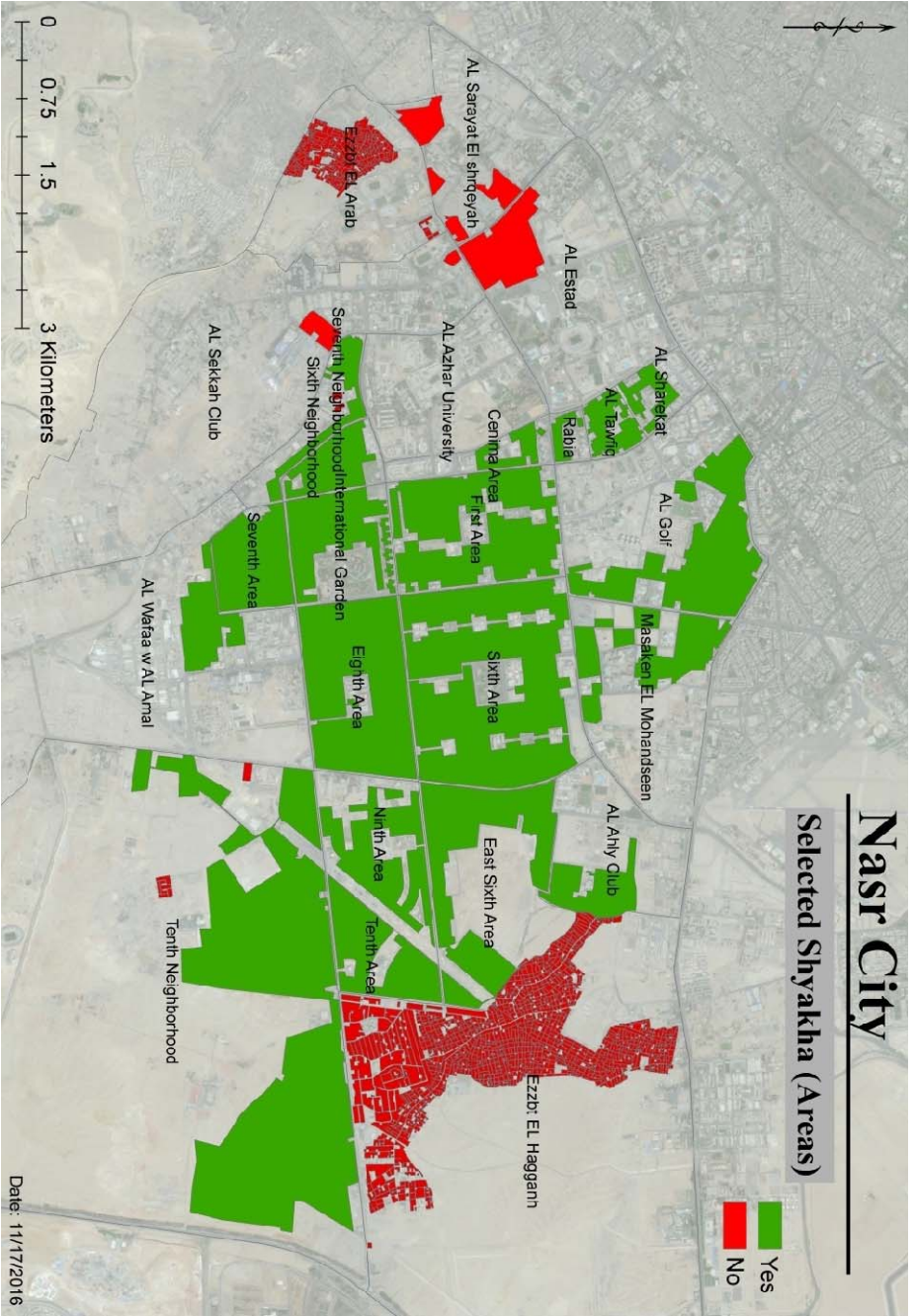


Figure 1-4 Areas Selected

## 1.7 Research design

This research is primarily descriptive and methodological in urban scale its methodology depends on the concepts used, the methods selected and available data.

The research measures the urban morphology through using landscape metrics as a typology assessment tool and space syntax for urban configuration analysis (objective study) and quality of urban life for social perception using designed questionnaire (subjective study) and analyzed through socio-economic aspects in case study. Research goes through in five parts.

The first part concerns about case study history and development, in order to define its establishment aim and its current situation.

The second part studies objective data which are existed and can be measured, the study divided into three parts imageability study based on observations (each area main views), existing conditions (building types, FAR, building levels, dwelling cost, services distributions), and urban morphology's typology and configuration.

The third part studies subjective morphology by identification of social perception for surrounding urban structure how it can be measured based on quality of urban life, and how to be applied on case of study.

The forth part analyze subjective morphology quality of urban life results and its relation with quality of life.

The fifth and last part discusses the relation between the objective morphology (physical environments) as defined by **Lynch and Rodwin (1958)** and subjective morphology (man-environment relationship) as defined by **Rapoport (1977)**.

The researcher will define each measure used through the last five parts, explaining its aim and theory.

### 1.7.1 Imageability

The researcher studies imageability not as an index, but as description tool through observation for different topics for each area, like facades, landmarks, landuse, building types and area's main theme, this image helps numerical analysis to form a complete vision about the reality of the neighborhood and help explaining many numerical results see figure 1-5.

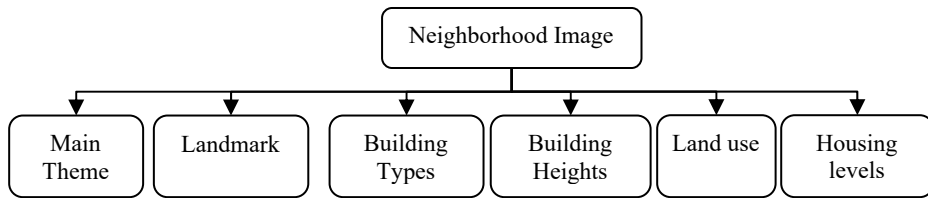


Figure 1-5 topics selected to study imageability<sup>i</sup>

### 1.7.2 Existing conditions

The researcher also studies the existing condition variables (plot maps) like unit area price, housing levels, dwelling types, floor area ratio and main services distribution (education, health and commercials).

These data will help to establish comparison between objective with subjective morphology.

### 1.7.3 Objective morphology

Objective morphology is the physical structure of an urban environment, **Lynch and Rodwin (1958)** divided objective morphology into two major groups “flow system” and “distribution of adapted spaces”, his classification was based on function of urban environment.

Flow system is the urban configuration, which is used for the flow of users and objects.

Adapted spaces are the localized activities like recreation, exchange, production or sleeping, which are done in closed spaces.

The classification dividing urban fabric into blocks and patches (adapted spaces) and streets networks (flow system). Table 1-3

Geometric Analysis	
Adapted Space “Blocks and Patches” (Urban Typology)	Flow Systems (Urban Configuration)
Studied Indices	Studied Indices
Shape Index	Integration
Grid Axialty	Intelligibility
Core Area Index	Synergy

Table 1-3 Selected geometric analysis variables<sup>ii</sup>

#### 1.7.1.1 Adapted Space Variables

The adapted space term refers to blocks and patches (already adapted by human), and can be measured by landscape metrics indices which measure the characteristics of the block, from two sides the block’s form its self and its relation with other surrounding blocks. Figure 1-6.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

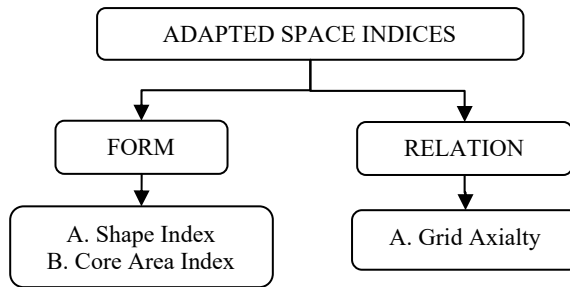


Figure 1-6 Adapted space variables<sup>1</sup>

Adapted space variables were chosen from spatial metrics which were called earlier landscape metrics which were commonly used to quantify the shape and pattern of vegetation in natural landscape **O’Neill, Krummel et al. (1988) ; Gustafson (1998)**.

Landscape metrics developed in the late 1980s and incorporated measures from both information theory and fractal geometry. **Mandelbrot (1983); Shannon and Weaver (1964)** based on a categorical, patch-based representation of a landscape, The spatial metrics were widely used for both mapping and modeling the urban environment, many case studies point out the importance of these methods in urban analysis and urge further systematic investigations in this area (**Geoghegan, Wainger et al. (1997) ;Parker, Evans et al. (2001)**).

**A. Shape Index (compactness)**

Shape compactness is a numerical quantity representing the degree to which a shape is compact; by comparing it to the most compact shape with the same area which is circle (when use vector analysis) and rectangle (when use raster analysis).

**Li, Goodchild et al. (2013)** Confirmed that the P/A index was developed by **Osserman (1978)** has become one of the most widely accepted compactness measures of this class. It is defined as:

$$C_{IPQ} = \frac{4\pi A}{P^2} \dots\dots\dots\text{Equation 1}$$

Where  $4\pi$  is the circularity index,  $A$  is the shape area,  $P^2$  is the square of shape parameter.

**B. Grid Axialty (GA)**

**Istek (1999)** defined the concept of the variable which makes the comparison of each axial system to an orthogonal perfect grid with the same number of building blocks. Therefore, by this comparison it is possible to

---

<sup>1</sup>By Author

state the difference between the order properties of the two axial systems unequivocally in their numerical forms. The GA is defined as follows:

$$GA = \frac{(\sqrt{N_b \times 2}) + 2}{N_{ax}} \dots \dots \dots \text{Equation 2}$$

Formula variables,  $N_b$  is the number of urban building blocks and  $N_{ax}$  is the number of axial lines, the result is a value between 0 and 1, where higher values indicate a stronger approximation to a perfect orthogonal grid and lower values a greater degree of axial grid deformation.

**C. Core area index**

The ratio between the core area of the building, with an inside offset of 10 meters, and the area of the building **McGarigal, Cushman et al. (2002)**.

$$CAI = \frac{a_i^c}{a_i} (100) \dots \dots \dots \text{Equation 3}$$

Where  $a_i^c$  is the block modified area (10 m offset inside),  $a_i$  is the block real area.

**1.7.1.2 Flow System Variables**

The flow system term refers to urban configuration (street networks), which measured by space syntax software (depthmap) instead of urban typology known methods because space syntax not only measuring the shape of configuration but also measure its relationship with the whole system. Analysis used streets axial lines for analysis. Figure 1-7.

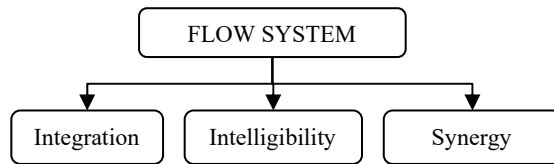


Figure 1-7 Flow System variables<sup>i</sup>

**A. Integration**

The integration is defined as the inverse of real relative asymmetry (RRA)

$$Integration = \frac{1}{RRA} \dots \dots \dots \text{Equation 4}$$

This metric can describe both global and local axial characteristics of an urban system. The higher value of global integration (Rn) the more integrated and more accessible to all other streets in the urban system of a city. Similarly, the higher value of local integration (R3) the more integrated

---

<sup>i</sup>By Author

and more accessible up street to a few streets (3 steps) in the urban system **Hillier and Hanson (1984)**.

### **B. Intelligibility**

The Intelligibility defined as the correlation between the integration and connectivity values **Hillier and Hanson (1984)**. The precise measure of intelligibility is the linear correlation between the integration value and the connectivity of all the spaces of a system. The higher the correlation the more one can infer location within the layout system as a whole according to directly available information.

### **C. Real Relative Asymmetry**

The Real relative asymmetry (RRA) compares the ( $RA_i$ ) value of a particular space with the ( $RA_D$ ) value for the root – the space at the bottom of a justified map – of a diamond-shaped system **Hillier and Hanson (1984)**. RRA values will only be needed when comparing across systems of different sizes. This is an empirical way of normalizing total depth.

$$RRA = \frac{RA_i}{RA_D} \dots\dots\dots \text{Equation 5}$$

Where  $RA_i$  the relative asymmetry for a space is,  $RA_D$  is relative asymmetry for the root of a diamond shaped system with same number of spaces. Relative asymmetry is defined as the ratio of the difference between the actual mean depth of a line and the minimum mean depth to the difference between the maximum mean depth and the minimum mean depth (**Hillier and Hanson (1984)**):

$$RA = \frac{2(MD-1)}{L-2} \dots\dots\dots \text{Equation 6}$$

Where  $MD$  is the mean depth for a space,  $L$  is the number of spaces in the whole structure. The mean depth ( $MD$ ) indicates how close on average an axial line ( $L$ ) is to all other axial lines in the urban system (**Hillier and Hanson (1984)**).

$$MD = \frac{D}{L-1} \dots\dots\dots \text{Equation 7}$$

Where is  $D$  the depth of specified space from origin space,  $L$  is the total number of spaces. The Depth ( $D$ ) is simply the topological distance to reach another axial line in the urban system.

$$D = \sum_{j=1}^{L-1} d_j \dots\dots\dots \text{Equation 8}$$

Where  $d_j$  is the topological distance between two axial lines.

### **D. Synergy**

Synergy value is the correlation between global integration  $R_n$  and local integration  $R_3$  (case it best correlates not as local value), it measure the relationship between local parts to whole system.



### 1.7.2 Subjective Morphology

**Rapoport (1977)** defined Subjective urban morphology as the clearly result of cognition, of knowing and giving meaning to the environment by selecting direct and indirect information from it, with variable stress on different sensory modalities and the noticeable differences used and through the coding and taxonomic conventions specific to the cognitive style.

**McCrea, Stimson et al. (2005)** examined different geographic levels of subjective urban quality of life. Regional satisfaction was best predicted by evaluations of regional services (such as health and education) and the cost of living, while evaluations of environmental and urban growth problems were significant predictors of regional satisfaction for younger persons. Neighborhood satisfaction was best predicted by evaluations of social interactions, neighborhood crime and public facilities (parks, libraries), while housing satisfaction was predicted best by age of home and home ownership.

**Serag-El-Din, Shalaby et al. (2013)** defined urban quality of life as a multi-disciplinary concept in other words it is a multi-dimensional concept. Obviously, we cannot understand the urban quality of life of a certain place through only one dimension but through the relationship between those dimensions figure 1-8.

The researcher studies the quality of urban life through quality of life using bottom up model, and face-to-face questionnaire which is created using pilot study results for case of study area residents needs.

These main seven dimensions divided into thirty basic principles that can be applied in various combinations to achieve quality of life for any communities.

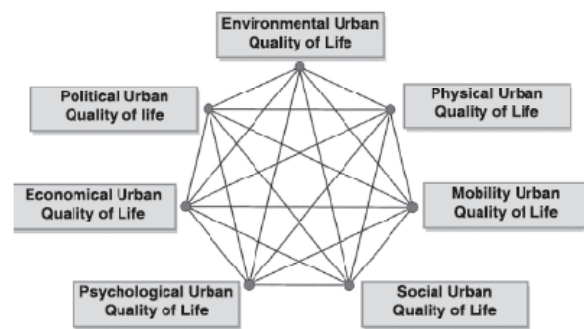


Figure 1-8 Urban quality of life dimensions – Heptagon Shape<sup>i</sup>

<sup>i</sup>SERAG-EL-DIN, H., SHALABY, A., FAROUH, H. E. & ELARIANE, S. A. (2013) Principles of urban quality of life for a neighborhood. HBRC Journal, 9, 86-92.

### **1.8 Data Analysis and Presentation**

Data analysis were done using computer softwares as follow; urban morphology is done using ArcGIS and Space Syntax and SPSS and Amos software were used for social response analysis.

All results presented as maps by ArcGIS using Inverse distance weighted (IDW) tool to calculate values distribution, this help to represent the value and its related location at the same time.

IDW defined the interpolation that determines cell values using a linearly weighted combination of a set of points. Generally, the weight is a function of inverse distance. The polygon being interpolated must have a location dependent variable.

It assumes that the variable being mapped decreases in influence with distance from its sampled location.

Figure 1-9 shows research map

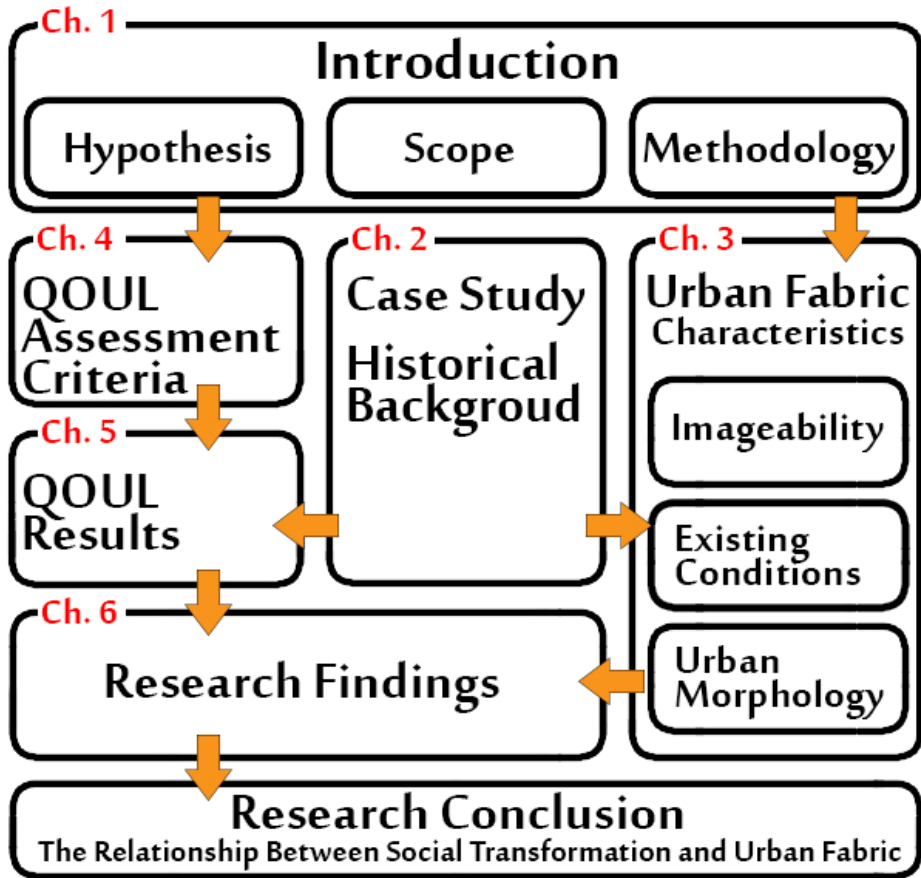


Figure 1-9 Research Map<sup>i</sup>

<sup>i</sup>By Author



# **CHAPTER 2**

## **2. MADINET NASR: Creation and Growth**



## The Preface

Previous chapter discussed the reasons of choosing Madinet Nasr as a case study and how it is important to be studied as a model.

This chapter is concerned with the historical background of Madinet Nasr and its creation and growth.

To incorporate urban and social assessment, it is necessary to study the goals of creation and establishment, as well as studying its growth and development.

## 2.1 Historical Background

Madinet Nasr is one of the most important government-sponsored projects, it is a centrally planned and executed development design aimed to provide not only housing but employment centers and community facilities as well.

The research studies the events that affected Cairo's growth before establishing Madinet Nasr. The research selects some main events, these events are related to urban and governance issues as discussed by **Abu-Lughod (1971)** concluded in six main issues as followed.

### 2.1.1 Private Concessions

The private concessions were Cairo's major problem for the two decades preceding 1952, which prevented any central administrative decision; this caused many problems due to uncoordinated diffuse decisions by each agency.

In addition, those agencies work for private profit rather than public welfare, this means service is granted to wealthy areas than poor areas, also maintenance for service networks as well.

A plan was set to convert all private agencies into single administrative framework; the plan was under way before 1952 revolution, which completed the task.

The plan aimed to restore the companies after their concession expired, like the concession of Lebnn et Cie which expired in 1947, the government took over the company's installations for electric light, power and gas and run it through special administration.

After the elimination of these private agencies, the government was able to maintain the city and start planning extensions.

### 2.1.2 Al-Waqf Ministry

In fact, another problem appeared and held back the process of planning and developing the city. Al-Waqf Ministry was called "government within government" because it took control over a significant proportion of Cairo's real estate and had access to financial resources.

The government had to fight sometimes and cajole the ministry others to pass their administrative decisions, the ministry sometimes advanced the arguments to a sacred level even though it was a secular authority.

The government had to persuade and cajole Al- Waqf Ministry to invest its fund in community projects as defined by government, as a result the construction of Vagabonds' City at al Marj and of several public housing projects for low-income tenants.

This problem was solved in 1963 after a ministerial order called the Ministry to turn overall real estate properties under its jurisdiction to the governorates in which they were located to be managed directly through the governorate offices.

### **2.1.3 Governance Conflict**

The Municipality (Baladiyah) created by Law 145 in 1949 and started in 1950, it was assigned all the municipal functions that had formerly been under the jurisdiction of the (Tanzim) department of the Ministry of Public Works.

In that same year a new Ministry of Municipal and Rural Affairs was established and assigned the administrations for public services, local commissions and the Cairo Main Drainage Department, which had formerly been under the Ministry of Health.

Although the law established the Municipality of Cairo, added formality to town council and changed the level of governing the city, it neither solved the problems of overall coordination nor established true representative government; because the relationship between the new (Baladiyah) and the other existing administrative unit, the Governorate (Muhafaza), remained relatively unspecified.

In 1960 a new law (No. 124 on Territorial Administration) was declared, establishing a Ministry for Local Administration and outlining a uniform system of local government within the framework of the then-recently established National Union, a preliminary approach to representative government soon superseded by the Arab Socialist Union.

This new law had a conflict with clauses in the law of 1949 Law and had the effect of merging the Baladiyah and Muhafaza of Cairo into a single entity, in which the former chief of the Baladiyah became an undersecretary directly responsible to the Governor of Cairo. Eventually the subsumed unit was renamed the Department of Housing and Public Utilities.

Another important innovation of the 1960 Law was to empower the President of Egypt to establish the boundaries of all governorates (or Muhafaza, which Cairo is one of twenty-four). Theoretically, at least, the power thus existed to constitute a metropolitan region for Cairo which would conform realistically to the functional unit required to plan the



metropolis. Thus far the potentialities created by this law have not been exploited in a fashion designed to satisfy many persons deeply concerned with planning the future metropolis.

The boundaries adopted for Cairo were those, which had been in force since the 1950's, while they extended the limits of the Governorate southward to include Helwan, they also left the western bank under the jurisdiction of the neighboring Governorate of Giza.

The achievement of coordinated development on both sides of the river remains unreached. There is a small amount of informal coordination seems to take place.

#### **2.1.4 Financial Shortage**

Cairo had not any independent financial resources like local taxes; its resources came from nationally determined subventions and administratively determined allocations for specific functions. this explains ministries involvement who expect to share in decisions.

In 1953 the Municipality Commissioned a group of engineers and planners to formulate a master plan for the capital, and numerous committees were set up to handle specific aspects.

Surveys were undertaken to gather needed data on the distribution of inhabitants, the location of industry, commerce, and other land uses, housing conditions, labor conditions, transport and communications problems, streets and highways, etc. These surveys required two years to complete, finally, in 1956 the Master Plan for the city was finished and subsequently published, but it has never been released. It is not officially binding, nor does anyone claim that its contents offer a realistic set of goals for the city or a reasoned program for their achievement.

During World War II period private investment in housing was providing luxury dwellings only for higher class of the population which have already the best accommodation in the city. Also this decreased in the 1950's; the overall shortage of housing became problem and direct government investment to solve it before the needs expansion.

In early July 1965, a presidential decree by President Nasser forming a Higher Committee to supervise the planning of the Greater Cairo Region and the execution of necessary projects. The decree was an attempt to solve the crisis of population growth and the lack of maintenance and expanding in utilities, on the other hand world war II caused material shortage this made it difficult to achieve basic needs for the city also, lack of money especially the hard currency to buy heavy capital equipment.

### **2.1.5 Housing Problem**

In 1965 appraisal of the housing problem in Cairo, housing shortage caused by highly occupancy densities that were exceeding accepted standards of adequacy. The government has become deeply committed to the path of direct investment and construction, not only in those areas where it has conventionally operated such as the construction of roads, bridges, utilities and community facilities but also in areas formerly left to private investment.

In its direct activities the government set a 5 years' plan (1965-1970) that has been assisted by its rather extensive land holdings within the Governorate, in the form of state domains, Muhafaza and Waqf lands over which it recently gained control, which have provided not only sites for construction but sources of revenue to finance further projects.

The most important of these direct real estate operations has been in the field of housing which, since 1956, has become an important function of the Governorate in cooperation with the Ministry of Housing. These projects have helped to fill a vacuum of private investment which has generally fled the field of urban real estate.

### **2.1.6 Housing Policy**

Before 1952 there was no housing policy in Cairo, the only publicly constructed housing project was Workers' City in Imbibah, with about 1,000 dwelling units. These had been rental units but, after the Revolution, they were sold to their occupants. Then many housing projects were constructed.

In addition to these housing projects that have been or are being planned, built and managed by the government, there are many other housing developments which have been or will be planned, constructed, and initially financed by special housing authorities but then sold in the form of cooperatives to occupant-owners.

This method was favored for several reasons. First, it had the advantage of making available the large amounts of capital required to construct coherent developments. Second, it maximized, through direct design, controls over the location and standards of developments which otherwise would be relatively unfettered by legal restrictions, given the inadequacy of the laws regulating housing and land use.

Finally, this method protected the government from having its funds tied up in projects it must continue to administer and maintain. Presumably, as cooperative loans are paid off or transferred to other investment sources, the funds would again be available for new projects.

This approach offered attractive possibilities which are now being exploited, many of the housing developments on the west bank are being sponsored in this manner, as well as other more centrally located smaller projects for middle- and upper-middle-income groups.

## 2.2 Establishing Madinet Nasr

The project of Madinet Nasr was Sayed Karim's idea, and according to his handwritten account of the founding of Madinet Nasr when he proposed his project to the government (the municipality and various ministries), it was refused because the idea conflict the ideals of socialism.

Then he had a chance to meet the officer Anwar Sadat, who was impressed by the architectural model of the city, who helped to persuade Gamal Abdel Nasser.

Meanwhile new area started by a presidential decree no. 815 (1959), also the establishment of a general administration under the name of Madinet Nasr Company for Housing and Development (MNHD); it was responsible for urbanization of Madinet Nasr.



Architect Sayed Karim pictured with his maquette of Madinet Nasr<sup>i</sup>



Military officer giving a presentation about housing in the city of the future, Madinet Nasr<sup>ii</sup>

Because of its incredible scale, it is far from typical of the other less ambitious direct activities hitherto undertaken.

<sup>i</sup><http://caiobserver.com/post/114391196879/nasr-city-was-once-egypts-new-capital-but-things> (1-1-2017).

<sup>ii</sup>Ibid

### 2.3 Site Selection

The selected site was an empty desert except from Abbasiya mental hospital and old British barracks inherited by the Egyptian army. The site located between Abbasiya from the left and Heliopolis to the north.

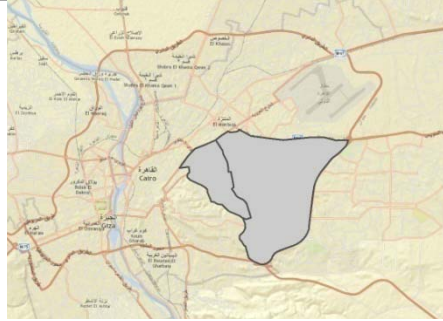


Figure 2-1 Madinet Nasr location to Cairo<sup>1</sup>

The site's area is 81 square kilometer, only 12 square kilometer were planned initially to be converted into a thriving and relatively self-sufficient complex of residential, commercial, industrial, recreational, educational, and governmental uses.

### 2.4 Planning Team of Madinet Nasr

Madinet Nasr planning was an interaction between three organizations MNHD, Cairo's government and the ministry of defense because the lands belonged to the army.

The leader of the planning commission was Mahmoud Riad (1917–1992), a friend of Nasser and an important diplomatic. Riad joined the Foreign Ministry in 1955 and quickly climbed the diplomatic ranks. He became Ambassador of Syria in 1958 and chief delegate for the United Nations in 1962. He was Foreign Minister from 1964 to 1972.

Sayed Karim was sequestered from Madinet Nasr planning after MNHD was sold to private bank on 20 September 1964.

### 2.5 Master Plan

Madinet Nasr's design met two recommendations from Cairo's master plan of 1956, the first recommendation was the future growth to be channeled into relatively self-contained satellite communities, rather than to be allowed to accrete along the urban margins, and second one was the preference that was given to desert sites rather than those at the fertile margins of the city, in order to improve the symmetry of the elongated metropolitan region and to preserve as much arable land as possible for agricultural purposes.

Sayed Karim designed the initial urban plan and architectural designs for the new community Figure 2-3, he aimed to attract upper and middle educated classes by using English language in most brochures; which assured that new city is planned according to the latest theories of city planning.

<sup>1</sup>By Author

Then the master plan was edited and improved by Madinet Nasr developing team to reach the final established master plan figure 2-4.

The city has an orthogonal plan composed of “super blocks” each containing housing blocks too expensive for the poor and largely fit to the new middle class figure 2-2.

A complete new administrative area was planned to the new ministries and relocate others from the downtown area.

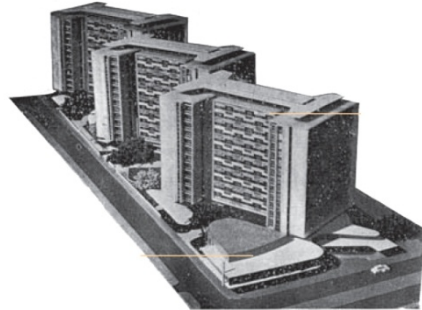


Figure 2-2 Residential blocks designed by Sayed Karim<sup>i</sup>

Karim also planned Cairo international stadium and Egypt expo and convention authority as gate for the new area.

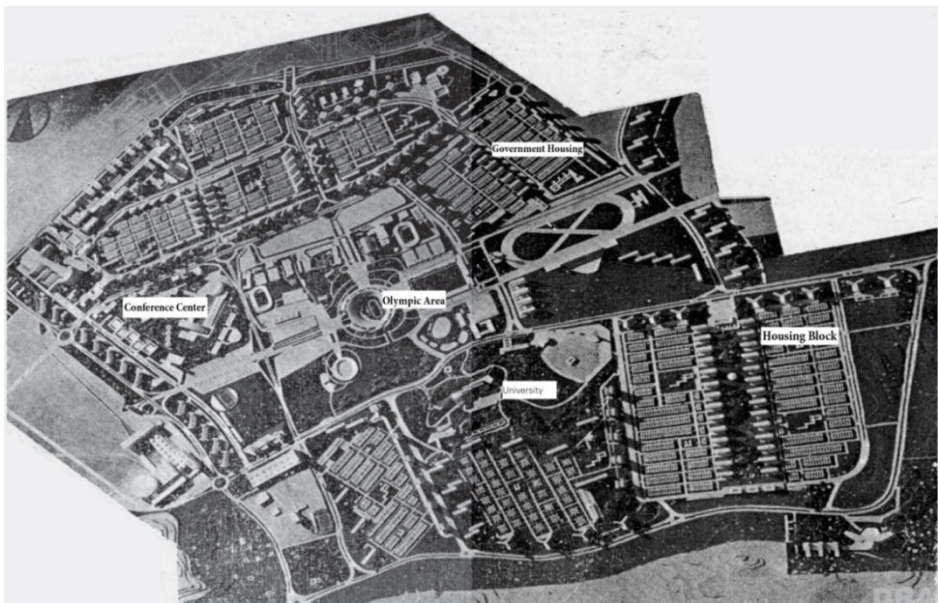


Figure 2-3 First master plan by Said Karim<sup>ii</sup>

<sup>i</sup> Karim, S. (1999). Cairo, is 50-thousand years old. Cairo, General Egyptian Book Organization.

<sup>ii</sup> Ibid

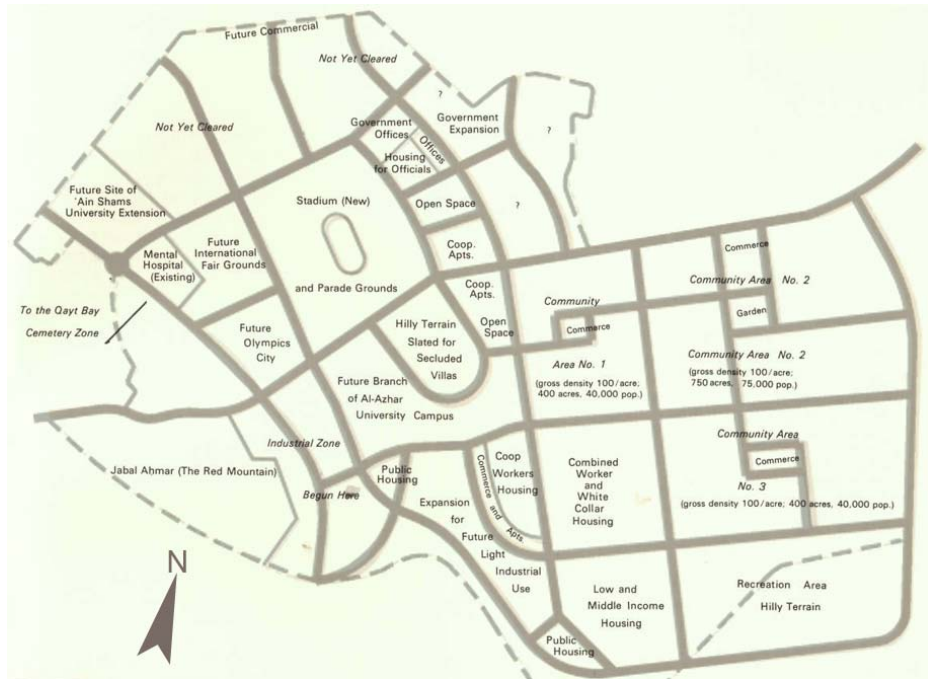


Figure 2-4 Final master plan for Madinet Nasr<sup>i</sup>



Figure 2-5 A military parade with the first phase of Madinet Nasr 10-story apartment buildings seen in the background<sup>ii</sup>

<sup>i</sup>Studio, B. (2010). Nasr City. Cairo.

<sup>ii</sup><http://caiobserver.com/post/114391196879/nasr-city-was-once-egypts-new-capital-but-things#.WGwwLIN961s> (1-1-2017).

## 2.6 Urban Growth

The construction process of Madinet Nasr was slow at its early beginning **Abu-Lughod (1971)**, the new community started at 1959 and still discussed in the media as a plan until 1966. figure 2-6, One of many reasons was the lack of transport network, which help workers and residents to move, or work in Madinet Nasr, another one was the lack of low-income housing, which prevent those in need of housing from moving there.

Madinet Nasr construction process was still in progress by 1972 with low occupancy rates. As well, it was reacted slowly to this densification during the first decades, the construction phase. From the 1980's on, the densification of Madinet Nasr rapidly increases due to the massive immigration of people from the Gulf.

After infitah policies, the state retreated from its position as the sole developer of large-scale projects and opened the door for speculative developers to enter the scene and build residential buildings that did not comply with the original plan in hopes of maximizing profit.

In the meantime, the state also retreated from its role as a manager of cities through its institutions that could have allowed citizens to participate in their everyday urban affairs.

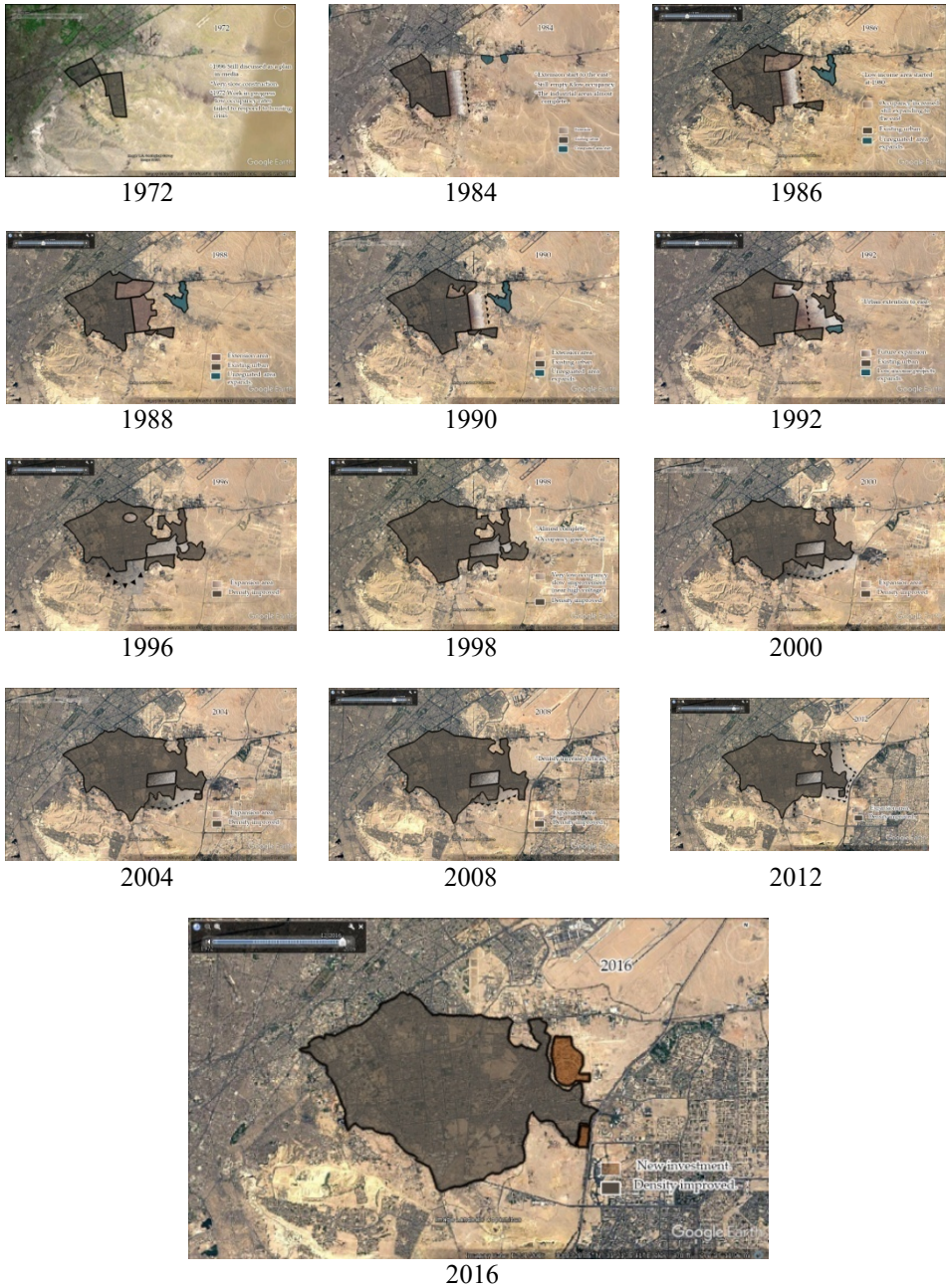


Figure 2-6 Madinet Nasr urban growth through last 45 years<sup>i</sup>

<sup>i</sup> Google earth (2016-12-5 edited by Author)



## 2.7 Regulation

First building law was issued in 1941, and changed many times until the last one “law (119) 2008”.

Building code limits all heights in Madinet Nasr by 2 to 5 floors for all residential areas, except for lands laying on main roads (related to road width). Code also retreat areas and building ratio for each different piece of land, this result a high visual unity with a good sense.

In the late 80s after the population problems and the return of gulf work force during Kuwait war, residents demand was high to live in Madinet Nasr and the value increased.

Many investors worked in the area and built huge building blocks (10 floors height), which was not following the building’s code regulation to maximize their profits; advantaging from the points of weakness of law and authorities. Even law that prevents illegal buildings from having services investors find a way to connect their buildings to public services and get away with it.

After that, all investors in Madinet Nasr did the same, went to court, and asked to be equal with other illegal buildings, which managed to have services. This changed the capacity of district which was not planned also deformed the shape of designed sky line.

## 2.8 Population

Madinet Nasr converted to independent administration by 1972, before that it was part from Abbasiya administration.

Cairo's 1956 master plan predicted a population of 4.5 million by the year 2000, but the unexpected rapid population increased to reach 6 million by the year 1966.

According to the last census Madinet Nasr population is multiplied ten times as 1978 population data. Table 2-1.

Year	Population
1978	64892
1986	166994
1996	394430
2006	440496

Table 2-1 Madint Nasr population<sup>i</sup>

<sup>i</sup> <http://www.t-series.capmas.gov.eg/home.aspx> (2015-5-3)

In 1970, few buildings stand in Madinet Nasr. Long roads and Desert



Figure 2-7 Madinet Nasr in 1970<sup>i</sup>

## Summary

This chapter has demonstrated the history of Madinet Nasr and its growth for both urban fabric and population.

The general problems were preventing the establishment of Madinet Nasr summarized as follow;

- Private concessions, services were administrated and established by private agencies, which stop any development to the city against their benefits.
- Al-Waqf Ministry, was a very rich ministry controlling a huge number of lands and buildings in Cairo, which make any progress needs permission from it.
- Governance conflict, there were many conflicts in laws and authorities at this time.
- Financial shortage, Cairo has not any independent financial resource, which made it harder to maintain the city and create new extensions.
- Housing shortage, it appears in 1965 due to Second World War and shortage of governmental projects and materials.

In addition, Madinet Nasr's urban fabric growth was slow at the first seven years; also, population was very low during the same time.

Figure 2-8 and 2-9 show the time line for social, political, and urban events related to Madinet Nasr.

---

<sup>i</sup>Studio, B. (2010). Nasr City. Cairo.

DATE	SOCIALIZATION	POLITICAL	URBAN
1952		Egyptian Revolution	
1956		The new Constitution of Egypt was drafted. Nasser is elected for President .	First Masterplan for Cairo is designed for a population of 3.5 million .
1959		Nationalization of the Suez canal. French, British and Israeli attacks follow .	The government creates a company responsible for the construction of Nasr City. A masterplan is dsigned.
			Olympic Stadium opens. Egypt aspires to be the first African country to host the games .
1961			Infrastructure for the industrial area is complete. several companies settle in Nasr City .
1962			A new regulation states that ministerial offices need to be relocated to Nasr City .
1967		6 Day war. between Egypt and Israel .	
1971		A New ministerial order expands the initial area of 2646 ha to 8400 ha .	
1973		.Infitah. :Sadat's open door policy now allows domestic and foreign investment in the private sector.	

Table 2-2 Time line of Madinet Nasr Evolution<sup>i</sup>

<sup>i</sup> Studio, B. (2010). Nasr City. Cairo edited by Author

DATE	SOCIALIZATION	POLITICAL	URBAN
1975			Unknown soldier memorial inaugurated just next to the stadium, to honor the victims of the 1973 war .
1977		All restrictions removed on private capital and investments .	
1979		Treaty between Israel and Egypt. Most Arab creditors to national dept replaced by OECD members .	
1981		National dept : 16 billion .	
1986	Masterplan for the greater Cairo region .	President Sadat was assassinated during the annual victory parade held in Nasr City, Cairo .	
1989		Masterplan for the greater Cairo region .	First shopping mall in Cairo. Nasr City will be the main shopping area in town, with 7 malls.
1991	More than 500 000 emigrants come back to Egypt. A lot of them settle in Nasr City.		
2000			Talaat Harb mall, Nasr City .
2004		Prime Minister Atef Ebeid resigns, amid increasing pressure from part of the business community demanding more rapid	
2005			Opening of City Stars, Egypt's biggest shopping mall, facilitated by the new government .
2009			A new Cairo Expo City by Zaha Hadid is planned next to Nasr City

Table 2-3 Time line of Madinet Nasr Evolution <sup>i</sup>

<sup>i</sup> Studio, B. (2010). Nasr City, Cairo edited by Author

# **CHAPTER 3**

## **3.URBAN FABRIC: PHYSICAL ANALYSIS**



## The Preface

This chapter is concerned with the main characteristics of Madinet Nasr's urban fabric, it includes three parts, each part help collaboratively to draw an image for the area of study: Imageability, Existing conditions, and Urban Morphology characteristics are the three parts.

Imageability studies the visual characteristics of urban fabric, as well existing conditions study the status of urban fabric, and urban morphology studies typology and configuration for each neighborhood, these last two numerical studies need to be connected (to complete the image) with objective characteristics using imageability and existing condition maps for land plots.

The resulting image for each neighborhood will help interpreting SQL test results (next Chapters) by comparing people response about their areas and this physical study.

## 3.1 Imageability

The research applies imageability from **Lynch (1960)** point of view. It is studied for buildings only not urban spaces and it define the quality of physical objects, which gives the observer a strong vivid image.

Imageability is studied through observation for certain topics as building types, building levels, building heights, landuse, and genral overview in each neighborhood in study area. Figure 3-1 shows the key map for studied neighborhoods location and boundaries. See appendix 1 for more photos.

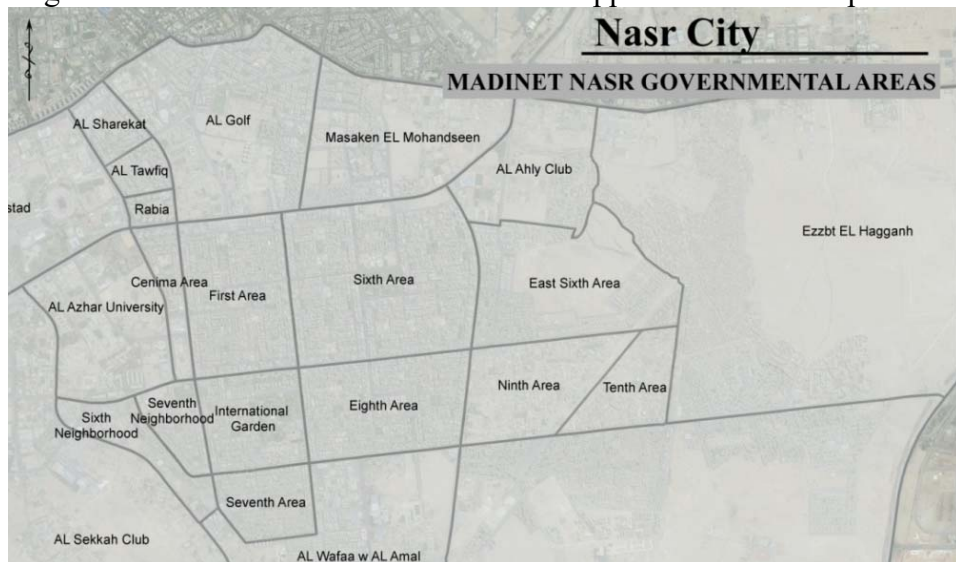


Figure 3-1 Madinet Nasr governmental areas <sup>i</sup>

<sup>i</sup> By Author

**3.1.1 The First Area**



overview

First area started before 1970 it was built slowly and almost completed in 1982, first area was built by users, except commercial area and Nasr Road buildings were built by investors.

With density of 100 resident/acre, the planned capacity was 40000 residents now it has 39414 residents (estimated in 2016).

