A Visionary Study on Urban Neighborhood Models in Kabul City Based on Actual Surveys

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Background and Context

Kabul city

Kabul City the capital and the largest city of Afghanistan is facing a **chaotic urban expansion**

The current population is about **5 million**

The expansion is caused by the **migration of the refugees** from the outside area of the city during and after the civil war and destruction

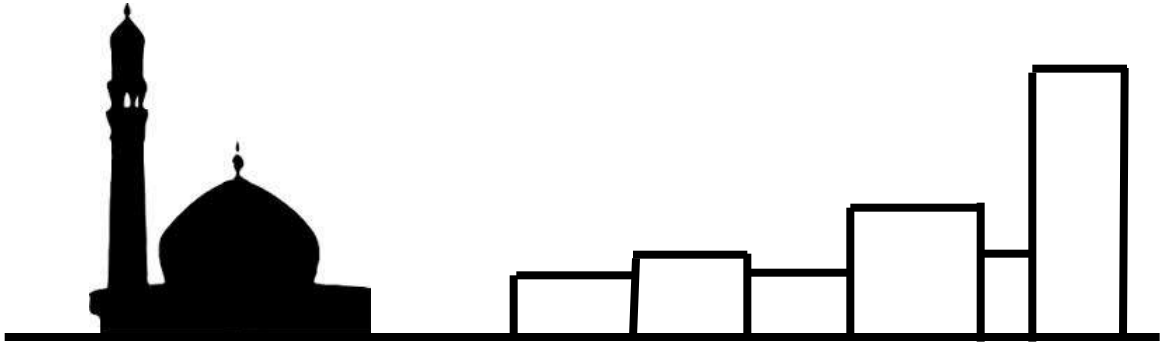
For visioning of the reconstruction of Kabul, **not only the physical aspects but also social aspects** such as compulsory education, social solidarity establishment and so on are to be examined sufficiently

Scope and Objectives

Current **research interest** is on:

Community design in Afghan way and the focus is on '*Gozar*' as a neighborhood organization

Gozar is a traditional district unit organized **around mosques**, and is so popular in surrounding Islamic cities and towns



Scope and Objectives

- **The spread and familiarity of Perry's theory** especially in Islamic planning context

- **Spatial analysis of current urban neighborhoods in Kabul City** through a survey in district nine

- **Measurement of densities** on population, dwelling unit, household, and pupils in the case study area

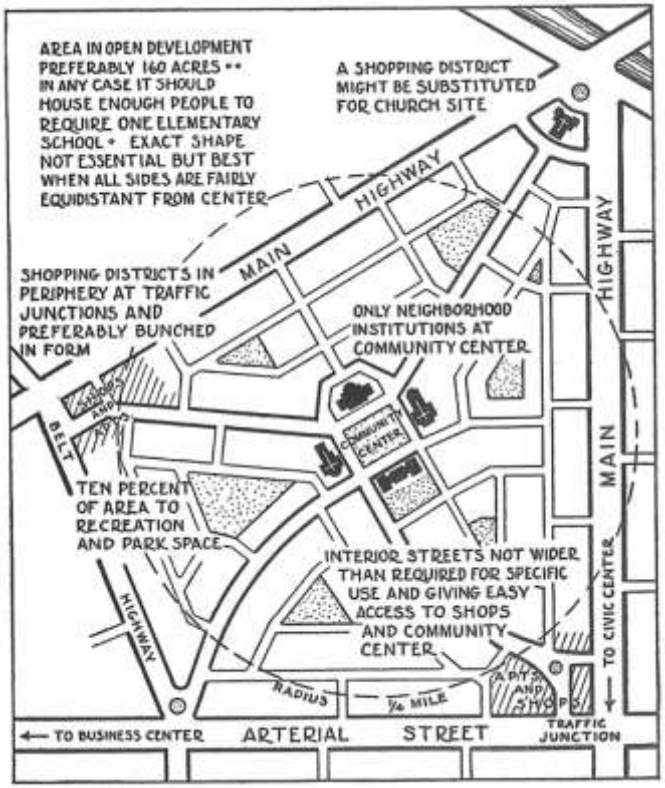
- **Visionary proposals** on urban neighborhood models based on several scenarios in the near future and its implications

The Spread and Familiarity of Perry's Theory

- The **concept of neighborhood** has existed since centuries ago in different continents of the world

- The **planned residential neighborhood** probably finds its most complete description in Clarence A. Perry's monograph, **'The Neighborhood Unit'**

- The ideal neighborhood unit was **centered on an elementary school and community center**, and bounded by arterial streets



The Spread and Familiarity of Perry's Theory

- In **Islamic countries**, there were **traditional neighborhood concepts** to organize the people's settlement spatially, socially, administratively and sometimes politically and economically

- **Mahalleh**, **Gozar** and **Fareej** are the names for these neighborhoods

- These neighborhoods were:
  - organized around a religious building;
  - included a school, retail/shops/market, open space and;
  - spaces for the community

The Spread and Familiarity of Perry's Theory

- **Planning these traditional neighborhoods** by:

  - Setting up the **optimal size and population**
  - According to **institutions** such as community centers or primary schools

- Not only helps **better performance of existing functions**, but also reinforce much wider neighborhood functions

- **Perry's primary school district neighborhood** is expected to be a good model for this purpose

Transformation of Gozar with urban neighborhood functions in Kabul

Traditional Gozars

Homogenous guilds in which a **mix** of ethnicities, religions and social classes were lived

Urbanized Gozars

Divisions of social classes, ethnicities and settlement types

Institutionalized as sub-districts of municipal governance

Enhancing the neighborhood functions in Gozar is

Effective in solving inner city problems

-This is the reason we follow on the survey-

Oven Making Gozar, Kabul

Microrayan Planned Gozar, Kabul

Shar-e-Ara Unplanned Gozar, Kabul

Findings of a Questionnaire Survey

Findings of a Questionnaire Survey

- The neighborhood functions are **not depended** on the **population size** and the urbanization age of the Gozars
- The neighborhood functions **better work** in Gozars located in **planned areas**
- Neighborhood functions **better work** in Gozars of having various and **frequent gatherings** among residents
- **Mosque** functions as **community center** for the Gozar
- Each Gozar is represented by a **representative** who is **elected** by residents, approved by district municipality and screened by the police department

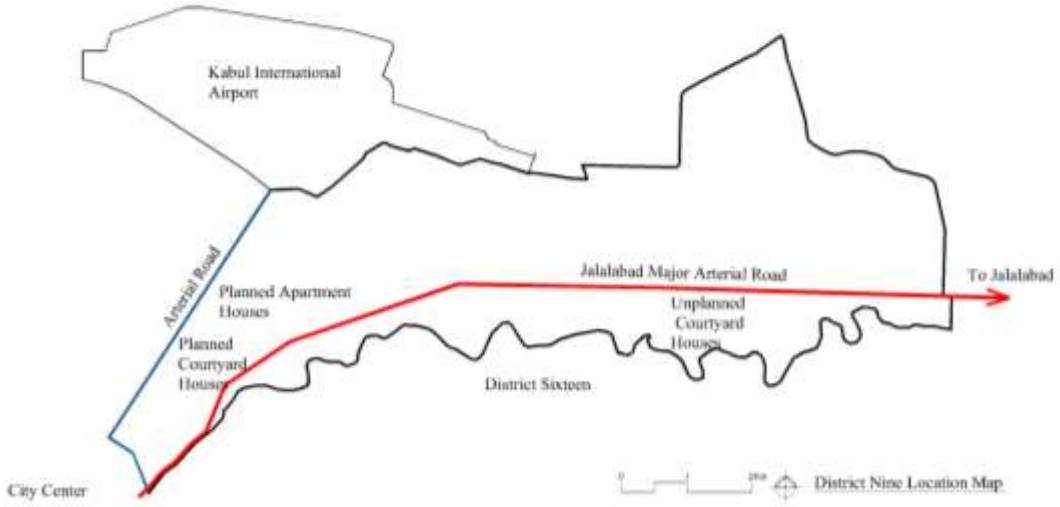
Case Study Survey

Survey Area is chosen **district nine** due to:

- Its **location on inner city zone** of Kabul City
- Having **variety of settlement types**