Area  
400 Acre

Density  
99 resident / acre

**Figure 3-2 The First Area Layout<sup>i</sup>**



El-Rahman Mosque



Genenah Mall

Hay Madinat Nasr

**Figure 3-3 Main Landmarks in the First Area <sup>ii</sup>**



**Figure 3-4 Global view for First Area neighborhood<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> Ibid



## Building Types



**Figure 3-5 Building types in First Area<sup>i</sup>**

Users built most of buildings in different periods, each facade from above shows different culture and different use. Figure 3-5

## Building Heights



**Figure 3-6 Building heights in First Area<sup>ii</sup>**

Old buildings have five floors height, new buildings or (demolished and rebuild) have 10 floors or 11 floors height. Figure 3-6

## LandUse



**Figure 3-7 Landuse in First Area<sup>iii</sup>**

Almost all buildings are residential only, except some buildings on main roads turn their use to mixed use (commercial or administrative). Figure 3-7

## Housing Levels



**Figure 3-8 Housing levels in First Area<sup>iv</sup>**

The housing level is almost the same through area except main roads and open areas, which have many rebuilt buildings with higher level. Figure 3-8

<sup>i</sup> By Author

<sup>ii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

<sup>iii</sup> By Author

<sup>iv</sup> Ibid

**3.1.2 The Sixth Area**



overview

Sixth area started in 1980 and completed in 1990, the sixth area has the highest population in Madinet Nasr and largest residential area. It was planned for has 75000 residents (100 residents/acre) but now it has 113426 residents (estimated in 2016).

Area  
750 Acre

Density  
152 resident / acre

**Figure 3-9 The Sixth Area Layout'**



City Center



Child Garden



World Health Organization

**Figure 3-10 Main Landmarks in the Sixth Area <sup>ii</sup>**



**Figure 3-11 Global view for Sixth Area neighborhood<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

## Building Types



**Figure 3-12 Building types in Sixth area<sup>i</sup>**

Sixth area has three building types; cooperative type (repetitive) built by company and new built buildings and old low height buildings. Figure 3-12

## Building Heights



**Figure 3-13 Building heights in Sixth area<sup>ii</sup>**

There are two major heights five floors for old buildings and 10 floors and more for the newly built buildings. Figure 3-13

## LandUse



**Figure 3-14 Landuse in Sixth area<sup>iii</sup>**

Almost all the buildings are residential only except some buildings on main roads turn their use to mixed use (commercial or administrative). Figure 3-14

## Housing Levels



**Figure 3-15 Housing levels in Sixth Area<sup>iv</sup>**

The neighborhood includes two levels; high level through new buildings (replaced old ones) and mid level for old building. Figure 3-15

<sup>i</sup> By Author

<sup>ii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

<sup>iii</sup> By Author

<sup>iv</sup> Ibid

### 3.1.3 The Sixth Neighborhood



overview

The neighborhood designed to be extension for light industrial use, with two public residential zones; the residential use now more than designed. It has now 14846 residents (estimated in 2016).

Area  
170 acre

Density  
88 resident / acre

**Figure 3-16 The Sixth Neighborhood Layout<sup>i</sup>**



Police Station

**Figure 3-17 Main Landmarks in the Sixth Neighborhood <sup>ii</sup>**



**Figure 3-18 Global view for Sixth neighborhood<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> By Author

## Building Types



**Figure 3-19 Building types in the Sixth Neighborhood<sup>i</sup>**

The neighborhood has many repetitive types, varies in facades designs and levels.

## Building Heights



All buildings are five floors height.

**Figure 3-20 Building heights in the Sixth Neighborhood<sup>ii</sup>**

## LandUse



All buildings are mixed use; uses add to residential are cars maintenance and spare parts shops.

**Figure 3-21 Landuse in the Sixth Neighborhood<sup>iii</sup>**

## Housing Levels



**Figure 3-22 Housing levels for the Sixth Neighborhood<sup>iv</sup>**

Area has two levels the major level is the low level and minority of buildings are mid level.

<sup>i</sup> By Author

<sup>ii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

<sup>iii</sup> By Author

<sup>iv</sup> Ibid

### 3.1.4 The Seventh Neighborhood

overview

The neighborhood designed to settle down cooperative housing workers, it was built in 80's. It has now 10330 residents (estimated in 2016).



Area  
120 acre

Density  
86 resident / acre

Figure 3-23 The Seventh Neighborhood Layout<sup>i</sup>



Al-Radwan School



Al-Tawheed w Al-Noor



King Fahd Model School

Figure 3-24 Main Landmarks in the Seventh Neighborhood<sup>ii</sup>



Figure 3-25 Global view for Seventh neighborhood<sup>iii</sup>

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> Ibid

## Building Types



**Figure 3-26 Building types in The Seventh Neighborhood <sup>i</sup>**

The neighborhood has three types; governmental repetitive type, the other two types are user defined types old and new.

## Building Heights



**Figure 3-27 Building heights in The Seventh Neighborhood <sup>ii</sup>**

Neighborhood buildings height varies from five floors to more than 10 floors.

## LandUse



**Figure 3-28 Landuse in The Seventh Neighborhood <sup>iii</sup>**

Almost all buildings are mixed use; uses added to residential are commercial and administration.

## Housing Levels



**Figure 3-29 Housing levels in the Seventh neighborhood<sup>iv</sup>**

Neighborhood has two levels mid and high levels; governmental buildings are mid level and private buildings are high level.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

### 3.1.5 Al Tawfik



#### overview

According to the master plan, the area was a free open area for Al-sharekat and Rabia neighborhoods, the area was built by army to create residence for officers, the neighborhood was built in eighties. It has now 18104 residents (estimated in 2016).

Area  
75 acre

Density  
242 resident / acre

**Figure 3-30 The Al Tawfik area Layout<sup>i</sup>**



El Tawfiq Hospital



El Tawfiq Mosque

**Figure 3-31 Main Landmarks in the Al Tawfik area<sup>ii</sup>**



**Figure 3-32 Global view for Al-Tawfik area<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)



## Building Types



**Figure 3-33 Building types in Al Tawfik area<sup>i</sup>**

Neighborhood has two buildings types, differs in facade, design and same height.

## Building Heights



**Figure 3-34 Building heights in Al Tawfik area<sup>ii</sup>**

There are two heights 10 floors and 13 floors for each type from two.

## LandUse



**Figure 3-35 Landuse in Al Tawfik area<sup>iii</sup>**

Almost all buildings are mixed use, main uses added to residential are commercial and administration.

## Housing Levels



**Figure 3-36 Housing level in Al-Tawfik area<sup>iv</sup>**

The area has the same level over its two types.

<sup>i</sup> By Author

<sup>ii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

<sup>iii</sup> By Author

<sup>iv</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

**3.1.6 Rabiaa**

overview

The neighborhood is built in the 60's, it was the first residential area built in Madinet Nasr. It has now 3808 residents (estimated in 2016).



Area  
47 acre

Density  
81 resident / acre

**Figure 3-37 The Rabiaa area Layout<sup>i</sup>**



Abdel Aziz Gawish School

**Figure 3-38 Main Landmarks in the Rabiaa area<sup>ii</sup>**



**Figure 3-39 Global view for Rabiaa area<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

## Building Types



**Figure 3-40 Building types in Rabiaa area<sup>i</sup>**

There are two prototype; rectangular and I shaped buildings, both are built by government.

## Building Heights



The two prototypes have 11 floors height.

**Figure 3-41 Building heights in Rabiaa area<sup>ii</sup>**

## LandUse



Buildings located on main roads are mixed use.

**Figure 3-42 Landuse in Rabiaa area<sup>iii</sup>**

## Housing Levels



**Figure 3-43 Housing levels in Rabiaa area<sup>iv</sup>**

Rabiaa area has only mid level buildings (which was planned for).

<sup>i</sup> By Author

<sup>ii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

<sup>iii</sup> By Author

<sup>iv</sup> Ibid

**3.1.7 Al Sharekat**

overview

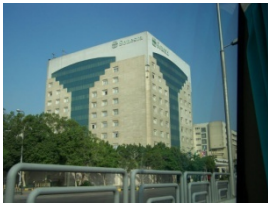


Al Sharekat neighborhood is built to locate new ministries and relocate old ministries that moved from down town. It has residential zone for officials. It has now 5766 residents (estimated in 2016).

Area  
102 acre

Density  
57 resident / acre

**Figure 3-44 The Al-Sharekat area Layout<sup>i</sup>**



Sonesta Hotel



Accountability State Authority



El-Fath mosque

**Figure 3-45 Main Landmarks in the Al-Sharekat area<sup>ii</sup>**



**Figure 3-46 Global view for Al-Sharekat area<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

## Building Types



Figure 3-47 Building types in Al-Sharekat area<sup>i</sup>

Al-Sharekat area includes three building types, two are repetitive through certain zones, First and second from left was built by the MNHD company second was by users.

## Building Heights



Figure 3-48 Building heights in Al-Sharekat area<sup>ii</sup>

The neighborhood has two main heights; five floors for MNHD buildings and 10 floors for private buildings and some of MNHD.

## LandUse



Figure 3-49 Landuse in Al-Sharekat area<sup>iii</sup>

Almost all buildings are residential very few building are mixed use. Commercial usage is available in a separate zone.

## Housing Levels

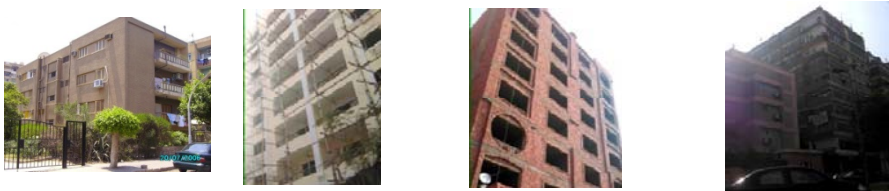


Figure 3-50 Housing levels in Al-Sharekat area<sup>iv</sup>

Al-Sharekat area includes two housing levels; high level through new buildings (replaced old ones) and mid level for old building.

<sup>i</sup> By Author

<sup>ii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

<sup>iii</sup> By Author

<sup>iv</sup> Ibid

**3.1.8 Cinema**



overview

The Cinema area is Considered as one of Madinet Nasr oldest areas all buildings was built by government and private company, the area includes main services for Madinet Nasr. It has now 19930 residents (estimated in 2016).

Area  
115 acre

Density  
174 resident / acre

**Figure 3-51 The Cinema area Layout<sup>i</sup>**



El-Ta'ameen El-Sehy



Nori Khattab Mosque



Azhar Conference Center

**Figure 3-52 Main Landmarks in the cinema area<sup>ii</sup>**



**Figure 3-53 Global view for Cinema area<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

## Building Types



**Figure 3-54 Building types in the Cinema area<sup>i</sup>**

The Cinema area includes four building types, they are all repetitive through certain zones, First one from left was built by the Othman company second was by the army third was by MNHD, and the last was by a private investment company.

## Building Heights



**Figure 3-55 Building heights in the Cinema area<sup>ii</sup>**

The area has two heights, five floors for the internal building and those who facing Tayaran street, and 10 floors for all other buildings that arranged around the area borders.

## LandUse



**Figure 3-56 Landuse in the Cinema area<sup>iii</sup>**

Almost all buildings are residential except Othman buildings and some low rise building facing El-ta'ameen El-sehy and Al-Tayran street have some commercial and administration usage.

## Housing Levels



**Figure 3-57 Images for the Cinema area<sup>iv</sup>**

Residential blocks almost have the same level except Othman buildings and Army engineer's blocks are a little higher than others are.

<sup>i</sup> By Author

<sup>ii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

<sup>iii</sup> By Author

<sup>iv</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

**3.1.9 The Seventh Area**



**Figure 3-58 The Seventh area Layout<sup>i</sup>**

overview

The Seventh area is designed for low and mid income housing users. This appears in blocks sizes, which are smaller than other neighborhoods. It has now 25533 residents (estimated in 2016).

Area	Density
176 acre	145 resident / acre



Alsun modern School

**Figure 3-59 Main Landmarks in the Seventh area<sup>ii</sup>**



**Figure 3-60 Global view for the Seventh area<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)



### Building Types



**Figure 3-61 Building types in the Seventh area<sup>i</sup>**

The Area have three types, repetitive governmental buildings for low income, old five floors designs for mid level users, and tall buildings which newly built for mid and high level users.

### Building Heights



**Figure 3-62 Building heights in the Seventh area<sup>ii</sup>**

There are two heights, five floors for old low income and old mid buildings, 10 floors heights for newly built buildings

### LandUse



**Figure 3-63 Landuse in the Seventh area<sup>iii</sup>**

Almost all of buildings are residential and mixed-use building, the area have low-income markets (street vendors).

### Housing Levels



**Figure 3-64 Housing levels in the Seventh area<sup>iv</sup>**

Seventh area consists of three levels low, mid, and high level; low level buildings are located on area west and south borders, mid and high are located in the middle and north.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

### 3.1.10 The Eighth Area



overview

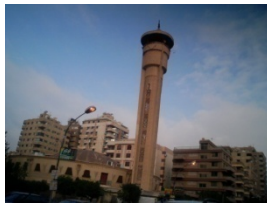
The Area is designed for community mid level housing; it includes some governmentally built buildings. With density of 100 resident/acre, the planned capacity was 40000 residents now it has 53879 residents (estimated in 2016).

Area	Density
400 acre	135 resident / acre

Figure 3-65 The Eighth area Layout<sup>i</sup>



El-Serag Mall



El-Sherbiny Mosque



Technology Mall

Figure 3-66 Main Landmarks in the Eighth area <sup>ii</sup>



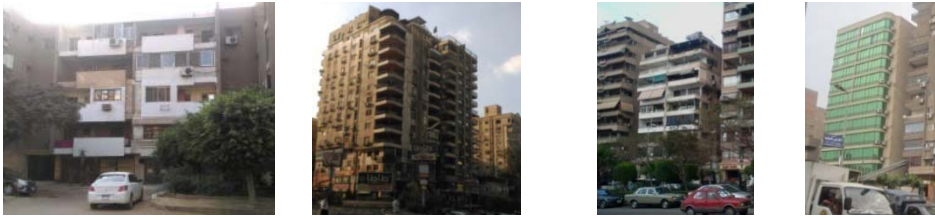
Figure 3-67 Images for Eighth area<sup>iii</sup>

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

## Building Types



**Figure 3-68 Building types in the Eighth area <sup>i</sup>**

The Eighth area includes three building types, low level is repetitive through certain zones, and second one from left was built for high-level users third, fourth was old, and built for mid level users.

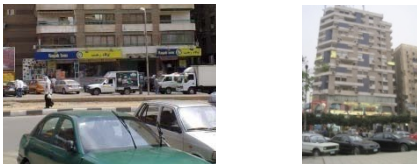
## Building Heights



**Figure 3-69 Building heights in the Eighth area <sup>ii</sup>**

The heights vary from five floors to 10 floors.

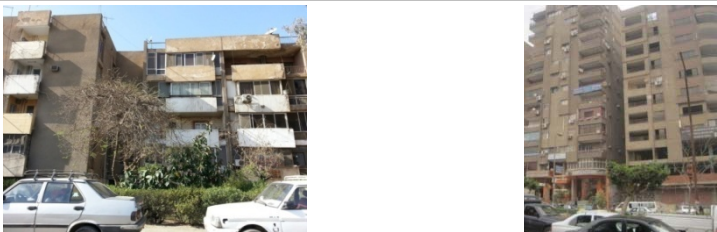
## LandUse



**Figure 3-70 Landuse in the Eighth area <sup>iii</sup>**

Almost all buildings are mixed used; few buildings have residential use only.

## Housing Levels



**Figure 3-71 Housing levels in the Eighth area <sup>iv</sup>**

Buildings divided into two levels mid level built by government and high built by users.

<sup>i</sup> By Author

<sup>ii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

<sup>iii</sup> By Author

<sup>iv</sup> Ibid

**3.1.11 The Ninth Area**



overview

It is a Newly built area and still uncompleted neighborhood, the area built by users only. It has 7342 residents (estimated in 2016).

Area 350 acre	Density 21 resident / acre
------------------	-------------------------------

**Figure 3-72 The Ninth area Layout<sup>i</sup>**



El-Manhal school



Al-Ghfran Mosque



Dr. Talaat Al-Sayed school

**Figure 3-73 Main Landmarks in the Ninth area <sup>ii</sup>**



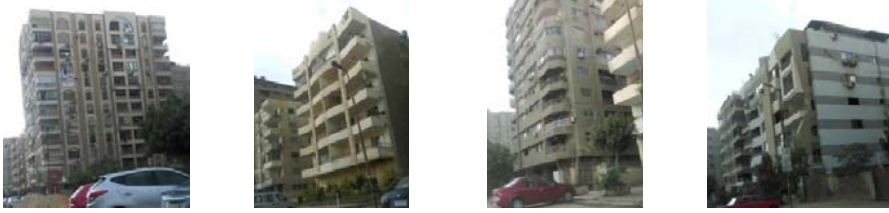
**Figure 3-74 Global view for Ninth area<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

## Building Types



**Figure 3-75 Building types in The Ninth area <sup>i</sup>**

The area has one type, because it is newly built.

## Building Heights



**Figure 3-76 Building heights in The Ninth area <sup>ii</sup>**

All buildings are ten floors height except few buildings with five and six floors.

## LandUse



**Figure 3-77 Landuse in The Ninth area <sup>iii</sup>**

Almost all buildings are residential except few buildings are mixed use with commercial usage.

## Housing Levels



**Figure 3-78 Housing levels in the Ninth Area<sup>iv</sup>**

Almost all buildings are having the same high level.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

**3.1.12 The Tenth Area**



overview

It is a newly built area and still uncompleted neighborhood, the area built by users only. It has 9365 residents (estimated in 2016).

Area	Density
195 acre	48 resident / acre

**Figure 3-79 The Tenth area Layout<sup>i</sup>**



Madinet Nasr tax



Al-Sadat School

**Figure 3-80 Main Landmarks in the Tenth area<sup>ii</sup>**



**Figure 3-81 Global view for Tenth area<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

Building Types



Figure 3-82 Building types in the Tenth area<sup>i</sup>

The area has one type, because it was newly built.

Building Heights



All buildings are ten floors height except few buildings with five and six floors.

Figure 3-83 Building heights in the Tenth area<sup>ii</sup>

LandUse



Almost all buildings are residential except few buildings are mixed use with commercial usage.

Figure 3-84 Landuse in the Tenth area<sup>iii</sup>

Housing Levels



Figure 3-85 Housing levels in the Tenth area<sup>iv</sup>

Almost all buildings are having the same level.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

**3.1.13 The East Sixth Area**



overview

It is Considered as an extension for the sixth area neighborhood, cooperatives, government and few users build it. It has 34863 residents (estimated in 2016).

Area	Density
335 acre	104 resident / acre

**Figure 3-86 The East Sixth area Layout<sup>i</sup>**



Al-Raya School



Cairo International School



Masr 2000 School

**Figure 3-87 Main Landmarks in the East Sixth area <sup>ii</sup>**



**Figure 3-88 Global view for East Sixth area<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> Ibid



## Building Types



**Figure 3-89 Building types in The East Sixth area <sup>i</sup>**

The neighborhood has two different types of buildings, repetitive for cooperative and governmental buildings and user defined type for private buildings.

## Building Heights



**Figure 3-90 Building heights in The East Sixth area <sup>ii</sup>**

Heights are vary between five floors for cooperative and governmental buildings, and 10 floors and more for private buildings.

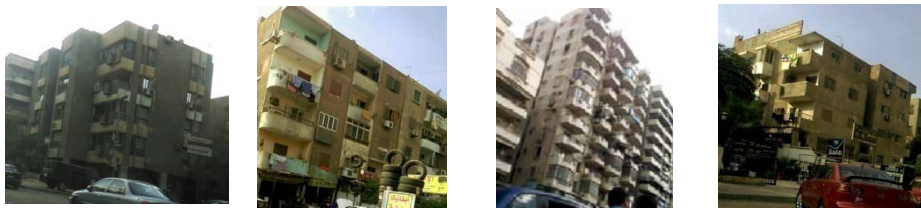
## LandUse



**Figure 3-91 Landuse in The East Sixth area <sup>iii</sup>**

Almost all buildings are mixed use except those do not facing main streets, this accurse cause area do not have service zone.

## Housing Levels



**Figure 3-92 Housing levels in The East Sixth area <sup>iv</sup>**

Housing levels are vary from low income buildings to high income for all types, except governmental types varies from low to mid income only.

<sup>i</sup> By Author

<sup>ii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

<sup>iii</sup> By Author

<sup>iv</sup> Ibid

### 3.1.14 Al Ahly Club



overview

It is a newly built area by government for mid level users. It has 13976 residents (estimated in 2016).

Area	Density
75 acre	186 resident / acre

Figure 3-93 The Al-Ahly Club area Layout<sup>i</sup>



El-Ahly Club



Al-Malik Fahd School



General Authority for Educational Buildings

Figure 3-94 Main Landmarks in the Al-Ahly Club area <sup>ii</sup>



Figure 3-95 Global view for Ahly area<sup>iii</sup>

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

## Building Types



**Figure 3-96 Building types in the Ahly area<sup>i</sup>**

The area has many repetitive types built by government.

## Building Heights



**Figure 3-97 Building heights in the Ahly area<sup>ii</sup>**

All buildings' heights are five and six floors.

## LandUse



**Figure 3-98 Landuse in the Ahly area<sup>iii</sup>**

Almost all buildings are residential only except few buildings are mixed use.

## Housing Levels



**Figure 3-99 Housing levels in the Ahly area<sup>iv</sup>**

Almost all buildings are having the same level.

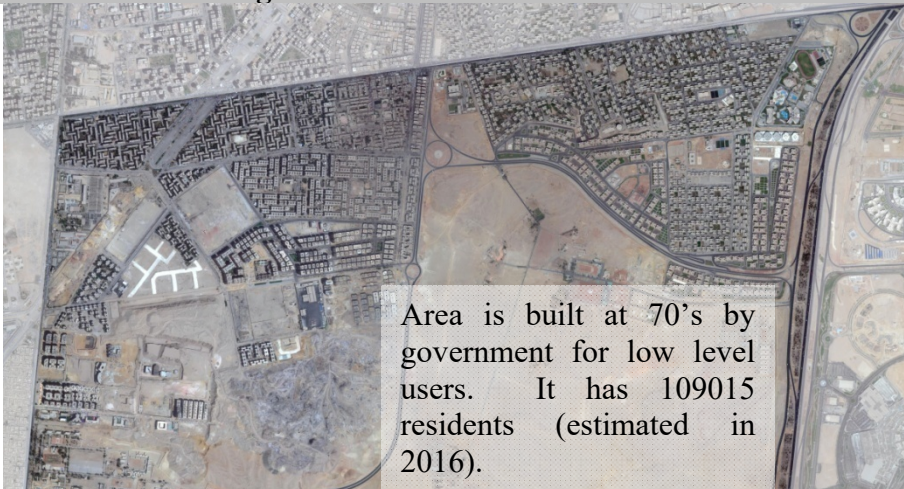
<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

**3.1.15 The 10<sup>th</sup> Neighborhood**



**Figure 3-100 The 10<sup>th</sup> Neighborhood area Layout<sup>i</sup>**



Military Court

Area	Density
1190 acre	91.6 resident / acre

**Figure 3-101 Main Landmarks in the 10<sup>th</sup> Neighborhood area<sup>ii</sup>**



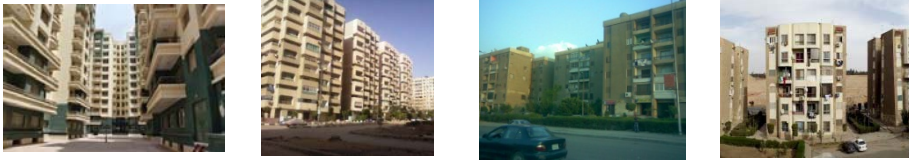
**Figure 3-102 Global view for the 10<sup>th</sup> Neighborhood area<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

## Building Types



**Figure 3-103 Building types in the 10<sup>th</sup> Neighborhood area <sup>i</sup>**

Almost all buildings in this area are repetitive and built by MDHD or companies, and small amount was built privately by users.

## Building Heights



**Figure 3-104 Building heights in the 10<sup>th</sup> Neighborhood area <sup>ii</sup>**

Most of buildings are five floors except new high-mid areas are 10 floors.

## LandUse



**Figure 3-105 Landuse in the 10<sup>th</sup> Neighborhood area <sup>iii</sup>**

Low levels buildings are turned into mixed use (residential and commercial), other areas are residential use inside the areas and mixed use on the outer roads.

## Housing Levels



**Figure 3-106 Housing levels in the 10<sup>th</sup> Neighborhood area <sup>iv</sup>**

The neighborhood has three levels; high, medium and low from left to right, the area was designed as low-income residence but it was used for Madinet Nasr expansion for high and mid income.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

**3.1.16 The International Garden**



Overview

It is old neighborhood starts at 1970, according to designed master plan, the area directed to white collars and workers housing. It has 23670 residents (estimated in 2016).

Area  
270 acre

Density  
88 resident / acre

**Figure 3-107 The International Garden area Layout<sup>i</sup>**



El-Ta'ameen El-Schy



International Garden



Mousa Ibn Nusseer

**Figure 3-108 Main Landmarks in The International Garden area <sup>ii</sup>**



**Figure 3-109 Global view for International Garden area<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

## Building Types



**Figure 3-110 Building types in the International Garden area<sup>i</sup>**

The neighborhood includes four building types, three of them are repetitive through certain zones, First one from left was built by the Othman company second was by the MNHD third was by Al-sharq builings, and the last was by a private investment company.

## Building Heights



**Figure 3-111 Building heights in the International Garden area<sup>ii</sup>**

There are two heights five floors for old buildings and 10 floors for newly built buildings.

## LandUse



**Figure 3-112 Landuse in the International Garden area<sup>iii</sup>**

Almost all of buildings are residential only except Othman buildings and some buildings on main streets.

## Housing Levels



**Figure 3-113 Housing levels in the International Garden area<sup>iv</sup>**

Housing levels in this area vary from mid to high income.

<sup>i</sup> By Author

<sup>ii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

<sup>iii</sup> By Author

<sup>iv</sup> Ibid

**3.1.17 Al-Wafaa w Al-Amal**



overview

The neighborhood is newly built off the initial master plan limits, with no services no heights regulation. It has 18893 residents (estimated in 2016).

Area 123 acre	Density 154 resident / acre
------------------	--------------------------------

**Figure 3-114 The Al Wafaa w Al Amal area Layout<sup>i</sup>**



Enppi company



Al Zawahry Mosque



Al-Sharq Gas Company

**Figure 3-115 Main Landmarks in The Al Wafaa w Al Amal area <sup>ii</sup>**



**Figure 3-116 Global view for Al-Waffaa W Al-Amal area<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> Ibid



## Building Types



**Figure 3-117 Building types in Al Wafaa w Al Amal area<sup>i</sup>**

The neighborhood includes two main types repetitive type used by companies and private type.

## Building Heights



**Figure 3-118 Building heights in Al Wafaa w Al Amal area<sup>ii</sup>**

There are two heights six floors for Al-Fath city and 10 floors for other buildings.

## LandUse



**Figure 3-119 Landuse in Al Wafaa w Al Amal area<sup>iii</sup>**

Almost all of buildings are residential only except some outer buildings at Al Fath city are mixed use.

## Housing Levels



**Figure 3-120 Housing levels in Al-Waffaa W Al-Amal area<sup>iv</sup>**

The neighborhood have two main housing levels medium levels (al fath city) and high levels (companies and private buildings) .

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

**3.1.18 Al Golf**



overview

The area was a part of Heliopolis, before it goes under Madinet Nasr control. Most of the Golf area was owned by army and still includes some barracks and ministry of defense. It has 44730 residents (estimated in 2016).

Area  
335 acre

Density  
134 resident / acre

**Figure 3-121 The Al Golf Area Layout<sup>i</sup>**



Hafsa Mosque



Central Almaza



Air Defence Club

**Figure 3-122 Main Landmarks in The Al Golf Area <sup>ii</sup>**



**Figure 3-123 Global View for Al-Golf area<sup>iii</sup>**

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

## Building Types



**Figure 3-124 Building types in Al-Glof area<sup>i</sup>**

Area has two building types, repetitive which designed by companies and cooperative and users' not defined type.

## Building Heights



**Figure 3-125 Building heights in Al-Glof area<sup>ii</sup>**

Heights vary from four floors to 11 floor in some areas, all of low height building are private residential.

## LandUse



**Figure 3-126 Landuse in Al-Glof area<sup>iii</sup>**

Almost all buildings are mixed use (residential and commercial), there are few commercial areas in Al-Glof neighborhood.

## Housing Levels



**Figure 3-127 Housing levels for Al-Glof area<sup>iv</sup>**

The Al-Glof neighborhood has two housing levels mid and high levels.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

**3.1.19 Masaken Al Mohandseen**



overview

The area was owned by army and most of it is area still occupied by army barracks, the area was not designed among Madinet Nasr master plan. It has 21578 residents (estimated in 2016).

Area	Density
120 acre	180 resident / acre

**Figure 3-128 Masaken Al Mohandseen Layout<sup>i</sup>**



City Stars



Army Mosque



Emirates Embassy

**Figure 3-129 Main Landmarks in Masaken Al Mohandseen area<sup>ii</sup>**



**Figure 3-130 Bird Eye View for Masaken El-Mohandseen area<sup>iii</sup>**

Appears in the front Saudi company residence and to the left 777 (army unit) residence.

<sup>i</sup> google earth (5-10-2016)

<sup>ii</sup> By Author

<sup>iii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

## Building Types



**Figure 3-131 Building types in Masaken El-Mohanseen<sup>i</sup>**

Area includes many housing projects by army and companies and the rest by users.

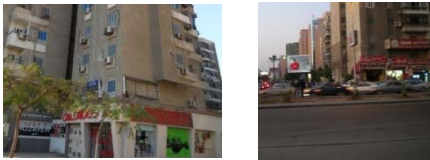
## Building Heights



Most of buildings are 10 floors and more; except some users' old buildings are five floors.

**Figure 3-132 Building heights in Masaken El-Mohanseen<sup>ii</sup>**

## LandUse



**Figure 3-133 Landuse in Masaken El-Mohanseen<sup>iii</sup>**

Almost all buildings here are mixed used (residential and commercial), there is no complete commercial plot.

## Housing Levels



**Figure 3-134 Housing levels in Masaken Al Mohandseen neighborhood<sup>iv</sup>**

Many projects have the same medium level except some company's projects which selling for residents with higher level.

<sup>i</sup> By Author

<sup>ii</sup> <https://www.panoramio.com/>, google earth (5-10-2016)

<sup>iii</sup> By Author

<sup>iv</sup> Ibid

### 3.2 Urban Fabric: Existing Conditions

The researcher studies existing conditions for urban plots and neighborhoods, conditions classify different neighborhoods through many layers by their location, dwelling types, levels, floor area ratio, cost and services distribution (education, health and commercial).

Buildings levels and buildings types were studied using plots scale to represent values; FAR values were represented using IDW over residential areas, also services were represented as points and buffer zones.

#### 3.2.1 Dwelling Types

Dwelling types indicate the plot identity through recording who built the buildings inside the plot. Each builder has different intentions for example when public (government) builds a plot it will be repetitive, minimal, non-profitable, to serve certain socio-economic classes.

Private sector classifies their residents through work force (cooperative) or income level (companies).

Individuals build for reasons like; family home, profit, or both, reasons vary and depend on plot location and building facade and finishing material used.

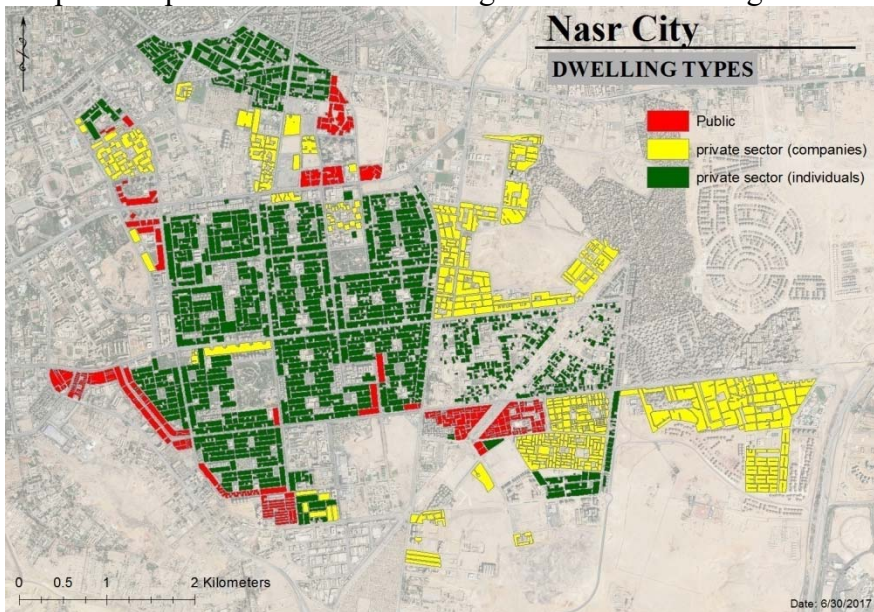


Figure 3-135 Dwelling types for Madinet Nasr plots <sup>i</sup>

According to figure 3-135 most of Madinet Nasr buildings were built by users (the project was sponsored by government only), buildings built by government aimed always to solve a problem (low income housing) or disaster (earth quack residence).

<sup>i</sup>By Author

Companies and cooperatives are spreading more than building built by government, cooperative always built to mid income level like east sixth area. Companies (especially MNHD) are expanding Madinet Nasr now in the east areas.

**3.2.2 Dwelling Levels**

The researcher recorded dwelling levels through building entrances, the rule based on entrance area and it is finishing materials, high quality materials and bigger area means high residents level, and low quality finishes and small entrance area means low residents level. Random sample from entrances were taken to establish a reference that help in classification.

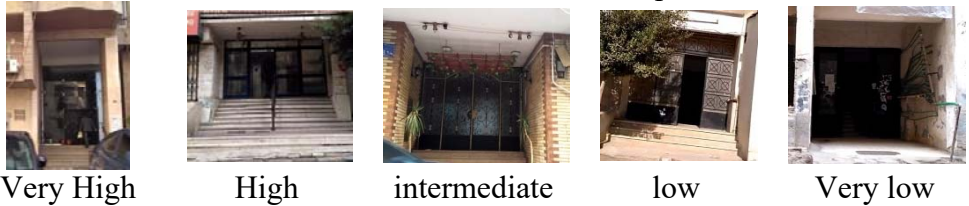


Figure 3-136 Dwelling Level references<sup>i</sup>

Figure 3-136 used as reference for research observations established through Madinet Nasr neighborhoods. Data mean values indicated plot level.

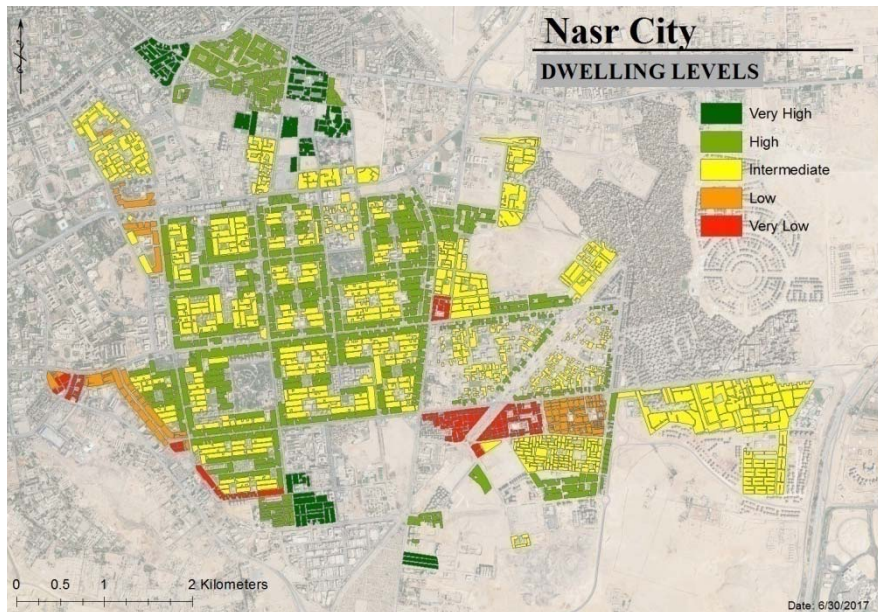


Figure 3-137 Dwelling levels for Madinet Nasr plots<sup>ii</sup>

<sup>i</sup> By Author

<sup>ii</sup> Ibid

Figure 3-137 shows that plot levels for Madinet Nasr blocks, high level blocks are located on green areas or main roads, which encourage residents to update their buildings to rise their apartments value, in addition the building may be already new (replace old one or not) and owner want to rise building value.

### 3.2.3 Floor Area Ratio

Floor area ratio (FAR) is power full tool for measuring density, FAR is calculated by dividing Built up area (BUA) for building by its plot parcel area, value affected by two characteristics building coverage over land parcel (Ground floor area- GFA) and building height, high values indicate high density (tall buildings as well), low values indicate low densities (short buildings).

High FAR values stress out the neighborhood, FAR is known as the safe load factor for any city.

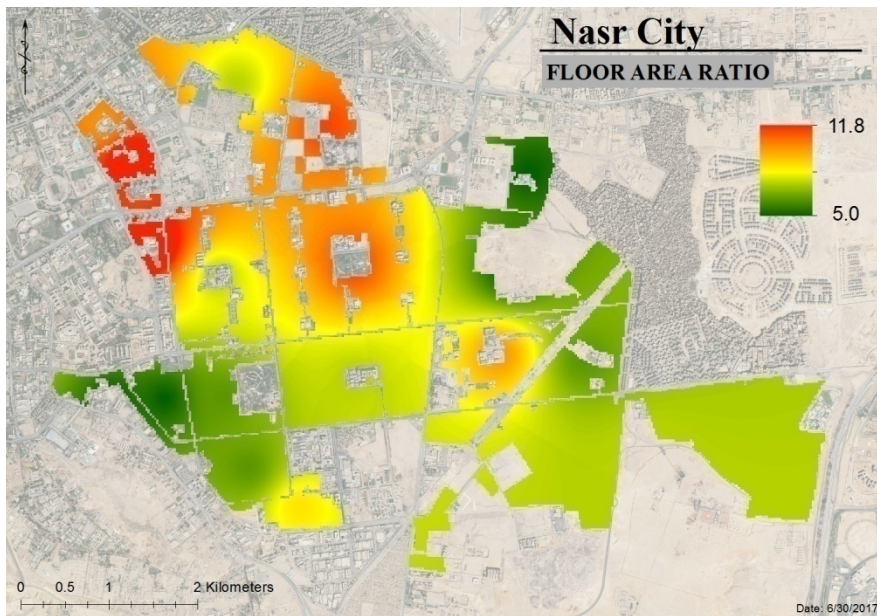


Figure 3-138 Floor area ratio for Madinet Nasr plots<sup>1</sup>

Figure 3-138 shows FAR mean value for Madinet Nasr neighborhoods, high and mid values in the middle and north areas, other areas in south, west and east areas are low values although they have tall buildings but short building are many and decreasing the FAR mean value.

<sup>1</sup>By Author



### 3.2.4 Dwelling Cost per m<sup>2</sup> unit

Cost of dwelling indicates resident's income level, price collected through field investigation by asking brokers and detecting prices through newspapers.

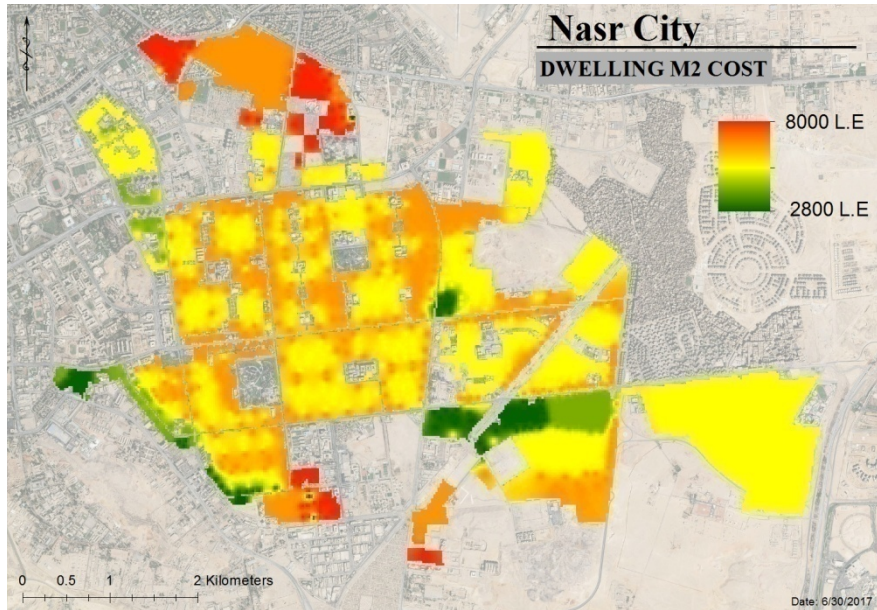


Figure 3-139 Dwelling cost per m<sup>2</sup> unit<sup>i</sup>

Figure 3-139 shows the buying cost per m<sup>2</sup> unit distributed all over Madinet Nasr areas, green regions are the lower prices and red regions are the higher prices, which concentrate on main streets and green areas.

<sup>i</sup>By Author

### 3.2.5 Schools Distribution

Education is basic need and right for each resident, Madinet Nasr have a lot of schools with many types (Governmental, Azhari, Private, International) research interest in governmental schools which provide equal service for all residents levels.

The researcher locates governmental schools distributed overall Madinet Nasr and assume a walking distance of 500m (15 minutes) to address any exposed areas without schools covering.

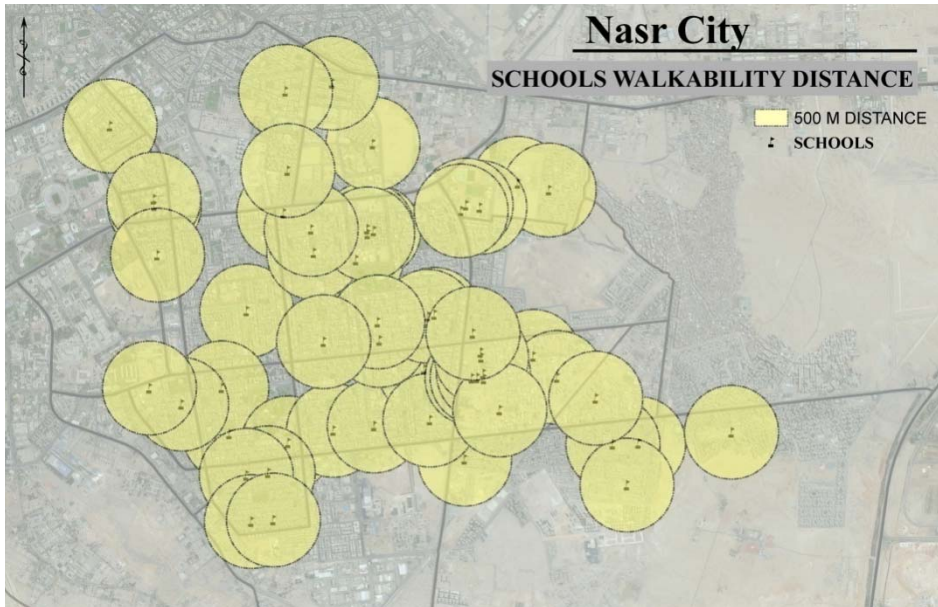


Figure 3-140 Schools distribution<sup>i</sup>

Figure 3-140 shows governmental schools distribution over Madinet Nasr neighborhoods, uncovered areas are three at middle areas and one at east area. Also resident share is  $2.1\text{m}^2$  of governmental education plot areas.

<sup>i</sup>By Author

### 3.2.6 Health Facilities Distribution

Health as a service is a basic need and a right for each resident, Madinet Nasr has public hospitals like "Al-Ta'ameen Al-Sahy" and many private and charity hospitals.

The researcher locates all hospitals and assumes a walking distance of 1000m (30 minutes) to address any exposed areas without health service covering.

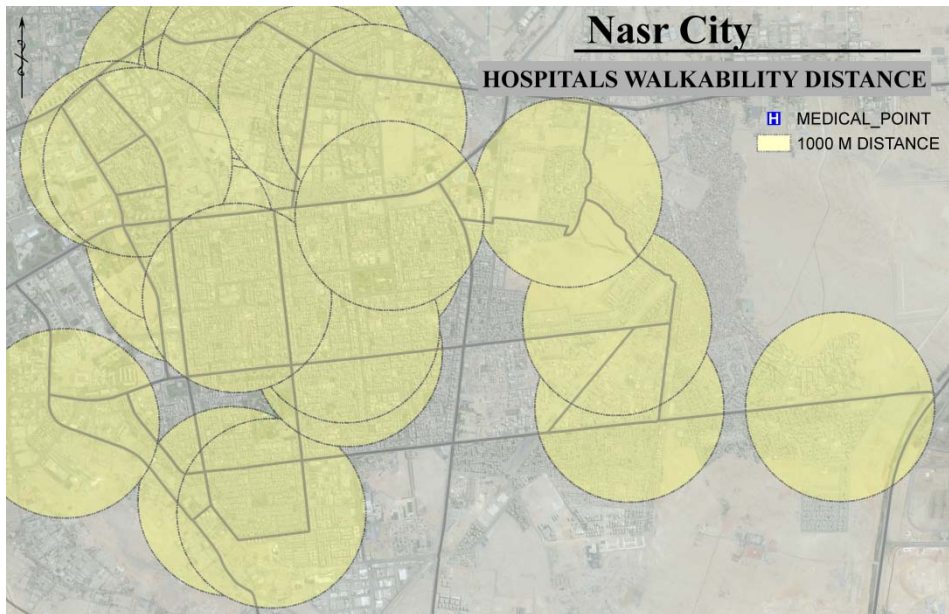


Figure 3-141 Health facilities distribution<sup>i</sup>

Figure 3-141 shows hospitals distribution over Madinet Nasr neighborhoods, uncovered areas are two at middle and east area. Also resident share is 0.5m<sup>2</sup> of governmental health facilities plot areas.

<sup>i</sup>By Author

### 3.2.7 Commercial Centers Distribution

Madinet Nasr is famous of commercial centers and shops spreading all over it, but most of these shops all illegally opened, but it spreads to other building floors because the ground floor was full of shops already. Neighborhoods are designed to have services plots that include commercial centers.

Research located legal commercial centers in study area, and assume a walking distance of 300m (10 minutes) to address any exposed areas without commercial services covering.

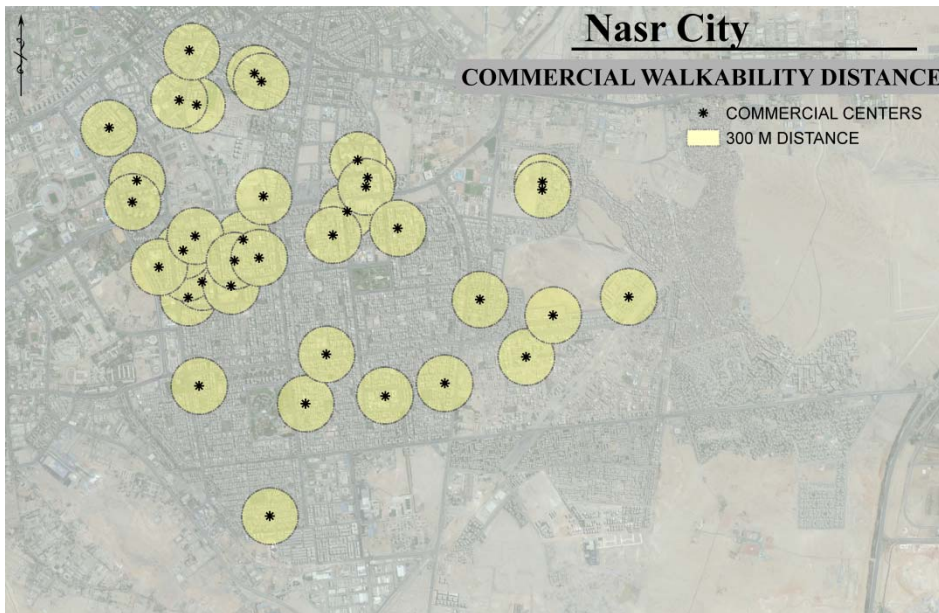


Figure 3-142 Commercial centers distribution<sup>i</sup>

Figure 3-142 shows commercial centers distribution all over Madinet Nasr neighborhoods, also resident share is  $0.7\text{m}^2$  of commercial plot areas.