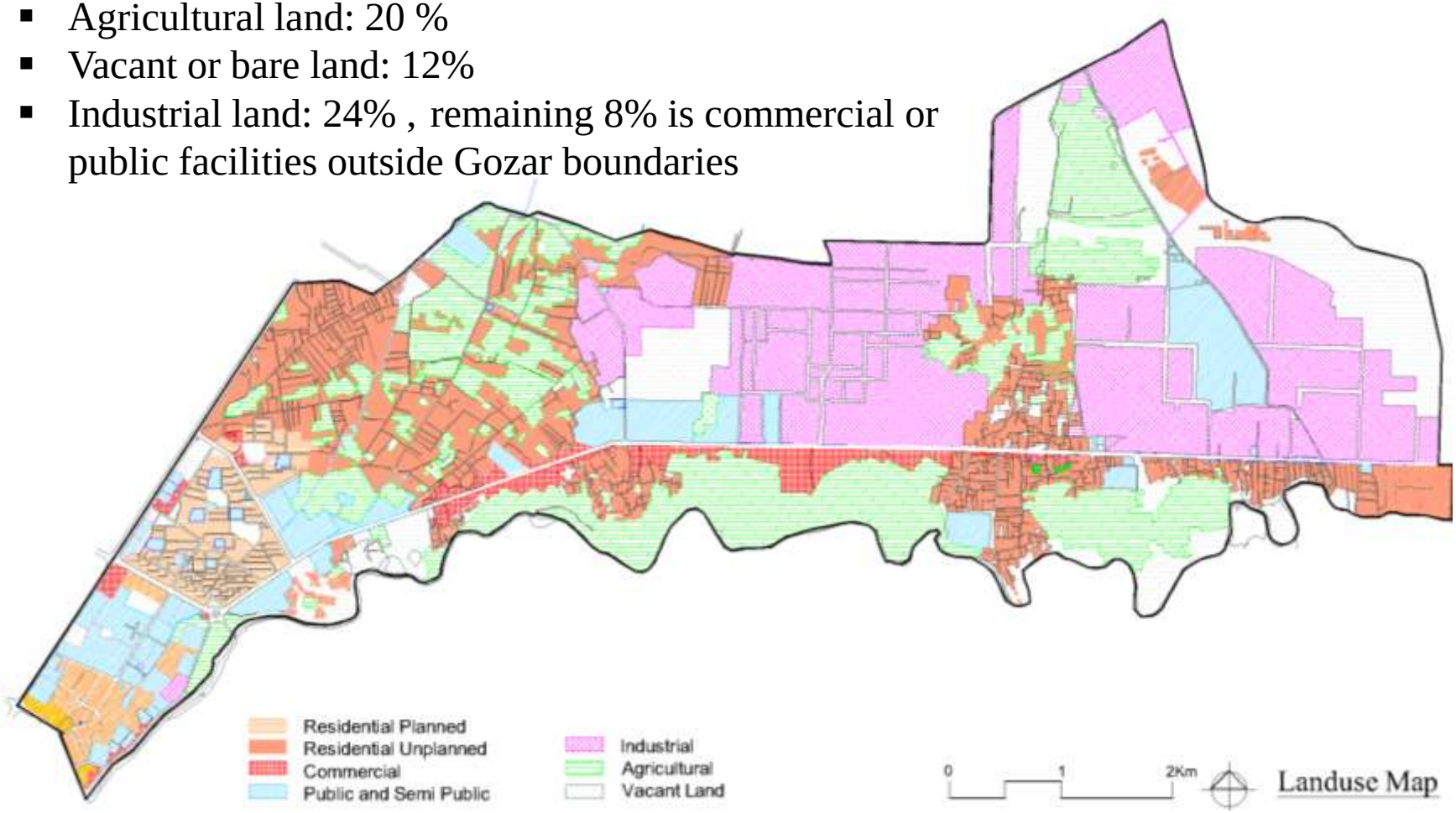
- Planned apartment houses,
- Planned courtyard houses, and
- Un-planned courtyard houses

- The **site survey** was done in 2013
- In addition land use maps of JICA and web-based maps are used



Land Use

- Originally all farmland that still remains in various locations and rapidly and illegally changing to residential settlements
- Residential: 36%
- Agricultural land: 20 %
- Vacant or bare land: 12%
- Industrial land: 24% , remaining 8% is commercial or public facilities outside Gozar boundaries

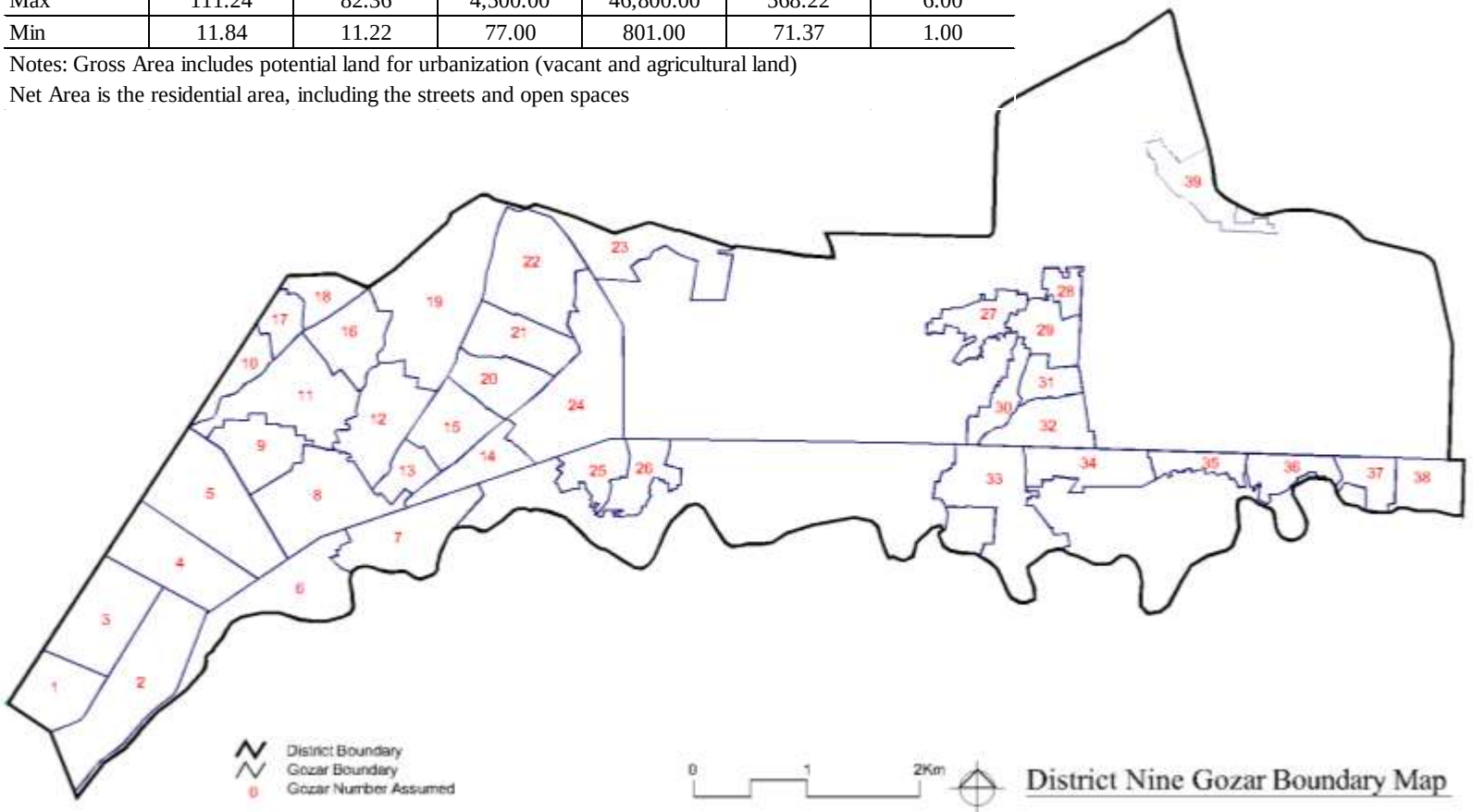


Gozar Boundaries

- District nine is consist of 39 Gozars
- The boundaries are mainly the main alleys, streets and roads