<sup>i</sup>By Author

### 3.3 Urban Morphology

The urban setting consists of two items plots and blocks and configuration, both are analyzed using typology, they are also analyzed by space syntax, the researcher chooses space syntax to analyze configuration for these reasons.

Space syntax studies the relative dimension for each components and how they aggregate into urban fabric.

#### 3.3.1 Typology Analysis

Typology is a classification system, it is a powerful tool for urban form analysis, it helps to draw accurate characteristics for an urban fabric.

also **Moudon (1997)** defined typo-morphological studies as an explanation for the built environment by classify structural elements for physical form of an urban.

There are many typology's classifications rules (form based rule, numerical characteristics, etc...) **Berghauer Pont and Haupt (2010)** developed classification system for different types of buildings and neighborhoods based on density distribution; they used numerical variables to express urban density.

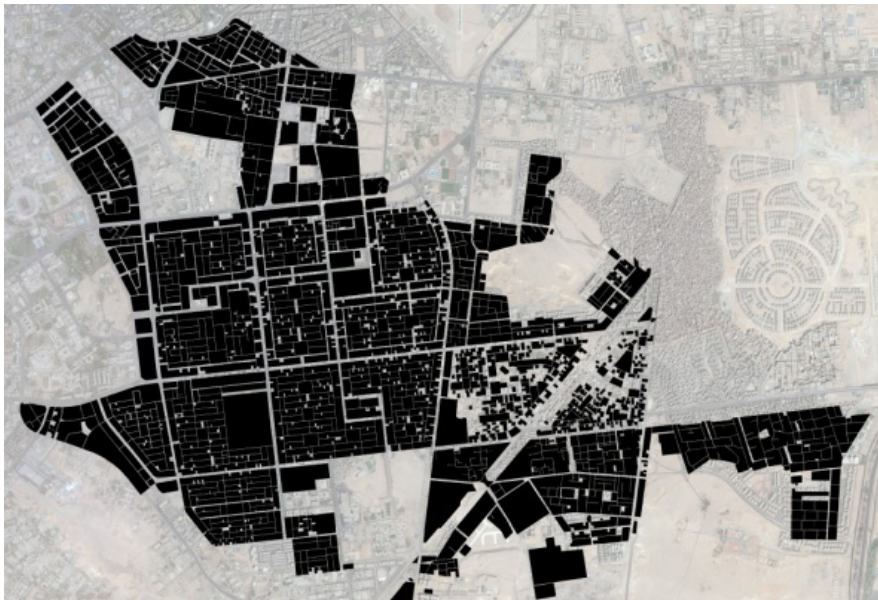


Figure 3-143 Madinet Nasr typology<sup>i</sup>

Almost all Madinet Nasr plots are rectangular, but they are different from area to another, depending on the design. Figure 3-143

<sup>i</sup>By Author

### 3.3.1.1 Shape Index

Shape index reflects the compactness of shape, result value range from one most compacted (low parameter) to zero not compacted (maximum parameter). Results are the mean shape index values for each neighborhood.

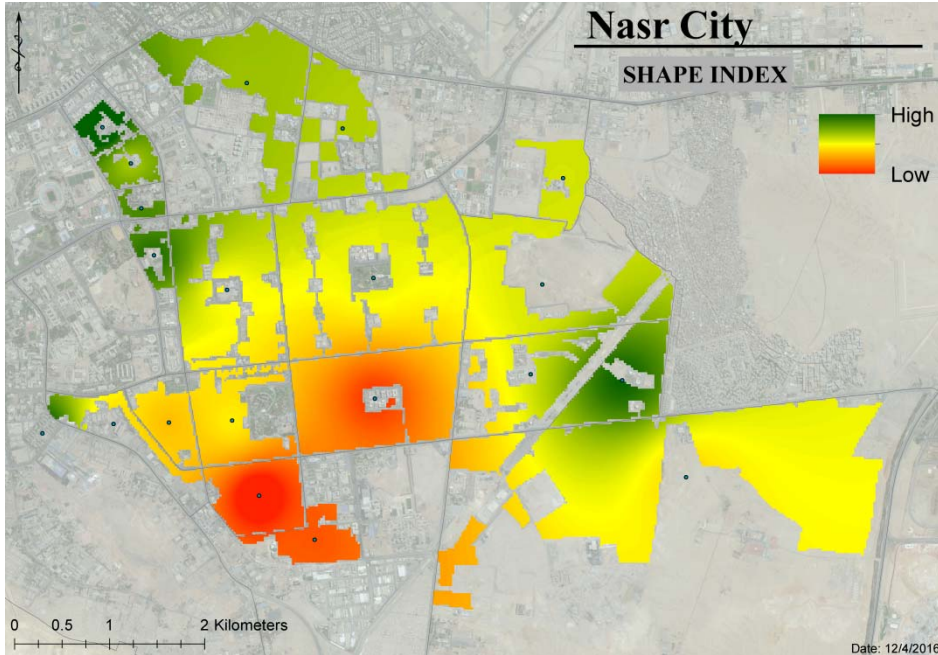


Figure 3-144 Shape Index mean values distribution for each neighborhood<sup>i</sup>

Figure 3-144 shows the shape index values distributed over neighborhoods, high values located in the north and the west and one area to the east, low values located in south and mid values found in the middle and east. High values means that plots in these areas are highly compacted (tend to be square) low and mid values the plots deformed to be more rectangular. High shape index value reflects short networks paths.

<sup>i</sup>By Author

### 3.3.1.2 Core Area Index

Core area index measures shape area size; it is the ratio between shape area with an offset of 10m inside it to the actual shape area, results value range from one for big areas to zero very small areas. The results are the mean core area index values for each neighborhood.

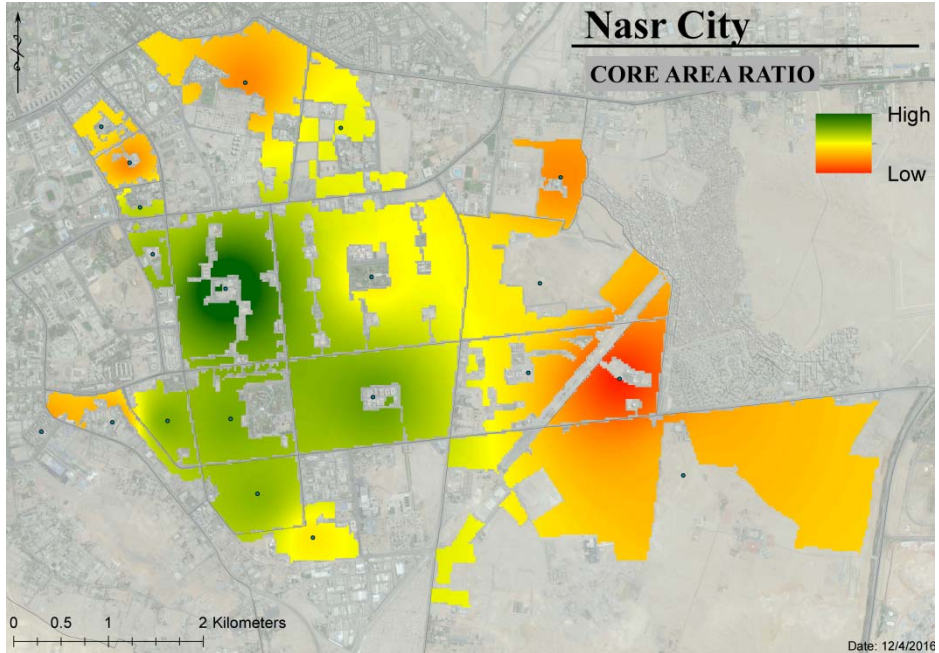


Figure 3-145 Core Area Index mean values distribution for each neighborhood<sup>i</sup>

Figure 3-145 displays core area index (CAI) results, high values located in the middle and south west areas, low values located to the east and some north areas, mid values are distributed in the south and north. High CAI value refers to high plots areas (more time to move) and low CAI value refer to low plots areas (easy to move).

<sup>i</sup> By Author

### 3.3.1.3 Grid Axiality

Grid axiality reflects how uniform the urban fabric is, by comparing urban fabric to an ideal form consists of nine plots with eight roads all in rectangular form, values go to 1 mean near perfect fabric, and low values mean more deformed fabric.

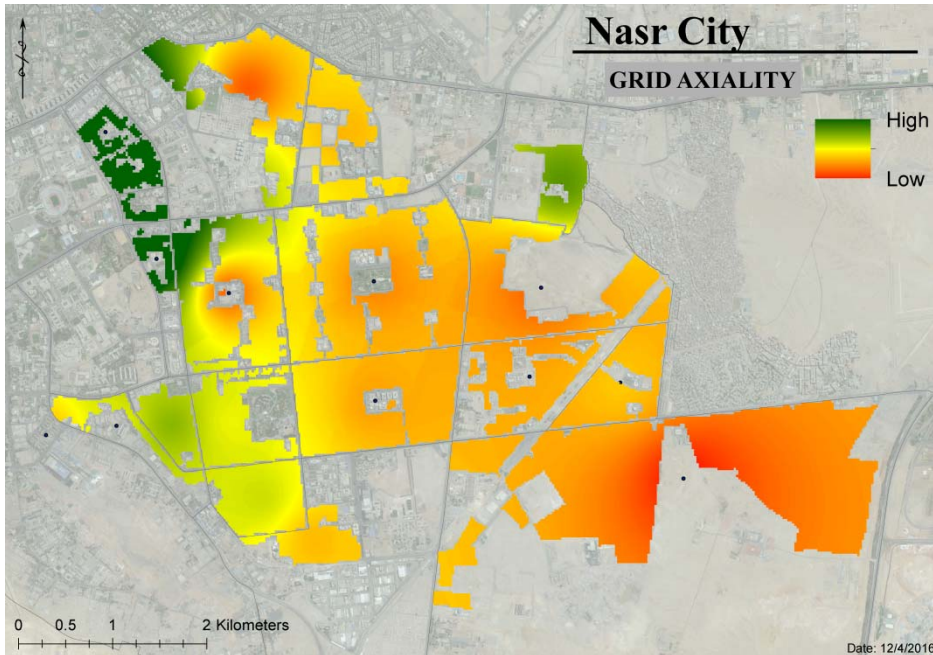


Figure 3-146 Grid Axiality mean values distribution for each neighborhood<sup>1</sup>

Figure 3-146 shows grid axiality (GA) mean values for each neighborhood, high values distributed in the west, low values in the east, north and south, high values not only mean that plots tend to perfect grid but also confirm plot size (each 9 plots have 8 axis around), low GA values mean low axis number around the plots.

---

<sup>1</sup>By Author



### 3.3.2 Configuration Analysis

space syntax is created during 1970s by the Bartlett Unit for the architectural studies, University College, London **Hillier and Hanson (1984)**.

Space syntax is a method to analyze and describe spaces generally, also used to predict users' movement and studying configuration structure and hierarchy. In general it is a tool to decision making based on space morphological analysis.

space syntax are widely used in research projects lately, for example **Mills (1989)** described townships' spatial structure mechanism of control in the apartheid ideology. **Peponis, Zimring et al. (1990)** studied the way finding process in buildings, also **Hanson (1989)** compared different plans socio-cultural effects on London rebuilding after the great fire, investigated spatial pattern of crime in urban areas.

Space configuration can be defined as "a set of interdependent relations in which each is determined by its relation to all the others" **Hillier (1996)**.

Space syntax studies any configuration through three techniques axial lines, convex space and isovist, research selects axial line technique to study the roads network configuration in two levels global for the entire network and local for each neighborhood network (to analyze the relationship between neighborhood network and the whole case study configuration).



Figure 3-147 Madinet Nasr configuration<sup>i</sup>

<sup>i</sup>By Author edited from google earth

The roads in Madinet Nasr are orthogonal defer from each neighborhood to another in design figure 3-147, the researcher chooses three variables to evaluate the case study configuration (as discussed in chapter 1) Integration, Intelligibility and synergy.

### 3.3.2.1 Integration

Integration value reflects how easy to reach an axis (road), for example highly integrated road reached easily in few steps than segregated axis that need more steps to be reached.

Figure 3-53 shows roads integration map for Madinet Nasr, highly integrated roads appears in red color and highly segregated roads appears in blue color.

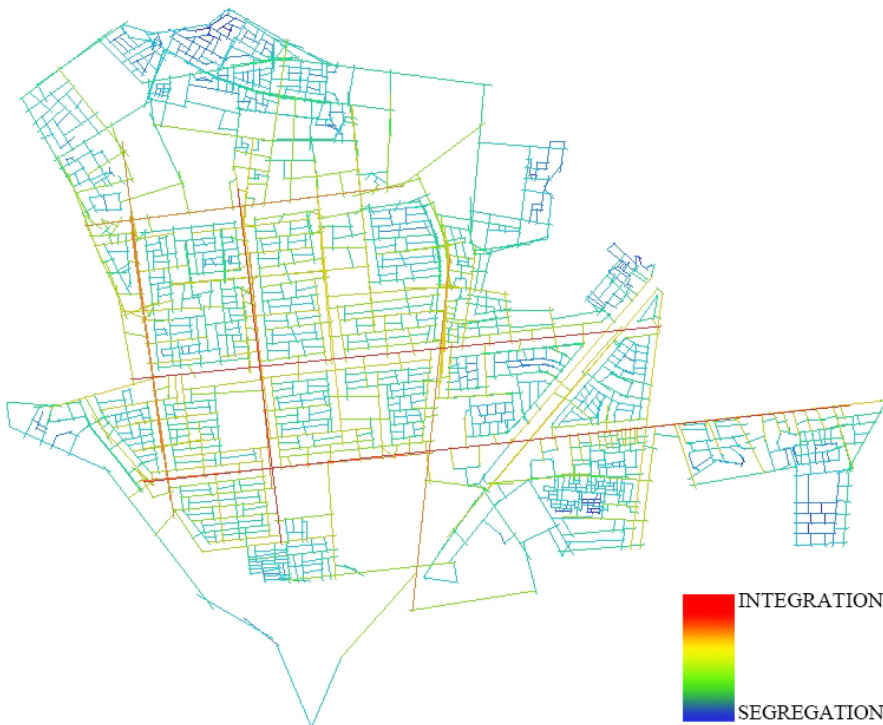


Figure 3-148 Global Integration for Madinet Nasr configuration<sup>1</sup>

From the figure 3-148, almost all areas are equally distributed except south and north areas have highly segregated roads.

Main roads between areas are highly integrated and some internal main roads in some areas, also some north western areas and eastern areas are fully segregated.

<sup>1</sup>By Author

### 3.3.2.2 Intelligibility

Intelligibility reflects how easy users find and recognize the urban network easily. It is the result of connectivity (for an area correlated) to integration for whole system. Its value varies from one to zero.

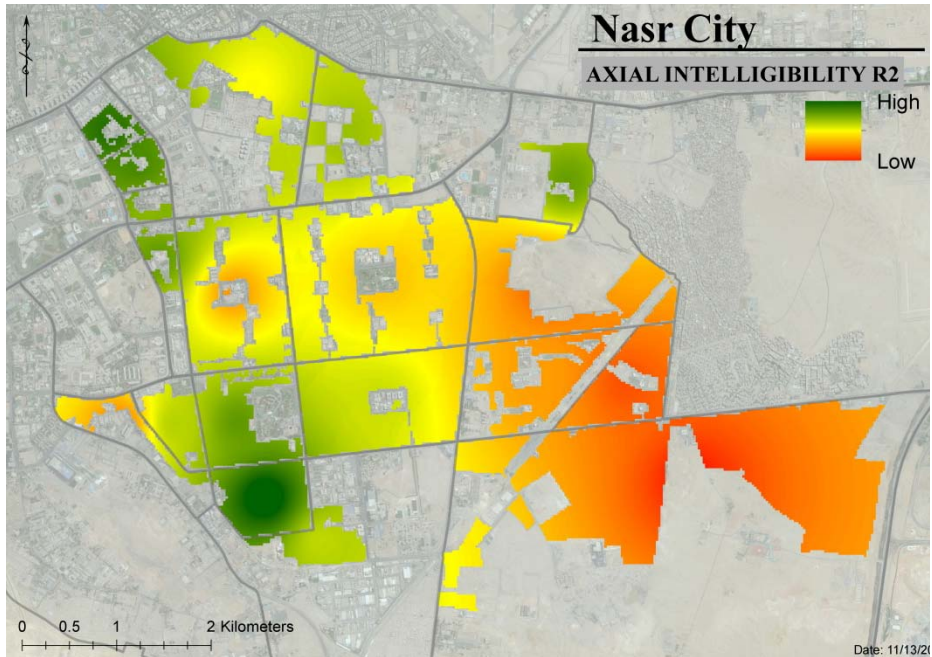


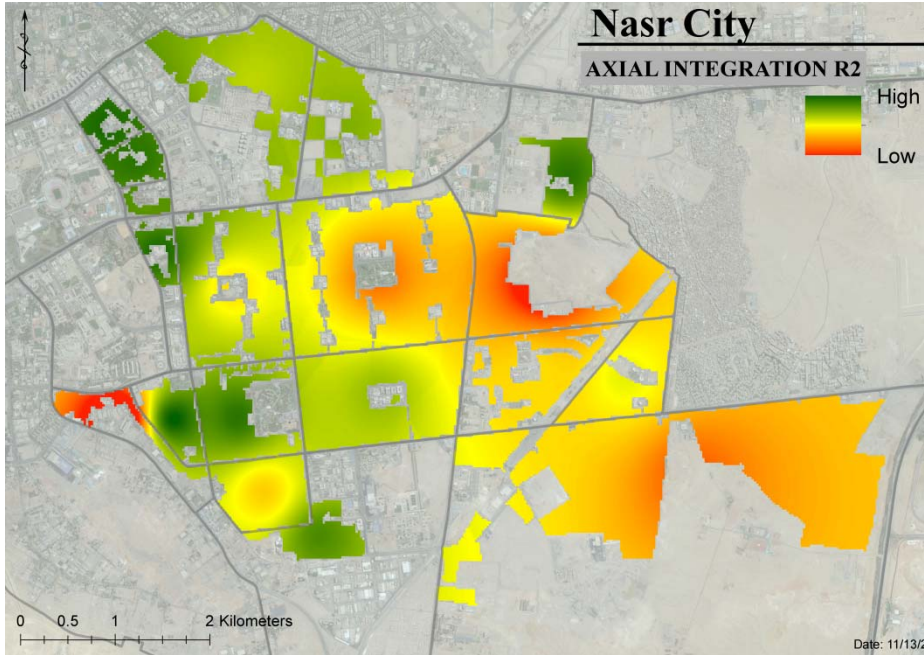
Figure 3-149 Axial Intelligibility  $R^2$  values distribution for each neighborhood<sup>i</sup>

Figure 3-149 shows the intelligibility values map, in which the high values distributed over the north, west and some south areas, low values located to the east areas and mid values are in the middle areas. High intelligibility areas are the most predictable for pedestrian's movement and easy for user to remember his position from the whole grid, low intelligibility value means that users move more hard and their movement is not predictable.

<sup>i</sup> By Author

### 3.3.2.3 Synergy

Synergy reflects the relation between neighborhood's network to whole network. It is the result of local integration R3 for an area correlated to integration Rn for whole system. Its value varies from one to zero.



**Figure 3-150 Axial Synergy values distribution for each neighborhood<sup>i</sup>**

Figure 3-150 display axial synergy values map, high values located to the north, south and west areas, low values located to east areas, mid values distributed in the middle areas and some in south area. High values refer to good relation between internal areas networks and whole system, low values refer to low relation between internal areas networks and whole system.

<sup>i</sup>By Author

## Summary

From observations for Madinet Nasr different areas, the researcher comes to conclusion for different imageability topics.

Residential buildings' facades in Madinet Nasr reflect private investors' culture (because government, cooperative, and companies tend to reduce expenses to optimize unit price). Old facades from 70's and 80's are straight horizontal and vertical lines with more openings and balconies, after 90's buildings started to be higher façades and flat with some light motives. after year 2000 till now appears the mixed classic facades with many classic elements from different eras mixed and glued to building's façade to send a message of how building are classy. Other new trends cost more appears after 2005 until now new trend appears in few buildings depend on design by mass and materials, which reflects the architectural awareness of the investor or owner.

Most of Madinet Nasr buildings are built by private investors, and users themselves, and many projects were built by companies and cooperatives, and some built by government. Almost all areas include more than one type, except Ninth area and Tenth area which were built by private investors and individuals, Rabiaa built by government, Al Tawfeek by the army. Also Buildings heights verify from five floor to 10 floors or 11 floors, almost all areas are mixed with many heights except some areas which include one or two height for maximum like Ahly club buildings are 6 floors, Alwafaa w Al-Amal buildings are 10 and five floors, and East sixth area buildings are 5 to 10 floors.

Land use are almost mixed for all areas, it increase in some areas and decreases in other areas. For example, old areas like First area, Sixth area, Eighth area, have commercial mixed uses, which increased all over the area. inversely some new areas like Al-Wafaa w Al-Amal, Ninth area, Tenth Area almost have a few commercial mixed uses, some areas have crafts uses beside commercial uses like Seventh Neighborhood, Sixth Neighborhood, all other areas have a commercial mixed uses in the main axis only and not spread all over it like Masaken al Mohandseen and Al-golf Area.

Buildings levels in Madinet Nasr varies from high to low level, the heist level areas were Al Wafaa w Al-Amal, Masaken Almohandseen and Al-golf area; high level notations are well designed elevations, entrance's design and finishes, tidied streets, and low number of mixed use buildings.

The lowest level areas were Tenth neighborhood, Sixth neighborhood, and Seventh neighborhood; they all share untied elevations, entrances, and high numbers of mixed used buildings that includes not only commercial uses but also crafts and noisy uses. Some areas do not have paved streets and have sewage problems.

According to Al-Masry Alyoum article<sup>i</sup> about Saqr Qureesh area in tenth neighborhood has high crime rates due to abandon buildings which are used as shelter for drug addicts and criminals, also residents confirmed that workshops spread a lot lately and they rename the streets; for example from paradise street to workshops street. Some residents carried sound guns to scare the criminals and protect themselves. Figure 3-151

According to Al-Ahram<sup>ii</sup> article there is 49 project most of them occupied by residents did not turned to Hay Madinet Nasr (local urban administration), this problem happened because the buildings do not follow the regulations or companies did not complete services (tenth neighborhood problem).

Also Tenth neighborhood major problem which concluded in a gang war between foreign residents African and Syrian against Saqr Qureesh and Ezzbet al Hagganah residents, foreign residents confirmed they were defending themselves, but they also confirmed their using of drugs and QUAT, and homemade liquors. They also have their own shops, cafes, and hair salons. Form Al-Tahrir articles<sup>iii</sup>.



Figure 3-151 Africans residents in tenth neighborhood<sup>iv</sup>

<sup>i</sup> <http://today.almasryalyoum.com/article2.aspx?ArticleID=66806> (2016-5-3)

<sup>ii</sup> <http://www.ahram.org.eg/Archive/2003/7/2/INVE1.HTM> (2016-5-3)

<sup>iii</sup> <http://www.tahrirnews.com/posts/379399/> (2016-12-5)

<sup>iv</sup> Ibid

NO	AREAS	TYPES	LEVELS	FAR	DWELLING M2 COST	AREA PER PERSON M2			SERVICE PER CAPITA	RESULTS	
						EDUCATION	COMMERCIAL	HEALTH			
1	Cenima	2.80	2.30	11.67	2.30	0.78	0.08	1.34	0.73	3.96	
2	Seventh District	1.44	3.09	5.30	3.16	2.76	0.00	0.00	0.92	2.78	1 2800 3400
3	Sixth District	3.00	1.45	4.91	1.45	0.07	0.00	0.20	0.09	2.18	2 3500 4400
4	Al Wafaa	2.11	4.52	7.57	4.24	0.77	0.00	0.00	0.26	3.74	3 4500 5400
5	Eighth Area	1.12	3.34	7.30	3.34	1.45	0.03	0.00	0.49	3.12	4 5500 6400
6	Golf	1.18	4.08	6.87	4.07	4.31	0.59	0.09	1.66	3.57	5 6500 8000
7	Rabaa	3.00	2.00	10.40	2.00	3.40	0.98	0.67	1.69	3.82	
8	International garden	1.20	3.59	6.15	3.59	1.08	0.23	0.00	0.44	2.99	
9	Tawfik	2.00	3.00	11.19	3.00	0.13	0.12	0.30	0.18	3.87	1 VERY LOW
10	Sharekat	1.73	2.87	8.73	2.87	3.27	0.76	0.66	1.56	3.55	2 LOW
11	Seventh area	1.38	2.98	5.67	2.98	0.77	0.06	0.46	0.43	2.69	3 INTERMEDIATE
12	First Area	1.00	3.48	6.74	3.49	2.57	1.01	0.34	1.31	3.20	4 HIGH
13	Masaken Mohandseen	2.04	4.49	9.77	4.38	0.61	6.08	4.86	3.85	4.91	5 VERY HIGH
14	Tenth dstrict	2.04	2.63	6.55	2.63	0.75	0.00	0.07	0.27	2.83	
15	East 6th area	2.00	3.05	5.48	3.06	0.43	0.21	0.02	0.22	2.76	
16	Ahly	1.94	3.00	5.01	3.00	0.48	0.16	0.14	0.26	2.64	1 PRIVATE
17	Sixth area	1.12	3.55	9.55	3.56	1.58	0.50	0.11	0.73	3.70	2 COOPERATIVE
18	Ninth area	1.00	3.33	8.79	3.33	10.04	1.97	0.00	4.00	4.09	3 PUBLIC
19	Tenth area	1.00	3.30	6.44	3.30	3.73	0.23	0.21	1.39	3.09	

Figure 3-152 Numerical results for existing conditions study<sup>i</sup>

Figure 3-152 shows the numerical results for existing conditions variables, green values are the highest value and red for the lowest, sixth neighborhood have the lowest numbers for all variables and Masaken Al-Mohandseen have the highest values, low value mean low cost , low density, low buildings levels, and low services area for residents. High values mean high socio-economic level with available services.

<sup>i</sup> By Author

NO	AREAS	PLOTS			Roads Network		RESULTS
		SHAPE INDEX	GRID AXIALITY	CORE AREA RATIO	INTEGRATION R2	INTILGIBILITY R2	
1	Cenima	0.67	0.72	0.45	0.97	0.79	0.72
2	Seventh District	0.58	0.49	0.46	0.98	0.69	0.64
3	Sixth District	0.59	0.41	0.26	0.62	0.44	0.47
4	Al Wafaa	0.55	0.31	0.34	0.94	0.68	0.56
5	Eighth Area	0.54	0.28	0.48	0.90	0.67	0.57
6	Golf	0.63	0.20	0.25	0.88	0.61	0.51
7	Rabaa	0.66	0.81	0.42	0.93	0.74	0.71
8	International garden	0.60	0.41	0.47	0.96	0.79	0.64
9	Tawfik	0.63	0.85	0.25	0.96	0.82	0.70
10	Sharekat	0.70	0.93	0.34	0.97	0.87	0.76
11	Seventh area	0.52	0.43	0.45	0.82	0.95	0.63
12	First Area	0.60	0.21	0.65	0.83	0.47	0.55
13	Masaken Mohandseen	0.63	0.30	0.38	0.91	0.72	0.59
14	Tenth dstrict	0.59	0.13	0.30	0.75	0.32	0.42
15	East 6th area	0.61	0.20	0.35	0.66	0.40	0.45
16	Ahly	0.62	0.55	0.25	0.96	0.78	0.63
17	Sixth area	0.61	0.25	0.35	0.76	0.53	0.50
18	Ninth area	0.68	0.31	0.26	0.83	0.48	0.51
19	Tenth area	0.68	0.32	0.17	0.86	0.38	0.48

Figure 3-153 Numerical results for urban morphology study<sup>i</sup>

Figure 3-153 shows the numerical results for existing conditions variables, green values are the highest value and red for the lowest.

<sup>i</sup>By Author



# **CHAPTER 4**

## **4. QOUL ASSESSMENT**



## The Preface

Quality of life (QOL) has become a popular idea since the communities' populations have been increased lately in a worldwide, the measurements are important to evaluate a community or compare different communities. QOL as a tool help policy makers and urban planners to solve community problems through evaluating community needs and problems. QOL concept is directly related to other terms like livability, well-being, satisfaction and happiness.

The concept of QOL went through three stages in the past 90 years, first it was mainly focusing on social indicators then it developed to include the urban amenity, and at last it spreads to include the environmental concerns. Through these stages the term Quality of urban life (QoUL) was evolved and defined as the QOL as it related to place, particularly in different urban space.

There are many definitions for QOL term, also there are some terms used instead of QOL like Happiness, Satisfaction and well-being. The researchers used "Happiness" widely through their work, which has two views "eudemonistic" and "hedonistic". Eudemonistic view traced back to **Aristotle (1998)** who said living "good and virtuous life" will lead to happy life. Hedonistic view is a philosophical perspective to happiness, which tends to maximize satisfaction, also traced back to **Mill (1998)** and **Bentham (1998)**.

**Crotty (1998)** Discussed the deference between the two views of happiness he defined the Eudemonistic view as a normative view prescribing what should be done to be happy through moralistic approaches. And defined hedonistic view as a positive view searching for what make a person happy this lead to empirical approaches which depend on most of subjective QOL investigations.

**Diener (1984)** stated that "happiness" was listed for the first time as an index at 1973 in "Psychological Abstract International", also appeared at 1974 in the first journal dedicated to QOL research "Social Indicator Research".

The research in happiness and well-being related to two different ideas judgment and feeling, judgment based on standard to compare between different targets **Campbell, Converse et al. (1976)**, feeling can not be related to a target it may caused by many targets **Forgas (1995)**, it is also an important component in measuring subjective well-being, judgment always used in QoUL subjective evaluation of various targets.

#### 4.1 QOL and QOUL Measurements

QOL has two approaches to measure through as discussed by **Andelman, Board et al. (1998)** objective and subjective approaches.

Objective approach (OQL) depend on the analysis of secondary data collated at observation and different spatial scale, **LI and Waeng (2007)** stated secondary data as crime rate, population density, education level and households data, **Foo (2000)** confirmed that although these indicators may have a high reliability in measuring QOL but it have low validity in assessing human well-being.

Subjective approach (SQL) depend on users perception and satisfaction through asking them directly about what they feel **Lee (2008)**.

Subjective approach has a lower reliability and high validity than objective approach. The low reliability problem appears in two issues first that user perception of well-being affected by expectations; second issue is the indicators cannot represent the actual environment **Das (2008)**.

**Schneider (1975)** Reported that the correlation between the OQL and life satisfaction driven from resident surveys was essentially zero.

**Glatzer and Mohr (1987)** have suggested explanation for the weak relationship between objective conditions and subjective well-being, as follow:

- a. people only value their own individual improvements and do not value improved conditions for their group as a whole.
- b. individuals are under social pressure to suppress feeling of dissatisfaction.
- c. expectations will adjust to reality.
- d. The expression of dissatisfaction is culturally learned and to a certain extent independent of actual experience.
- e. people living in good conditions are the most inclined to be open to new value standards and more likely to express criticism and dissatisfaction.

Previous reasons explain how two persons in the same conditions respond differently to a satisfaction test; also education level helps to raise people expectations therefore researchers found that well educated generations can not be satisfied easily this explanation was driven by **Campbell (1976)** that education is inversely proportional to satisfaction level.

This also explain why people trapped in bleak situations seems able to find satisfaction, also elderly people seems to be more satisfied for their objective welfare.

Problems appears in measuring QOL in each approach will be solved if we have a combined indicators from both objective and subjective approaches

as stated by **Turksever and Atalik (2001)** to reach more reliable and more valid data.

**Glatzer and Mohr (1987)** also grouped people response into four groups with two descriptions for each. First one is objective satisfaction (good-not good), second is subjective satisfaction (Positive-negative), the groups will be as Figure 4-1.

The four groups are “good + positive”, “good + negative”, “not good + positive”, and “not good + negative” these groups can be described “well being, dissonance, adaptation and deprivation.

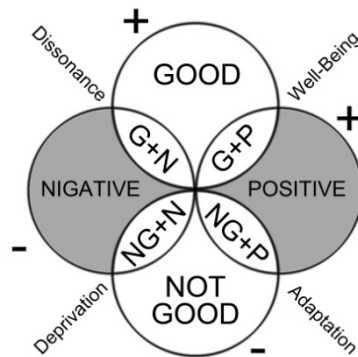


Figure 4-1 People response grouped into four groups<sup>i</sup>

**Berkoz and Kellekci (2007)** confirmed that overall users’ satisfaction directly proportional to the income level.

**Oktay and Rustemli (2010)** measured the QOUL and neighborhood satisfaction for Famagusta area, they used objective and subjective approach in face to face interview for sample of 398 residents during summer 2007 they find that 66% were satisfied with their neighborhood and 40% was satisfied with QOUL, in general the found that people are dissatisfied with recreational facilities, greenery, maintenance of streets and traffic.

**Tesfazghi, Martinez et al. (2010)** measured subjective and objective QOL in small urban scale in Addis Ababa, Kirkos Sub-City to study the variability of QOL and they find that large scale study may hide data that appears in small scales.

**Marans and Stimson (2011)** conducted a research program to measure QOUL in the world cities, the research administrated by university of Michigan colleague; the research was applied to more than hundred country measuring national values and aspirations. Metro Detroit area was one of these places; the survey was the primary source of data (DAS2001), the residents sample was over 4000 resident living in seven counties. They find that the level of satisfaction for Detroit residents was lower than surrounding suburbs, smaller cities and rural area. Also they find overall dissatisfaction with the amount of time available to do thing they want to do. Table 4-1

<sup>i</sup> By Author

**Tiran (2016)** studied quality of urban life in Ljubljana using data driven from QOL research was carried out in June 2010 for the same area, the research concluded to that the different subjective factors (socio-economic) have a greater effect on general life satisfaction of Ljubljana residents compared to residential quality.

Objective Indicators	Subjective Indicators	Behavioral Indicators
Employment rate	Housing and neighborhood satisfaction	Public transit use
Per capita income	Desire to move	Participation in sports
Crime statistics	Perception of crime	Amount of walking and cycling
	Perception of school quality	Visits to cultural amenities and events
Domestic violence	Perception of health care services	Visits to parks
Death rates	Feeling about neighbors	Visits to health\doctor
Incidence of chronic diseases	Feeling about rubbish and crowding	Amount of neighboring
Air quality	Feeling about government	Participation in voluntary organization
Residential density	Satisfaction with health	Participation in local decision making organization
Housing vacancy rates	Satisfaction with family, friends, job...etc	Residential mobility
Amount of parkland	Life Satisfaction overall happiness (well-being)	
Number of public transit riders		
Distance to transit stop		
Availability of grocery food stores		
Vehicle kilometers traveled		

Table 4-1 Examples of QOL indicators that can be used to investigate QOUL in cities and neighborhoods<sup>i</sup>

## 4.2. Subjective Test Methodology

QOL measurement aims to measure the life satisfaction (happiness - well-being) through user’s evaluation, this measurements occurs in specific area (which user live in) through different levels with many different conditions (domains) which all related to each other. Figure 4-2

QOL results help to indicate a perfect image for different socio-economic groups’ needs and their expectations from the surrounding environment.

<sup>i</sup>Marans, R. W. and R. J. Stimson (2011). "An Over view of Quality of Urban Life." Social Indicators Research Series 45.

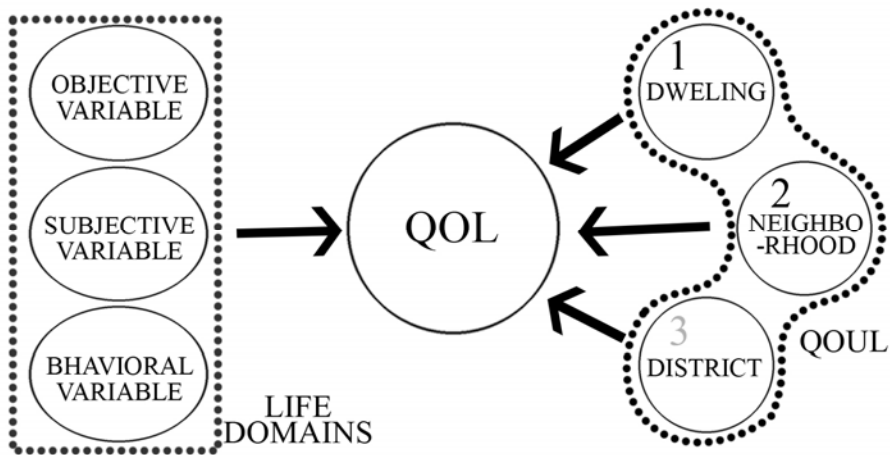


Figure 4-2 Relationship between Qoul, QOL and life domains<sup>i</sup>

The researcher measures QOL through subjective approach (SQL) which is more preferable in measuring QOL through different urban scales dwelling, neighborhood and district to evaluate QOUL.

Although SQL study seems to be enough in evaluating, QOUL but there is a need to link objective characteristics of urban environment to enrich study validity.

**Murdie, Rhyne et al. (1992)** developed a conceptual framework figure 4-3 for QOL related to an urban setting (QOUL) with four main components local conditions (political-economic...etc), quantitative measurements of objective data (municipal environment...etc), intermediate outputs (per capita spending...etc) and complex components.

<sup>i</sup>By Author

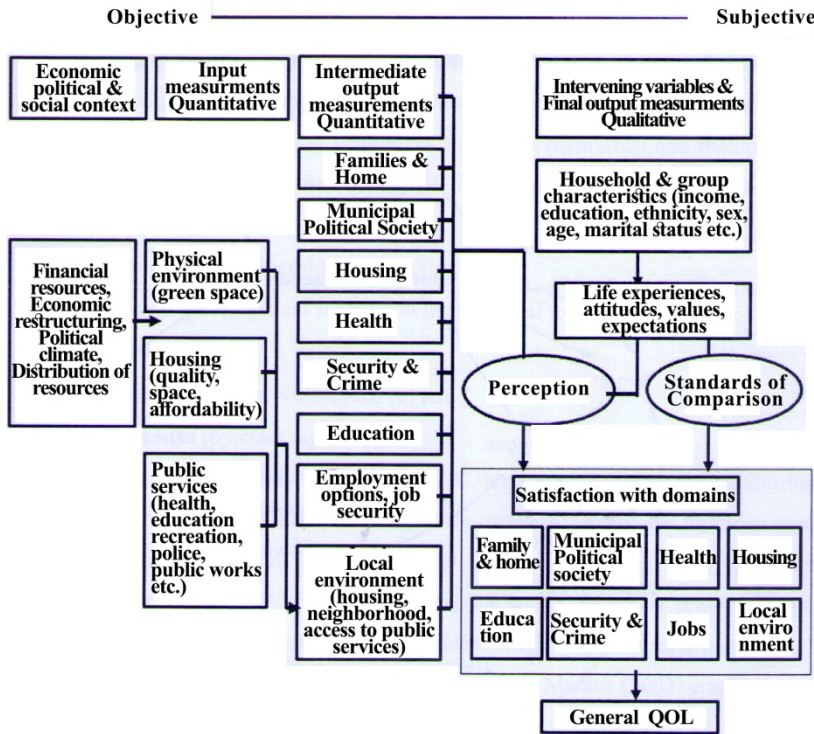
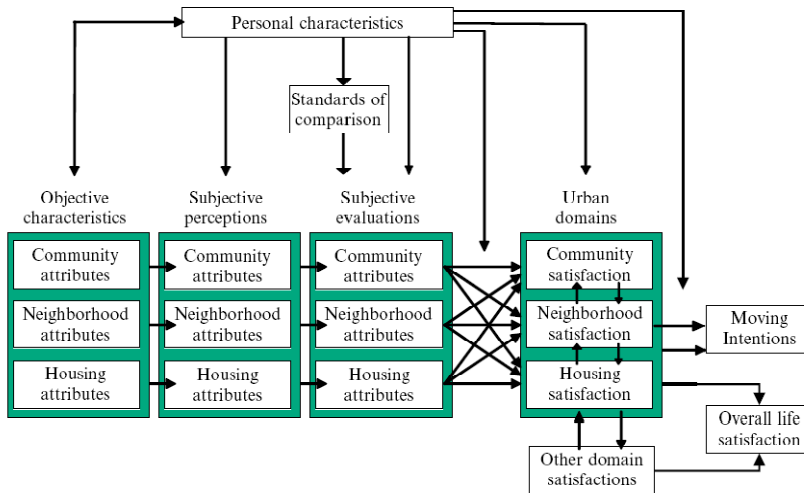


Figure 4-3 Conceptual framework of QOUL by Murdie, Rhyne et al. (1992)<sup>i</sup>

QOUL measured also through SQL using bottom up model figure 4-4 were the satisfaction in sub-domains like safety; services, neighbors and friendliness predict the satisfaction in urban domains like neighborhood and community; through three level of analysis (dwelling, neighborhood, district) as the term QOUL have different levels **Campbell, Converse et al. (1976)**. Many of studies used this approach **Marans and Rodgers (1975)**, **McCrea, Stimson et al. (2005)** and **Sirgy and Cornwell (2001)**.

<sup>i</sup> Campbell, A. (1976). "Subjective Measures of well-being." American psychologist 31: 117-124.





**Figure 4-4 A broad model framework for investigating subjective assessment of determinants of satisfaction with the residential environment<sup>i</sup>**

SQL measurement preparation goes through four stages domain selection, questionnaire design, and research sample and data collection.

First stage aims to select suitable research domains for study area, second stage determines the independent variables for these domains in this study area particularly, third stage designs the questionnaire based on first and second stage variables and finally fourth stage determines the sample size and data collection methods used in study area.

### 4.2.1 Selecting Needs

QOL measurement depends on people needs, cause it change already from place to another Mazumdar (2003) confirmed that QOL domains priorities and importance changes from country to another, due cultural and religious different habits. Research designed a focus group study to select and arrange human needs priorities in the study area, the human needs was based on **Lang (1994)** framework which built on Maslow’s theory figure 4-5. The framework aims to connect human needs with physical environment. Lang framework divides human needs in two main categories basic needs table 4-2 and higher-level needs table 4-3, which branches into six sub categories resulting twenty-eight needs.

The researcher conducted a pilot study to determine the most important needs for study area users, through the following steps.

<sup>i</sup> Marans, R. W. and W. Rodgers (1975). Toward an understanding of community satisfaction Metropolitan America in Contemporary Perspective. V. Rock and A. Hawley. New York, Halsted: 299-352.

A focus group of 30 volunteers was randomly selected from different regions in the study area; the study main goals were explained to them for 30 minutes. Then each volunteer was asked to rank the human needs from his point of view according to their importance. Questions were translated into Arabic, and each question has three choices “very important,” “important” and “not important.” Furthermore, the group was asked if they have a clear understanding to the needs' meaning. Avoid any misunderstanding during the session. Then volunteers were asked to explain some results of their choices.

See appendix 1 for the focus group questionnaire. Table 4-4, 4-5 show the focus group questionnaire results. Definitions for each need (as it explained for volunteers) are in appendix 1.

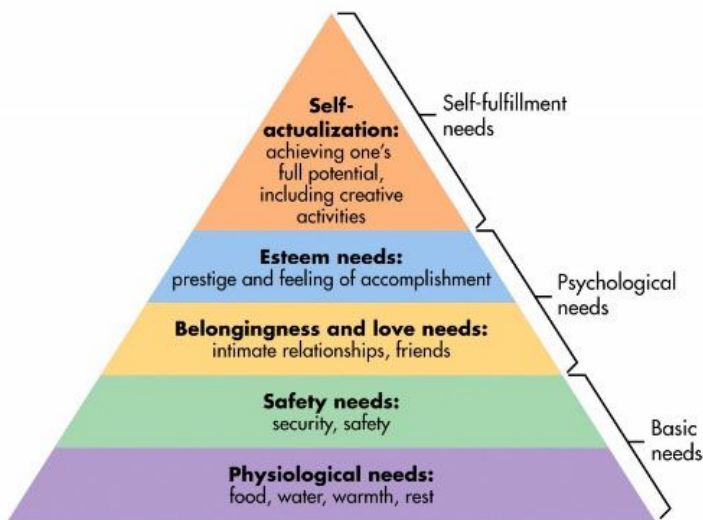


Figure 4-5 Maslow's theory for human needs<sup>i</sup>

<sup>i</sup> Hoffman, E. (1988). The right to be human: A biography of Abraham Maslow. Jeremy P. Tarcher, Inc.

Basic Needs			
Shelter	Security	Social	Services & Environment
Affordability	Psychological safety	Relation with neighbors	Urban services
Well built	Physiological safety	Social facilities	Shopping
Size and comfort			Public transportation
parking			Infrastructure
gardens			Green recreation
			Physical exercise
			Healthy environment

Table 4-2 Lang’s basic needs<sup>i</sup>

Higher level Needs	
Self-Esteem	Self-Actualization
Place attachment	Practicing cultural facilities
Status neighborhood	Aesthetic and design living environment
Participation decision making	Ecological behavior
Income and working conditions	Feeling equality and justice
Display personal skills	Historical and natural amenity rich environment
Personal privacy	
Learning opportunities	

Table 4-3 Lang’s higher level needs<sup>ii</sup>

From the pilot study mean values Table, we can see that volunteers voted “very important” for basic level needs with mean value of 21 for shelter, 27 for safety, 14 for social (higher value) and 22 for services and environment. All sub needs marked as “very important” except gardens in shelter and social facilities.

Shelter garden does not have any interest at all “23 not important” votes. Also social facilities “12 not important” volunteers explained thesis's choices” they do not need gardens at home and there is no time for it”, as well the unimportant of social facilities explained by “they already have three clubs around study area and a lot of public gardens in study area”.

<sup>i</sup> Lang, j. (1994). Urban design: The American Experience. New York, Van Nostrand Reinhold.

<sup>ii</sup> Ibid

Needs	Sub-Needs	Very Important	Important	Not Important
Shelter	Affordability	27	3	0
	Well built	25	4	1
	Size and comfort	22	6	2
	parking	28	2	0
	gardens	2	5	23
Security	Psychological safety	26	4	0
	Physiological safety	28	2	0
Social	Relation with neighbors	18	7	5
	Social facilities	10	8	12
Services & Environment	Urban services	18	7	5
	Shopping	29	1	0
	Public transportation	15	8	7
	Infrastructure	25	4	1
	Green recreation	22	5	3
	Physical exercise	20	9	1
	Healthy environment	28	2	0

**Table 4-4 focus group respond to basic needs<sup>i</sup>**

The most very important sub-needs they almost apply for it were parking, physiological safety, shopping and healthy environment. These sub-needs already a problem you can feel when visit the study area except shopping there are many malls and there is shops everywhere, volunteers explained this by “the level of shops are very low and almost all of them were serving food only (grocery, diner, minimarket).

<sup>i</sup>By Author

Needs	Sub-Needs	Very Important	Important	Not Important
Self-Esteem	Place attachment	26	3	1
	Status neighborhood	22	3	5
	Participation decision making	24	3	3
	Income and working conditions	26	3	1
	Display personal skills	28	2	0
	Personal privacy	26	4	0
	Learning opportunities	15	8	7
Self-Actualization	Practicing cultural facilities	18	7	5
	Aesthetic and design living environment	10	8	12
	Ecological behavior	24	3	3
	Feeling equality and justice	19	6	5
	Historical and natural amenity rich environment	15	8	7

**Table 4-5 focus group respond to higher level needs<sup>i</sup>**

Public transportation has 15 “very important” votes only. As well, relation with neighbors “18 very important” and urban services “18 very important” they justified these sub-needs numbers by “they use their own cars in study area, and they barely know their neighbors “greetings only” or due to renters change on the same property, Also they use cars a lot and car services are available already.

Volunteers voted “very important” for higher-level needs with mean value of 24 for self-esteem and 17 for self-actualization, all sub needs marked as “very important” too.

Lowest sub-needs value were leaning opportunities in self esteem needs and historical and natural amenity in self-actualization, when volunteers answered, “That leaning opportunities already enabled by Egyptian

<sup>i</sup> By Author

education system of (supported education)”. In addition, for historical and natural amenity “there are already overcrowdings problem in study area streets”.

Needs	Very important	Important	Not Important
Shelter	21	4	5
Security	27	3	0
Social	14	8	8
Services & Environment	22	5	3
Self-Esteem	24	4	2
Self-Actualization	17	7	6

Table 4-6 Pilot Study results Means values<sup>i</sup>

Table 4-6 summarize the pilot study results mean values. Security came the first concern, self-esteem, service and environment, shelter, and at last self-actualization.

<sup>i</sup>By Author

### 4.2.2 Questionnaire Design

The questionnaire's structure based on DAS questionnaire structure as a reference, DAS questionnaire modified to meet up the selected needs from the focus group, and the structure expanded to included objective, behavioral, subjective variables to enrich study validity.

According to **Andrews and Withey (1976)** people divide their lives into related domains. Also people can judge each domain individually, researchers confirmed that most of QOL researches are concerned with the relation between domains and whole QOL, some researchers examined the relation between QOL and single domain like financial domain **Bilshen and Atkinson (1980)**, neighborhood satisfaction **Guttek, Allen et al. (1983)**.

Research has nine domains and demographic data preface as follow:

- |                      |                   |
|----------------------|-------------------|
| 1- Demographic data. | 6- Social life    |
| 2- Housing.          | 7- Mental life    |
| 3- Environment.      | 8- Financial life |
| 4- Urban.            | 9- Social capital |
| 5- Mobility          | 10- other Sides   |

Each domain consists of group of questions testing selected needs through three types of variables, and testing as well the three levels of QOUL. As confirmed by **Campbell, Converse et al. (1976)**. Table 4-7

Selected human needs remapped into previous life domains (from 2 to 9) to be organized and easier for users to answer. Table 4-8

Sub-needs with low importance not included in questionnaire, which were marked in table 4-4, 4-5.

Housing Level	Neighborhood level	City level
<b><u>Physical features</u></b>	<b><u>Physical features</u></b>	<b><u>Physical features</u></b>
Dwelling age	Neighborhood landscaping	Physical environment
Size	<b>Street lighting</b>	Climate
Tenure	crowding	pollution
Characteristics of housing in local area.	Noise level	
Location in urban area	Access to facilities	<b><u>Social features</u></b>
	Quality of the environment	Crime and safety
<b><u>Social features</u></b>	Public transport	Socail facilities
Characteristics of neighbors	Parks and green areas	Education
Community size	Education (school quality)	Health
		Recreation and leisure
<b><u>Economic features</u></b>	<b><u>Social features</u></b>	Social order
Home or rent value	Interaction with neighbors	Local amenities
	Community ties	
	Outdoor space	<b><u>Economic features</u></b>
	Crime	Standard of living
	Sense of privacy	Employment opportunities
	<b><u>Economic features</u></b>	
	Home value in neighborhood	
	Cost of level in comminty	
	Socio-economic status of neighborhood	
	Neighborhood improvement	

Table 4-7 QOL indicators related to different levels<sup>i</sup>

<sup>i</sup>Janzen, B. (2003). An Evaluation of the Federation of Canadian Municipalities Quality of Life Reporting System. Community-University Institute for Social Research. Saskatoon, Canada., University of Saskatchewan.



Needs	Sub-needs	Domain
Shelter	Affordability	Housing
	Size and comfort	
Service and Environment	Healthy Environment	Environment
	Green Recreation	
	Ecology Behavior	
Shelter	Well-built	Urban
Service and Environment	Shopping	
	Urban Services	
Security	Psychological safety	
	Physiological safety	
Self-Esteem	Personal Privacy	
	Learning Opportunities	
Shelter	Parking	Mobility
Service and Environment	Public transportation	
	Infra structure	
Self-Actualization	Physical exercise	Social life
	Practicing culture	
Self-Esteem	Participation decision making	Mental life
	Status Neighborhood	
Self-Actualization	Feeling equality and justice	
	Historical and natural amenity rich environment	
Self-Esteem	Income and working conditions	Financial life
Self-Actualization	Practicing cultural facilities	Social Capital

**Table 4-8 Human needs selected from pilot study remapped into life domains<sup>i</sup>**

<sup>i</sup>By Author

### 4.2.3 Questions Design

Questions were designed to be closed-end, have multi-choose answer or on and off questions. There are two different methods to measure SQL as a global measure single item scale and multi item scale, the first one is the most popular when combined with domains results.

Single item scale have many methods to measure they all were built on scales as likert scale.

**Campbell (1976)** Proposed questions like - How satisfied are you with your life as a whole these days? - And the answer was a likert scale from 1 to 7.

**Andrews and Withey (2012)** use the question -How do you feel about your life as a whole? - The answer ranges from delighted to terrible. Question must repeat twice, and QOL index computed.

**Fordyce (1978)** Use the question - in general, how happy or unhappy do you usually feel? - the answer contains 11 response options each one connected with a series of mood adjectives, for example the highest choice is connected to feeling extremely happy, ecstatic, joyous and fantastic.

**Cantril (1965)** Use question graphically connected to answer as a nine step ladder top step is “best possible life for you” and the bottom one “worst possible life for you” the question is “where on the ladder do you stand at the present time?”

Questions were written in Arabic language, with the **Campbell (1976)** model as mentioned above.

The research is related to socio-economic classification therefore a set of socio-economic indicators were added like gender, level of education, occupation, birth place, family size, income, number of children and house ownership.

### 4.2.4 Research Sample

Total sample size was determined by **Krejcie and Morgan (1970)** table See Appendix 4, sample size for each neighborhood is based on Proportionate Stratified Random Sampling approach which depends on fixed sampling fraction for different neighborhoods population.

The total population of study area estimated in (2016) 588,384 persons using annual growth rate 2.45%<sup>i</sup>, sample size value is 382 samples with Sampling fraction is 0.000649 and distributed as table 4-9.

---

<sup>i</sup><http://www.capmas.gov.eg/>

no.	Neighborhood	Total_2016	Samples
1	Al-Tawfiq	18104.01	12
2	Al-Sharakat	5765.46	4
3	Al-Golf	44730.11	29
4	Ahly Club	13976.73	9
5	Ninth Area	7341.22	5
6	Tenth Area	9365.37	6
7	Tenth Neighborhood	109015.14	71
8	First Area	39314.95	25
9	Sixth Area	113425.23	73
10	Eighth Area	53878.93	34
11	Al-Wafaa w Al-Amal	18892.53	12
12	International Garden	23669.48	15
13	Seventh Area	25533.13	16
14	Rabia	3808.82	4
15	East Sixth Area	34862.83	23
16	Engineers Housing	21577.81	14
17	Cinema Area	19929.44	13

1	Seventh Neiborhood	10329.68	7
2	Sixth Neiborhood	14863.33	10
Total Population		588384.21	382

Table 4-9 samples distribution over deferent neighborhoods<sup>i</sup>

#### 4.2.5 Data Collection

The Questionnaire was conducted through three methods internet form, printed (received by hand) and face-to-face interview. The questionnaire was randomly distributed over the study area neighborhoods no matter the sample number needed in each area. The received data was concluded to the needed number randomly.

#### Summary

This chapter has discussed the methodology of QOUL life assessment, and studied QOUL previous work. In addition, it defined the domains and suitable sample size for QOUL measurement and analysis.

<sup>i</sup> By Author



# **CHAPTER 5**

## **5.QOUL ASSESSMENT RESULTS**



## The Preface

Data was collected for the assessment as discussed earlier, number of collected samples were bigger than needed to exclude outliers data and incomplete answers.

Most of data were collected through face to face interview (90%) using well trained interviewers and researcher, the rest of it was collected through online form. Interviews were conducted in the area of study its self, through twenty five areas in NASR city.

Secondary data sources like visual survey, census data from CAPMAS<sup>i</sup> were used to combine data like schools, gardens and streets, using GIS to combine these data.

## 5.1 QOL Previous Study

Many of studies met a common findings; like people in bad conditions (developing countries) report high satisfaction levels, almost near developed countries as confirmed by Cantril (1965) who studied 13 cities in 13 countries with different per capita income as Nigeria, Japan, Egypt and west Germany found that the life satisfaction expressed by respondents in these cities are almost same.

Flanagan (1978) identified 15 QOL domains grouped into five general dimensions through survey based on 6500 critical incidents collected from nearly 3000 residents with different ages, backgrounds and races, the dimensions are physical and material, well-being, relation with other people, community and civic activities, personal development and fulfillment and recreation.

Andrews and Withey (1976) wrote a questionnaire using a large life concerns collected from previous international surveys, it was consisted of 123 item, respondents were asked to map these items in groups or domains. the elected domains were used to determine life satisfaction.

also Cheng (1988) stated that satisfaction is more useful to assess QOL by domains than happiness cause it seem in appropriate for some domains.

Campbell, Converse et al. (1976) confirmed that satisfaction level is lower in domains that have none clear standard for what is good like family and marriage. In addition, they confirmed that domain satisfaction contribute unequally to global life satisfaction.

also Glatzer (1987) confirmed that public domains have lower satisfaction that private life domains which less critically judged.

Allen Jr, Bentler et al. (1985) stated that each domain questions must includes some objective indicators.

---

<sup>i</sup> Central Agency for Public Mobilization and Statistics

**Diener (1984)** Confirmed that individual demographic variables rarely affect SQL measurements only 15% of the variance may be taken in account. **Andrews and Withey (1976)** also examined demographic data (gender, income, family, education...etc) and found only 5% variance in their outcome. Also **Rosen and Moghadam (1988)** find that only 3% of variance affect their study of QOL of army wives, analyzed demographic variables was age, education and husband's rank.

## 5.2 Census Data

Before going deep in the finding of QOL assessment and its relation to urban QOUL we need to address some international data that help in findings analysis.

### 5.2.1 Human development index

HDI (Human Development Index) is a composite statistic of life expectancy, education, and per capita income indicators. The index related to QOL directly and used to rank countries. The index value ranges from 0 to 1.

It was developed by the Pakistani economist Mahbub ul Haq working alongside Indian economist Amartya Sen and was published by the United Nations Development Program.

High HDI value means that the lifespan is higher, the education level is higher, the GDP per capita is higher, the fertility rate is lower, and the inflation rate is lower. For Egypt HDI value was 0.69 due to United Nations Development Program.<sup>i</sup> It was ranked 108 from 187 countries.

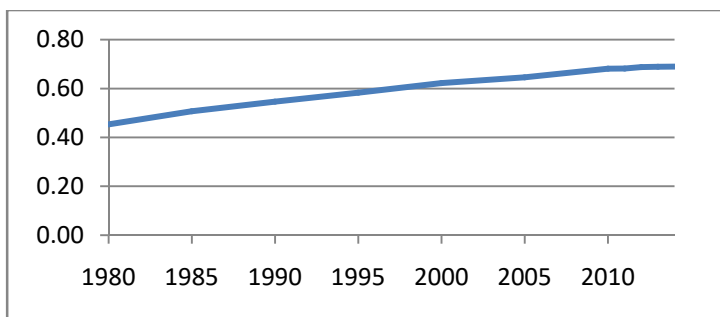


Figure 5-1 HDI values for Egypt through last measures<sup>ii</sup>

### 5.2.2 Quality of life index

Despite what was published by numbo.com website about QOL in Egypt in December 2016 (Egypt has 93.11 point from 200 points), it still not accurate cause it depends on internet visitors only and some governmental data and do not count on the actual users'' opinions.(according to CAPMAS

<sup>i</sup> <http://hdr.undp.org/en/indicators/137506>

<sup>ii</sup> Ibid



illiteracy rate is 25.9%, internet users about 31 million from 92 million and finally the users who know about QOL are not too much)

+ Purchasing Power Index	32.48	Very Low
+ Safety Index	46.39	Moderate
+ Health Care Index	44.12	Moderate
+ Climate Index	78.10	High
- Cost of Living Index	17.84	Very Low
- Property Price to Income Ratio	10.83	Moderate
- Traffic Commute Time Index	50.37	High
- Pollution Index	90.29	Very High
<b>f</b> Quality of Life Index:	<b>93.11</b>	<b>Moderate</b>



**Figure 5-2 QOL results by numbeo.com website<sup>i</sup>**

Also the web site ranked Egypt 54 through 61 countries measured in the end of 2016<sup>ii</sup>.

### 5.3. Questionnaire Findings

Questionnaire composed of many variables with many types (objective, subjective, behavioral) see the code book in appendix 6; each group define and measure specific domains, next parts will discuss the results of these variables and its effect on QOL and QOUL domains.

Results were shown for sample as a whole, and distributed over each area (shyakha) using IDW maps driven from GIS.

<sup>i</sup> [https://www.numbeo.com/quality-of-life/rankings\\_by\\_country.jsp](https://www.numbeo.com/quality-of-life/rankings_by_country.jsp) (05-2016)

<sup>ii</sup> Ibid

**5.3.1 Demographic Data**

Demographic variables divided into two main parts; general data (nominal) like age range, marriage, gender and car ownership, socio-economic status variables (ordinal) like income, education, employment and dwelling ownership.

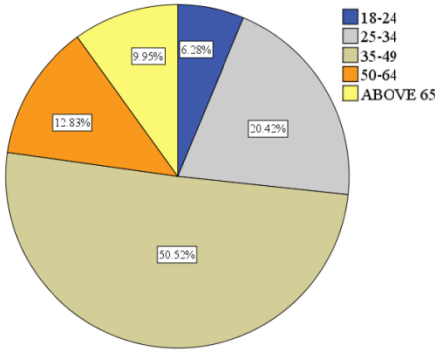


Figure 5-3 Samples Age <sup>i</sup>

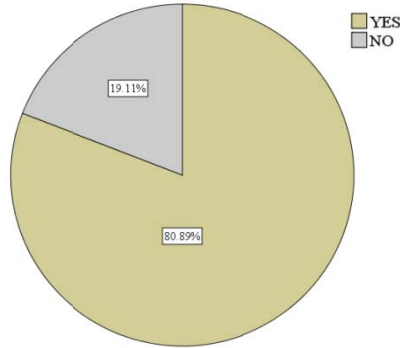


Figure 5-4 Car owners<sup>ii</sup>

Figure 5-3 shows Samples ages which divided into five categories (18-24, 25-34, 35-49, 50-64, above 65) 52.4% from samples in the range 35-49 years, 2.9% in the range 18-24 years, 14.7% in the range 25-34 years, 15.7 in the range 50-64 years and 14.3% above 65 years. Also only 83.6% of samples have a car figure 5-4.

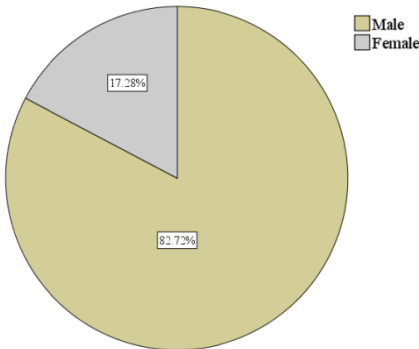


Figure 5-5 Samples gender <sup>iii</sup>

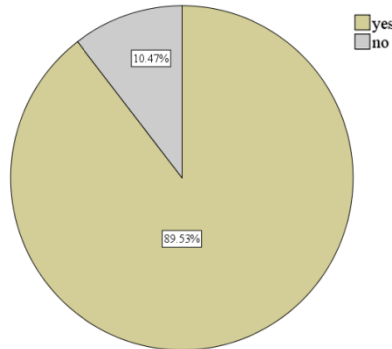


Figure 5-6 Marriage status<sup>iv</sup>

Figure 5-5 shows the gender distribution, 83.3% of samples are males and 16.7% are females also Andrews and Withey (1976), Glatzer and Mohr

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

(1987) confirmed that no differences between men and women on life satisfaction. Also 93.4% of samples are married Figure 5-6.

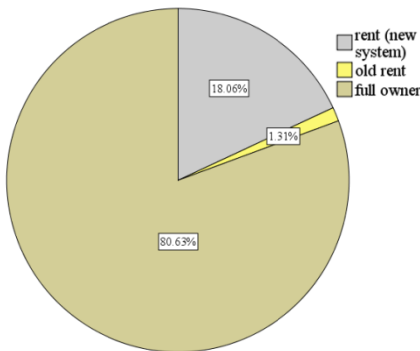


Figure 5-7 Dwelling Ownership <sup>i</sup>

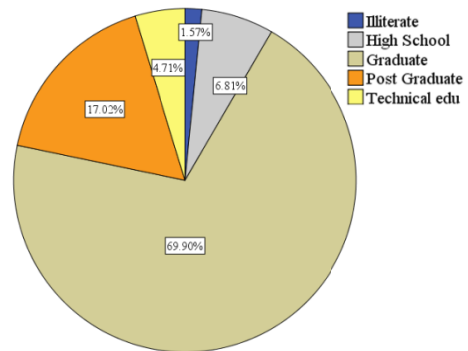


Figure 5-8 Education<sup>ii</sup>

Figure 5-7 shows that 81.04% own their homes, 16.95% live in rented home (new law) and 2% live in rented homes with old rent law. as well figure 5-8 shows that 71.9% are graduates, 16.8% are post graduates, 5.5% have technical education, 3.6% passed the high school, 2.2% of samples are illiterate.

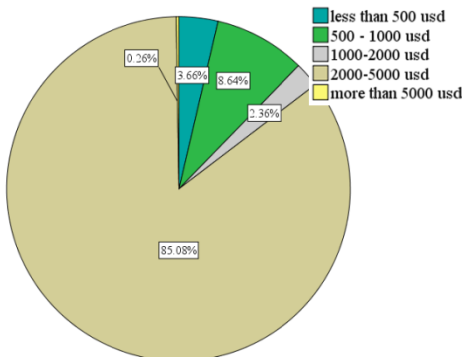


Figure 5-9 Income rate <sup>iii</sup>

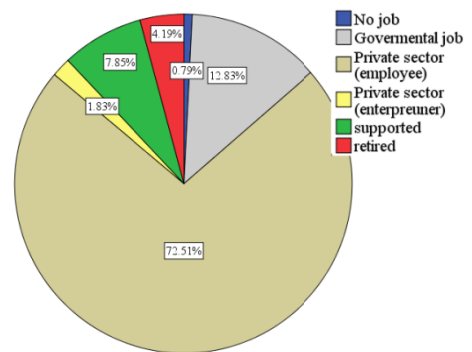


Figure 5-10 Employment status<sup>iv</sup>

Figure 5-9 shows that 85.71% have yearly income between 2000-5000 USD, 8.82% between 500-1000 USD, 3.29% between 1000-2000 USD, 1.81% less than 500 USD and 0.36% more than 5000 USD.

Figure 5-10 shows that 72.51% are working as employees in private sector, only 1.83% own their jobs, 7.85% are supported by others, 4.19% are retired

<sup>i</sup> By Author

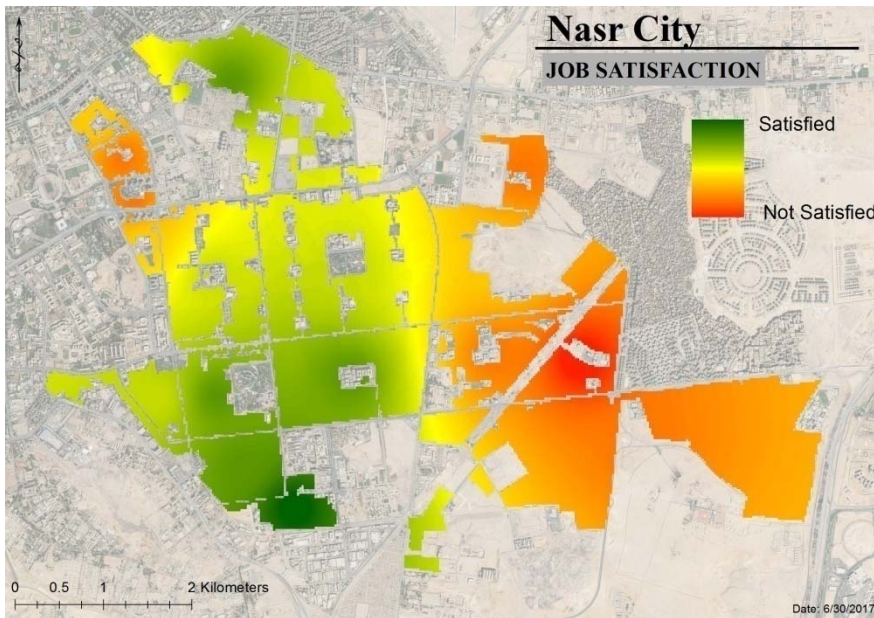
<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

from work, 12.83% are working in public jobs (for government) and 0.79% have no jobs.

Figure 5-11 shows job/school satisfaction means distributed over studied neighborhoods, middle and south west areas has a high satisfaction, east areas (which are new and includes low levels housing) and north west (high densities) have low job satisfaction.



**Figure 5-11 Job/school satisfaction<sup>1</sup>**

From previous variables results it appear that most of respondents ages were between 35-45 years, and most of them have a car, working as employees, earn between 2000-5000 USD yearly, graduates, own their homes, married and most of them are males.

### 5.3.2 Housing

Housing variables covers respondents current residence, previous residence if there one and his intentions to move and to where. also covers some issues like living place cost and what he think about the reasons that push people to move.

Figure 5-12 shows respondents time lived in their current residence, 85.08% have been there for nine years and less, 13.35% have been there between 10-18 years, 1.31% have been there between 19-27 years and 0.26% have been there for more than 27 years.

<sup>1</sup>By Author

Figure 5-13 shows respondents dwelling type, 66.75% lives in a front apartment, 24.08% lives in a back apartment, 6.54% lives in roof apartments and 2.62% lives in duplex (villa) inside residential building.

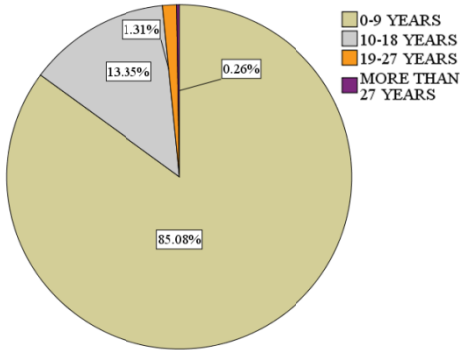


Figure 5-12 Time lived in Madinet Nasr<sup>i</sup>

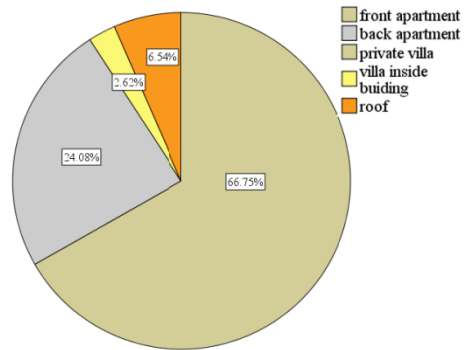


Figure 5-13 Type of dwelling<sup>ii</sup>

For the residents who were not born in Madinet Nasr (86% from sample). they were asked about their previous home and why they moved to their current home. Figure 5-14 shows respondents previous living place, 99.09% were moved from inside Cairo to Madinet Nasr and only 0.91% were moved from outside Cairo. Figure 5-15 shows their reasons to move to Madinet Nasr, 36.14% for higher social level, 19.88% be close to work, 15.36% be close to family and friends, 14.76% escaping from crowdedness, 13.86% have more services.

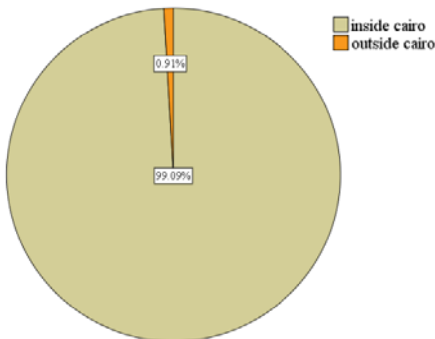


Figure 5-14 Previous living place<sup>iii</sup>

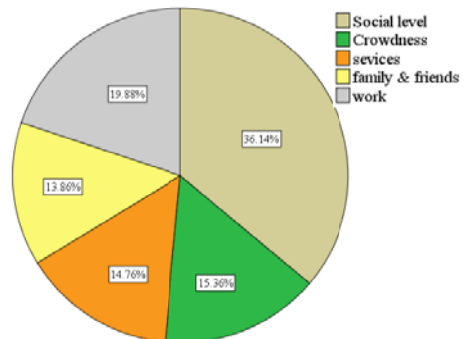


Figure 5-15 Move to Madinet Nasr reasons<sup>iv</sup>

In addition, they were asked about how long they lived in their previous dwelling, figure 5-16 shows that 97.89% lived there between 1-10 years and 2.11% lived there between 11-20 years.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

The respondents were asked generally to rank the importance of some reasons which force them to move to new home; work came as the most important reason to move then residence price, open areas, schools, avoid crowdedness, friends, entertainment facilities, neighbors and at last comes religious services. also respondents were asked to choose a place to move if they had chance to leave, figure 5-17 shows that 43.46% want to stay in Madinet Nasr, 46.86% move to new cities, 5.76% move inside Madinet Nasr and 3.93% move to other Cairo region.

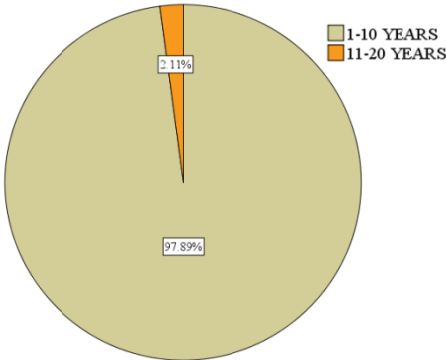


Figure 5-16 Previous dwelling living time<sup>i</sup>

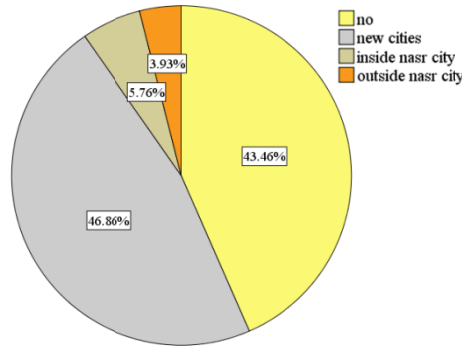


Figure 5-17 Move from Madinet Nasr<sup>ii</sup>

Figure 5-18 shows respondents intentions to move answers distributed over studied neighborhoods, middle and south west areas have a high desire to move from their homes, other areas (yellow) are equivocal do not think about moving or staying (do not matter), some east areas (which are new) and north west (beside ministries) have low intentions to move.

Figure 5-19 shows respondents answers about dwelling cost (rent or buy) distributed over studied neighborhoods, middle and south areas think that home cost are high in their own areas, in east areas respondents think that cost are low and moderate.

<sup>i</sup> By Author  
<sup>ii</sup> Ibid

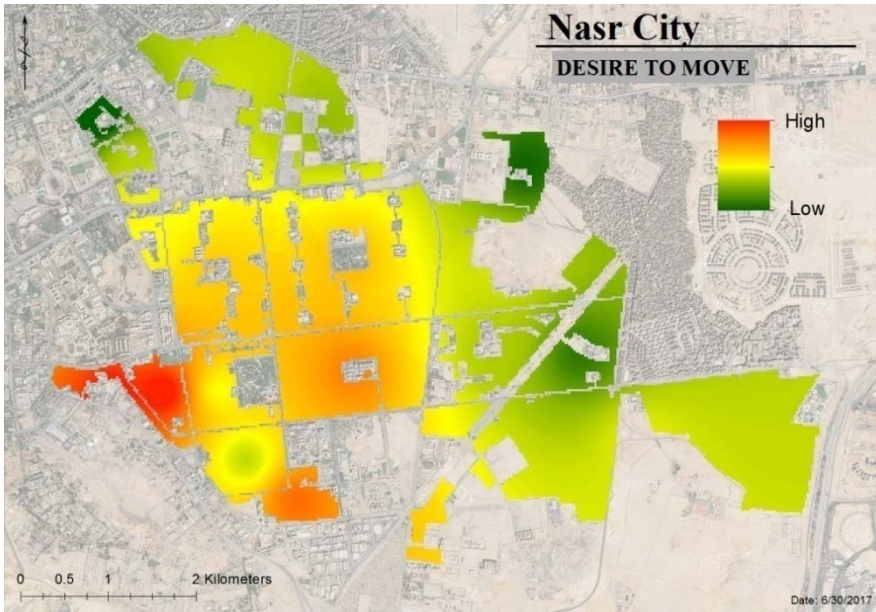


Figure 5-18 Desire to move<sup>i</sup>

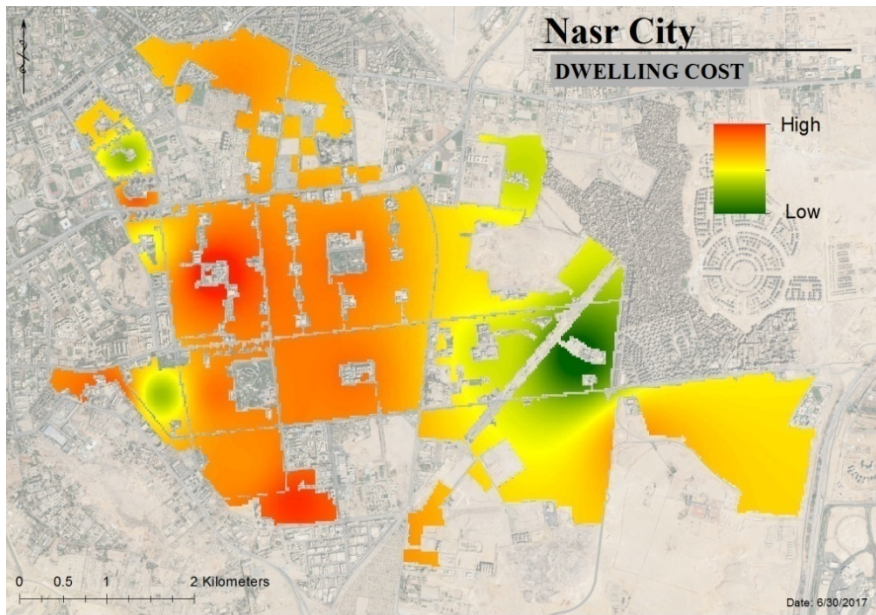


Figure 5-19 Dwelling Cost (rent or buy)<sup>ii</sup>

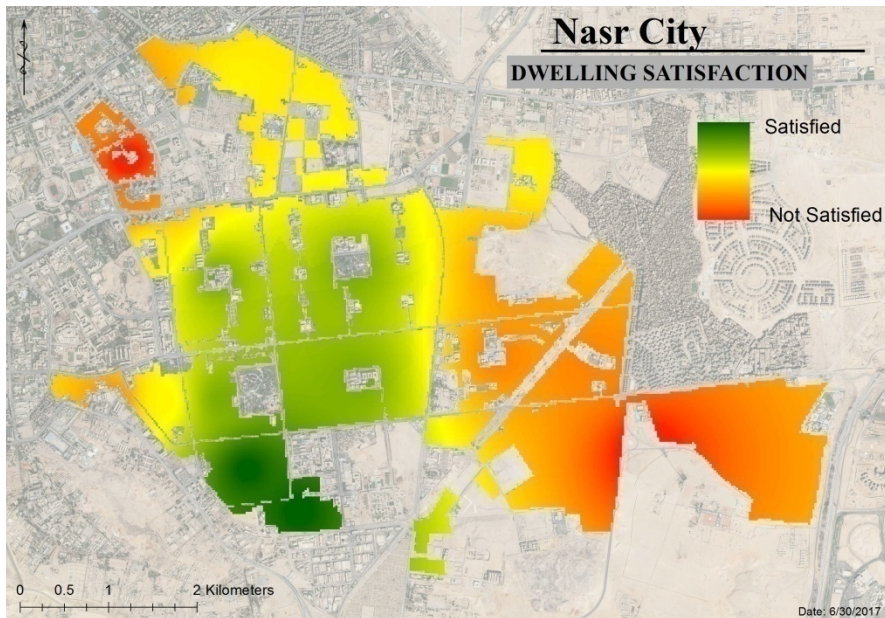
As a conclusion question respondents were asked about their dwelling satisfaction Figure 5-20 shows respondents answers distributed over studied

---

<sup>i</sup> By Author

<sup>ii</sup> Ibid

neighborhoods, middle and south areas are satisfied and very satisfied to the south areas, in east areas and north west areas respondents are not satisfied.



**Figure 5-20 Dwelling satisfaction<sup>i</sup>**

From previous variables appears that 85% of respondents were living outside Madinet Nasr, and more than 99% came to Madinet Nasr from other Cairo's regions, 36.14% of them move to Madinet Nasr to improve their social level and 19.88% of them move there to be close to their work. also 97.89% of them had lived there for 10 years before moving to Madinet Nasr.

Also 66.75% of respondents live in a front apartment, and 85.08% of them have been in Madinet Nasr for nine years. Respondents choose (be close to work) as most reason to move and (be close to religious services) as a less important reason to move.

<sup>i</sup>By Author



### 5.3.3 Environment

Environments' variables aim to measure respondents feelings and participation through four aspects pollution, energy saving, recycling and gardens and open areas.

#### 5.3.3.1 Pollution

The respondents were asked about streets sweeping, garbage collection, water tap, air, noise, medical waste and sewage.

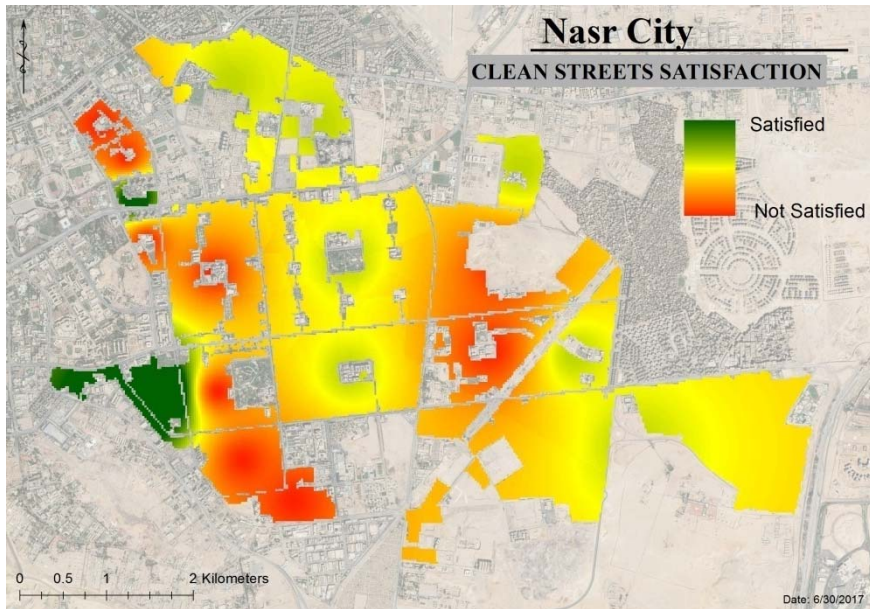


Figure 5-21 Streets sweeping satisfaction<sup>i</sup>

Figure 5-21 shows respondents satisfaction about streets sweeping, green color is completely satisfied and red color is completely unsatisfied. Some west and east areas are unsatisfied, almost all other areas (yellow) are equivocal with it.

Figure 5-22 shows respondents satisfaction about garbage collection, green color is completely satisfied and red color is completely unsatisfied. Some south and northeastern areas are unsatisfied; almost all other areas are satisfied with it.

Figure 5-23 shows respondents satisfaction about water tap quality, green color is completely satisfied and red color is completely unsatisfied. Northwestern area are unsatisfied, almost all other areas are equivocal with it<sup>ii</sup>.

<sup>i</sup> By Author

<sup>ii</sup> Due to high population density residents attempt to use water tanks to save water, because the water pressure is low in Madinet Nasr and it is sometimes not exist at all.

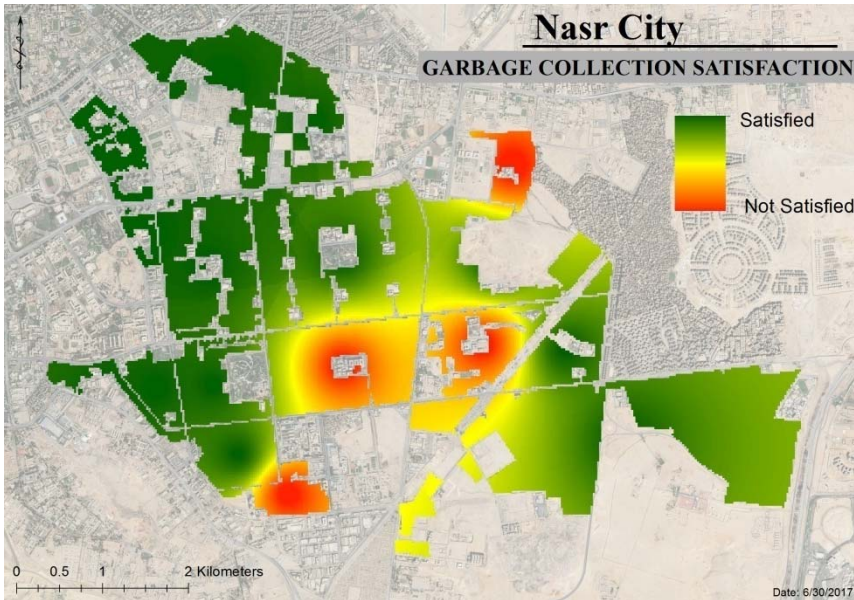


Figure 5-22 Garbage collection satisfaction<sup>i</sup>

Figure 5-24 shows respondents satisfaction about air quality, green color is completely satisfied and red color is completely unsatisfied. Northeastern area are unsatisfied, almost all other areas are equivocal with it..

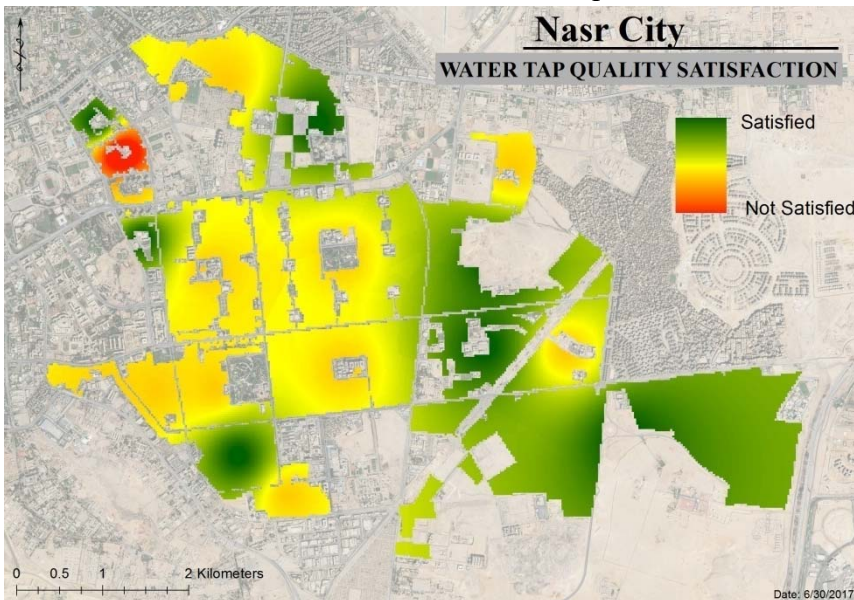


Figure 5-23 Water tap satisfaction<sup>ii</sup>

<sup>i</sup> By Author  
<sup>ii</sup> Ibid

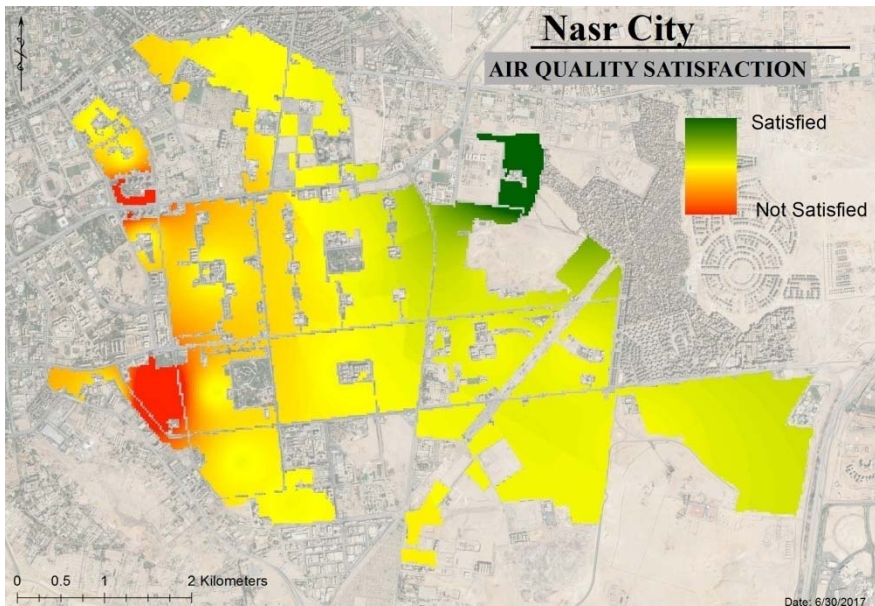


Figure 5-24 Air quality satisfaction<sup>i</sup>

Figure 5-25 shows respondents' satisfaction about noise problem, green color is completely satisfied and red color is completely unsatisfied. Northeastern area is satisfied, almost all other areas are equivocal with it except middle and northwestern areas are unsatisfied.

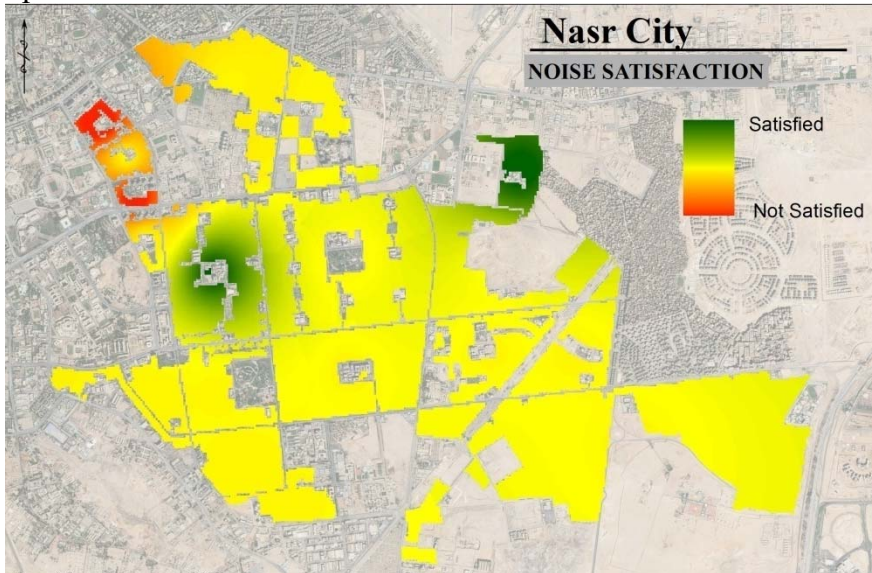
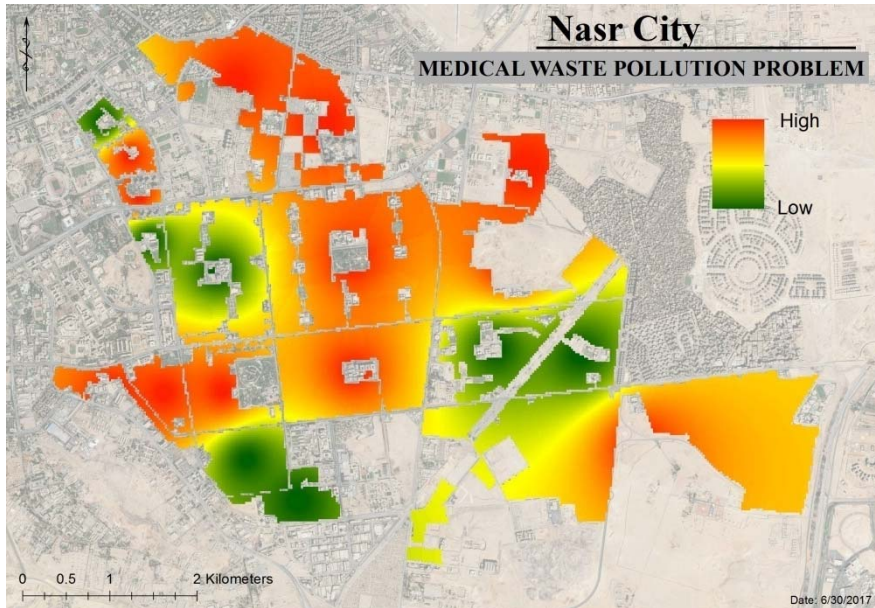


Figure 5-25 Noise problem<sup>ii</sup>

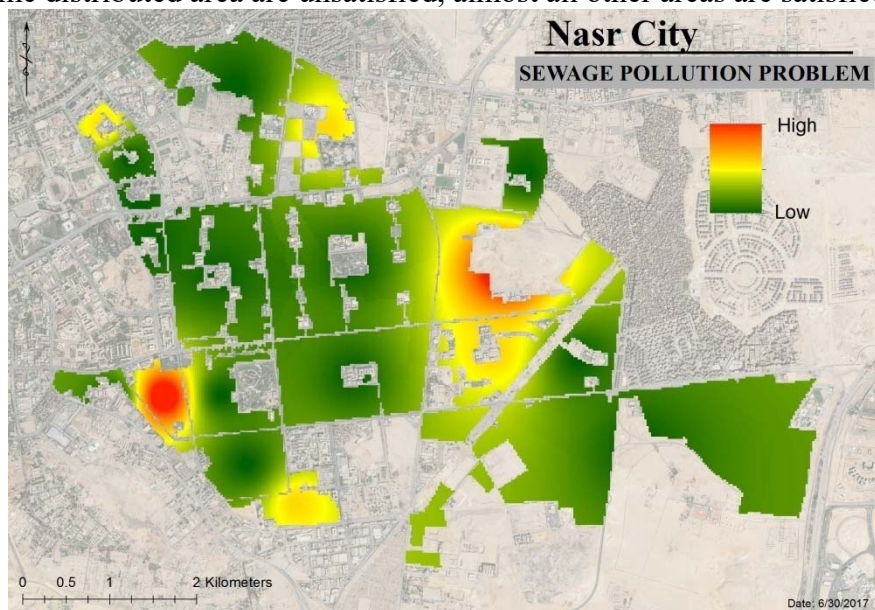
<sup>i</sup> By Author

<sup>ii</sup> Ibid



**Figure 5-26 Medical waste pollution<sup>i</sup>**

Figure 5-26 shows respondents' satisfaction about medical waste pollution, green color is completely satisfied and red color is completely unsatisfied. some distributed area are unsatisfied, almost all other areas are satisfied.



**Figure 5-27 Sewage pollution problem<sup>ii</sup>**

<sup>i</sup> By Author  
<sup>ii</sup> Ibid

Figure 5-27 shows respondents' satisfaction about sewage pollution, green color is completely satisfied and red color is completely unsatisfied. some distributed area are unsatisfied, almost all other areas are satisfied.