Basic Statistics	Area (Gross ha)	Area (Net ha)	No. of Households	Population (Net)	Density (Net)	No. of Mosques
Average	43.07	32.63	571.00	5,938.40	181.99	2.26
Max	111.24	82.36	4,500.00	46,800.00	568.22	6.00
Min	11.84	11.22	77.00	801.00	71.37	1.00

Notes: Gross Area includes potential land for urbanization (vacant and agricultural land)
Net Area is the residential area, including the streets and open spaces

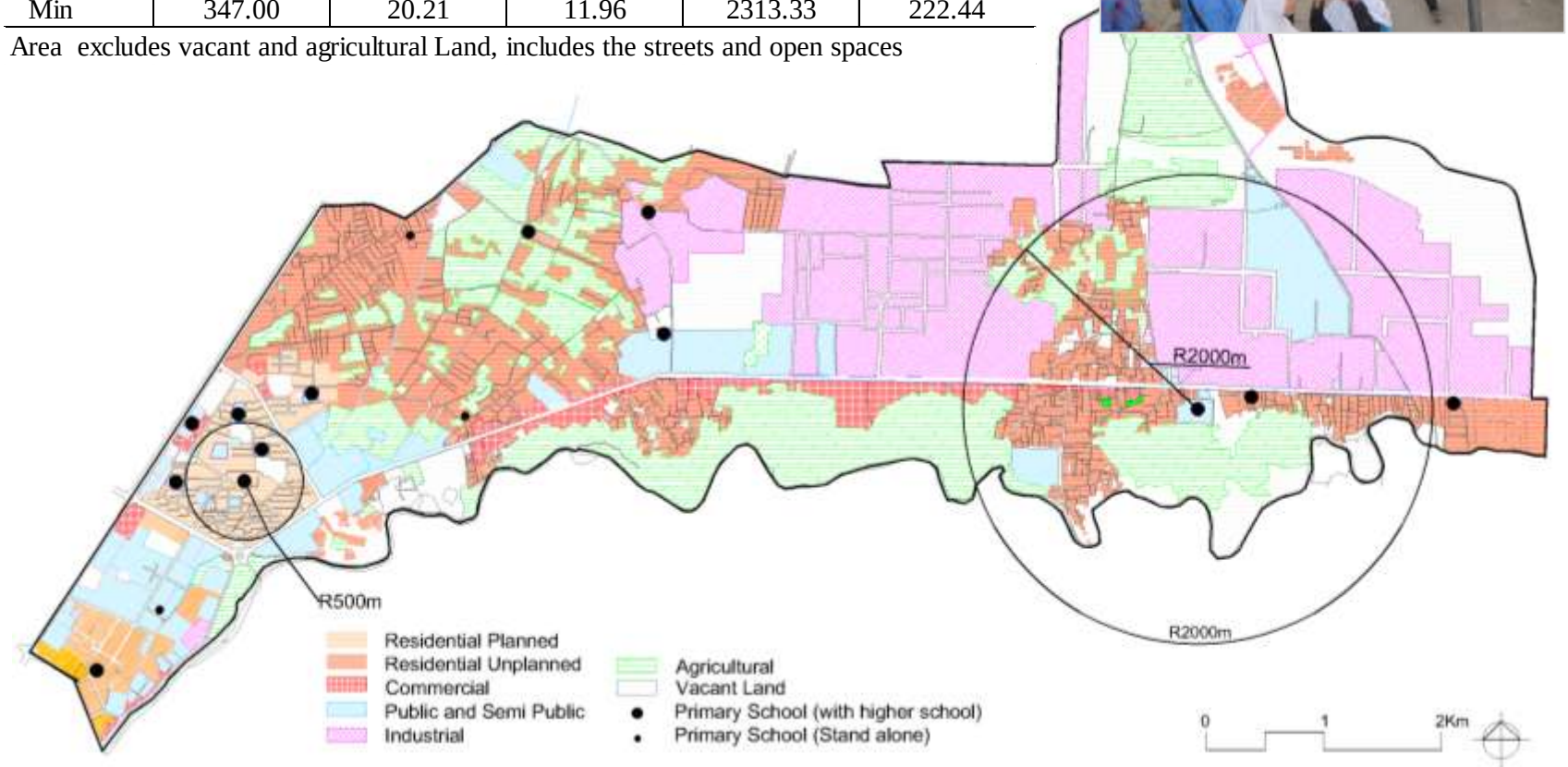