### 5.3.3.2 Energy Savings

Respondents were asked if they used any energy saving equipments before, figure 5-28 shows that 30.89% use equipments and 69.11% do not use it. Also they were asked if they think about using a clean power source (sun, wind and heat) figure 5-29 shows that 70.42% think about using clean power source.

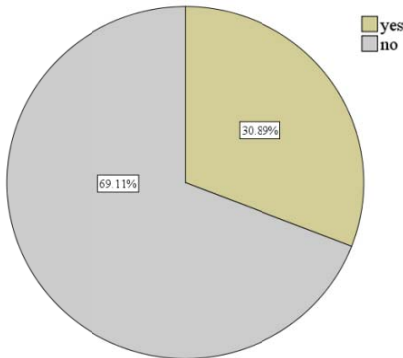


Figure 5-28 Use power saving equipments<sup>i</sup>

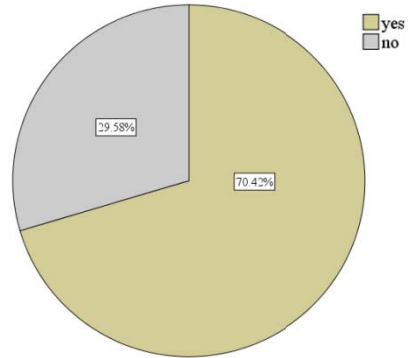


Figure 5-29 Use clean power source<sup>ii</sup>

Figure 5-30 shows respondents' behavior after closing television, 40.31% of respondents close the equipments by remote, 30.89% close receiver only and television will auto close, 28.80% cut the power source from all equipments (that save 25% of dwelling power bill)<sup>iii</sup>.

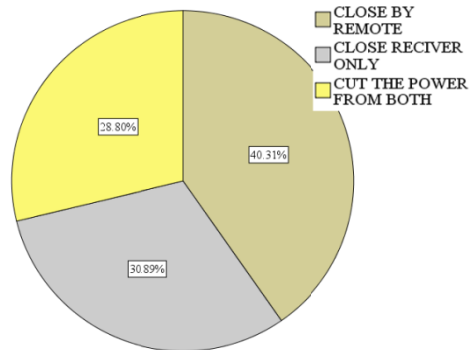


Figure 5-30 Use clean power source<sup>iv</sup>

<sup>i</sup> By Author

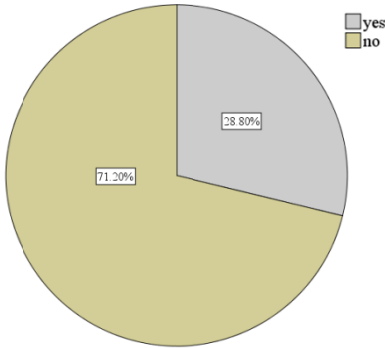
<sup>ii</sup> Ibid

<sup>iii</sup> [http://www.berkeley.edu/news/media/releases/2001/02/09\\_energ.html](http://www.berkeley.edu/news/media/releases/2001/02/09_energ.html)

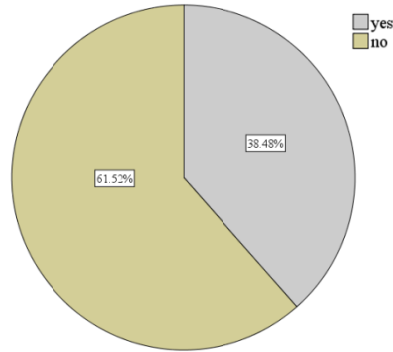
<sup>iv</sup> By Author

**5.3.3.3 Recycling**

Respondents were asked if they are interested to know if their products are recycled or not, figure 5-31 shows that 28.80% are interested 71.20% are not curious. In addition, they were asked if they buy it after knowing that products are recycled figure 5-32 shows that 38.48% are agree with recycled products, 61.52% are not.

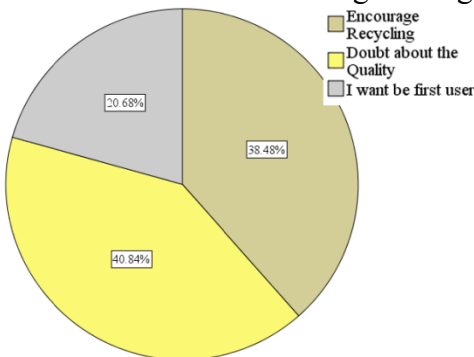


**Figure 5-31** know about product whether recycled or not<sup>i</sup>

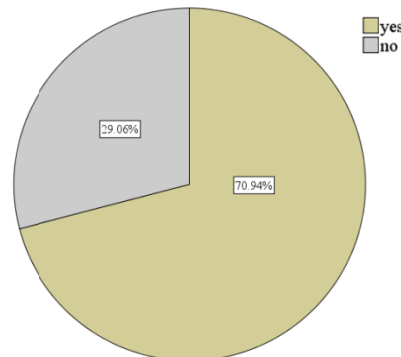


**Figure 5-32** Buy recycled products<sup>ii</sup>

respondents were asked why they buy or do not buy recycled products, figure 5-33 shows that 38.48% thought they encourage recycling and 40.84% they doubt about recycling quality, 20.68% want to be the first user. Also they were asked if they use rechargeable batteries, figure 5-34 shows that 70.94% confirmed using rechargeable batteries.



**Figure 5-33** Why buy/not buy recycled products<sup>iii</sup>



**Figure 5-34** Use rechargeable batteries<sup>iv</sup>

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

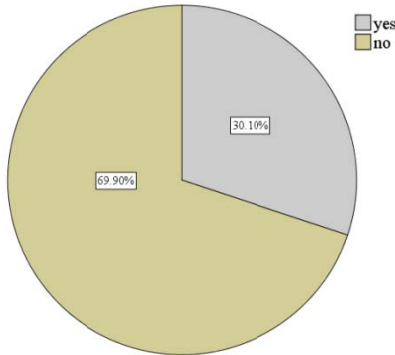


Figure 5-35 Reuse your waste<sup>i</sup>

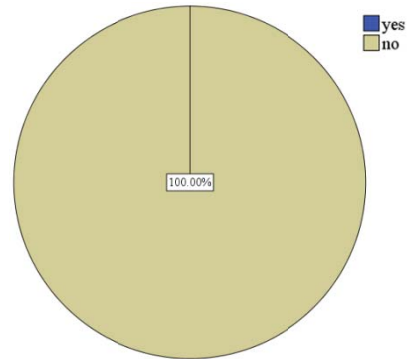


Figure 5-36 classify your waste<sup>ii</sup>

Respondents were asked if they think about reuse their waste, figure 5-35 shows that 30.10% thought about reuse and 69.90% do not thought about it. also they were asked if they classify their waste figure 5-36 shows that all respondent do not classify their waste.

### 5.3.3.3 Gardens and open areas

Respondents were asked about the time they need to visit their nearest garden, figure 5-37 shows that 54.97% take 16-30 minutes, 19.37% take 31-45 minutes, 17.54% takes more than 45 minutes and only 8.12% takes 5-15 minutes. also they were asked how many times they visit gardens in the year figure 5-38 shows that 69.11% visit gardens once or twice per a year, 20.42% visit it for three or six times and 10.47% do not visit it at all.

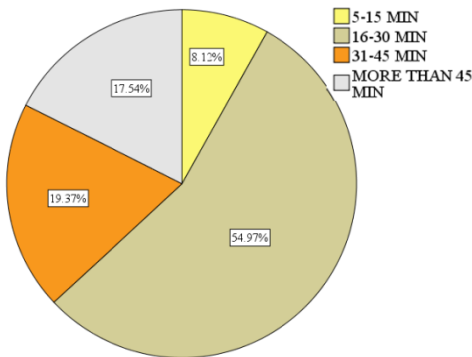


Figure 5-37 Time to reach nearest garden<sup>iii</sup>

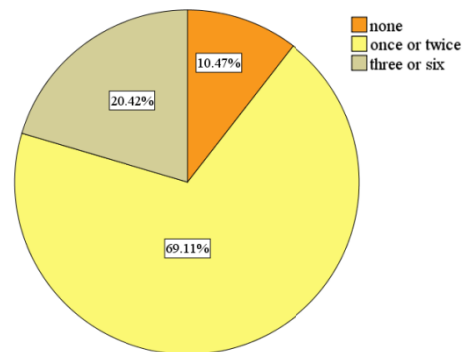


Figure 5-38 how many time you visit gardens<sup>iv</sup>

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

Respondents were asked to state a garden name they visit last year, figure 5-39 shows that 36.91% International garden, 35.34% Child garden, 23.82% 10th of Ramadan garden, then el-Fardous garden, Nagib Mahfouz garden and paradise garden.

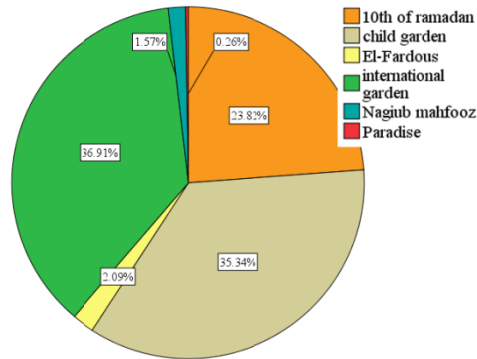


Figure 5-39 stat a garden name<sup>i</sup>

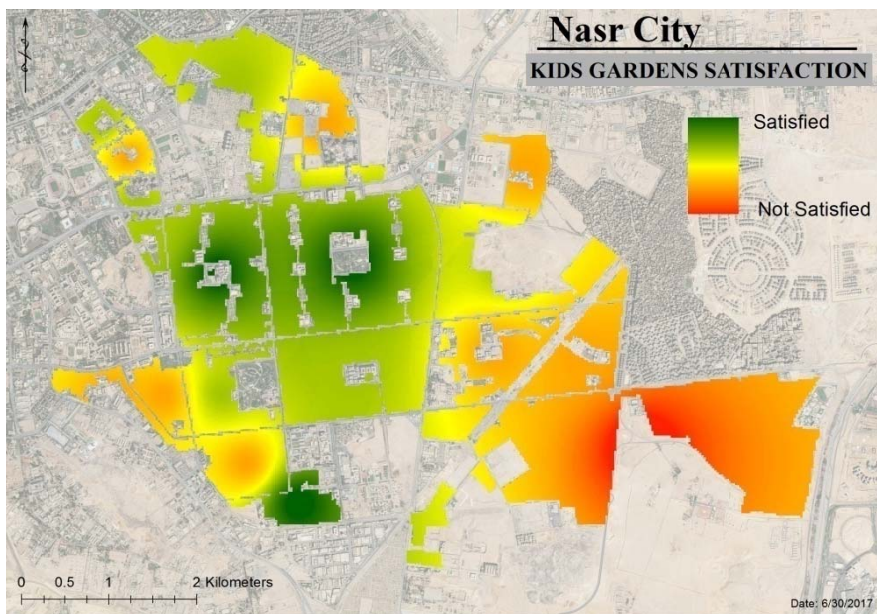


Figure 5-40 Streets sweeping satisfaction<sup>ii</sup>

Figure 5-40 shows respondents satisfaction about kids playing areas, green color is completely satisfied and red color is completely unsatisfied. Some of west and east areas are unsatisfied, middle and south areas are satisfied.

Figure 5-41 shows respondents satisfaction about gardens and green areas, green color is completely satisfied and red color is completely unsatisfied. Some west and east areas are unsatisfied, middle and south areas are satisfied.

<sup>i</sup> By Author

<sup>ii</sup> Ibid



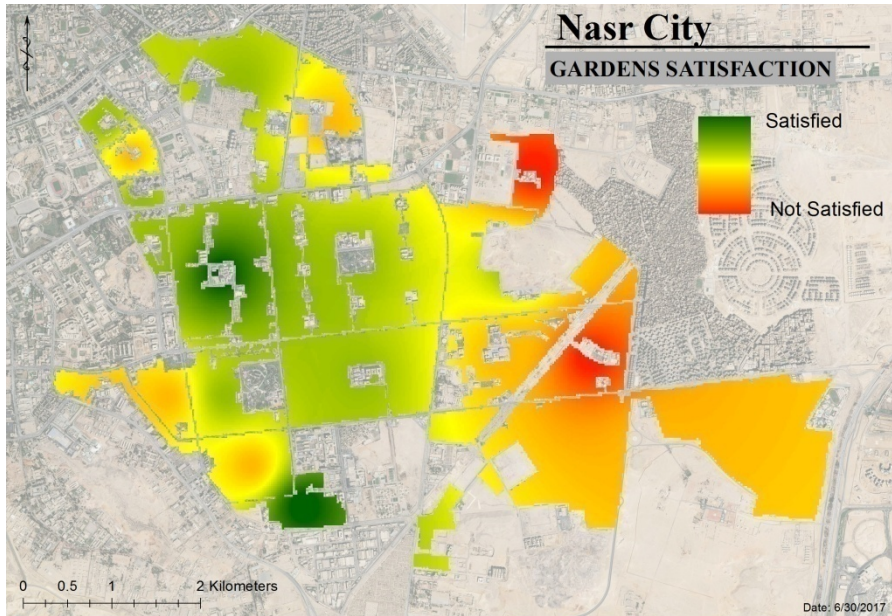


Figure 5-41 Gardens and green areas satisfaction<sup>i</sup>

From previous respondents response data concluded as follow:

Pollution		
Topic	Mean	Std. Deviation
Street sweeping	4.54	1.6
Garbage collection	4.84	1.15
Water tap Quality	3.38	1.6
Air Quality	1.85	1.6
Noise	1.43	1.52
Medical waste	4.22	1.18
Sewage problems	4.71	1.15

Table 5-1 Response to pollution mean values<sup>ii</sup>

Table 5-1 shows mean values for respondent’s response to pollution topics, response to questions on scale of seven points (Likert scale). More than 4 means satisfied; which almost all values are, except water tap quality, air quality and noise problems.

Most of respondents also don't use power saving equipments, although most of them thought about using clean power source, and only 28.80% have power saving culture.

Also most of respondents do not care to know if product where recycled, and if they knew they will not buy it, cause they want to be the first users or doubt about recycling quality, although most of them use rechargeable batteries they do not reuse their waste. Almost all of them do not classify their waste.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

Most of respondents visit gardens once or twice per year, although 54.97% need only 16-30 minutes to reach nearest garden walking. International garden and child garden were the most known and visited by respondents.

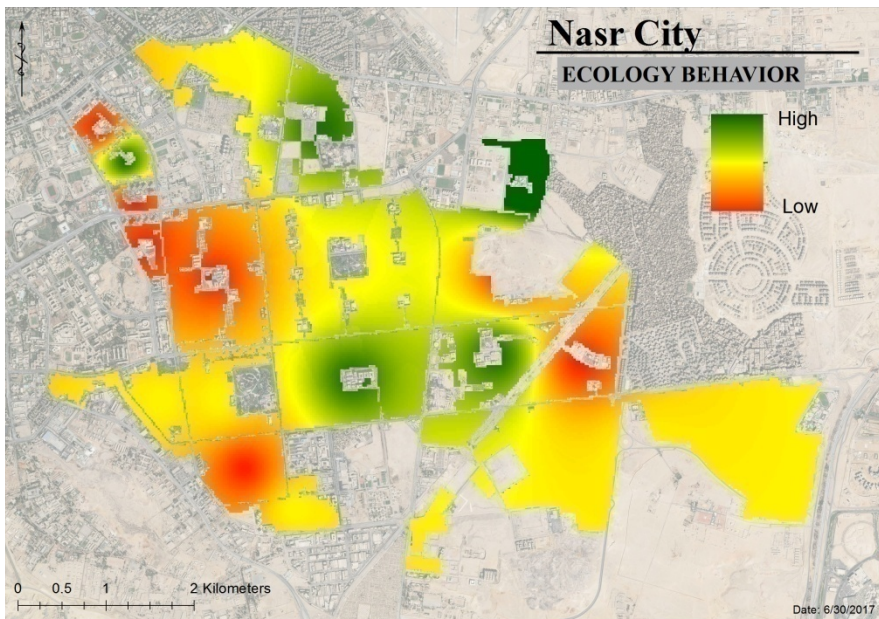
Green Area Satisfaction		
Topic	Mean	Std. Deviation
Kids play ground	3.75	1.3
Gardens and green areas	3.69	1.29

**Table 5-2 Response to green areas satisfaction mean values<sup>i</sup>**

Table 5-2 shows mean values for respondents’ response to green areas satisfaction, response to questions on scale of seven points (Likert scale).

Value more than four means satisfied; which almost all values are, except water tap quality, medical waste and sewage problems.

energy saving and recycling variables were summed up and their mean values were used through different area to draw an ecology behavior conclusion figure 5-42, green color is highly awareness and red color is completely low awareness.



**Figure 5-42 Ecology behavior<sup>ii</sup>**

<sup>i</sup> By Author  
<sup>ii</sup> Ibid

### 5.3.4 Urban

Urban variables measure three topics; services, construction and maintenance.

#### 5.3.4.1 Services

Respondents were asked to state the available services in their areas, they stated that all services are available in their areas. Next variables measure education, health, commercial and safety.

##### 5.3.4.1.1 Education

Figure 5-43 shows education satisfaction mean values distribution over study area. The map shows that north areas are unsatisfied more than east and south areas.

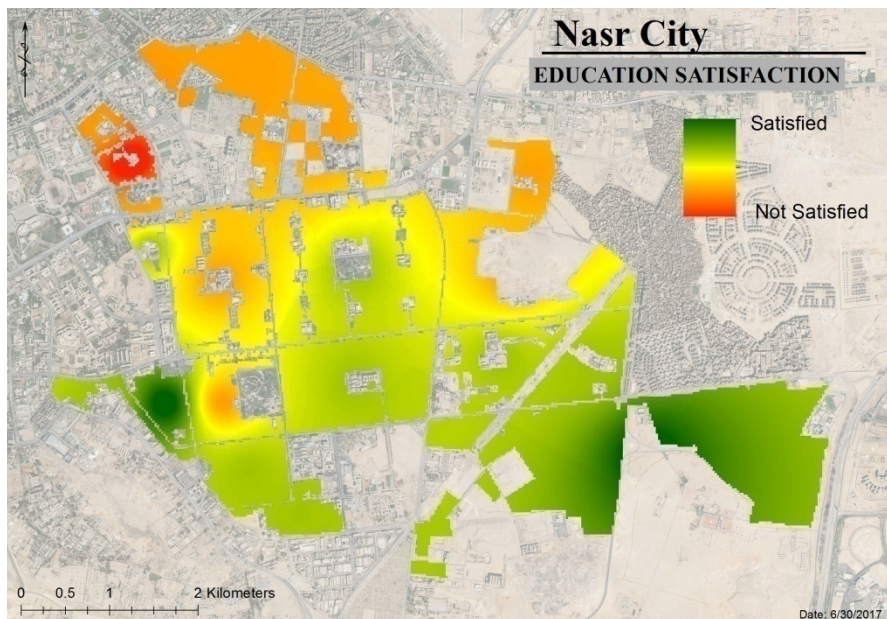


Figure 5-43 Education satisfaction<sup>i</sup>

respondents were asked what is type of their kids' school, figure 5-44 shows 40.58% go to international, 30.36% go to private, 19.11% go to experimental and 9.69% go to governmental.

They also were asked how the kids reach school, figure 5-45 shows that 39.79% using car (parents drive), 60.21% by school bus.

<sup>i</sup> By Author

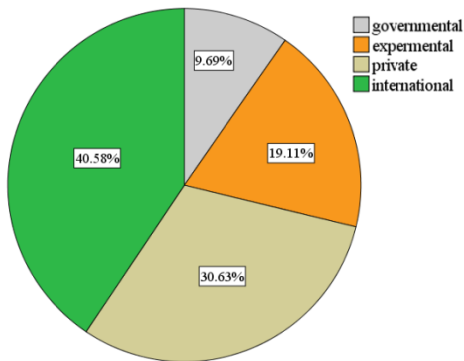


Figure 5-44 kids' school type<sup>i</sup>

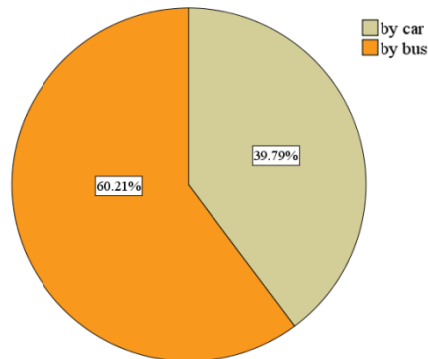


Figure 5-45 How kids go to school<sup>ii</sup>

They also were asked how difficult (time and crowdedness) to reach their kids' school, figure 5-46 shows that 40.84% intermediate difficulty, 28.53% its difficult, 21.20% easy, 9.42% very easy.

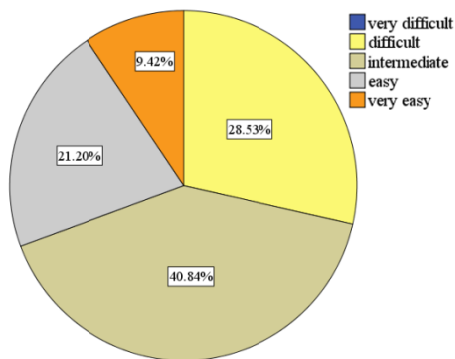


Figure 5-46 how difficult to reach school<sup>iii</sup>

**5.3.4.1.2 Health**

Respondents were asked about common diseases in their family or friends, figure 5-47 shows 50.79% diabetes, 40.31% hypertension, 8.9% asthma. they also were asked if they visit health facility during the last year, figure 5-48 shows that 84.82% visited health facility, 15.18% do not.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

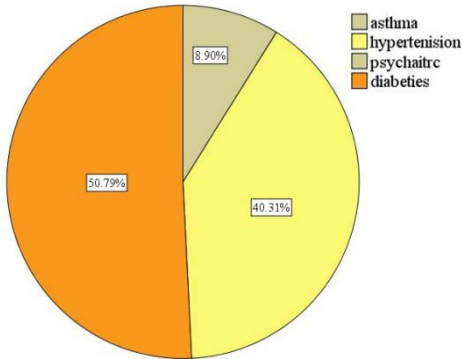


Figure 5-47 Common diseases in family or friends<sup>i</sup>

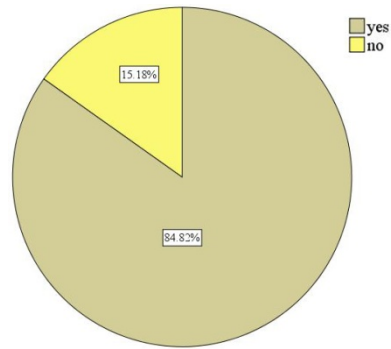


Figure 5-48 Visit health facility last year<sup>ii</sup>

Figure 5-49 shows health satisfaction mean values distribution over study area. The map shows that north and west areas are unsatisfied more that east areas.

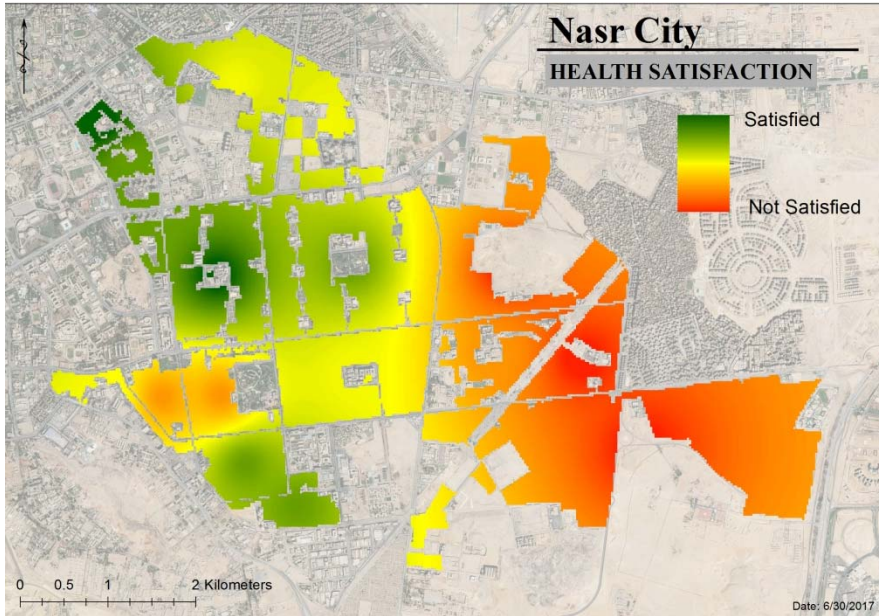


Figure 5-49 Health satisfaction<sup>iii</sup>

### 5.3.4.1.3 Commercial

Respondents were asked if they think that goods quality area different from area to another inside Madinet Nasr, figure 5-50 shows 39.79% chose that no difference and 60.21% chose yes there are difference.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

They also were asked if they have street vendors in their neighborhoods and whether they buy from them or not, all sample confirmed the existence of street vendors, figure 5-51 shows that 39.79% buy from them, 60.21% do not buy from street vendors.

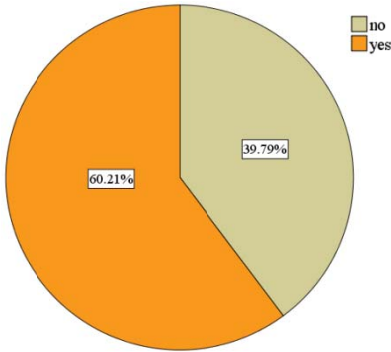


Figure 5-50 Goods quality are different from area to another inside Madinet Nasr<sup>i</sup>

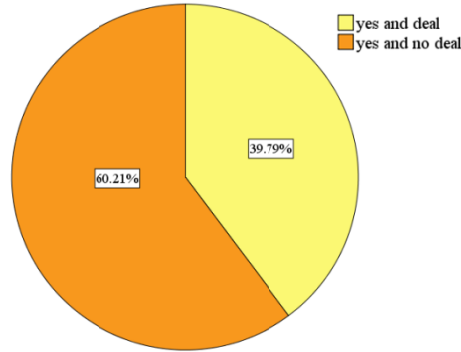


Figure 5-51 There are Street vendors in your area<sup>ii</sup>

**5.3.4.1.4 Safety**

Respondents were asked how many crimes occurred in their areas lately, figure 5-52 shows 50% saw few crimes, 28.8% saw some crimes and 21.2% saw lot crimes.

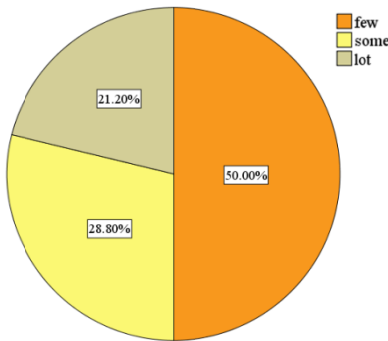


Figure 5-52 Crimes happened lately<sup>iii</sup>

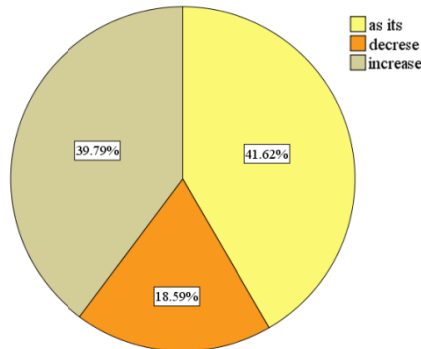


Figure 5-53 Crime rate<sup>iv</sup>

They also were asked about their feeling of crime rate, figure 5-53 shows that 41.62% felt that crime rate has no change, 39.79% felt increasing in crime rate and 18.59% felt that crime rate decreased that before.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

Figure 5-54 shows safety feeling mean values distribution over study area. The map shows that west area is satisfied more than east areas.

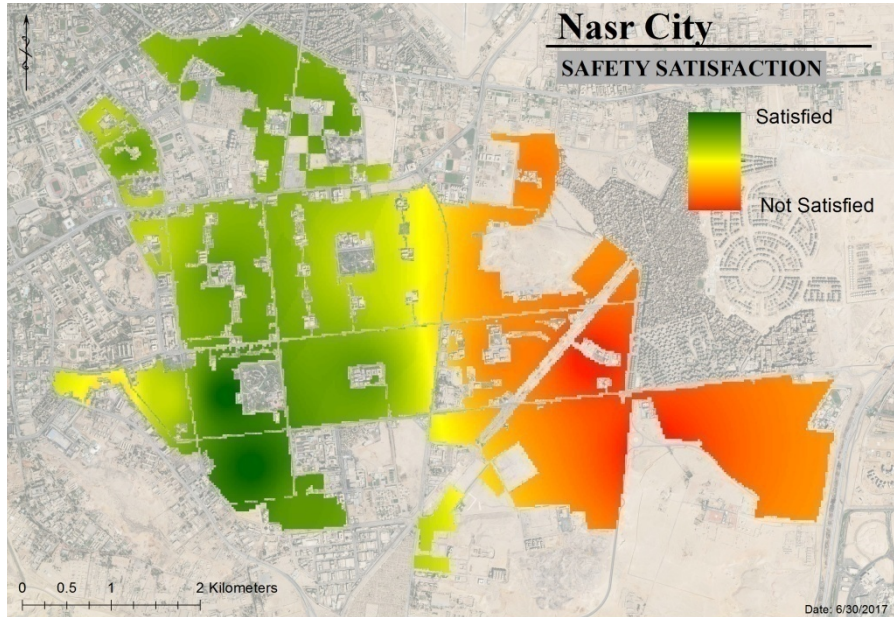


Figure 5-54 Safety Feelings<sup>i</sup>

#### 5.3.4.2 Construction

Respondents were asked if they live in legal building (follow regulations), figure 5-55 shows that 51.57% do not know about regulation, 38.74% chose yes is follow regulation and 9.69% chose no not following.

They also were asked about Authority response for violation, figure 5-56 shows that 42.15% they do not care, 38.22% slow response, 19.63% chose rapid response.

<sup>i</sup> By Author

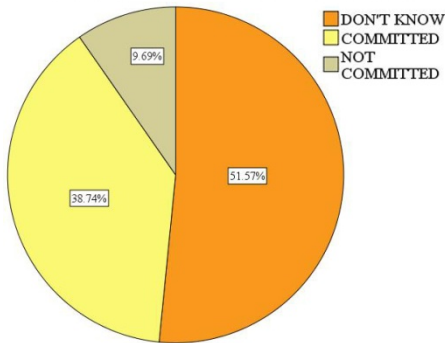


Figure 5-55 Your building committed to regulation<sup>i</sup>

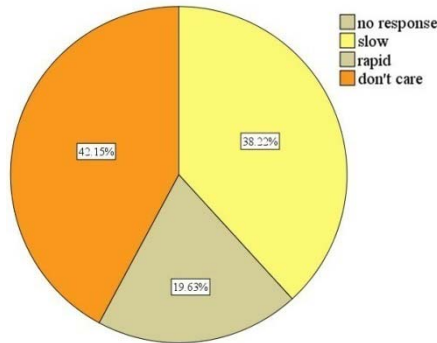


Figure 5-56 Authority response for violation<sup>ii</sup>

### 5.3.4.1 Maintenance

Respondents were asked about the rate of public facilities maintenance in general, figure 5-57 shows that 47.91% maintenance are done when needed only, 32.20% long time and 19.90% maintenance are done regularly on certain times.

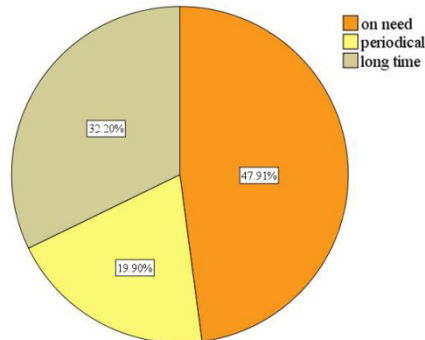


Figure 5-57 public facilities maintenance<sup>iii</sup>

From previous respondents response data concluded as follow:

40% from respondents send their kids to international schools and 30% also to private schools, most of kids use school bus to reach school, 40.84% of respondents thought it is somewhat difficult to reach school and 28.53% thought it is difficult to reach school.

Also respondents chose diabetes and hypertension as the common disease they have or family member\friend, also most of them visit health facility during last year.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid



As well 60.21% of respondents thought that goods quality changed from area to another inside Madinet Nasr, also 60% confirmed they have street vendors in their areas but they do not buy from them.

50% of respondents stated that few crimes occurred lately in their areas and 41% felt that crime rate still as it is, and 39.79% felt increasing in crime rate.

As well 51.57% do not know about building regulations, and 38.74% chose yes their buildings committed to regulation, also they asked about authority response for users whose violating regulation, 42.15% do not care, 38.22% slow response.

Most of respondents thought that facilities maintenance was done when needed or for long time.

### 5.3.5 Mobility

Mobility variables were measures through two parts movement types and street networks quality.

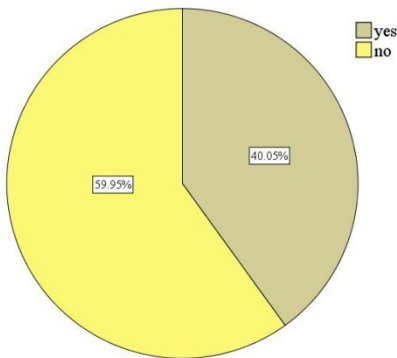


Figure 5-58 Have a garage<sup>i</sup>

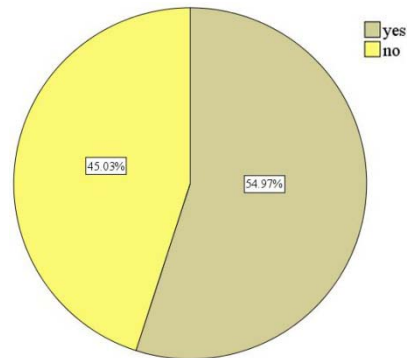


Figure 5-59 use car inside your neighborhood<sup>ii</sup>

Respondents were asked if they have a garage for their cars (only 80.89% from sample have cars), figure 5-58 shows that only 40.05% have a certain place for their cars. Also figure 5-59 shows that 54.97% used their car always inside their neighborhoods.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

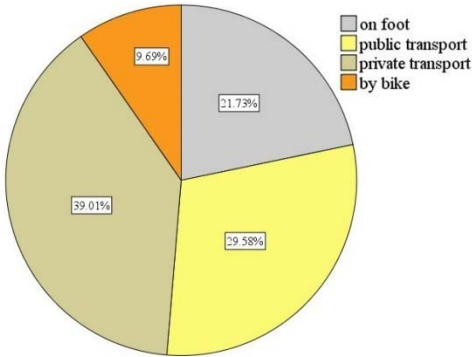


Figure 5-60 Other preferred transport method<sup>i</sup>

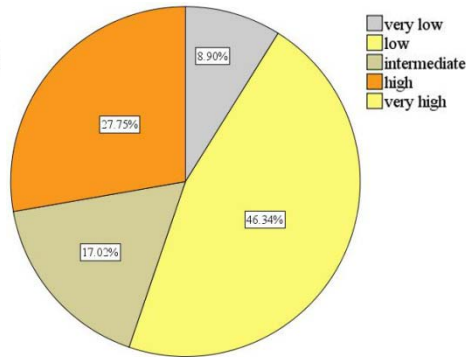


Figure 5-61 how much do you use the preferred transport method<sup>ii</sup>

Respondents were asked what is the second preferred method for movement after car, figure 5-60 shows 39.01% prefer to use private transportations (taxi, microbus), 29.58% prefer to use public transportation, 21.73% prefer to walk and 9.69% use their bikes.

They also were asked about the rate of using the preferred method, figure 5-61 shows that 46.34% low, 27.75% high, 17.02% intermediate and 8.09% very low.

Respondents were asked if they walked to any of these places (friend home, grocery, shop, garden and entertain yourself) the answers mean values were arranged as follow grocery store, friend home, garden, shop and walk for entertainment.

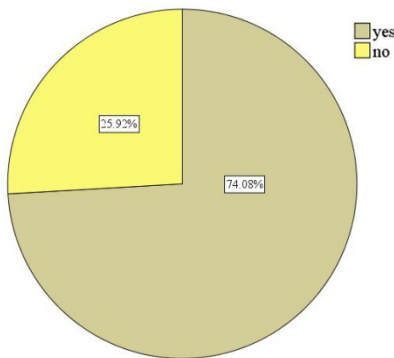


Figure 5-62 Road networks provide shortcuts<sup>iii</sup>

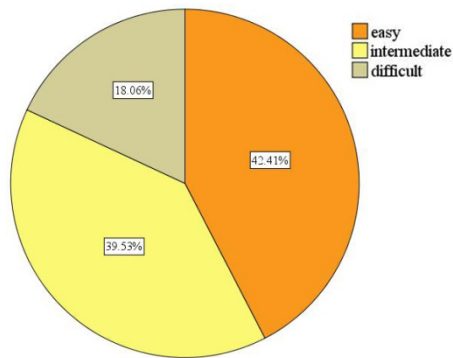


Figure 5-63 how hard to move without a car<sup>iv</sup>

Respondents were asked if the street networks were provide a shortcuts, figure 5-62 shows that 74.08% answered yes, also they asked if it is getting

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

hard to move without car, figure 5-63 shows that 42.41% easy to move, 39.53% intermediate and 18.06% hard to move without car.

Respondents were asked what the second preferred method for movement after the car use, figure 5-60 shows that 39.01% prefer to use private transportations (taxi, microbus), 29.58% prefer to use public transportation, 21.73% prefer to walk and 9.69% use their bikes.

Respondents were asked if street networks are fit to these movements methods (walking, bikes, cars, buses), it fit most for cars, buses, walking and bike was the less fit.

Also they were asked if the street networks have these facilities (car waiting, pedestrian crossing, bus stops, water taps, pedestrian seats), their answers mean value were (high to low) bus stop, pedestrian crossing, cars waiting, pedestrian seats and water taps).

Also respondents were asked about street networks maintenance, figure 5-64 shows mean values distribution over study area. green areas means high satisfaction levels which distributed all over the areas, also red areas means low satisfaction with streets maintenance.

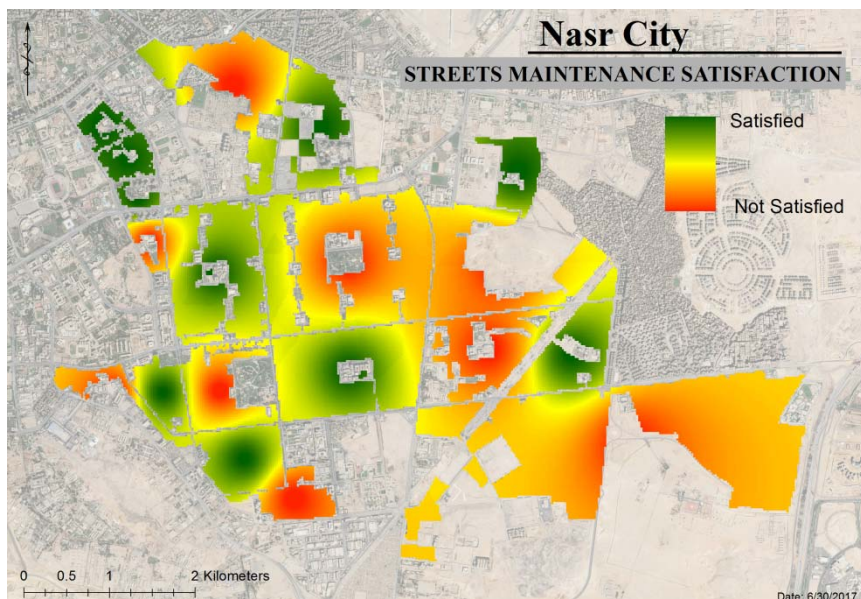


Figure 5-64 Street maintenance satisfaction<sup>i</sup>

Figure 5-65 shows mean values distribution over study area for streets satisfaction. Almost all areas are satisfied except two areas.

<sup>i</sup>By Author

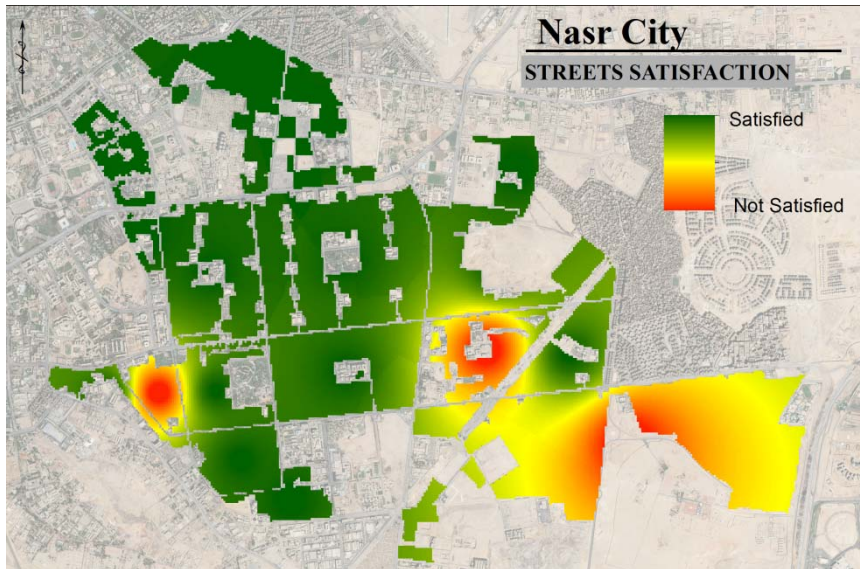


Figure 5-65 Street Satisfaction<sup>1</sup>

Mobility variables shows that 40.05% have a garage for their cars, and 54.97% usually use their cars inside their neighborhood, 39.01% also choose private transportation as a second preferred method and 29.58% choose public transportation. Also 74.08% think that street networks provide shortcuts; also 42.41% think it is easy to move through street networks.

Also they thought that street networks fit mostly for car and buses, and streets networks have car waiting, pedestrian cross, and bus stop.

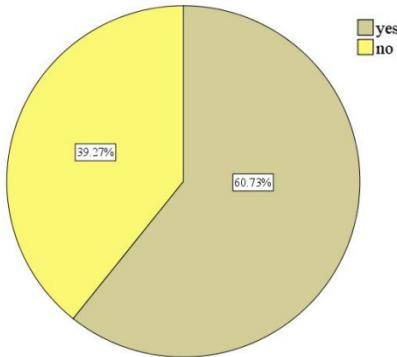
---

<sup>1</sup>By Author

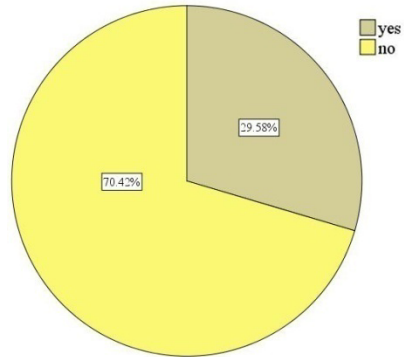
**5.3.6 Social Life**

Next variables aim to measure the social life for respondents through testing their relation with neighbors and friends. Also aims to discuss their area problems.

Figure 5-66 shows respondents answers (if they have any nearby friends), 60.73% answered yes they have. In addition, figure 5-67 shows how many respondents know their neighbors names only 29.58% answered yes they know.

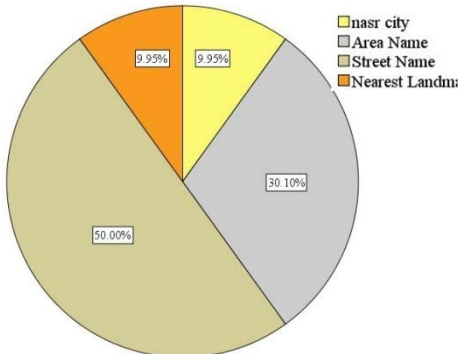


**Figure 5-66 Have friends nearby<sup>i</sup>**

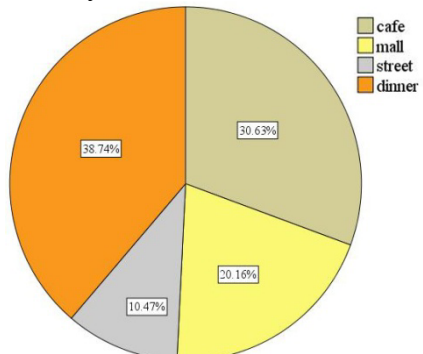


**Figure 5-67 Know your neighbors names<sup>ii</sup>**

Also they describe their areas to others when were asked where they live, as figure 5-68 shows that 50% use their street name, 30.10% use area name, 9.95% use Madinet Nasr and 9.95% use nearby landmark.



**Figure 5-68 where you live<sup>iii</sup>**



**Figure 5-69 Gathering places<sup>iv</sup>**

Respondents were asked to choose preferable place to entertain with friends, figure 5-69 shows that 38.74% go to dinner, 30.63% go to cafe, 20.16% go to malls and 10.47% walk on streets.

In addition, respondents were asked to state if these three problems are exist in their areas or not.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

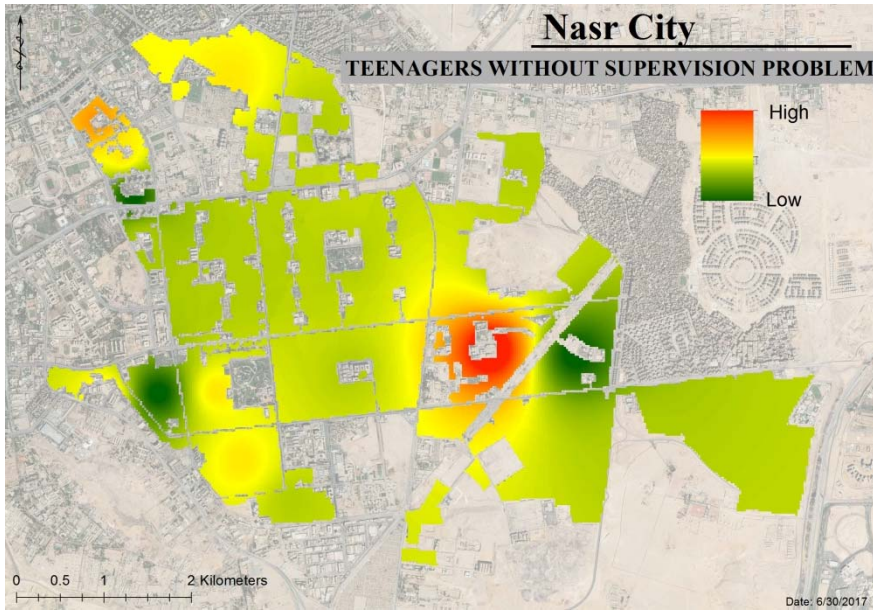


Figure 5-70 Teenagers without supervision<sup>i</sup>

Figure 5-70 shows respondents answers for teenagers without supervisions, the problem seems to be high in different separated areas (red), disappear in different areas (green), and moderate for all other areas.

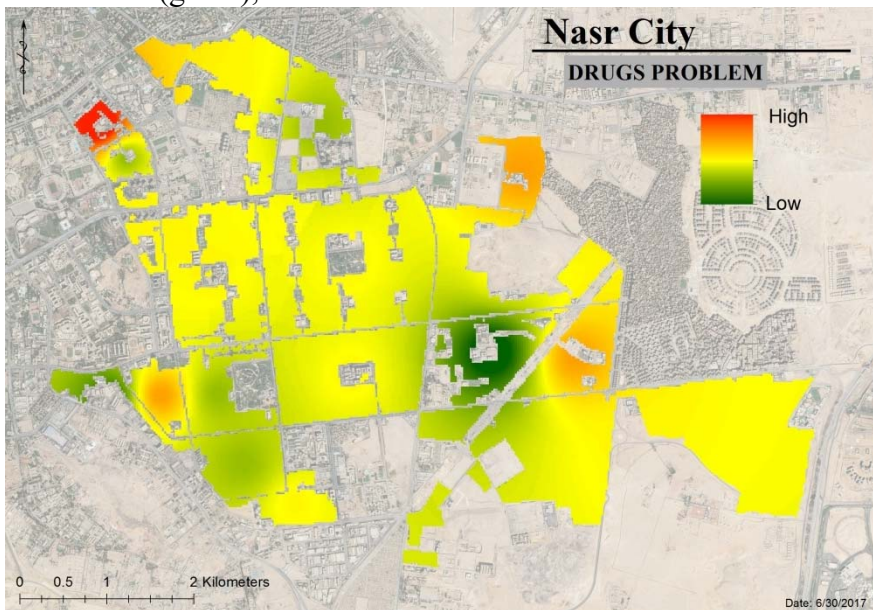


Figure 5-71 Drugs problem<sup>ii</sup>

<sup>i</sup> By Author  
<sup>ii</sup> Ibid

Figure 5-71 shows respondents answers for drugs problem, the problem seems to be high in different separated areas (red), disappear in different areas (green), and moderate for all other areas (yellow).

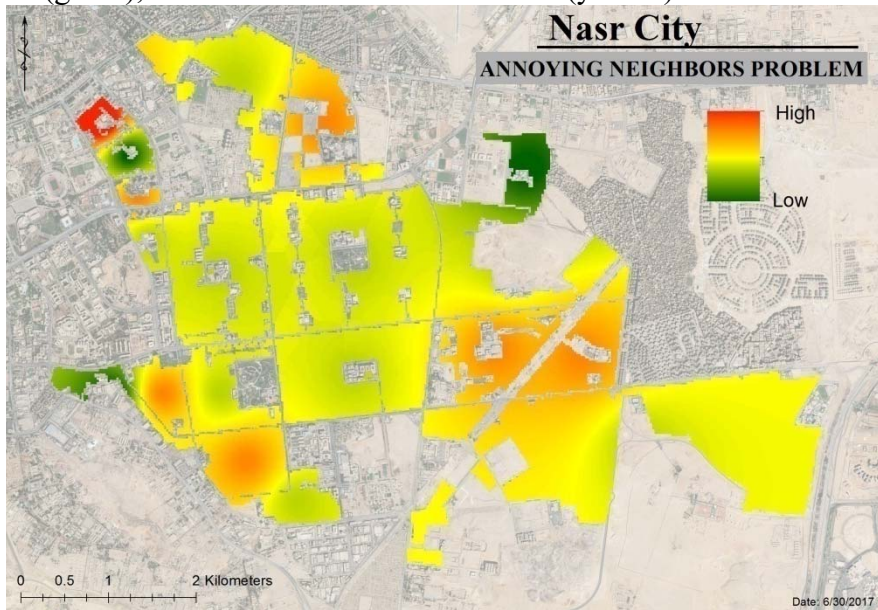


Figure 5-72 Annoying Neighbors<sup>i</sup>

Figure 5-72 shows respondents answers for annoying neighbors existence, the problem seems to be high in different separated areas (red), disappear in different areas (green), and moderate for all other areas (yellow).

From above social life variables; 60.73% of respondents have nearby friends, only 29.58% know their neighbors names, 50% of them use their street name to respond to where you live, dinner and cafe are the main places to entertain in Madinet Nasr.

Social problems		
Topic	Mean	Std. Deviation
Teenagers	2.2	.602
Drugs	1.9	.774
Annoying neighbors	1.71	.786

Table 5-3 Response to common social problems mean values<sup>ii</sup>

Table 5-3 shows mean values for respondents response to common social problems, response to questions on scale of three points (Likert scale).

More than 1.5 means urgent problem; which almost all values are.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

**5.3.7 Mental Life**

Mental life variables aim to measure how respondents see their area in the future, and how they see it now.

Respondents were asked if they like to beautify their street, figure 5-73 shows that 49.21% of respondents are ready to participate in beautifying their own areas. they also asked to choose a landmark that express Madinet Nasr image. figure 5-74 shows their response, 24.87% chosen conference center, 16.75% Genenah mall, 15.71% unknown soldier, 10.47% Abbas El Akkad.

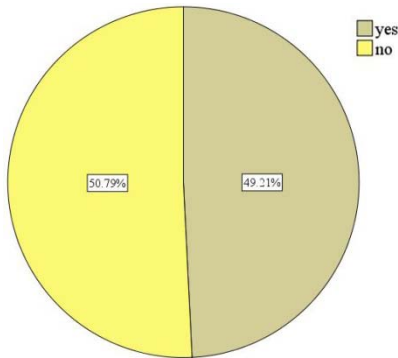


Figure 5-73 Want to beautify your street<sup>i</sup>

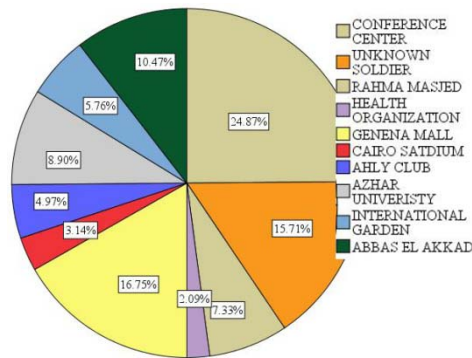


Figure 5-74 What is major landmark<sup>ii</sup>

respondents were asked if they agree or disagree with defined situations, respondents thought that governmental engineers do not care about their needs, and they can not affect any governmental decision in their area, as well they think urban growth go worse, and government can not handle illegal urban growth.

from above variables appears that 49.21% of respondents agree with participation in their areas, and they thought that their areas are getting worse and government do not move for it. at last they chosen conference center, Genenah mall and unknown soldier as landmark for Madinet Nasr.

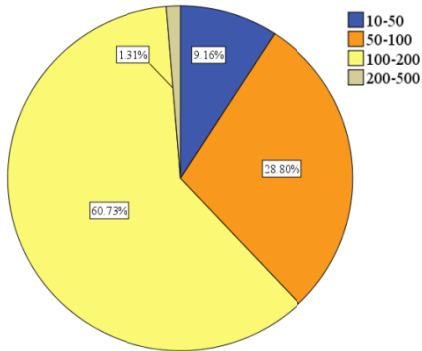
<sup>i</sup> By Author  
<sup>ii</sup> Ibid



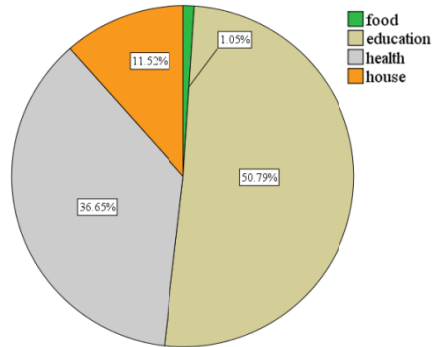
**5.3.8 Financial Life**

Financial life variables aim to measure how the respondents spend their money (amount and priorities).

Also they were asked about the value of buying for the unit area m<sup>2</sup> or renting for moderate dwellings, at last they asked to rank various public expenditures with its priorities.



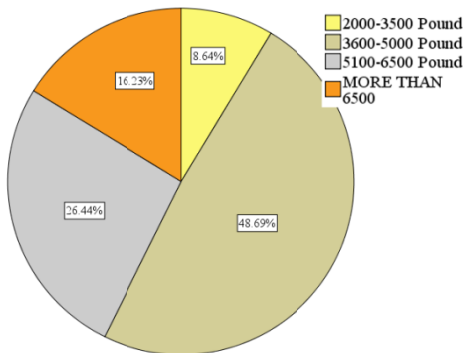
**Figure 5-75 User spending per day<sup>i</sup>**



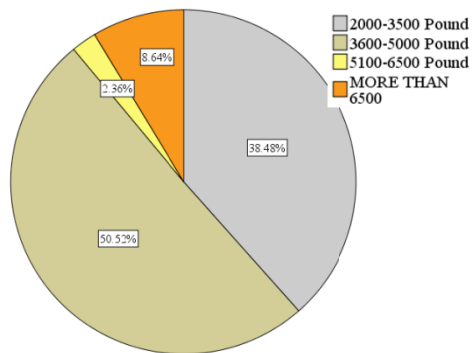
**Figure 5-76 User spending priorities<sup>ii</sup>**

Respondents were asked to state how much they spend per day figure 5-75 shows that 60.73% spending from 100-200 LE per day, 28.8% from 50-100 LE per day, 9.16% from 10-50 LE per day and 1.31% are spending 200-500 LE per day.

They also were asked to choose the main expenditure they spend on, figure 5-76 shows that 50.79% spend on education more than other expenditures, 36.65% spend on health, 11.52% spend on house (rent) and 1.05% have food as first priorities.



**Figure 5-77 Dwelling value (buying)<sup>iii</sup>**



**Figure 5-78 Dwelling value (renting)<sup>iv</sup>**

Respondents were asked to state the value of unit area m<sup>2</sup> (buying) and renting cost for moderate dwellings in their areas. figure 5-77 shows buying

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

values, 48.69% were between 3600-5000 LE, 26.44% were between 5100-6500 LE, 16.23% were more than 6500 LE and 8.64% between 2000-3500 LE.

Figure 5-78 shows renting values for moderate dwelling, 50.52% are between 3600-5000 LE, 38.48% are between 2000-3500 LE, 8.64% are more than 6500 LE and 2.36% are between 5100-6500 LE.

They ranked public expenditures priorities as follow, solve crowdedness problems then improve urban services (education, health, etc...), improve roads, improve facilities (electricity, water, etc...) , increase and care gardens, increase and improve agriculture and at last place improve art and cultural facilities.

After studying financial variables researcher found that respondents feel a lot about crowdedness and road problems also lack of urban services and building facilities, also 60.73% of respondents spend from 100-200 LE per day, and 50.79% of them spend on education as first priority.

Also 48.69% of respondent stated that m<sup>2</sup> value (buying) were between 3600-5000 LE, and 50.52% of them stated that moderate dwelling renting value is between 3600-5000 LE.

### 5.3.9 Social Capital

The next group of variables aims to measure how much respondents are attached and active to their social group which they live with.

Variables are divided into two groups; first group measures personal social capital, second group measures feeling of public responsibility, then some variables measures the awareness of governmental performance and its cost through taxes.

Respondents were asked if they attend their condominium meeting Figure 5-79 shows respondents answer, 67.54% said they do not attend these meetings and only 32.46% said they attend the meetings. they also asked if they thought to be a condominium president figure 5-80 shows that 53.14% of respondents do not want to be and 46.86% thought about it.

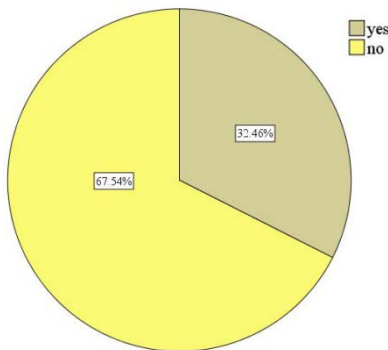


Figure 5-79 Attend condominium meeting<sup>i</sup>

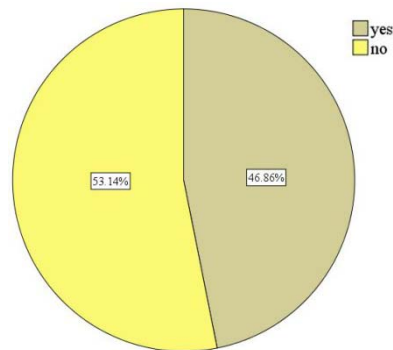


Figure 5-80 Being condominium president<sup>ii</sup>

Respondent were asked if they remember their condominium president name figure 5-81 shows that 66.75% remember their president name and 33.25% do not know condominium president name. also they were asked if they go to a religious place (no city hall) to solve a big problem affect their area, figure 5-82 shows that 33.25% of respondents will go and 66.75% will not.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

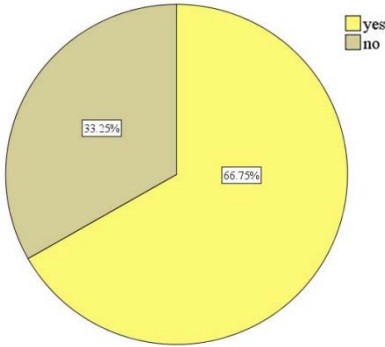


Figure 5-81 Remember condominium president Name<sup>i</sup>

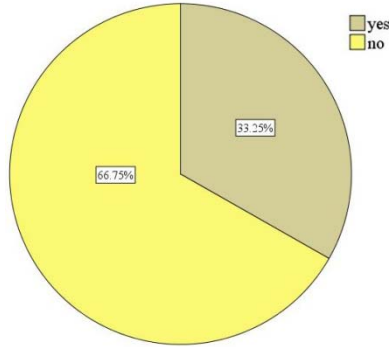


Figure 5-82 Go to religious place to solve problem<sup>ii</sup>

as well respondents were asked if they meet their neighbors to discuss building problems and talk about improvements, figure 5-83 shows that only 27.49% are do and the rest do not.

The respondents were asked if they will help to solve a problem they just saw (not theirs). figure 5-84 shows that 32.98% will do and others do not.

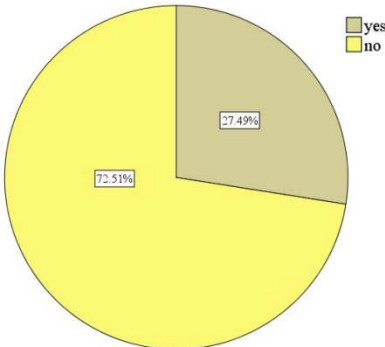


Figure 5-83 meet neighbors to find solution<sup>iii</sup>

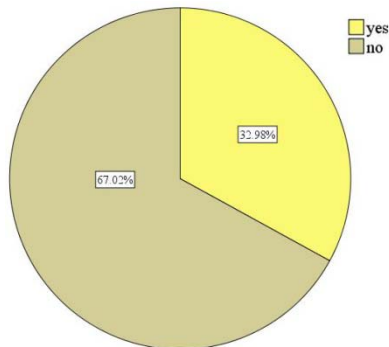


Figure 5-84 Being positive to neighbors problems<sup>iv</sup>

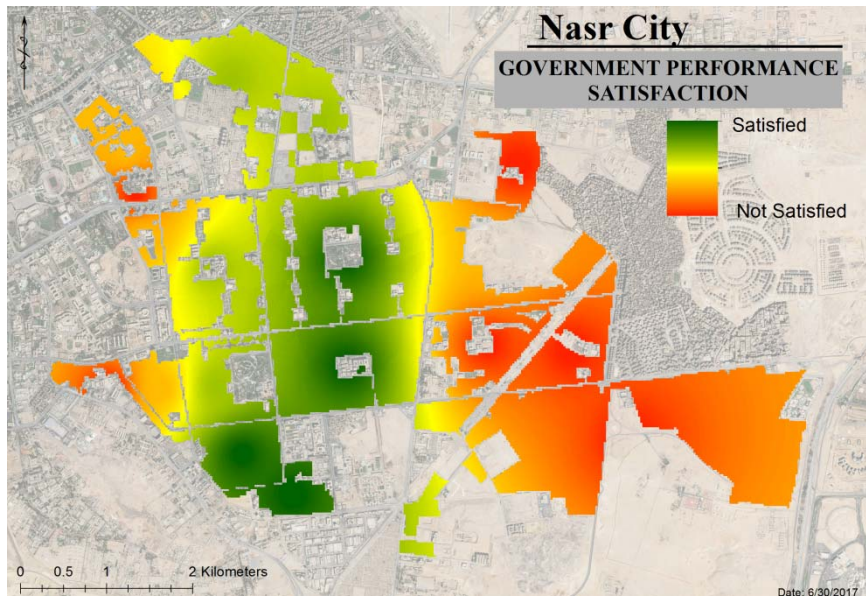
Respondents were asked how they feel about governmental performance (urban scale only) figure 5-85 shows they response, where north, mid and south areas are satisfied with governmental urban performance and west and east areas are not satisfied with governmental performance.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid



**Figure 5-85 Government performance satisfaction<sup>i</sup>**

Respondents were asked how they feel about the cost of services (electricity, water and gas) figure 5-86 shows they response, where north, mid and south areas are satisfied with services prices and west and east areas are not satisfied with it.

From previous variables results social capital could be summarize in figure 5-87 (results are distributed over study area) respondents had a negative response to personal and public social capital in most areas; except some east and west areas have the higher values of social capital.

---

<sup>i</sup>By Author

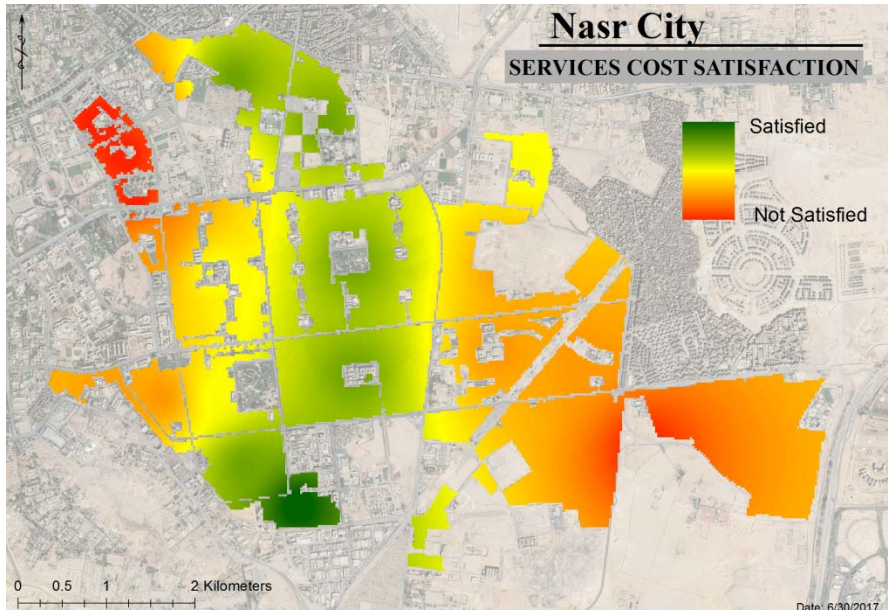


Figure 5-86 Service cost satisfaction<sup>i</sup>

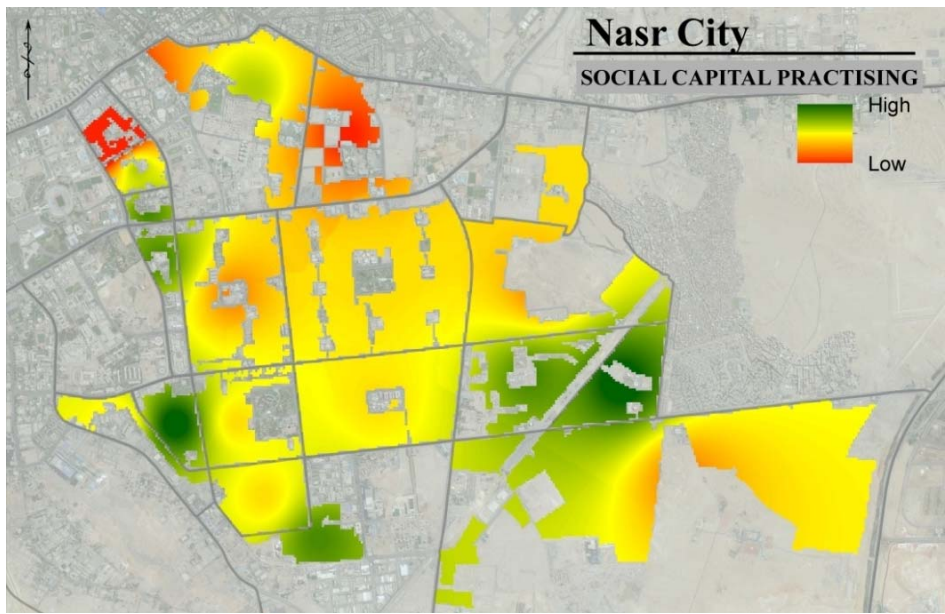


Figure 5-87 Social Capital summary<sup>ii</sup>

<sup>i</sup> By Author  
<sup>ii</sup> Ibid

## 5.4 Quality of life and Quality of urban life

QOL was measured with two approaches first by direct investigation through direct questions and second studying objective data delivered from users also.

The measures also related to QOUL using its three levels as discussed before.

### 5.4.1 Domains values

QOL measurement depend on main seven domains (job\school, safety, spare time, time to work, family, health, friends), as well QOUL depends on three levels of measurements (dwelling, neighborhood, district).

users are asked directly about what they feel about each domain globally and at final they were asked to determine they feeling about their life.

Domain	Mean Score	Standard Deviation
Family Life	3.64	1.2
Friends	4.33	1.4
Health	4.77	1.7
Job\School	4.387	1.6
Time to Work	4.77	1.7
Spare time	3.68	1.4
Safety	3.71	1.8

**Table 5-4 Respondent's scores mean values for quality of life domains <sup>i</sup>**

Table 5-4 shows the mean satisfaction scores for QOL domains, satisfaction score for family life , spare time and safety are almost (4) equivocal and lower than other domains friends , health , job\school and time to work which their scores above (4) equivocal and goes to (5) somewhat satisfied.

Domain	Mean Score	Standard Deviation
Dwelling Satisfaction	4.72	1.6
Neighborhood Satisfaction	4.13	2
District Satisfaction	5.56	1.3

**Table 5-5 QOUL levels respondents mean scores <sup>ii</sup>**

Respondents were asked to evaluate several attributes for each level and then give a summary satisfaction score to a single question using likert 7 points scale ranging from (1) completely not satisfied to (7) completely satisfied.

Table 5-5 presents mean satisfaction scores for different urban levels; the mean scores for all levels are comparable; the lowest value was for neighborhood level which was above (4) equivocal; the highest value was for district level above (5) somewhat satisfied and goes for (6) satisfied.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

living place	Job	Safety	Sparetime	Time	Family	Health	Friends	Dwelling	Neighborhood	District	QOL
7th District	4.571	3.86	3.57	6.57	3.86	6.57	3.00	4.57	3.57	6.29	6.00
6th District	5.100	3.10	2.90	5.10	2.90	5.10	5.30	4.10	2.10	5.10	4.40
8th Area	5.529	5.35	3.59	5.35	3.12	5.35	3.59	5.59	3.94	5.59	5.35
6th Area	5.342	4.10	5.36	5.68	3.30	5.68	3.29	5.68	5.27	6.51	4.86
1st Area	5.160	4.72	4.88	6.52	2.28	6.52	2.96	5.88	6.52	6.24	3.88
Al Wafaa w al amal	6.583	4.83	4.33	6.08	4.92	6.08	3.17	6.50	4.83	6.08	6.58
International Garden	6.200	5.80	5.20	4.20	3.00	4.20	4.87	5.80	5.80	5.80	5.67
7th Area	2.000	6.00	4.13	6.00	4.13	6.00	3.75	6.50	6.50	6.50	6.75
East 6th Area	3.826	1.65	1.74	3.30	3.61	3.30	4.78	4.26	2.22	6.00	3.30
Cinema	3.923	4.00	3.92	6.08	4.00	6.08	4.38	5.00	6.08	4.77	4.92
Rabeaa	3.000	4.00	2.75	6.00	5.00	6.00	3.00	4.00	6.00	5.00	3.00
Al-Tawfeek	2.833	5.00	2.17	5.75	3.75	5.75	4.67	3.08	5.00	3.75	2.08
El Sherkat	4.000	4.25	2.25	6.00	6.00	6.00	6.50	4.00	6.00	5.00	3.25
Al-Golf	5.862	4.48	3.55	4.48	4.59	4.48	4.48	4.48	5.69	4.48	5.72
Al Mohandseen	4.857	4.86	4.29	4.86	3.86	4.86	3.21	4.86	4.86	4.86	4.86
Al-Ahly Club	3.111	2.11	2.11	4.11	5.22	4.11	4.11	5.11	1.33	5.22	3.78
9th Area	3.200	2.00	3.00	4.00	4.00	4.00	6.00	4.00	2.00	5.20	3.00
10th Area	1.833	1.33	2.83	2.83	5.17	2.83	6.33	4.17	1.33	4.83	2.83
10th district	2.648	1.41	2.37	2.65	3.54	2.65	6.10	2.65	1.38	5.07	2.65

**Table 5-6 Domains mean values for each shyakha<sup>i</sup>**

<sup>i</sup>By Author



## 5.5 Structural Equation Modeling results

SEM uses a confirmatory (hypothesis testing) approach to the multivariate analysis of a structural theory.

SEM also can be used to study the relationships among latent constructs that are indicated by various measures. As well, it is working to both experimental and non-experimental data.

The goal of using SEM is to indicate whether a hypothesized theoretical model is consistent with the data collected or not. The consistency is evaluated through model-fit.

**Kline (2005)** confirmed that SEM is a large sample technique needs more than 200, the sample size required dependent on model complexity, the estimation method used, and the distributional characteristics of observed variables.

The SEM was created using SPSS and Amos software showing the relationship between users' feeling about their district, neighborhood and dwelling and QOL measures.

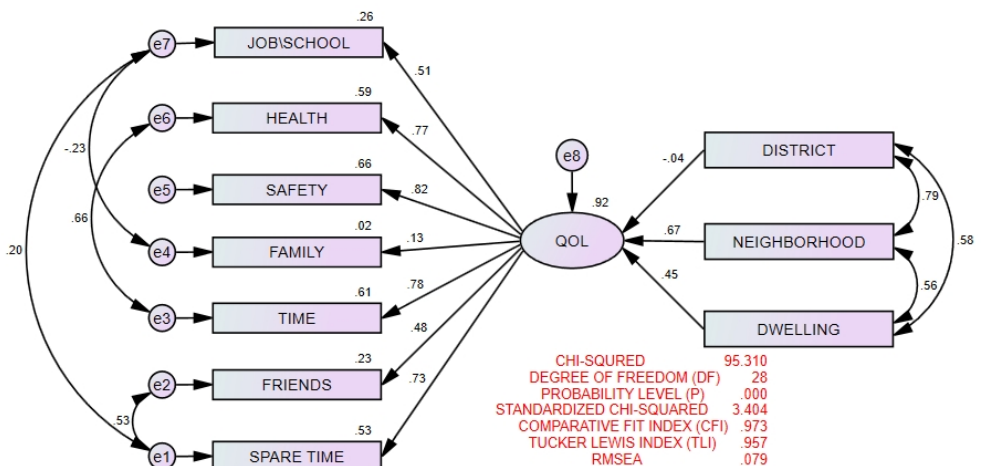


Figure 5-88 Relationship between place and QOL domains satisfaction<sup>i</sup>

Figure 5-88 shows that the three-place domains account for about 81% of the variance in the QOL, neighborhood level was the strongest predictor for QOL also dwelling level was the second highest predictor for QOL and the district level was the lowest value for predicting QOL.

QOUL three levels were connected exogeneous variables and QOL domains were connected as endogeneous variables. See model-fit variables values appendix 5.

<sup>i</sup> By Author

## Summary

Respondents have a majority of men with age range 35-45 years; own their homes; university graduate.

Despite a majority also was moved from different Cairo's regions through the last 10 years for higher social level and be close to work, but half of respondents want to move from Madinet Nasr.

This may interpreted by their feeling about pollution (water tap, air pollution and noise), and social problems (teenagers, drugs, annoying neighbors), also respondents negative attitude for common problems affect these desires to move.

Most of respondents also do not participate in condominium regular meetings although most of them want to be elected as condominium president this may interpreted by their feeling of change failure when their dreams come to an unhappy ending.

Although, they do not participate in social community but most of respondent are unsatisfied with government performance and services prices.

Also there a lack of awareness problem in the environment domain respondents deal with environment from financial perspective, most of respondents do not use power saving equipments and do not have power saving culture; afraid of buying recycled products (if they know at first) because they doubt recycling quality or want to be the first user.

In addition, they do not reuse their waste, do not classified also but they use rechargeable batteries.

Most of respondents send their kids to international schools and private schools in spite of the fact that most of them gain 2000-5000 USD by year (3500 LE per month). Also most of them spending 100-200 LE per day and education is their important expenditure.

Respondents use streets' names to define their living area, and they choose Conference Center, Genenah mall and Unknown Soldier as a landmark for Madint Nasr.

Estimated QOL for whole Madinet Nasr is more than equivocal tend to be satisfied. The lower domains were safety, sparetime, and family life; and the highest were health and time to work.

SEM model also shows almost all domains are positive relationship except about what they feel about Madint Nasr as a whole, this means that if a resident answer tend to be positive in all domains; his answer about district satisfaction came negative.

# **CHAPTER 6**

## **6. Research Findings**



## The Preface

The researcher analyzed three aspects express “time, residents’ feeling, location”, the aspects were driven from previous chapters’ conclusions, Time considered as the change in urban fabric and socio-economic status, Residents’ feeling considered as the subjective test classified using socio-economic status, and Location considered as the relationship between urban variables and subjective test response location maps.

## 6.1 Change in Madinet Nasr

Area of study in Madinet Nasr was built from more than 40 years, a lot of change happened to urban fabric which can be studied from analyzing area imageability (chapter 3), Also characteristics of Madinet Nasr residents has changed and studied using CAPMAS populations.

Urban change was recorded for now because it was hard to be tracked over time (not studying urban growth). Social change already recorded by CAPMAS populations for four times since Madinet Nasr establishment.

### 6.1.1 Urban Change

Madinet Nasr has many change initiators, external as decisions of horizontal expansion by MNHD, and government which has turn a blind eye to height change and landuse change.

These changes increase density in all neighborhoods except the neighborhoods that were built by that government (users do not have the right to increase height or rebuild the building), like Cinema area, Rabiaa, Al-tawfeek, east sixth area.

Old areas which were planned by architect Sayed Karim, start to adjust their heights during the last twenty years. New neighborhoods already built in the new height.



Figure 6-1 Increase existing building height or rebuilt old short buildings<sup>i</sup>

<sup>i</sup> By Author

Almost all building on main roads all over Madinet Nasr, converted from residential to mixed use buildings, it includes offices and shops in almost all buildings floors.



Figure 6-2 Change in landuse reaches higher floors<sup>i</sup>

Users initiate urban change by editing facade design, exceeding their properties limits over public areas to increase their apartment's areas, these motives controlled by their needs and the change in life style.

For example most of balconies were closed by glass or bricks for many reasons need an extra room, noisy outside or no use for balcony.

This closing are due safety issues in the low floors, also satellite dish are placed all over the facades.



Figure 6-3 Change in facades<sup>ii</sup>

low income neighborhoods which building were built by government, users exceeds building limits to increase room or two in his apartment, and in mid-income neighborhoods shops exceeds walkway to their own.

<sup>i</sup> By Author

<sup>ii</sup> Ibid



Figure 6-4 users exceeds public areas <sup>i</sup>

In addition, streets were turned into garages for cars. residents who live in old buildings use streets to park their cars (no basement in their buildings). Also many new high buildings with high densities do not have basement to be used as a garage, this leads residents to use rods and rocks to reserve a place for their cars on front of their homes.

Also shops were preventing cars from park on front of their shops which make the problem go worse and cars are parking now in some streets in two lines on the same side which narrowed down the streets to one lane instead of two and flow of cars are harder.

---

<sup>i</sup>By Author

### 6.1.2 Social Change

Social change is the main key to understand urban change in Madinet Nasr; the change in social fabric happened through new residents and moving of old ones, cause people values and culture are not changing that easy but new people with new values and cultures helps the change process to happen.

The researcher studies social change in Madinet Nasr through Socio-economic status (SES) main variables, using CAPMAS population's data, Madinet Nasr was addressed in the last four populations only, before 1978 it was not considered as governmental area.

The researcher study education, job type, work status and marital status, income not included because it's not available in CAPMAS population data. During the last 30 years Madinet Nasr population has grown 10 times and still growing.

According to World Bank national accounts data GDP per capita for Egypt increased from 165.6 US dollar per year in 1965 to 3614.7 dollar per year in 2015. figure 6-5

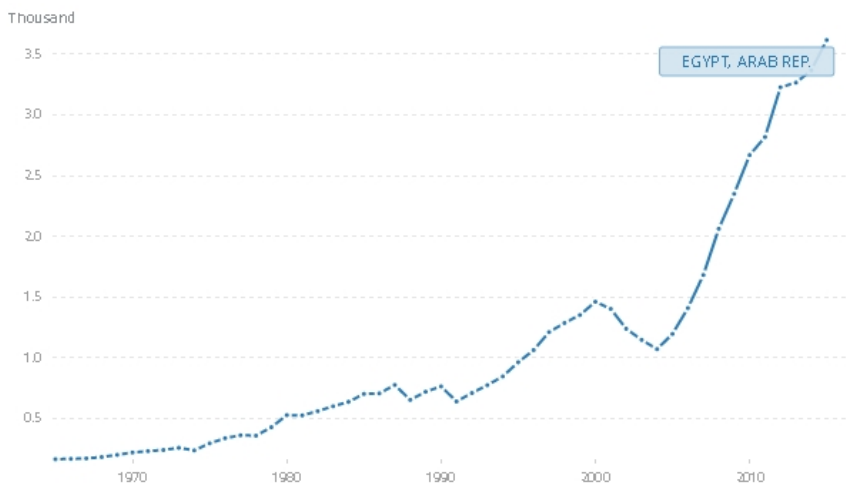


Figure 6-5 GDP per capita for Egypt <sup>i</sup>

<sup>i</sup><http://data.worldbank.org/indicator/NY.GDP.PCAP.CD?contextual=default&end=2015&locations=EG&start=1965&view=chart> (1-5-2010).



**6.1.2.1 Education Status**

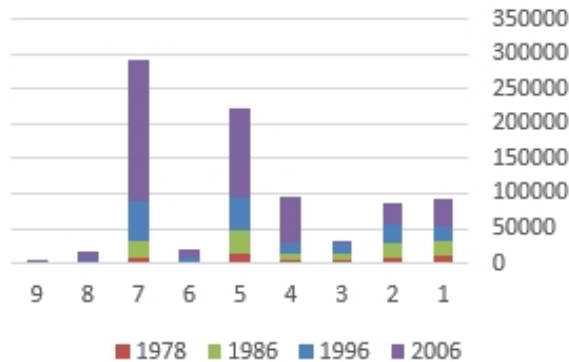
CAPMAS data show residents education status with age of 15 years and more, it reflects education level for residents.

Table 6-1 shows CAPMAS population numbers for education status, The researcher optimized the data in nine main categories illiterate, can read and write, preliminary school, under average qualifications, average qualifications, above average qualifications, high education graduate (BSC), postgraduate (high education), and undefined.

9	8	7	6	5	4	3	2	1	
Undefined	High Education masters PhD	BSC Degree	above average qualification	average qualification	qualification under average	Preliminary school	Read and write	Illiterate	
1856	848	7937	479	12862	4414	4906	8072	9986	1978
572	1915	24439	2297	33921	8293	9146	21815	21295	1986
2	2511	56108	3659	48537	15166	13953	27577	23144	1996
291	11094	204017	14247	125887	67130	1560	27671	36715	2006

**Table 6-1 Madinet Nasr education status through last four population<sup>i</sup>**

Figure 6-6 shows increasing in all categories in 2006 population comparing by the last other populations except preliminary school qualifications, also it shows a significant increase in population numbers of graduate (BSc) and average qualifications, qualification under average, and residents can read and write, and illiterate residents.



**Figure 6-6 Work status population values<sup>ii</sup>**

<sup>i</sup> CAPMAS population data optimized by Author

<sup>ii</sup> By Author

Most of residents in 1978 had average qualifications, followed by illiterates as a second high number, then those who know to read and write and high education graduates.

By 1986 students (and graduates) in high education were more than illiterates residents and those who know to read and write but still lower than residents with average qualifications which was the highest number.

The change appears in population's data of 1996 which shows that high education graduates residents are the majority then average qualifications, those who know to read and write, and then illiterates.

2006 population shows that high education graduates residents still more than average qualifications residents, but qualification under average residents increased to be more than illiterates and those who know to read and write.

#### 6.1.2.2 Job Type

CAPMAS data show residents job type with age of 15 years and more, it reflects professions types, residents skills and a sort of cultural background.

Table 6-2 shows CAPMAS population numbers for job type. The researcher optimized the data in nine main categories: scientists and specialists, white collar workers, clerical employees, pink collar workers, farm workers, craftsmen, blue collar workers, regular jobs, and undefined.

	9	8	7	6	5	4	3	2	1	
	Undefined	Regular Jobs	Blue Collar Workers	Craftsmen	Farm workers	Pink Collar Workers	Clerical employees	White Collar Workers	Scientists and specialists	
	1221	0	3115	0	99	4168	2906	1325	6651	1978
	5465	0	7014	0	898	8144	5373	2328	24567	1986
	7301	5122	3987	11525	974	8639	4770	13196	65301	1996
	4448	12327	4297	10663	247	30952	10470	23845	94441	2006

Table 6-2 Madinet Nasr job type through last four population<sup>i</sup>

Figure 6-7 shows increasing in all categories in 2006 population comparing by the last other populations except farm workers decreases and blue collars still same percent as 1996 population, also it shows a significant increase in population numbers of scientists and specialists, white collars, and pink collars.

<sup>i</sup> CAPMAS population data optimized by Author

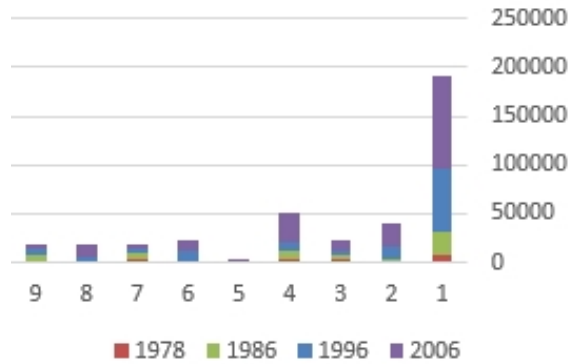


Figure 6-7 Job type population values<sup>i</sup>

The conversion of Medinet Nasr to commercial and administrative use for lots of companies cause increasing in pink collar workers and scientists and specialists. Also white collars workers increased to serve this increasing. Farm workers and blue-collar workers decreased due to the increasing of land value and the socio-economic level. Most of blue workers in Madinet Nasr's Industrial facilities come from other Cairo's low and mid level regions.

<sup>i</sup>By Author

### 6.1.2.3 Work Status

CAPMAS data show residents work status with age of 15 years and more, it shows professions types, residents skills and a sort of cultural background. Table 6-3 shows CAPMAS population numbers for work status, The researcher optimized the data in ten main categories own his work, work with payment, work without payment, unemployed, student, house wife, retired, disinterested in work, old can not work, and have disability.

10	9	8	7	6	5	4	3	2	1	
Have Disability	Old can not work	Disinterested in work	Retired	House Wife	Student	unemployed	Work Without Payment	Work With Payment	Own His Work	
764	1267	623	439	12316	19937	1121	32	17372	1809	1978
1851	2567	1989	1482	28715	49003	4483	70	43140	5917	1986
2132	3136	3802	7864	69820	63440	4564	16	97094	18454	1996
956	13787	1592	21136	82158	108691	20077	425	163983	24701	2006

Table 6-3 Madinet Nasr work status through last four population<sup>i</sup>

Figure 6-8 shows increasing in all categories in 2006 population comparing by the last other populations except students numbers decreases and retired still same percent as 1996 population, also it shows a significant increase in population numbers of residents who own their work, unemployed, and those who work with payment.

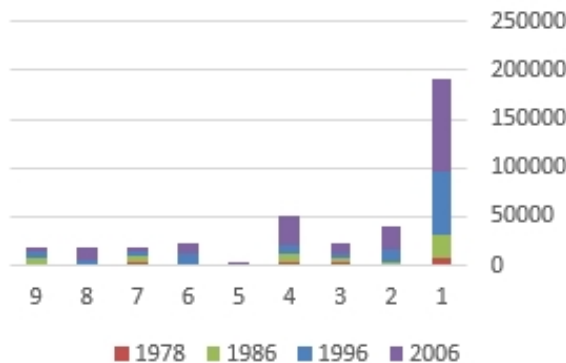


Figure 6-8 Work status population values<sup>ii</sup>

Unemployment highly increased than before, also residents who own their work increased due to the spread of commercial usage.

<sup>i</sup> CAPMAS population data optimized by Author  
<sup>ii</sup> By Author

**6.1.2.4 Marital Status**

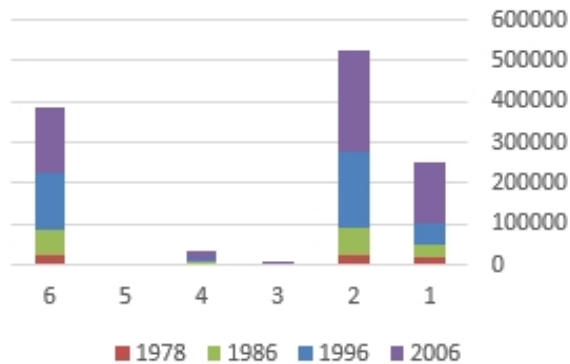
CAPMAS data show marital status for male residents with age of 18 years and females residents with age of 16 years, it express a side of the economic status.

Table 6-4 shows CAPMAS population numbers for marital status, The researcher optimized the data in six main categories never married, married, divorced, widow, undefined and underage residents.

	6	5	4	3	2	1	
	Under age	Undefined	Widow	Divorced	Married	Never Married	
	22164	0	1946	509	23890	16383	1978
	63115	109	4250	957	67430	31133	1986
	139487	401	9509	2058	187002	55973	1996
	158737	0	18924	4514	248612	146697	2006

**Table 6-4 Madinet Nasr marital status through last four population<sup>i</sup>**

Figure 6-9 shows increasing in all categories overtime except under aged residents still same as 1996 population, also it shows a significant increase in population numbers of singles residents (never married), married and under aged residents.



**Figure 6-9 Work status population values<sup>ii</sup>**

Married residents' numbers increased in spite of increasing of divorced residents' percentage. Widowed residents increased lately may interpreted by the decreasing in health services.

<sup>i</sup> CAPMAS population data optimized by Author

<sup>ii</sup> By Author

## 6.2 Subjective Response Results Through SES Variables

The researcher studies the relationship between different socio-economic variables among questionnaire results.

### 6.2.1 Socio-economic variables

Subjective test addressed three questions about SES, The researcher studies the relationship between SES variable.

Figure 6-10 shows the relationship between education level and work type, the results confirm that most of employees and governmental jobs are graduates, postgraduates, and technical education.

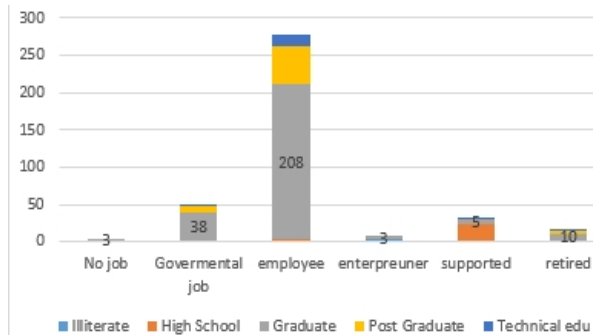


Figure 6-10 Education level and work type<sup>i</sup>

Figure 6-11 shows the relationship between income rate and education level, the results confirm that most of graduates, and post graduates income rate are 2000-5000 USD per year.

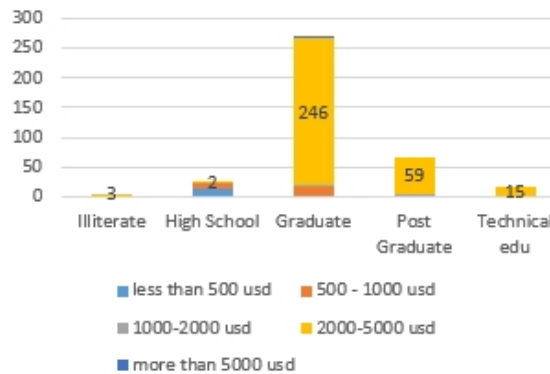


Figure 6-11 Income rate and education level<sup>ii</sup>

<sup>i</sup>By Author

<sup>ii</sup>Ibid

Figure 6-12 shows the relationship between income rate and work type, the results confirm that most of employees and governmental jobs income rate are 2000-5000 USD per year.

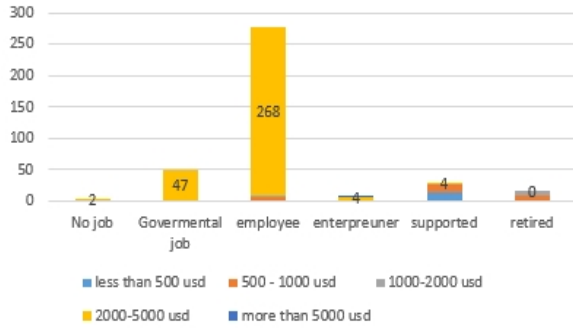


Figure 6-12 Income rate and work type<sup>i</sup>

From previous charts appears that most of graduates and postgraduates have income rate 2000-5000 USD per year and work as employees in private sector and governmental jobs.

<sup>i</sup>By Author

### 6.3 Social Response and Urban fabric Location Relationship

The researcher optimized concluded data from chapter 3 and chapter 5 to create a conclusion map for both urban characteristics and social response domains.

Data were optimized to single value varies from one to zero, higher value indicate more preferable area. Each aspect was discussed in the next topics. All data average for each aspect was represented as maps using IDW GIS tool.

#### 6.3.1 Urban Fabric Characteristics Location Maps

Urban fabric was studied through two groups of characteristics (concluded chapter 3). Tables 6-6, 6-7 show optimization criteria for each characteristic.

NO	Characteristic	Existing Urban Condition Optimization
1	Dwelling Types	Dwelling types were divided to three categories private with score of three points and cooperative with score of two and public with score of one. value calculated is the mean value percentage. Higher value indicate private residence lower value indicat more public residence.
2	Dwelling Levels	Dwelling levels were graded from five high level to one low level, scores were the mean value percentage for each neighborhood. Higher values indicat high level and low value indicate low level.
3	Floor area ratio	Floor area ratio indicats population density and buildings heights, Value converted to percentage from the higher value. Higher values indicat high density and low value indicate low density.
4	Dwelling area cost per m <sup>2</sup>	Cost data were categorized from five to one, five is high expensive category and one is cheapest. Scores were the mean value percentage for each neighborhood. Higher values indicat expensive prices and low value indicate cheap prices.
5	Urban services	Governmental schools, health facilities and governmental commercial plots were studied then concluded as area per resident. Value converted to percentage from the higher value. Higher values indicat high person capita from service and low value indicate low person capita from service.

**Table 6-5 Existing urban condition optimization rules<sup>i</sup>**

<sup>i</sup>By Author



		Urban morphology Optimization
NO	Characteristic	
1	Shape Index	Shape Index indicates the degree to which a shape is compact. It was used to analyze urban plots in each neighborhood, scores were the mean value percentage for each neighborhood. Higher values indicate high compact area and low value indicate low compact area.
2	Core Area Ratio	Core area ratio is plot area divided by an inside offset of 10 meters, scores were the mean value percentage for each neighborhood. Higher values indicate high plots areas and low value indicate low plots areas.
3	Grid Axiality	Grid Axiality indicates the uniformity of urban plots, Scores were already from one to zero for each neighborhood. Higher values indicate more uniform design and low value indicate low uniform design.
4	Intelligibility	Intelligibility are the correlation between integration and connectivity values. high Intelligibility area are most predictable for pedestrian's movement. Scores were already from one to zero for each neighborhood. Higher values indicate high predictable network for users and low value indicate low predictable network.
5	Synergy	Synergy are the correlation between global integration $R_n$ and local integration $R_3$ . it indicates the relation between local network for neighborhood to the whole system. Scores were already from one to zero for each neighborhood. Higher values indicate high integration with whole system and low value indicate low integration.

**Table 6-6 Urban morphology optimization rules<sup>i</sup>**

---

<sup>i</sup>By Author

### 6.3.2 Social Response Location Maps

Social response was studied through QOL domains (concluded chapter 4). Table 6-8 shows optimization criteria for each domain.

NO	Characteristic	Quality of Life Domains	
			Optimization
1	Family Life	Respondents were asked is their living area are suitable to family living.	
2	Friends	Respondents were asked if it is easy to have good friend in their neighborhoods.	
3	Health	Respondents satisfaction about health services quality in their neighborhood.	
4	Job\School	Respondents satisfaction about their jobs or school (for youngers) quality.	
5	Time to Work	Respondents satisfaction about their time to do their job and duties.	
6	Spare time	Respondents satisfaction about their spare time to do their hobbies.	
7	Safety	Respondents were asked about safety feelings in their neighborhood.	

**Table 6-7 Existing urban condition optimization rules<sup>i</sup>**

All respondents response were on Likert Scale one to seven, seven is completely satisfied and one is completely unsatisfied, values were converted to percentage and averaged as a total.

Figure 6-13 shows the optimized data results high value is (one) express good variables results and low value is express low variables results.

---

<sup>i</sup>By Author

No.	Areas	Existing Conditions					Urban Morphology					Social Response														
		TYPES	LEVELS	FAR	DWELLING M2 COST	AREA PER PERSON/M2	EDUCATION	COMMERCIAL	HEALTH	SERVICE PER CAPITA	RESULTS	SHAPE INDEX	GRID AXIALITY	CORE AREA RATIO	INTEGRATION R2	INTILIGIBILITY R2	RESULTS	JOB/SCHOOL	SPARE TIME	SAFETY	TIME TO WORK	FAMILY	HEALTH	FRIENDS	RESULTS	
1	Centima Area	0.4	0.5	1	0.5	0.1	0	0.3	0.1	0.49	0.7	0.7	0.4	1	0.8	0.12	0.6	0.6	0.6	0.6	0.4	0.4	0.9	0.6	0.6	0.59
2	Seventh Neighborhood	0.8	0.6	0.5	0.6	0.3	0	0	0.1	0.52	0.6	0.5	0.5	1	0.7	0.64	0.7	0.6	0.6	0.7	0.6	0.4	0.4	0.7	0.4	0.59
3	Sixth Neighborhood	0.3	0.3	0.4	0.3	0	0	0	0	0.27	0.6	0.4	0.3	0.6	0.4	0.47	0.7	0.4	0.4	0.4	0.4	0.4	0.7	0.7	0.7	0.55
4	AL Wafaa w AL Amal	0.6	0.9	0.6	0.8	0.1	0	0	0	0.6	0.5	0.3	0.3	0.9	0.7	0.56	1	0.6	0.7	0.4	0.7	0.9	0.4	0.7	0.6	0.67
5	Eighth Area	1	0.7	0.6	0.7	0.1	0	0	0	0.6	0.5	0.3	0.5	0.9	0.7	0.57	0.9	0.6	0.7	0.6	0.4	0.7	0.6	0.7	0.6	0.63
6	AL Golf	0.3	0.8	0.6	0.8	0.4	0.1	0	0.2	0.67	0.6	0.2	0.3	0.9	0.6	0.51	0.9	0.6	0.7	0.7	0.7	0.7	0.9	0.9	0.9	0.78
7	Rabia	0.3	0.4	0.9	0.4	0.3	0.2	0.1	0.2	0.45	0.7	0.8	0.4	0.9	0.7	0.71	0.4	0.4	0.6	0.6	0.7	0.9	0.4	0.7	0.7	0.57
8	International Garden	0.9	0.7	0.5	0.7	0.1	0	0	0	0.59	0.6	0.4	0.5	1	0.8	0.64	0.9	0.7	0.9	0.7	0.4	0.6	0.7	0.7	0.7	0.69
9	AL Tawfiq	0.7	0.6	1	0.6	0	0	0.1	0	0.57	0.6	0.8	0.2	1	0.8	0.7	0.4	0.3	0.7	0.4	0.6	0.9	0.7	0.7	0.7	0.57
10	AL Sharekat	0.8	0.6	0.7	0.6	0.3	0.1	0.1	0.2	0.57	0.7	0.9	0.3	1	0.9	0.76	0.6	0.9	0.6	0.4	0.9	1	0.6	0.9	0.9	0.61
11	Seventh Area	0.9	0.6	0.5	0.6	0.1	0	0.1	0.1	0.52	0.5	0.4	0.5	0.8	1	0.63	0.9	0.6	0.9	0.6	0.6	0.9	0.6	0.9	0.6	0.69
12	First Area	1	0.7	0.6	0.7	0.3	0.2	0.1	0.2	0.63	0.6	0.2	0.6	0.8	0.5	0.55	0.7	0.7	0.7	0.4	0.9	1	0.4	0.9	0.9	0.61
13	Masaken EL Mohandseen	0.7	0.9	0.6	0.9	0.1	1	1	0.7	0.79	0.6	0.3	0.4	0.9	0.7	0.59	0.7	0.6	0.7	0.6	0.6	0.7	0.4	0.9	0.9	0.61
14	Tenth Neighborhood	0.7	0.5	0.6	0.5	0.1	0	0	0	0.46	0.6	0.1	0.3	0.8	0.3	0.42	0.4	0.3	0.1	0.1	0.6	0.4	1	0.9	0.9	0.49
15	East Sixth Area	0.7	0.6	0.5	0.6	0	0	0	0	0.48	0.6	0.2	0.4	0.7	0.4	0.45	0.6	0.3	0.3	0.4	0.6	0.4	0.7	0.9	0.9	0.47
16	AL Ably Club	0.7	0.6	0.4	0.6	0	0	0	0	0.47	0.6	0.5	0.5	0.8	0.6	0.63	0.4	0.9	0.3	0.7	0.7	0.6	0.6	0.9	0.9	0.51
17	Sixth Area	1	0.7	0.8	0.7	0.2	0.1	0	0.1	0.66	0.6	0.2	0.3	0.8	0.5	0.5	0.7	0.7	0.6	0.6	0.4	0.9	0.4	0.9	0.4	0.61
18	Ninth Area	1	0.7	0.8	0.7	1	0.3	0	0.4	0.71	0.7	0.3	0.3	0.8	0.5	0.51	0.4	0.4	0.3	0.3	0.6	0.6	0.6	0.9	0.9	0.49
19	Tenth Area	1	0.7	0.6	0.7	0.4	0	0	0.2	0.6	0.7	0.3	0.2	0.9	0.4	0.48	0.9	0.4	0.1	0.3	0.7	0.4	0.9	0.9	0.9	0.45

Figure 6-13 Urban and social variables optimized results<sup>i</sup>

<sup>i</sup>By Author

## 6.4 Research Findings

Madinet Nasr Urban growth maps shows increasing in horizontal expansion during 90's, and also vertical expansion and change in landuse.

This change come along with social change recoded in 1996 populations' data, according to World Bank GPD per capita increased more than before this cause living standard increasing in Madinet Nasr.

The return of gulf workers during gulf war with their savings, and they settled down in Madint Nasr, this appears from the sudden increase in graduated numbers to retirement residents.

Also resident's numbers who own their work increased in 1996 population, due to lack of jobs and available money to start new projects. Also the increasing of specialist numbers and scientists which were needed badly in gulf that time and came back to Madinet Nasr.

Jobs types as well show that shift in 1996 population blue collar and pink collar numbers decreased, this of course do not mean that industry or commercial activities stopped, but the increasing of living standard in Madinet Nasr push these workers to find some place they can afford to live in, this is clear when we track the spread of illegal private transportation hubs "which also help increasing crowdedness" work directly from lower living standards Cairo regions to Madinet Nasr directly.

Socio-economic classification for subjective test response was studied through three variables education, job, and income. The relationships between the variables were as follow:

1. Most of respondents are university graduates with job in private sector and income of 2000-5000 US dollars per year. Small amount of them work in governmental jobs, also small amount had income more than 5000 US dollars.
2. Also post graduates were the second highest number with income of 2000-5000 US dollars per year and private sectors jobs.
3. Technical educated respondents' numbers comes after post graduates; also most of them were employed and had income of 2000-5000 US dollars per year.

Almost all respondents had same response to test domains except post graduates which had opposite response in some domains.

For example respondents were satisfied with health services, available time to work, easy to have friends, satisfied with dwelling, neighborhood and

also overall QOL but post graduates were unsatisfied, and their response reflects their hope to improve Madinet Nasr as a living place.

This also confirmed by their rejection to leave from Madinet Nasr when they asked about moving out.

Also majority of graduate respondents were satisfied with safety although most of respondents were unsatisfied about it. Also most of them chose to leave Madinet Nasr and move to new cities.

Most of technical educated respondents also voted with same majority do, except about services prices and having family here, they were satisfied with it, although other respondents were unsatisfied.

Also they were satisfied with education, when post graduates do not and graduates were equivocal with it.

Also technical educated respondents chose to leave from Madinet Nasr to new cities when they were asked about moving out.

All respondents share satisfaction with district (live in Madinet Nasr), job, and governmental performance (urban). And they were unsatisfied with their sparetime.

Finally the change happened in Madinet Nasr was done by university graduates which were working in gulf (material culture) started by raising living standard in Madinet Nasr, this attract investors (from whom come back and inside) to invest in construction, to increase their benefits they start to violate construction regulation and landuse regulation also, play upon the weak points in Laws.

The culture started to change residents start to think about materialism more, benefit from anything with no moralities (Machiavellian), after having good amount of benefit start to search for place with higher living standard to invest and live in.

The change in life style also responsible for this change, the lack of time the increase of inflation, and the lack of awareness not education, this appears in post graduates response and their rejection to move from it.

As a result for urban and social variables optimization results, data were presented through three maps existing urban conditions, urban morphology, and social response.

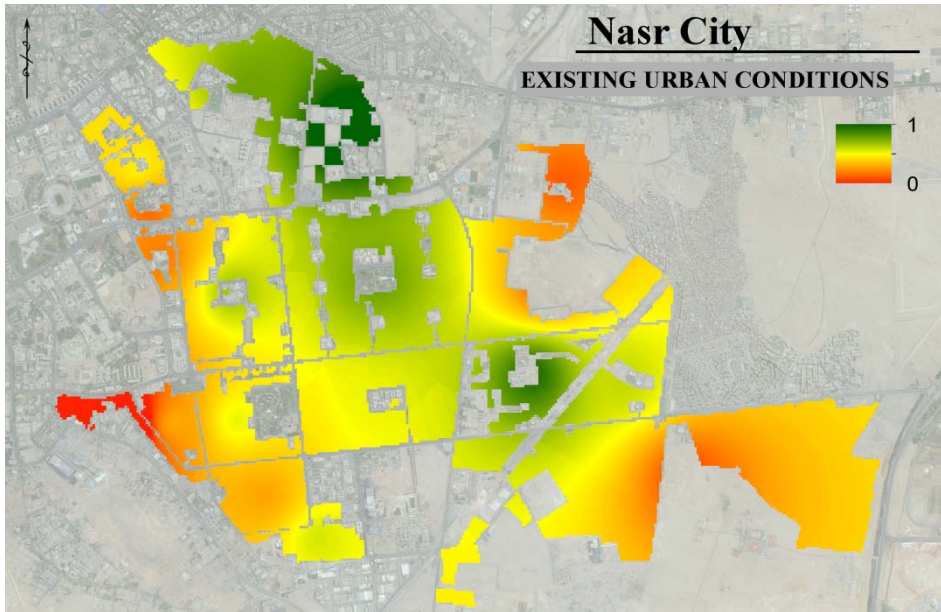


Figure 6-14 Existing urban conditions results distribution<sup>i</sup>

Figure 6-14 shows existing urban conditions results distribution, mid areas and north areas are the highest.

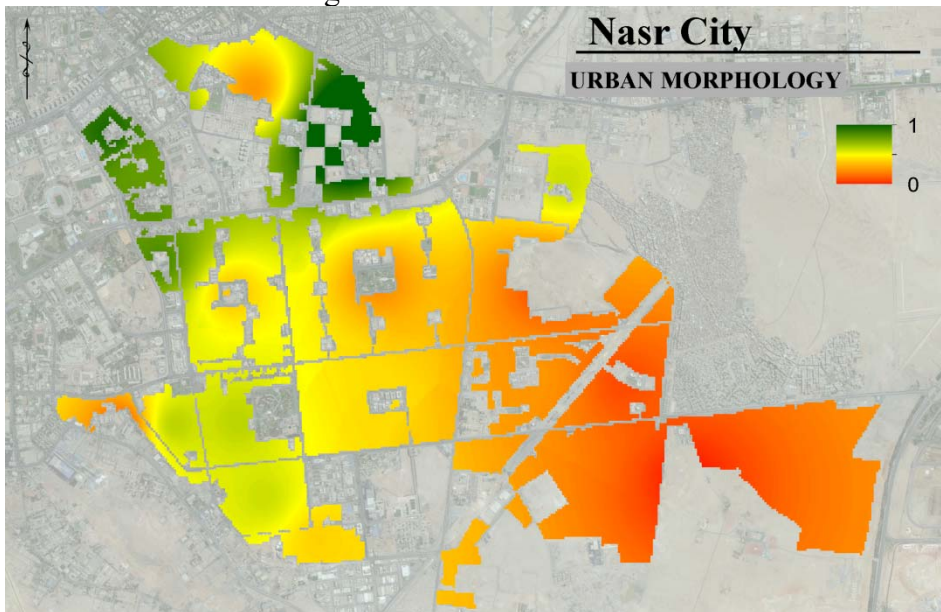


Figure 6-15 Urban morphology results distribution<sup>ii</sup>

Figure 6-15 shows urban morphology results distribution, west areas and north areas are the highest.

<sup>i</sup> By Author

<sup>ii</sup> Ibid

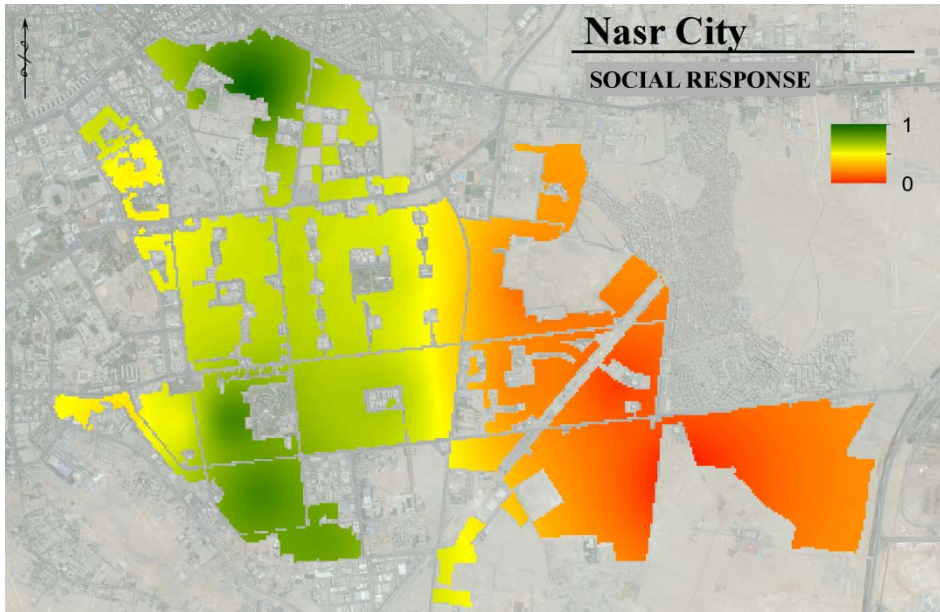


Figure 6-16 Social response results distribution<sup>i</sup>

Figure 6-16 shows social response results distribution, west areas and north and south areas are the highest.

From previous maps east area are always the lowest values in all maps, the lowest urban results areas in the east are also the lowest social results. These areas include mid and low income levels, Tenth neighborhood are the source of many problems affects surrounding areas, by exporting it around.

From previous maps researcher propose a conclusion map can explain the relationship between social responses (subjective study) and urban study (objective study). This relationship  $D_r$  can be obtained from equation 9

$$D_r = S_r / U_r \dots\dots\dots \text{Equation 9}$$

Where,  $S_r$  is the social response (QOUL) normalized value as discussed before and  $U_r$  is urban fabric characteristics normalized value for the same area.  $D_r$  Results vary from less than one, one, and more than one. Value of one represents almost full well-being or deprivation and almost identical value between users' response and urban setting, when  $D_r$  is bigger than one it represents adaptation and shows that users response are higher than urban fabric normalized value, when  $D_r$  less than one represents dissonance and mean that users response are lower than urban fabric normalized value.

---

<sup>i</sup> By Author

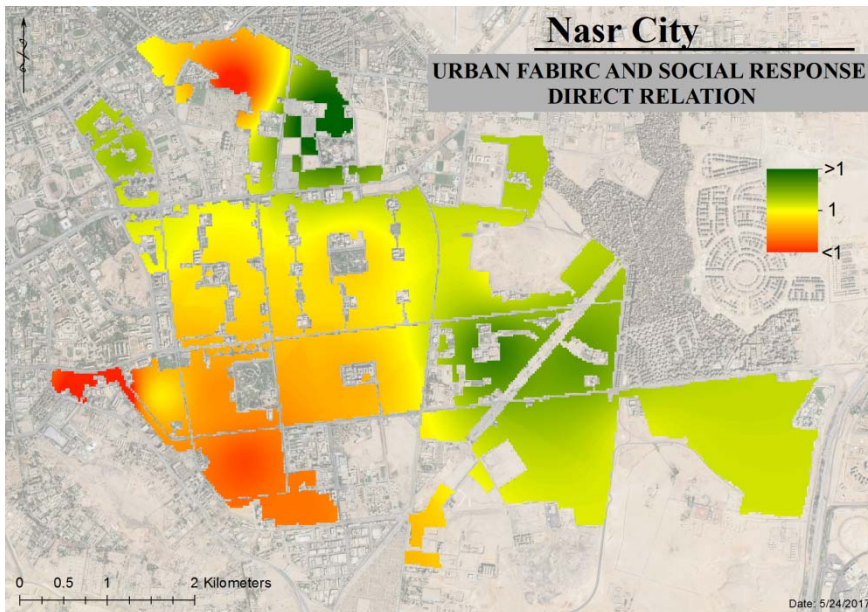


Figure 6-17 Direct relationship between urban fabric and social response<sup>1</sup>

Figure 6-17 shows that east areas value are bigger than one, which means that social response values are bigger than urban fabric real condition. Some areas have low class residents and other mid and high-class residents, with many problems as discussed before chapter 5. The areas' results meant that residents have feeling of adaptation in these areas or their culture and education are lower than problem's judgments.

Furthermore, north and south area's results are lower than one, which means that social response values are lower than urban fabric real condition. Most of these areas are high and mid-class residents except west areas are low class. The results meant that residents are not satisfied with urban even it is numerically are good, the residents' dissonance due to the surrounding area they have to pass through to reach their areas. Although they live in good urban conditions, they were affected by surrounding areas' problems.

At last mid area's results is almost one, which means that social response values are almost equal to urban fabric real condition. The results meant that residents a fair judgment on urban fabric conditions, and according to social response map all areas are in a well-being.

Madinet Nasr is not the cause of what happen inside its urban fabric, but the other surrounding areas share a big part of the problem. Areas around it did not have the enough care and maintenance to encourage investments and residents to stay inside it. In the past, these areas were best places to live and

<sup>1</sup> By Author



after cycles of neglecting by authority and residents; it was lowered and residents escaped (who capable of) from it. Now Madinet Nasr on the same track residents who felt the problem is moving out to New Cairo, and after while residents will move to New Capital and so on.



## **7. Research Conclusion**



## 7.1 Research Conclusion

Urban design affects social activities in the early urban growth stages; then social activities affect and reshape urban fabric they were in, the reshaping process controlled by many factors (socio-economic variables, laws, regulations, attraction, etc...) which determine the amount of reshaping from slight changes or additions to huge deformation. The effect of social activities goes in helical continuous cycles each one has its own radius (small for fast cycle big for slow ones) and slope (effect).

Madinet Nasr had gone into fast cycles since 1996; it began by change in social class due to the investments of gulf workers that increased during gulf war. These investments raised prices according to demand and supply laws; then high prices attracted high social classes, which can afford living there; which also attracted more services and facilities, and in addition attract more investments in trading and services.

Previous cycle appears clearly in mid and west areas (most of the old neighborhoods) in Madinet Nasr. From another view, east low class neighborhoods are crowding too much especially by foreign residents, and the cycle is very slow and in opposite direction; it attracts low class residents and criminals who push residents who can not cope with them to move out. Figure 7-1

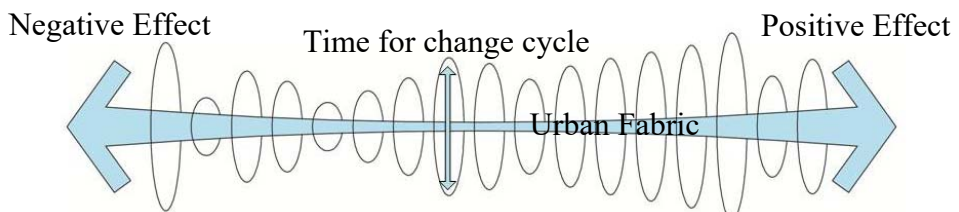


Figure 7-1 Change cycles through urban fabric<sup>i</sup>

A group of change process's' initiators "investors" wanted to increase their benefits; they succeeded to violate the laws, which encourage others to do the same. Their effect on urban fabric was very harmful. The residents' reaction was mostly negative; and most of them prefer to move out to new cities than fight for a better place this decision came on believe that authority does not care about these violations.

They also benefit from high prices when selling their properties to new comers, which have a lack of knowledge about building regulations, or they come to cope with these active violations, then-new cycle starts. Regulation violation effects urban as follow:

---

<sup>i</sup> By Author

- 1- High population densities due to the increase of built up area for same land parcels.
- 2- Lack of hierarchy in buildings' skyline; which turned into flat high line.
- 3- Land use deformation, as a result for value-increasing investors converted every possible space to commercial and administration space, whole areas were converted from residential to another usage.
- 4- Stores and services turned to luxuries goods to serve the new class, also building design turned into fake luxuries' identity by using classic and modern elements in facades only.
- 5- Users as residents or stores owners also trespass upon governmental properties by extending their property; to gain more money when selling it.

The important factors that keep the cycle of urban fabric reshaping forward or backward are economic rising, personal benefits, lack of social capital awareness, corruption and lack of regulations.

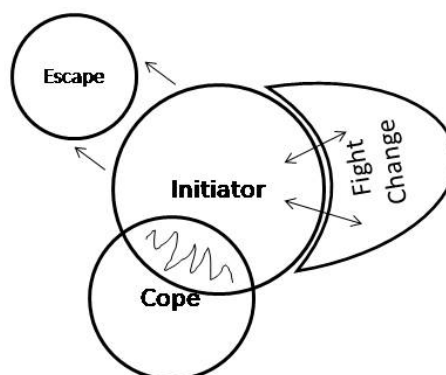


Figure 7-2 Change cycles elements<sup>i</sup>

From another view Madinet Nasr urban fabric is complex and contradicted; it was created during 70's to solve housing crisis by more than a planner, each of them has different goals and visions. At the beginning, the district was designed by architect. Sayed Karim to be new capital into the old one, It was designed to include mid and high population densities for certain socio-economic classes, then developed by Madinet Naser for Housing and Development company (MNHD), later MNHD company was sold to a private bank the development directed to create more profit and benefit from social cycle's effect.

The contradiction in urban fabric appears in the unequal distribution for services between different areas, and the lack of social classes' hierarchy between adjacent areas; as well, population densities are not uniformly distributed.

---

<sup>i</sup> By Author

Although Madinet Nasr roads network is integrated and good connected, but it has more traffic than it can handle and it is always blocked during rush hours. In spite of being attractive to visitors and workers from many places, many traffic spots created by private transportation and visitors' private cars.

As mentioned before the increasing value and the high class reputation of Madinet Nasr change the user's economic class attracted to live in, also users' negative response to urban change push users to leave to other areas or cope and benefit from this change.

## **2. Further research**

This thesis studies the relationship between social transformations and urban fabric; the study depends on QOUL subjective test, which has a time limitation and needs to be retested again after a certain time to record the new changes.

Also The researcher did not study unregulated areas, because it has special conditions and needs to be studied alone; furthermore, The researcher did not study far areas of Madinet Nasr, which need to be analyzed later.

As well, residents behavior need to be studied in depth, also belonging to place problem and social capital how to be created and raised among residents. As well, create balance and hierarchy between deferent areas, because planning a new area must be according to existing areas.





## References

- Abu-Lughod, J. L. (1971). Cairo: 1001 Years of the City Victorious, Princeton University Press.
- Allen Jr, H. M., P. M. Bentler, et al. (1985). "Probing Theories of Individual Well-being: A Comparison of Quality-of-life Models Assessing Neighborhood Satisfaction." Basic and Applied Social Psychology 6(3): 181-203.
- Andelman, R., R. Board, et al. (1998). "Quality of life definition and terminology: A discussion document from the international society of Quality of Life Studies, (monograph)." The International Society of Quality of Life Studies.
- Andrews, F. M. and S. B. Withey (1976). Social Indicators of well being: the development and measurement of perceptual indicators. New York, Plenum.
- Andrews, F. M. and S. B. Withey (2012). Social Indicators of Well-Being: Americans' Perceptions of Life Quality, Springer US.
- Aristotle, Ed. (1998). [circa 350 BC] Nicomachean Ethics in Ethical theory: Classical and contemporary readings. Melbourne, Wadsworth Publishing Company.
- Bentham, J., Ed. (1998). ([1789]) An introduction to the principles of morals and legislation in Ethical theory: Classical and contemporary readings. Melbourne, Wadsworth Publishing Company.
- Berghauer Pont, M. and P. Haupt (2010). Spacematrix. Space, Density and Urban form. Rotterdam, NAI Publishers.
- Berkoz, L. and O. Kellekci (2007). "Mass housing: Residents satisfaction with their housing and environment." Open House International Journal 32(1): 41-49.
- Bilshen, B. and T. Atkinson, Eds. (1980). Anglophone and francophone differences in perceptions of the quality of life in canada. The Quality of life: Comparative Studies. Londone, Sege Publications.
- Birch, D. (1971). "Toward a stage theory of urban growth." Journal of American Institute of Planners 37: 78-87.
- Campbell, A. (1976). "Subjective Measures of well-being." American psychologist 31: 117-124.
- Campbell, A., P. E. Converse, et al. (1976). The Quality of American Life: perceptions, evaluations and satisfactions New York, Russel Sage Foundation.
- Cantril, H. (1965). The Pattern of Human Concerns. New Brunswick, NJ: Rutgers University Press.
- Cheng, S. (1988). "Subjective quality of life in the planning and evaluation of programs." Evaluation and Program Planning 11: 123-134.

- Crotty, M. (1998). The foundations of social research. Sydney, Allen and Unwin.
- Das, D. (2008). "Urban Quality of Life:a case study of Guwahati." Social Indicators Research **88**: 297-310.
- Diener, E. (1984). " Subjective well-being. Psychological Bulletin." **95**(3).
- Eid, Y., M. El-Khorazaty, et al. (2012). "Nasr City: Land Use Transformations." not published: 13.
- Flanagan, J. C. (1978). "A research approach to improving our quality of life." American Psychologist **33**: 138-147.
- Foo, T. S. (2000). "Subjective assessment of Urban Quality of Life in singapore." Habitat International **24**(1): 31-49.
- Fordyce, M. W. (1978). Prospectus: The self - description inventory, Edison Community College. **PHD**.
- Forgas, J. P. (1995). "Mood and judgment: The affect infusion model (Aim)." Psychological Bulletin **117**(1): 39–66.
- Geoghegan, J., L. A. Wainger, et al. (1997). "Spatial landscape indices in a hedonic framework: an ecological economics analysis using GIS." Ecological Economics **23**(3): 251–264.
- Glatzer, W. (1987). Components of well-being. german social report: Living conditions and subjective well-being. A. C. Michalos: 25-33.
- Glatzer, W. and H. Mohr (1987). "Quality of Life:Concepts and Measurment." in A.C. Michalos (Ed.) German Social Report: living conditions and subjective well-being: 15-24.
- Gustafson, E. J. (1998). "Quantifying landscape spatial pattern: What is the state of the art? ." Ecosystems **1**: 143–156.
- Gutek, B. A., H. Allen, et al. (1983). "The importance of internal referents as determinants of satisfaction." Journal of Community Psychology **11**: 111-120.
- Hanson, J. (1989). "Order and structure in urban design: the plans for the rebuilding of London after the Great Fire of 1666." Ekistic **56**(334/335): 22-42.
- Hillier, B. (1996). Space is the Machine:A Configurational Theory of Architecture. London, UK, Cambridge.
- Hillier, B. and J. Hanson (1984). The Social Logic of Space. London, Cambridge University Press.
- Istek, I. C. (1999). spatial Dynamics of market places. Center for Spatial Information Science. University of Tokyo.
- Kline, R. B. (2005). Principles and practice of structural equation modeling. New York, Guilford Press.
- Krejcie, R. V. and D. W. Morgan (1970). "Determining sample size for research activities." Educational and psychological measurement. **30**: 607-610.

- Lang, j. (1994). Urban design: The American Experience. New York, Van Nostrand Reinhold.
- Lee, Y.-J. (2008). "Subjective Quality of life measurement in Taipei." Building and Environment **43**(7): 1205-1215.
- LI, G. and Q. Waeng (2007). "Measuring the Quality of life in the city of indianapolis by integration of remote sensing and census data." international Journal of Rmote Seneing **28**(2): 249-267.
- Li, W., M. F. Goodchild, et al. (2013). "An Efficient Measure of Compactness for 2D Shapes and its Application in Regionalization Problems." International Journal of GeographicalInformation Science **27**(6): 1227-1250.
- Lynch, K. (1960). The Image of The City. Cambridge, Mass, MIT Press.
- Lynch, k. and L. Rodwin (1958). "A Theory of Urban Form." Journal of American Planning Association **24**(4): 201-214.
- Mandelbrot, B. B. (1983). The fractal geometry of nature. New York, W.H. Freeman and Company.
- Marans, R. W. and W. Rodgers (1975). Toward an understanding of commuinity satisfaction Metropolitan America in Contemporary Perspective. V. Rock and A. Hawley. New York, Halsted: 299-352.
- Marans, R. W. and R. J. Stimson, Eds. (2011). INVESTIGATING QUALITY OF URBAN LIFE. The Quality of Life in Metro Detroit at the Beginning of the Millennium. New York, Springer.
- Mazumdar, S. (2003). Sense of Place Considerations for Quality of Urban Life. 1st International Conference on Quality of Urban Life: Policy Versus Practice. N. Z. Gulersoy, N. Esin and A. Ozsoy. Istanbul Technical University, Urban and Environmental Planning Research Center 83-97.
- McCrea, R., R. Stimson, et al. (2005). "Testing a moderated model of satisfaction with urban living using data for Brisbane-South east Queensland." Soc. Indic. Res. **72**: 121–152.
- McGarigal, K., S. A. Cushman, et al. (2002). "Spatial Pattern Analysis Program for Categorical Maps." FRAGSTATS: . Computer software program produced by the authors at the University of Massachusetts, Amherst.
- Mill, J. S., Ed. (1998). [1863] Utilitarianism in Ethical theory: Classical and contemporary readings. Melbourne, Wadsworth Publishing Company.
- Mills, G. (1989). "Space and power in South Africa: the township as a mechanism of control." Ekistics **56**(334/335): 65-74.
- Moudon, A. (1997). "Urban morphology as an emerging interdisciplinary field." Urban Morphology **1**: 3-10.

- Murdie, R. A., D. Rhyne, et al. (1992). Modeling quality of life indicators in canada: a feasibility analysis. Toronto, York University.
- O'Neill, R. V., J. R. Krummel, et al. (1988). "Indices of landscape pattern." Landscape Ecology **1**: 153–162.
- Oktay, D. and A. Rustemli (2010). "Measuring The Quality of Urban Life and Neighbourhood Satisfaction: Findings From Gazimagusa (Famagusta) Area Study." International Journal of Social Sciences and Humanity Studies **2**(2): 27-37.
- Osserman, R. (1978). "Isoperimetric inequality. ." Bulletin of the American Mathematical Society **84**(6): 1182-1238.
- Parker, D. C., T. P. Evans, et al. (2001). Measuring emergent properties of agent-based landuse/landcover models using spatial metrics. Seventh annual conference of the international society for computational economics.
- Peponis, J., C. Zimring, et al. (1990). "Finding the building in wayfinding " Environment and Behavior **22**: 555-590
- Rapoport, A. (1977). Human Aspects of Urban Form., Oxford: Pergamon Press.
- Rosen, L. N. and L. Z. Moghadam (1988). The unit manning system family health report. Washington,DC, Water Reed Army Insititute of research. **(AD-A213 286)**.
- Schneider, M. (1975). "The Quality of Life in Large American Cities: Objective and Subjective Social Indicators." Social Indicators Research(1): 495-509.
- Serag-El-Din, H., A. Shalaby, et al. (2013). "Principles of urban quality of life for a neighborhood." HBRC Journal **9**: 86-92.
- Shannon, C. and W. Weaver (1964). The mathematical theory of communication. Urbana, Univ. Illinois Press.
- Sirgy, M. J. and T. Cornwell (2001). "Further validation of the Sirgy et al.'s mesure of commuinty quality of life." Social Indicators Research **56**(2): 125-143.
- Tesfazghi, E. S., J. A. Martinez, et al. (2010). "Variability of Quality of Life at Small Scales :Adis Ababa, Kirkos Sub-City " Social Indicators Research **98**: 73-88.
- Tipple, G. (2000). Extending Themselves. Liverpool.
- Tiran, J. (2016). "MEASURING URBAN QUALITY OF LIFE: CASE STUDY OF LJUBLJANA." Acta geographica Slovenica **56**(1): 57–73.
- Turksever, A. N. and G. Atalik (2001). "Possibilities and limitations for the measurments of the quality of life in urban areas." Social Indicators Research **53**: 163-187.

Yang, Y., W. Brown, et al. (2001). "Using neighborhood growth stage model to analyze new residential development in ten counties in Hudson River Valley area, New York State." Population and Development Program Working Papers.

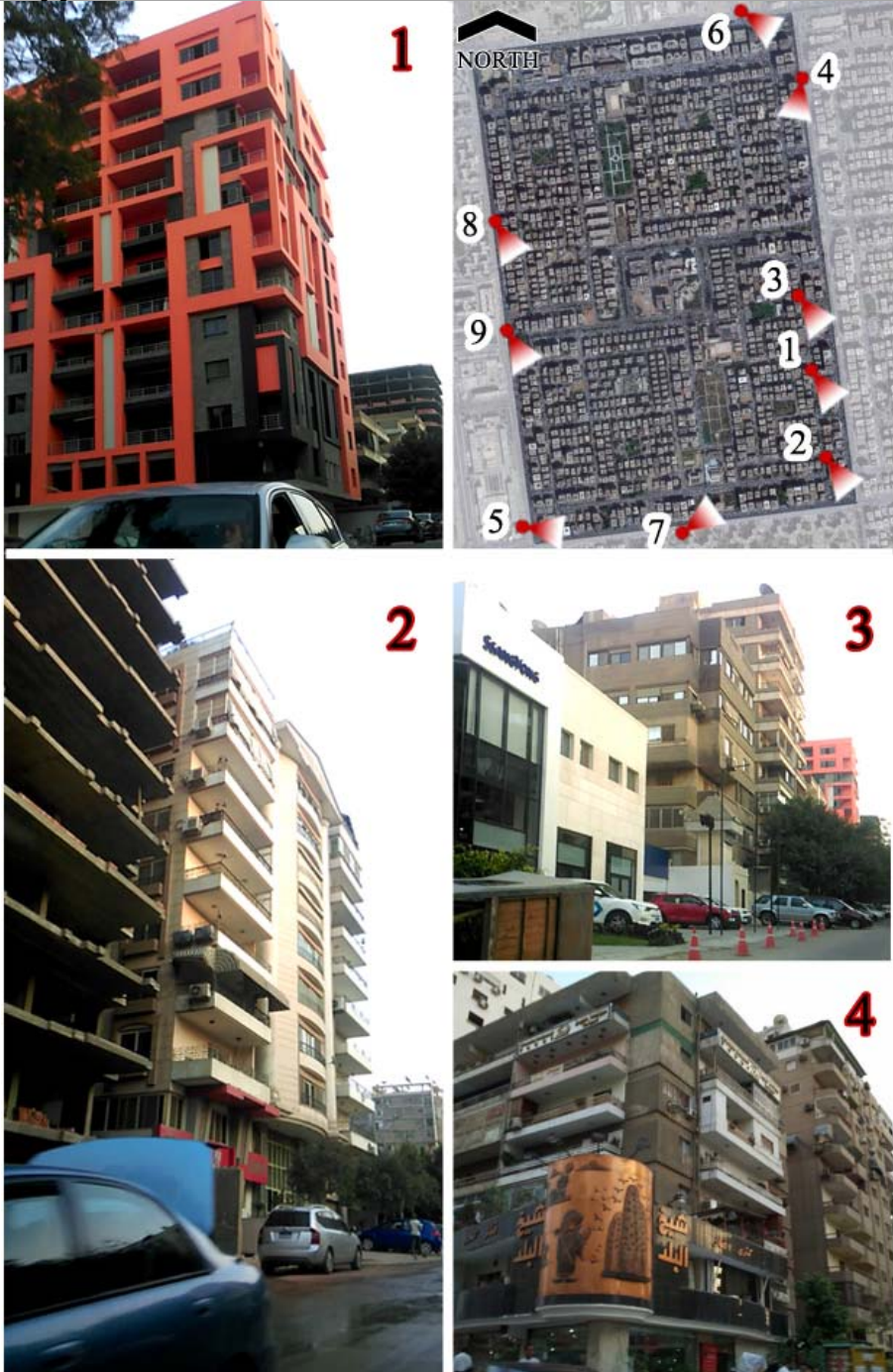


# Appendixes





## 8.1 Appendix 1



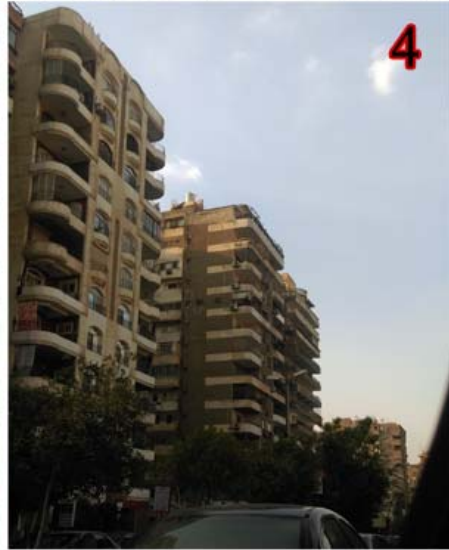
1<sup>st</sup> Area Images



1<sup>st</sup> Area Images



6<sup>th</sup> Area Images



6<sup>th</sup> Area Images



6<sup>th</sup> Area Images



6<sup>th</sup> Neighborhood Images



6<sup>th</sup> Neighborhood Images

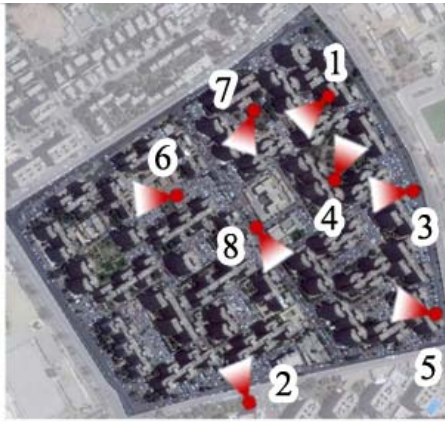


7<sup>th</sup> Neighborhood Images





7<sup>th</sup> Neighborhood Images



Al-Tawfik Images



Al-Tawfik Images



Rabiah Images



Al-Sharekat Images



Al-Sharekat Images



Al-Cinema Images



AI-Cinema Images





7<sup>th</sup> Area Images



7<sup>th</sup> Area Images



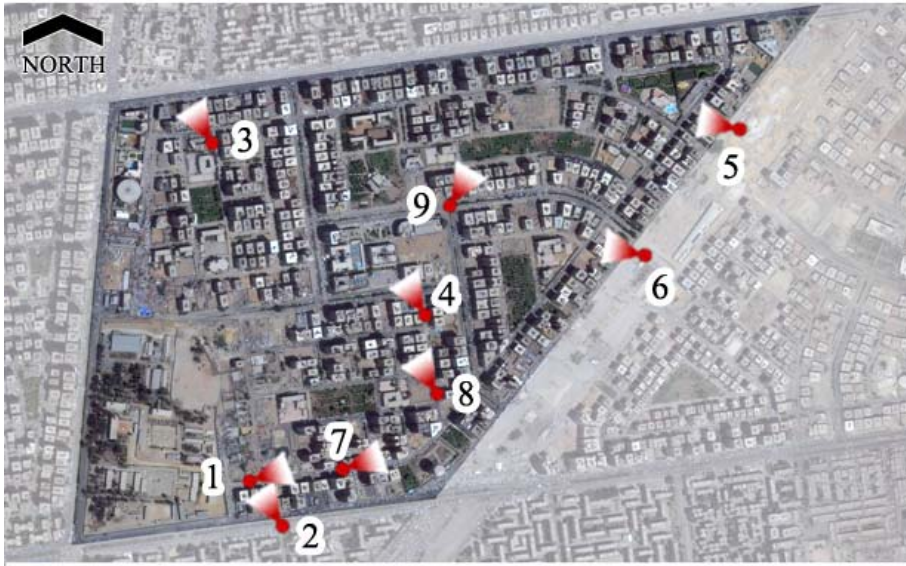
8<sup>th</sup> Area Images



8<sup>th</sup> Area Images



8<sup>th</sup> Area Images



9<sup>th</sup> Area Images



9<sup>th</sup> Area Images



10<sup>th</sup> Area Images





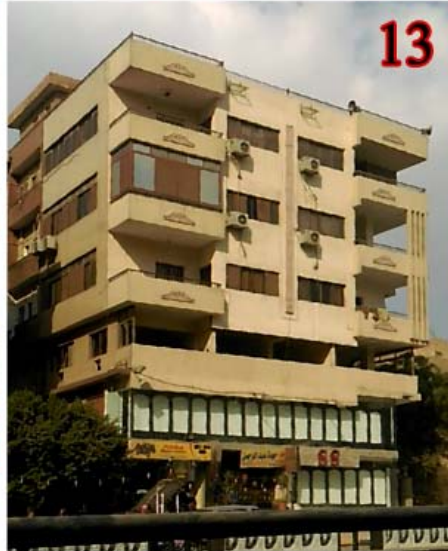
10<sup>th</sup> Area Images



East 6<sup>th</sup> Area Images



East 6<sup>th</sup> Area Images



East 6<sup>th</sup> Area Images



Al-Ahly Club Images



Al-Ahly Club Images



10<sup>th</sup> Neighborhood Images



1



2



3



4



5

10<sup>th</sup> Neighborhood Images





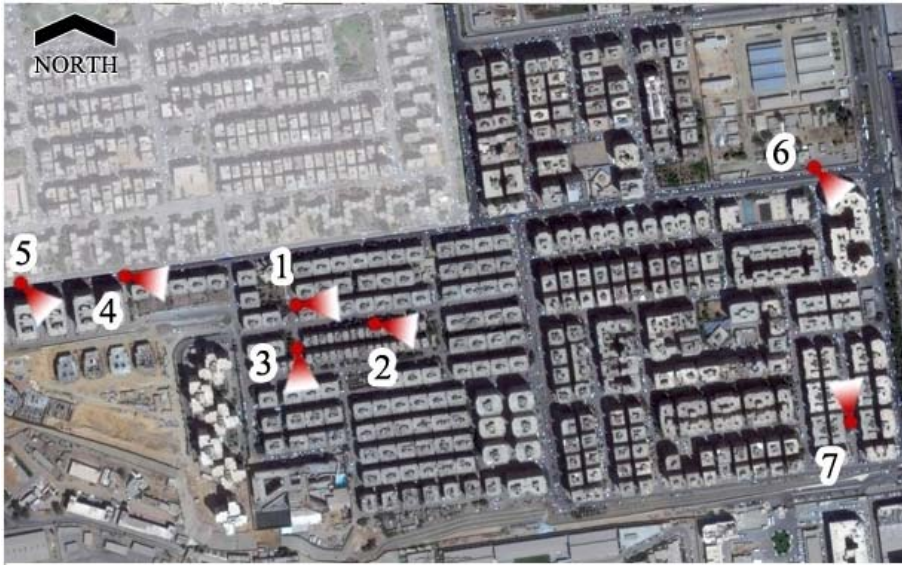
10<sup>th</sup> Neighborhood Images



International Garden Images



International Garden Images



Alwafaa w Al-Amal Images



Alwafaa w Al-Amal Images



Al-Golf Images



Al-Golf Images



Al-Mohandseen Images





Al-Mohandseen Images

## 8.2 Appendix 2

Domain	Needs	Very Important	Important	Not Important
Shelter	Affordability			
	Well built			
	Size and comfort			
	parking			
	gardens			
Safety	Psychological safety			
	Physiological safety			
Social	Relation with neighbors			
	Social facilities			
Services & Environment	Urban services			
	Shopping			
	Public transportation			
	Infrastructure			
	Green recreation			
	Physical exercise			
	Healthy environment			

Domain	Needs	Very Important	Important	Not Important
Self-Esteem	Place attachment			
	Status neighborhood			
	Participation decision making			
	Income and working conditions			
	Display personal skills			
	Personal privacy			
	Learning opportunities			
Self-Actualization	Practicing cultural facilities			
	Aesthetic and design living environment			
	Ecological behavior			
	Feeling equality and justice			
	Historical and natural amenity rich environment			
Other				

النطاق	الاحتياجات	مهم جدا	مهم	غير مهم
المسكن	القدرة			
	كفاءة البناء			
	مساحة المنزل والراحة بداخله			
	اماكن انتظار السيارات			
	حديقة المنزل			
الامن	الامن النفسي			
	الامن الحسي			
الاجتماعيات	العلاقه مع الجيران			
	الخدمات الاجتماعية			
الخدمات والبيئة	خدمات الشارع			
	التسوق			
	النقل العام			
	البنية التحتية			
	المناطق الخضراء			
	ممارسة الرياضة			
	البيئة الصحية			

النطاق	الاحتياجات	مهم جدا	مهم	غير مهم
الثقة في النفس	الانتماء			
	حالة الحي			
	المشاركة في صنع القرار المحلي			
	الدخل وظروف العمل			
	عرض المواهب الشخصية			
	الخصوصية الشخصية			
	فرص التعليم			
الشعور الإيجابي	المشاركة في الأنشطة الثقافية			
	الشعور بالجمال			
	الوعي البيئي			
	الشعور بالعدالة والمساواة			
	المعالم التاريخية والطبيعية			

Other

## - المسكن

### ١-١ القدرة

مدى مقدرة الفرد على توفير الدعم المادي للمسكن سواء كان ايجار او تملك من حيث مصروفات الخدمات (كهرباء- غاز - مياة) ودفع الضرائب المترتبة على المسكن وكذلك تحمل نفقات الصيانة عند الحاجة.

### ١-٢ كفاءة البناء

مدى الحاجة لكفاءة بناء عاليه لا تحتاج للصيانه على فترات قصيره وغير مخطط لها.

### ١-٣ مساحة المنزل والراحة بداخله

مدى شعور الفرد بالراحة في المنزل وكذلك سعة المنزل لاداء الانشطة المختلفة للفرد.

### ١-٤ اماكن انتظار السيارات

مدى شعور الفرد بالحاجه لاماكن انتظار السيارات في منطقة معينة.

### ١-٥ حديقة المنزل

مدى شعور الفرد بالحاجه لوجود حديقة بمنزله.

## ٢- الامن

### ١-٢ الامن النفسي

مدى شعور الفرد بالراحة والقبول من الغرباء اثناء تعامله معهم او المرور بجوارهم وعدم الشعور الدائم بالتوتر او الخوف من الخروج من المنزل.

### ٢-٢ الامن الحسي

مدى شعور الفرد بالامن المادي والذي ينتج عن توافر رجال الامن انخفاض معدلات الجريمة.

## ٣- الاجتماعيات

### ١-٣ العلاقة مع الجيران

مدى شعور الفرد بسلاسة التعامل مع الجيران وقوة علاقته بهم.

### ٢-٣ الخدمات الاجتماعية

مدى اهمية توافر اماكن تجمعات للاحداث الاجتماعية كالنوادي والمسارح والسينمات.

### ٤- الخدمات والبيئة

### ١-٤ خدمات الشارع

مدى اهمية توافر اماكن الانتظار والمظلات وحنفيات مياة الشرب واماكن عبور المشاه والمعاقين.

#### ٢-٤ التسوق

مدى اهمية توافر اماكن للتسوق وتنوعها ومدى قربها من المسكن.

#### ٣-٤ النقل العام

مدى اهمية توافر خدمات النقل العام كمحطات الانتظار وجودة السيارات والتزامها بالمواعيد.

#### ٤-٤ البنية التحتية

مدى اهمية تنمية البنية التحتية لتحسين جودة الصرف والكهرباء والغاز وكذلك رصف الطرق وتمهيد الارصفه للمشاة.

#### ٥-٤ المناطق الخضراء

مدى اهمية توافر مناطق خضراء للترويح عن النفس وايجاد متنفس داخل المناطق السكنية.

#### ٥-٤ ممارسة الرياضة

مدى اهمية توافر اماكن لممارسة الرياضة والحفاظ على الصحة.

#### ٦-٤ البيئة الصحية

مدى اهمية توافر الخدمات الصحية والاهتمام بمعدلات التلوث والحفاظ على نظافة البيئة.

### ٥-الثقة في النفس

#### ١-٥ الانتماء

مدى شعور الفرد بانتمائه وارتباطه بالمكان الذي يعيش فيه.

#### ٢-٥ حالة الحي

مدى اهمية الشعور بارتقاء حالة الحي لتحسين المستوى الاجتماعي وكذلك الحالة النفسية للسكان.

#### ٣-٥ المشاركة في صنع القرار المحلي

مدى اهمية المشاركة في اخذ القرار الخاص بالمنطقة السكنية وتوفير اماكن لاجتماع السكان واخذ الاراء.

#### ٤-٥ الدخل وظروف العمل

مدى اهمية توفير وظائف مناسبة من حيث الدخل ومن حيث الوقت والظروف بحيث لا تمثل ضغطا نفسيا على الموظفين.

#### ٥-٥ عرض المواهب الشخصية

مدى اهمية توفير مجال لعرض المواهب من خلال توفير اماكن تجمعات واتشطه ثقافية.

#### ٦-٥ الخصوصية الشخصية

مدى شعور الفرد بالخصوصية والحرية في اداء عبادة او نشاط او تصفح للانترنت.

#### ٧-٥ فرص التعليم

مدي توافر فرص التعليم لجميع افراد المجتمع مع اختلاف اعمارهم بدا من الحضانات الى الجامعات والمكتبات العامة.

## **٦- الشعور الايجابي**

### **١-٦ المشاركة في الانشطة الثقافية**

مدى اهمية المشاركة في الانشطة الثقافية سواء بالحضور او بتقديم الاعمال.

### **٢-٦ الشعور بالجمال**

مدي شعور الفرد بالجمال العمراني من حوله ورغبته في النقد للوصول للافضل.

### **٣-٦ الوعي البيئي**

مدي شعور الفرد باهمية الحفاظ على البيئة المحيطة له من الحدائق وغيرها وكذلك معرفة باهمية الاقتصاد والتوفير في مصادر الطاقة المختلفة.

### **٤-٦ الشعور بالعدالة والمساواة**

مدي شعور الفرد بالعدالة والمساواة بين افراد المجتمع المختلفين عنه سواء عرقيا او في الوظائف او اجتماعيا.

### **٥-٦ المعالم التاريخية والطبيعية**

مدى اهمية وجود مزارات تاريخية وطبيعية او مزارات مرتبطة باحداث مهمة.

استبيان  
جودة الحياة العمرانية بمدينة نصر

## الجزء الاول: معلومات عامة

### أ. عن المتقدم

G-Age

أ-1 ما هو عمرك الحالي؟

يوم شهر سنة

G-Birth

أ-2 أين ولدت؟

داخل القاهرة

خارج القاهرة

G-Sex

أ-3 اختر نوعك؟

أنثى

ذكر

G-Elevel

أ-4 ما هو مستوى تعليمك الحالي؟

1 غير متعلم

2 التعليم الثانوي

3 شهادة جامعية

4 دراسات عليا

5 تعليم فني او صناعي

6 اخرى (برجاء ذكرها)

G-Ncar

أ-5 كم عدد السيارات بمنزلك؟

### ب. العائلة

G-Res

ب-1 ماهي مصادر دخلك؟

1 لا تعمل

2 لديك وظيفة

3 من العائلة (معيل)

4 مدخرات

5 متقاعد

6 اخرى (برجاء ذكرها)

### نقطة تحويل

- 1 لو كانت اختياريك في السؤال السابق رقم 2 تابع الى السؤال ب-1-1  
2 لو كانت اختياريك في السؤال السابق اي رقم اخر تابع الى السؤال ب-2

ب-1-1 ما هو نوع العمل؟

- 1 حكومي  
2 قطاع خاص (موظف)  
3 قطاع خاص صاحب عمل



ب-1-2 كم عدد ايام العمل الاسبوعية؟  
G\_Wdays  
يوم

ب-1-3 حجم الدخل السنوي؟  
G\_Yincome  
1 اقل من 500 دولار  
2 ما بين 500 و 1000 دولار  
3 ما بين 1000 و 2000 دولار  
4 ما بين 2000 و 5000 دولار  
5 اكثر من 5000 دولار

ب-1-4 هل عملك داخل منطقتك؟  
G\_Warea  
 لا  نعم

ب-2 عدد الافراد المقيمين معك في المنزل؟  
G\_Fno

ب-3 هل انت متزوج؟  
G\_Married  
 لا  نعم

ب-4 هل لديك اطفال؟

لا  نعم

ب-5 اذكر عدد الاطفال لديك حسب مراحل التعليم؟

G_uni	G_second	G_ESS	G_Preschool
الجامعي ومابعده	التعليم الثانوي	التعليم الاساسي	ماقبل المدرسة

ب-6 ما مدى رضاؤك عن عملك الحالي (او مكان دراستك اذا كنت طالبا)  
G\_Jobsat (اختر من 1 الى 7 حيث 1 غير راضي بالمره و7 راضي تماما)

راضي تماما 7	6	5	راضي 4	3	2	غير راضي تماما 1
--------------------	---	---	-----------	---	---	------------------------

## الجزء الثاني: معلومات السكن

### أ. تاريخ السكن

H\_Stay

1- أ- مامدة اقامتك الحالية في مدينة نصر؟

عام \_\_\_\_\_

2- أ- اليك بعض الاسباب لانتقال الناس من مكان لآخر - مامدى اهمية كل منهم من وجهة نظرك؟

H\_R\_Cwork 1-2- أ- الاقتراب من محل العمل

غير مهم  اهمية ضعيفة  مهم نوعا ما  سبب رئيسي

H\_R\_Goodschool 2-2- أ- الاقتراب من المدارس الجيدة

غير مهم  اهمية ضعيفة  مهم نوعا ما  سبب رئيسي

H\_R\_Price 3-2- أ- اسعار السكن (تمليك او ايجار)

غير مهم  اهمية ضعيفة  مهم نوعا ما  سبب رئيسي

H\_R\_Entertainment 4-2- أ- كمية الخدمات ومناطق الترفيهية

غير مهم  اهمية ضعيفة  مهم نوعا ما  سبب رئيسي

H\_R\_Neighbor 5-2- أ- البحث عن جيران يشبهونك

غير مهم  اهمية ضعيفة  مهم نوعا ما  سبب رئيسي

H\_R\_Religious 6-2- أ- بالقرب من خدمات دينية

غير مهم  اهمية ضعيفة  مهم نوعا ما  سبب رئيسي

H\_R\_Friends 7-2- أ- القرب من العائلة والاصدقاء

غير مهم  اهمية ضعيفة  مهم نوعا ما  سبب رئيسي

H\_R\_Openess 8-2- أ- القرب من مناطق مفتوحة ومساحات اوسع

غير مهم  اهمية ضعيفة  مهم نوعا ما  سبب رئيسي

H\_R\_Avoid 9-2- أ- البعد عن الازدحام

غير مهم  اهمية ضعيفة  مهم نوعا ما  سبب رئيسي

### نقطة تحويل

1 لو كانت مدينة نصر هي محل السكن الاول لك (من مواليدها والسكن الحالي نفس محل الميلاد) تجاهل الاسئلة 3-أ 4-أ 5-أ 6-أ وانتقل مباشرة الى الجزء ب

3- أ- قبل انتقالك لمحل سكنك الحالي اين كنت تسكن؟

داخل القاهرة  خارج القاهرة

H\_Presid

H\_Howlong

4-أ مالمدة التي قضيتها بمحل سكنك السابق؟

عام

H\_Wmove

5-أ ماهو سبب انتقالك الرئيسي منها؟

العمل

الإصدقاء  
والعائلة

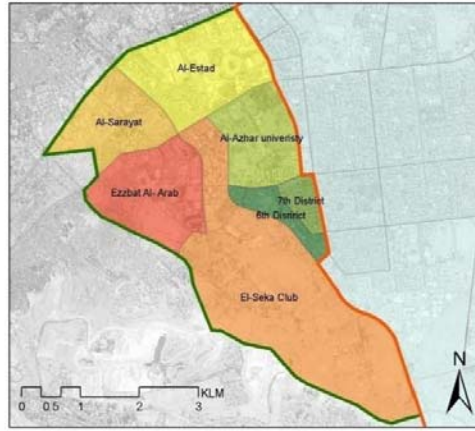
الخدمات

الزحام

المستوى  
الاجتماعي

## ب.سكنك الحالي

ب-1 مايلي اسماء لشيخات مدينة نصر حي غرب اختر منها محل سكنك الحالي



H\_Area

الإستاد

الحي السابع

الحي السادس

السرايات

الشرقية

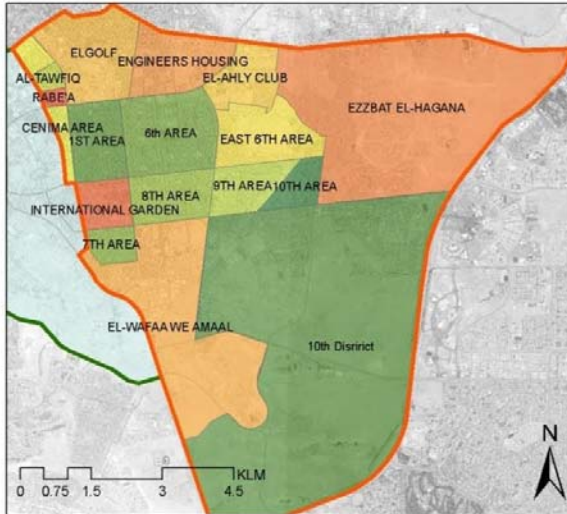
جامعة الازهر

عزبة العرب

نادي السكة

الحديد

مايلي اسماء لشيخات مدينة نصر حي شرق اختر منها محل سكنك الحالي



منطقة السينما رابعة العدوية

المنطقة

التوفيق

المنطقة

الشركات

الأولى

الجولف

الوفاء والأمل

مساجن

الحديقة

المهندسين

الدولية

المنطقة

النادي الأهلي

السابعة

عزبة الهجانة

المنطقة

التاسعة

المنطقة

العاشرة

الحي العاشر

شرق المنطقة

السادسة

المنطقة

الثامنة

10

2-ب كم عدد غرف النوم بمسكنك الحالي؟

H_Rno	غرفة	غرفتين	ثلاثة غرف	اربعة غرف	اكثر من اربعة
-------	------	--------	-----------	-----------	---------------

3-ب ما نوع حيازتك لمحل سكنك (اوسكن العائلة الذي تقطن فيه) الحالي هو

H_Owned	1	ايجار جديد
	2	ايجار قديم
	3	تمليك

4-ب ما نوع السكن الحالي

H_Residtype	1	شقة امامية
	2	شقة خلفية
	3	فيلا مستقلة
	4	فيلا داخل عقار
	5	الرووف

5-ب ما رايك في تكلفة السكن بمنطقتك (كالايجار او سعر المتر للتمليك)

H_Residcost	منخفضة جدا	منخفضة	متوسطة	مرتفعة	مرتفعة جدا
-------------	------------	--------	--------	--------	------------

6-ب ما مدى رضاؤك عن محل سكنك الحالي (اختر من 1 الى 7 حيث 1 غير راضي بالمره و7 راضي تماما)

H_Residsat	1	2	3	4	5	6	7
	غير راضي تماما			راضي			راضي تماما

7-ب هل تود الانتقال من محل سكنك الحالي؟

ب.لا	أ.نعم
------	-------

### نقطة تحويل

- 1 لو كانت اجابتك على السؤال السابق نعم انتقل الى ب-8
- 2 لو كانت اجابتك على السؤال السابق لا انتقل الى ب-9

8-ب الى اين ستنتقل؟

المدن الجديدة	داخل القاهرة	خارج القاهرة
---------------	--------------	--------------

## الجزء الثالث: البيئة

### أ. التلوث

1-أ ما مدى رضاؤك عن نظافة الشوارع المحيطة بمنزلك؟ (اختر من 1 الى 7 حيث 1 غير راضي بالمره و7 راضي تماما)

E\_Cstreet

غير راضي تماما	1	2	3	4	5	6	راضي تماما	7
----------------	---	---	---	---	---	---	------------	---

2-أ ما مدى رضاؤك عن خدمة جمع القمامة؟ (اختر من 1 الى 7 حيث 1 غير راضي بالمره و7 راضي تماما)

E\_Gcollection

غير راضي تماما	1	2	3	4	5	6	راضي تماما	7
----------------	---	---	---	---	---	---	------------	---

3-أ ما مدى رضاؤك عن مياة الصنبور؟ (اختر من 1 الى 7 حيث 1 غير راضي بالمره و7 راضي تماما)

E\_Cwater

غير راضي تماما	1	2	3	4	5	6	راضي تماما	7
----------------	---	---	---	---	---	---	------------	---

4-أ هل تلمس هذه المشاكل بمنطقةك؟ ما رأيك

E\_P\_Apollution

ليس مشكلة بالمره	مشكلة بسيطةه	مشكلة	مشكلة ملحه
------------------	--------------	-------	------------

E\_P\_Nois

ليس مشكلة بالمره	مشكلة بسيطةه	مشكلة	مشكلة ملحه
------------------	--------------	-------	------------

E\_P\_Dwaste

ليس مشكلة بالمره	مشكلة بسيطةه	مشكلة	مشكلة ملحه
------------------	--------------	-------	------------

E\_P\_Sewage

ليس مشكلة بالمره	مشكلة بسيطه	مشكلة	مشكلة ملحه
------------------	-------------	-------	------------

### ب. توفير الطاقة

1-ب هل تستخدم اي من الوسائل الموفرة للطاقة؟ (كالاضاءات الموفرة الخ...)

E\_Esaving

ب.لا	أ.نعم
------	-------

2-ب هل فكرت في استخدام طاقة نظيفة؟ (كالطاقة الشمسية الخ...)

E\_Cenergy

ب.لا	أ.نعم
------	-------

3-أ بعد انتهاءك من مشاهدة برامجك المفضلة في التلفاز E\_Tv

- 1 اقوم بعلق جهازي التلفاز والاستقبال باستخدام الريموت
- 2 اقوم بعلق جهاز الاستقبال فقط وسوف يعلق التلفاز نفسه بعد دقائق
- 3 افصل التيار نهائيا عن الاجهزه كلها

### ج. اعادة التدوير

ج-1 هل تهتم بمعرفة إذا كان ما تشتريه تم صنعه من مواد اعيد تدويرها؟

E\_Krecycle

 أ.نعم  ب.لا

ج-2 وإذا كان المنتج معاد تدويره بالفعل هل تشتريه؟

E\_Brecycle

 أ.نعم  ب.لا

E\_Wrecycle

ج-3 لماذا؟

تشجيعا لثقافة التدوير	اشك في كفاءة التدوير	افضل ان اكون المستخدم الاول لاي منتج	لا اعلم كيفية معرفه ان كان المنتج مصنع من ماده معاد تدويرها
-----------------------------	----------------------------	--	---

ج-4 هل تهتم باستخدام بطاريات اعادة الشحن؟

E\_Rbatteries

 نعم  لا

ج-5 هل فكرت في استخدامات اخرى لنفاياتك؟

E\_Tuse

 نعم  لا

ج-6 هل تفصل نفاياتك قبل التخلص منها؟

E\_Tcategory

 نعم  لا

E\_Puse

ج-7 لديك كمية كبيرة من الورق ولم تعد تريده في مكتبك؟

- 1 تفكر في تصرف اخر مفيد
- 2 التي بها فقط في القمامه

### د. الحدائق والاماكن المفتوحة

د-1 كم من الوقت تحتاج لتصل الى اقرب حديقة عامه سيراً على الاقدام (اي منطقة خضراء يمكنك الجلوس فيها) ؟ (وقت السير مساوي لضعف الوقت بالسيارة)

E\_Ngarden

2-د- كم مرة زرت حديقة عامة في منطقتك خلال العام الماضي؟ E\_Gvisit

- 1 مرة أو مرتين
- 2 ثلاث الى ستة مرات
- 3 اكثر من ستة مرات
- 4 ولا مرة

3-د- ما اسم الحديقة التي تزورها - او بالقرب منك والتي زرتها خلال العام الماضي؟

E\_Gname \_\_\_\_\_

4-د- ما مدى رضاؤك عن اماكن لعب الاطفال بالحديقة؟ (اختر من 1 الى 7 حيث 1 غير راضي بالمره و7 راضي تماما) E\_Parea

7	6	5	4	3	2	1
راضي تماما			راضي			غير راضي تماما

5-د- ما مدى رضاؤك عن الحدائق والمناطق المفتوحة بمنطقتك؟ (اختر من 1 الى 7 حيث 1 غير راضي بالمره و7 راضي تماما) E\_Gsat

7	6	5	4	3	2	1
راضي تماما			راضي			غير راضي تماما

## الجزء الرابع: العمران

### أ. الخدمات

U\_Savailable 1-أ اختر اهم الخدمات التي تتوفر بمنطقتك؟

التعليم	1	ديني	4
صحة	2	ترفيهي	5
تجارة	3	اجتماعي	6

U\_Suse 2-أ اختر اهم الخدمات التي تفتقدها بمنطقتك؟

التعليم	1	ديني	4
صحة	2	ترفيهي	5
تجارة	3	اجتماعي	6

### أ-1-1 التعليم

U\_Ssat 1-1-أ ما رايك في جودة التعليم؟

مرتفعة جدا	مرتفعه	متوسطة	منخفضة	منخفضة جدا
------------	--------	--------	--------	------------

### نقطة تحويل

- 1 لو كان لديك اطفال في المدرسة تابع الى السؤال أ-1-2
- 2 لو لم يكن لديك اطفال انتقل الى النقطة أ-2-1

U\_Stype 2-1-أ نوع المدرسة التي يرتادها اطفالك؟

- 1 حكومية
- 2 تجريبية
- 3 خاصة
- 4 دولية

U\_Gschool 3-1-أ كيف يذهب اولادك الى المدرسة؟

- 1 سيرا على الاقدام بمفردهم
- 2 سيرا على الاقدام مع احد افراد الاسرة
- 3 بالسيارة
- 4 باص المدرسة

U\_Eschool 3-1-أ ما مدى سهولة وصول اولادك للمدرسة؟

سهلة جدا	سهلة	متوسطة	صعوبة بسيطة	ليست سهلة بالمرة
----------	------	--------	-------------	------------------



## أ-2-1 الصحة

U\_Cdisease 1-2-أ هل يعاني احد افراد اسرتك من مرض مزمن؟

- 1 الربو
- 2 ضغط الدم
- 3 امراض نفسية
- 4 السكر

U\_Vhealth 2-2-أ هل زرت احد مؤسسات العلاج المتواجده بمنطقتك او احد افراد اسرتك العام الماضي؟

لا  نعم

U\_Hsat 3-2-أ ما مدى رضاوك عن الخدمات الصحية بمنطقتك؟ (اختر من 1 الى 7 حيث 1 غير راضي بالمره و7 راضي تماما)

غير راضي تماما 1  راضي 4  راضي تماما 7

## أ-3-1 التجارية

U\_Qgoods 1-3-أ هل تختلف جودة البضائع في منطقتك نسبة الى المناطق الاخرى؟

ب.لا  أ.نعم

U\_Ssellers 2-3-أ هل هناك باعه جانلين في منطقتك؟

ب.لا  أ.نعم

### نقطة تحويل

- 1 لو كانت اجابتك للسؤال السابق نعم تابع الى السؤال أ-3-3
- 2 لو كانت اجابتك للسؤال السابق لا انتقل الى النقطة أ-4-1

3-3-أ هل تعاملت معهم خلال العام الماضي؟

لا  نعم

## أ-4-1 الامن

U\_Crime 1-4-أ هل هناك جرائم حدثت بمنطقتك مؤخرا؟

لا يوجد  قليله  بعضها حدث  كثيره

U\_Rcrime 2-4-أ رأيك في معدل الجريمة الان مقارنة بما سبق؟

كما هو  ينخفض  يزيد

أ-3 مدى شعورك بالامان عند تحركك بمفردك خلال ساعات النهار الى العاشرة ليلا؟ U\_Dsafety

غير امن بالمره	غير امن	امن	امن جدا
----------------	---------	-----	---------

أ-4 مدى شعورك بالامان عند تحركك بمفردك خلال ساعات الليل المتأخرة الى الفجر؟ U\_Nsafety

غير امن بالمره	غير امن	امن	امن جدا
----------------	---------	-----	---------

أ-4-5 ما مدى رضاؤك عن امنك بشكل عام في منطقة سكنك؟ (اختر من 1 الى 7 حيث 1 غير راضي بالمره و7 راضي تماما) U\_Safety

غير راضي تماما 1	2	3	راضي 4	5	6	راضي تماما 7
---------------------	---	---	-----------	---	---	-----------------

### ب. البناء

ب-1 ما مدى التزام البناء الذي تسكن فيه بقوانين البناء؟ U\_Reg

لا اعلم شيئا عن القانون	ملتزم تماما	مخالف
-------------------------	-------------	-------

ب-2 مدى استجابة الحي لمن يقوم بتعديل البناء بشكل غير قانوني؟ U\_Dresponse

لا استجابة	بطيئة	سريعة	لا يهمني
------------	-------	-------	----------

### ج. الصيانة

ج-1 ما هو معدل صيانة المرافق العامة بمنطقتك؟ U\_Maintanace

عند الحاجة فقط	بشكل دوري	على فترات متباعدة
----------------	-----------	-------------------

## الجزء الخامس: الانتقال والتحرك

### أ. وسائل الحركة

نقطة تحويل

- 1 لو كان لديك سيارة ابدأ من السؤال أ-1  
2 لو لم يكن لديك سيارة ابدأ من السؤال أ-4

1-أ هل لديك جراج خاص بسيارتك؟ M\_Garage

لا  نعم

2-أ هل تستخدم السيارة دائما في تنقلك داخل منطقتك؟ M\_Cuse

لا  نعم

4-أ ماهي الوسيلة الاخرى المفضلة لديك للانتقال داخل منطقتك ( بعد السيارة اذا كان لديك واحدة)؟ M\_Othertransport

- 1 المشي  
2 المواصلات العامة  
3 المواصلات الخاصة  
4 الدراجة

5-أ ما معدل استخدامك لوسيلة التنقل التي اخترتها من السؤال السابق؟ M\_Urate

مرتفع جدا  مرتفع  متوسط  منخفض  منخفض جدا

6-أ ما مدى صعوبة التنقل في منطقتك بدون سيارة او وسائل تنقل؟ M\_Teasy

صعب  متوسط  سهل

7-أ خلال الاسبوع الماضي؟ M\_W\_Friend

1-5-أ هل سرت على قدميك الى منزل صديق

لا  نعم

2-5-أ هل سرت على قدميك الى محل تجاري M\_W\_Store

لا  نعم

3-5-أ هل سرت على قدميك الى محل تجاري (غير اليقالة) M\_W\_Super

لا  نعم

4-5-أ هل سرت على قدميك الى الحديقة او اي منتزه M\_W\_Garden

لا  نعم

M\_W\_Entert.

أ-5-5 هل سرت على قدميك للترفيه

لا	نعم
----	-----

### ب. شبكة الطرق وخدمات الانتقال

ب-1 ما مدى رضاؤك عن كفاءة الطرق بمنطقتك؟ (اختر من 1 الى 7 حيث 1 غير راضي بالمره و7 راضي تماما)

M\_Stsat

غير راضي تماما 1	2	3	4	5	6	7
راضي تماما			راضي			راضي تماما

ب-2 ما مدى رضاؤك عن معدل صيانة الطرق بمنطقتك؟ (اختر من 1 الى 7 حيث 1 غير راضي بالمره و7 راضي تماما)

M\_Stmt

غير راضي تماما 1	2	3	4	5	6	7
راضي تماما			راضي			راضي تماما

ب-3 هل توفر شبكة الطرق الحالية مسارات قصيره وسهله للوصول للخدمات؟

M\_Shortcuts

لا	نعم
----	-----

ب-4 من وجهة نظرك هل ترى ان شبكة الطرق الحالية ملائمة لوسائل الحركة المختلفة

M\_S\_Foot

M\_S\_Bike

M\_S\_Car

M\_S\_Bus

غير ملائمة	ملائمة نوعا ما	ملائمة تماما

السير على الاقدام

الدراجات

السيارات

المواصلات

ب-5 من وجهة نظرك هل ترى ان شبكة الطرق الحالية توفر الخدمات التالية

M\_S\_Cwaiting

M\_S\_Crossing

M\_S\_Bwaiting

M\_S\_Shades

M\_S\_Watertap

M\_S\_Waiting

غير ملائمة ملائمة نوعا ما ملائمة تماما

غير ملائمة	ملائمة نوعا ما	ملائمة تماما

اماكن الانتظار للسيارات

مناطق عبور المشاة

محطات الانتظار

مظلات المشاة

حنفيات الشرب

اماكن انتظار للمشاة

## الجزء السادس: الحياة الاجتماعية

### أ. الروابط الاجتماعية

S\_Freinds

1-أ هل لك اصدقاء او اقارب يعيشون بمنطقتك؟

لا  نعم

S\_Gareas

2-أ ماهي الاماكن التي تنتزه فيها بمنطقتك؟

مقهى  مول تجاري  حدائق  مطعم

S\_Names

3-أ هل تعرف اسماء جيرانك في السكن المجاور لك؟

لا  نعم

### ب. الانتماء

S\_Answer

1-ب عندما يسألك احدهم ابن تسكن تكون اجابتك (اختر اقرب اجابة)

- 1 مدينة نصر
- 2 اسم المنطقة (الحي السادس مثلا)
- 3 اسم الشارع (خضرم التونسي مثلا)
- 4 اسم علامة مميزه (مستشفى عبدالقادر فهمي مثلا)

2-ب ما مدى تواجد اي من هذه المشاكل بمنطقتك

S\_P\_Teens

أ-4-1 الكثير من المراهقين بدون اشراف

لا توجد  موجوده  متناقمة

S\_P\_Durgs

أ-4-1 المخدرات

لا توجد  موجوده  متناقمة

S\_P\_Neighbors

أ-4-1 جيران مزعجون

لا توجد  موجوده  متناقمة

1-ج ما مدى الزيادة في سعر متر الشقة في منطقتك مقارنة بالسعر في بداية اقامتك فيها؟

S\_Price

كما هو  اقل من الضعف  الضعف  اكبر من الضعف

2-ج هل تصميم الشوارع الحالي يسمح بتحريك كبار السن والاطفال بمفردهم من والى الخدمات المختلفة؟

S\_Remove

نادرا  نوعا ما  دائما

## الجزء السابع: الجوانب النفسية

P\_Omark

أ-1 في رأيك ماهي العلامة التي تعبر عن مدينة نصر؟



جنينة مول



منظمة الصحة العالمية



مسجد الرحمة



الجندي المجهول



مركز المؤتمرات



عباس العقاد



الحديقة الدولية



جامعة الازهر



النادي الاهلي



استاد القاهرة

أ-2 هل لديك الرغبة او تقوم بتزيين شارعك او الحديقة التي امام عقارك؟

P\_Decor

لا

نعم

أ-3 ما رأيك في العبارات التالية؟ (اختر من 1 الى 5 حيث 1 لا اوافق بالمره و5 اوافق تماما)

أ-3-1 يهتم مهندسي الحي برغبات السكان اثناء تنفيذ مشروعاتهم بالمنطقة

P\_G\_District

لا اوافق تماما  
5

اوافق  
4

لا اعلم  
3

لا اوافق  
2

لا اوافق تماما  
1

أ-3-2 يستطيع الناس التأثير في قرار حكومي صادر بخصوص منطقتهم

P\_G\_People

لا اوافق تماما  
5

اوافق  
4

لا اعلم  
3

لا اوافق  
2

لا اوافق تماما  
1

أ-3-3 يتجه النمو العمراني في منطقتك للافضل

P\_G\_Ugrowth

لا اوافق تماما  
5

اوافق  
4

لا اعلم  
3

لا اوافق  
2

لا اوافق تماما  
1

أ-3-4 تقوم الدولة بالسيطرة على النمو الغير قانوني والحد منه

P\_G\_Control

لا اوافق تماما  
5

اوافق  
4

لا اعلم  
3

لا اوافق  
2

لا اوافق تماما  
1

## الجزء الثامن: الاقتصاد

### أ. الانفاق العام

1-أ ماريك في توجية الضرائب الى الجهات التالية ؟ (اختر من 1 الى 5 حيث 1 لا اوافق بالمره و5 اوافق تماما)

C\_G\_Garden 1-1-أ الاهتمام بالحدائق والمناطق المفتوحة

لا اوافق تماما	لا اوافق	لا اعلم	اوافق	اوافقك تماما
1	2	3	4	5

C\_G\_Service 2-1-أ رفع كفاءة الخدمات (التعليم والصحة الخ...)

لا اوافق تماما	لا اوافق	لا اعلم	اوافق	اوافقك تماما
1	2	3	4	5

C\_G\_Agri 3-1-أ زيادة رقعة الاراضي الزراعية

لا اوافق تماما	لا اوافق	لا اعلم	اوافق	اوافقك تماما
1	2	3	4	5

C\_G\_Art 4-1-أ دعم الفن والمنظمات الثقافية

لا اوافق تماما	لا اوافق	لا اعلم	اوافق	اوافقك تماما
1	2	3	4	5

C\_G\_EWG 5-1-أ رفع كفاءة الخدمات الاساسية (كهرباء-مياه-قمامة)

لا اوافق تماما	لا اوافق	لا اعلم	اوافق	اوافقك تماما
1	2	3	4	5

C\_G\_Crowd 6-1-أ حل مشاكل الزحام في الشوارع والمواصلات

لا اوافق تماما	لا اوافق	لا اعلم	اوافق	اوافقك تماما
1	2	3	4	5

C\_G\_Roads 7-1-أ تطوير وصيانة شبكة الطرق

لا اوافق تماما	لا اوافق	لا اعلم	اوافق	اوافقك تماما
1	2	3	4	5

### ب. النفقات الخاصة

1-ب مالذي يستحوذ على الجانب الاكبر من نفقاتك ؟

- |   |         |
|---|---------|
| 1 | الغذاء  |
| 2 | التعليم |
| 3 | الصحة   |
| 4 | المسكن  |

2-ب كم سعر متر الشقة\الفلا التملك بمنطقتك الان؟

---

3-ب كم سعر الايجار (المتوسط المساحة والامكانيات) بمنطقتك الان؟

---

ب-4 ماهو متوسط معدل انفاك اليومي على متطلبات الاسرة او متطلباتك الشخصية ان لم تكن متزوجا ؟

C_Day	200-100	4	أقل من 10 جنيهات	1
	500-200	5	50-10	2
	اكثر من 500	6	100-50	3

ب-5 مامدى توافر فرص العمل المختلفة بمنطقةك؟

ضئيلة  متوافرة  متوافرة بكثرة

## الجزء التاسع: المشاركة المجتمعية

### أ. المشاركة على مستوى الفرد

1-أ هل تحضر اجتماعات لاتحاد ملاك العقار؟

X\_Meeting

ب.لا  أ.نعم

2-أ هل فكرت في ترشيح نفسك لمنصب رئيس اتحاد الملاك؟

X\_President

ب.لا  أ.نعم

3-أ هل تعرف اسم رئيس الاتحاد الحالي؟

X\_Name

ب.لا  أ.نعم

4-أ هل تحضر الى مكان العبادة لحل مشكلة ما (في غير اوقات التعبد)؟

X\_Religious

ب.لا  أ.نعم

5-أ هل تقابل جيرانك بشكل غير رسمي لحل مشاكل المنطقة والمبنى؟

X\_Neighbors

ب.لا  أ.نعم

### ب.المسؤولية العامة

ب-1 هل ترى مشكلة (بناء مخالف-حفر في الارض) هل تذهب الى الحي وتتابع حلها؟

X\_Notify

ب.لا  أ.نعم

ب-2 مدى رضاؤك عن اداء الجهات الحكومية لعملها (الناحية العمرانية والمقصود الحي)؟

X\_Gsat

غير راضي تماما 1  2  3  راضي 4  5  6  راضي تماما 7



ب-3 مدى رضاؤك عن اسعار الخدمات التي تقدمها الدولة (كهرباء-مياه-غاز-علاج)  
 X\_Price

غير راضي تماما 1	2	3	4 راضي	5	6	7 راضي تماما
---------------------	---	---	--------	---	---	--------------

### الجزء العاشر: جوانب أخرى

أ-1 ما مدى رضاؤك عن؟ (اختر من 1 الى 7 حيث 1 غير راضي بالمره و7 راضي تماما)

Z_Money	1	كمية النقود المتاحة لمصرفاتك الشخصية	غير راضي تماما 1	2	3	4 راضي	5	6	7 راضي تماما
Z_Time	2	مقدار الوقت المتاح للقيام بما تريد	غير راضي تماما 1	2	3	4 راضي	5	6	7 راضي تماما
Z_Neighborhood	3	منطقة سكنك (الشيخة)	غير راضي تماما 1	2	3	4 راضي	5	6	7 راضي تماما
Z_Family	4	مقدار الوقت الذي تقضيه مع اسرتك	غير راضي تماما 1	2	3	4 راضي	5	6	7 راضي تماما
Z_Friend	5	اصدقائك	غير راضي تماما 1	2	3	4 راضي	5	6	7 راضي تماما
Z_Sparetime	6	طريقة قضائك لوقت فراغك	غير راضي تماما 1	2	3	4 راضي	5	6	7 راضي تماما
Z_District	7	مدينة نصر كمنطقة سكنية	غير راضي تماما 1	2	3	4 راضي	5	6	7 راضي تماما
Z_Life	8	مدى رضاؤك عن حياتك بشكل عام	غير راضي تماما 1	2	3	4 راضي	5	6	7 راضي تماما

## 8.4 Appendix 4

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size.  
*S* is sample size.

**Table 8 determine sample size form given population<sup>i</sup>**

<sup>i</sup> Krejcie, R. V. and D. W. Morgan (1970). "Determining sample size for research activities." Educational and psychological measurement. 30: 607-610.

## 8.5 Appendix 5

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 55  
 Number of distinct parameters to be estimated: 27  
 Degrees of freedom (55 - 27): 28

Result (Default model)

Minimum was achieved  
 Chi-square = 95.310  
 Degrees of freedom = 28  
 Probability level = .000

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	27	95.310	28	.000	3.404
Saturated model	55	.000	0		
Independence model	10	2540.692	45	.000	56.460

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.080	.954	.909	.486
Saturated model	.000	1.000		
Independence model	1.267	.302	.147	.247

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.962	.940	.973	.957	.973
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.079	.062	.097	.003
Independence model	.382	.369	.394	.000

## 8.6 Appendix 6

PART	VARIABLE	VARIABLE TYPE	NOTES
1-GENERAL INFORMATION	G_Age	Objective	Demographic Data
	G_Sex		
	G_Birth		
	G_Elevel		
	G_Ncar		
	G_Res		
	G_Wdays		
	G_Yincome		
	G_Warea		
	G_Fno		
	G_Married		
	G_preschool		
	G_essential		
	G_secondary		
	G_university		
G_JOBSAT	Subjective	Satisfaction	

2-HOUSING INFORMATION	H_Stay	Objective	Time	
	H_R_Cwork	Subjective	Why people move?	
	H_R_goodschool			
	H_R_price			
	H_R_entertainment			
	H_R_neighbours			
	H_R_religious			
	H_R_friends			
	H_R_openareas			
	H_R_avoidcrowd			
	H_Presid	Objective	Previous Living Place	
	H_howlong		Current Place	
	H_Wmoved		Size	
	H_area		Subjective	Affordability
	H_Rno			
	H_owned			
	H_Residtype			
	H_Residcost	Subjective	Comfort	
	H_Residsat			
H_Residmove	Subjective			

PART	VARIABLE	VARIABLE TYPE	NOTES
3- ENVIRONMENT	E_Cstreet	Subjective	Healthy Environment
	E_Gcollection		
	E_Cwater		
	E_P_Apollution		
	E_P_noise		
	E_P_dwaste		
	E_P_sewege		
	E_Esaving		Ecology Behavior
	E_Cenergy		
	E_TV		
	E_krecycle		
	E_Brecycle		
	E_wrecycle		
	E_Rbattaries		
	E_tuse		
	E_Tcategories		
	E_Puse		
	E_Ngarden	Objective	Green Recreation
	E_Gvisit	Behavioral	
	E_Gname	Objective	
E_Parea	Subjective	Satisfaction	
E_Gsat			

4- URBAN	U_Savailable	Objective	
	U_Suse		
	U_Ssat	Subjective	Satisfaction
	U_Stype	Objective	
	U_Gschool		
	U_Eschool	Subjective	
	U_Cdisease	Objective	
	U_Vhealth	Behavioral	
	U_hsat	Subjective	Satisfaction
	U_Tstore	Behavioral	
	U_Hstore	Objective	
	U_Qgoods	Subjective	
	U_Ssellers	Objective	
	U_Crime	Subjective	Physiological Safety
	U_Rcrime		
	U_Dsafty		
	U_Nsafty		Psychological Safty
	U_Saftyat		
	U_Aroads		
	U_Ewalk		
U_Mainroad	Objective		
U_Reg	Subjective		
U_Dresponse	Subjective		
U_maintenance	Objective		

PART	VARIABLE	VARIABLE TYPE	NOTES
------	----------	---------------	-------

5-MOBILITY	M_Garage	Objective	Parking
	M_Cuse		
	M_Othertransport		Subjective
	M_Urate		
	M_Teasy		
	M_W_friend	Behavioral	Physical Exersis
	M_W_store		
	M_W_supermarket		
	M_W_garden		
	M_W_entertainment	Subjective	Satisfaction
	M_Stsat		
	M_Stmt		
	M_Shortcuts		Infra-Structure
	M_S_foot		
	M_S_bike		
	M_S_car		
	M_S_bus		Urban Services
	M_S_Cwaiting		
	M_S_Crossing		
	M_S_Waiting		
M_S_Shades			
M_S_watertap			
M_S_Buswaiting			

6-SOCIAL LIFE	S_Friends	Objective	Place Attachment
	S_Gareas	Objective	
	S_Names	Objective	
	S_Answer	Subjective	Status Neighborhood
	S_P_teenagers	Subjective	
	S_P_drugs	Subjective	
	S_P_nieghbors	Subjective	
	S_Price	Subjective	
	S_Emove	Subjective	

7-MENTAL LIFE	P_Omark	Subjective	Historical Nature Amenity
	P_decor	Subjective	
	P_G_District	Subjective	Participation in Design
	P_G_People	Subjective	
	P_G_Ugrowth	Subjective	Equality & Justice
	P_G_Control	Subjective	

PART	VARIABLE	VARIABLE TYPE	NOTES
------	----------	---------------	-------

8-FAINATIAL LIFE	C_G_Garden	Subjective	Governmental Expenses
	C_G_Services	Subjective	
	C_G_Agri	Subjective	
	C_G_Art	Subjective	
	C_G_Ewg	Subjective	
	C_G_Crowd	Subjective	
	C_G_Road	Subjective	
	C_Private	Subjective	Income & Working Conditions
	C_day	Subjective	
	C_Job	Subjective	
	C_Meter	Objective	Qualitative
	C_Rent	Objective	

9-SOCIAL CAPITAL	X_meeting	Subjective	Practicing Culture
	X_President	Subjective	
	X_name	Subjective	
	X_religous	Subjective	
	X_nieghbors	Subjective	
	X_notify	Subjective	
	X_Gsat	Subjective	
	X_Price	Subjective	

10-OTHER SIDES	Z_Money	Subjective	SATISFACTION
	Z_Time	Subjective	
	Z_neighborhoodsat	Subjective	
	Z_Family	Subjective	
	Z_Friend	Subjective	
	Z_Sparetime	Subjective	
	Z_Districtsat	Subjective	
	Z_Life	Subjective	

## ملخص البحث

يتناول البحث دراسة العلاقة بين النسيج العمراني وشعور المقيمين فيه تجاهه، وذلك بدراسة التأثير المتبادل بينهما من خلال تحليل وربط نتائج المتغيرات المختلفة لكل منهما، واختارات الدراسة مدينة نصر كمنطقة دراسة لتطبيق البحث.

وتتضمن الرسالة ستة فصول تنتهي الى النتائج والتوصيات .. وتتضمن تلك الابواب مايلي:  
يتناول الفصل الاول مناقشة فرضية البحث والمشكلة البحثية، ويقوم بتحديد نطاق البحث ومحدداته و اختيار المتغيرات المختلفة وتحديد الهدف من اختيارها وطرق قياسها لكل من النسيج العمراني و التحولات الاجتماعية.

يتناول الفصل الثاني دراسة تاريخية للفترة التي سبقت انشاء منطقة الدراسة من عمر القاهرة، ثم نشأة وتطور مدينة نصر عمرانيا واجتماعيا ويتطرق الى اهداف التصميم العمراني لمدينة نصر وفئة المستخدمين المستهدفة في ذلك الوقت.

يتناول الفصل الثالث دراسة المتغيرات العمرانية ونتائجها والتي تدرس التخطيط العمراني من خلال ثلاثة محاور الرفع البصري من خلال جمع المعلومات ميدانيا، ودراسة الكتلة العمرانية من خلال دراسة المتغيرات المختلفة للكتلة العمرانية، ودراسة محاور الحركة المحيطة والمتخللة للكتلة العمرانية.

يتناول الفصل الرابع سرد الدراسات السابقة لقياس جوده الحياة العمرانية (QOUL)، وطريقة تحديد عناصر الاستبيان من خلال دراسة ميدانية لاراء عينة صغيرة من المقيمين بمنطقة الدراسة؛ ومن ثم تحديد شكل وتصميم الاستبيان، يلي ذلك تحديد العينة وتوزيعها على الاحياء المختلفة لمنطقة الدراسة وكذلك كيفية طرح الاستبيان وجمع النتائج.

يتناول الفصل الخامس عرض ودراسة نتائج اسئلة الاستبيان، ثم يتناول تحليلها بناء على التوزيع الجغرافي بمنطقة الدراسة، ومن ثم يدرس جودة الحياة العمرانية بمنطقة الدراسة من خلال استخدام برامج التحليل الاحصائي لربط نتائج الاستبيان والتوصل لتحديد جودة الحياة العمرانية بمنطقة الدراسة.

يتناول الفصل السادس نتائج دراسة التغير في النسيج العمراني والتغير الاجتماعي (المستوى الاجتماعي والاقتصادي) ثم يقوم بتحليل ودمج المتغيرات المختلفة لكل منهما وتحليلها جغرافيا ويستعرض ايضا التقسيم الاجتماعي الاقتصادي لنتائج الاستبيان.

وتوصل البحث في نهايته لمتغير يحدد العلاقة بين خصائص المتغيرات العمرانية و رأي المستخدمين في البيئة العمرانية؛ بهدف تقييم العلاقة المتبادلة بين النسيج العمراني ورأي المستخدمين المقيمين فيه معتمدا على التغيرات في المستوى الاجتماعي والاقتصادي. وقد انتهت دراسته إلى تقرير مجموعة من النتائج و التوصيات المرتبطة بدراسة التغير العمراني والاجتماعي ومدى تأثرهم بالجوانب الاقتصادية





## إقرار

هذا البحث مقدم إلى جامعة عين شمس للحصول على درجة الدكتوراه في الهندسة ، تم إنجاز هذا البحث بقسم الهندسة المعمارية ، بكلية الهندسة - جامعة عين شمس من عام ٢٠١٣ إلى ٢٠١٧ .  
هذا ولم يتم تقديم أي جزء من هذا البحث لنيل أي مؤهل أو درجة علمية لأي معهد علمي آخر .

و هذا إقرار مني بذلك ،،،

التوقيع :

الاسم : معتر عبد الفتاح محمد

التاريخ : / / ٢٠١٧



## العلاقة بين التحولات الاجتماعية والنسيج العمراني : مدينة نصر، القاهرة

رسالة مقدمة من:

المهندس / معتز عبد الفتاح محمد عبد الفتاح

ماجستير الهندسة المعمارية ٢٠١٠ - جامعة عين شمس

للحصول على درجة دكتوراه الفلسفة في الهندسة المعمارية

تاريخ البحث : / / ٢٠١٧

### لجنة الحكم

التوقيع

أ.د. سحر عبد المنعم عطية (محكماً)

أستاذ العمارة - كلية الهندسة - جامعة القاهرة

التوقيع

أ.د. حسام الدين حسن البرمبلي (محكماً)

أستاذ العمارة - كلية الهندسة - جامعة عين شمس

التوقيع

أ.د. ياسر محمد منصور (مشرفاً)

أستاذ العمارة - كلية الهندسة - جامعة عين شمس

التوقيع

أ.د. محمد إبراهيم جبر (مشرفاً)

أستاذ العمارة - كلية الهندسة - جامعة عين شمس

أجيزت الرسالة بتاريخ:

الدراسات العليا

.....

موافقة مجلس الكلية

ختم الإجازة

موافقة مجلس الجامعة

.....

.....

/ / التاريخ:



جامعة عين شمس  
كلية الهندسة  
قسم الهندسة المعمارية

## العلاقة بين التحولات الاجتماعية والنسيج العمراني : مدينة نصر، القاهرة

إعداد

مهندس/ معزز عبد الفتاح محمد عبد الفتاح

مدرس مساعد بقسم الهندسة المعمارية  
كلية الهندسة – جامعة عين شمس

رسالة مقدمة كجزء من المتطلبات للحصول على درجة دكتوراه الفلسفة في الهندسة المعمارية

أستاذ دكتور / محمد إبراهيم جبر  
أستاذ العمارة بكلية الهندسة  
جامعة عين شمس

أستاذ دكتور / ياسر منصور  
أستاذ العمارة بكلية الهندسة  
جامعة عين شمس

دكتور / أيمن محمد عاصم  
مدرس العمارة بكلية الهندسة  
جامعة عين شمس

كلية الهندسة  
جامعة عين شمس  
٢٠١٧