Primary Schools

- Total 15 primary schools
- 12 with higher schools, 3 standalone

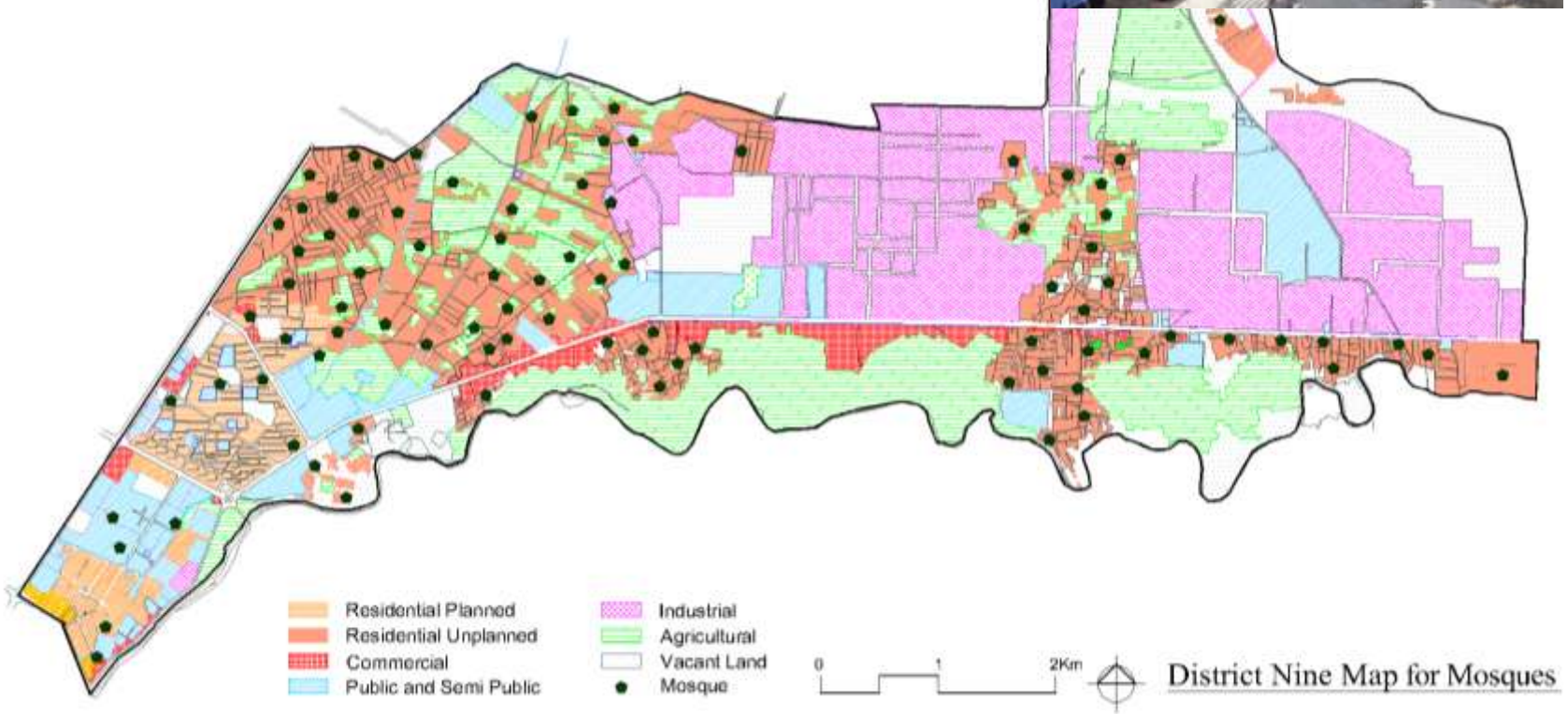
Basic Statistics	Total Enrollment (Pupils)	Area (Planned ha)	Area (Unplanned ha)	Population	No. of Households
Average	2319.53	135.08	79.95	15463.56	1486.88
Max	4326.00	251.93	149.10	28840.00	2773.08
Min	347.00	20.21	11.96	2313.33	222.44

Area excludes vacant and agricultural Land, includes the streets and open spaces

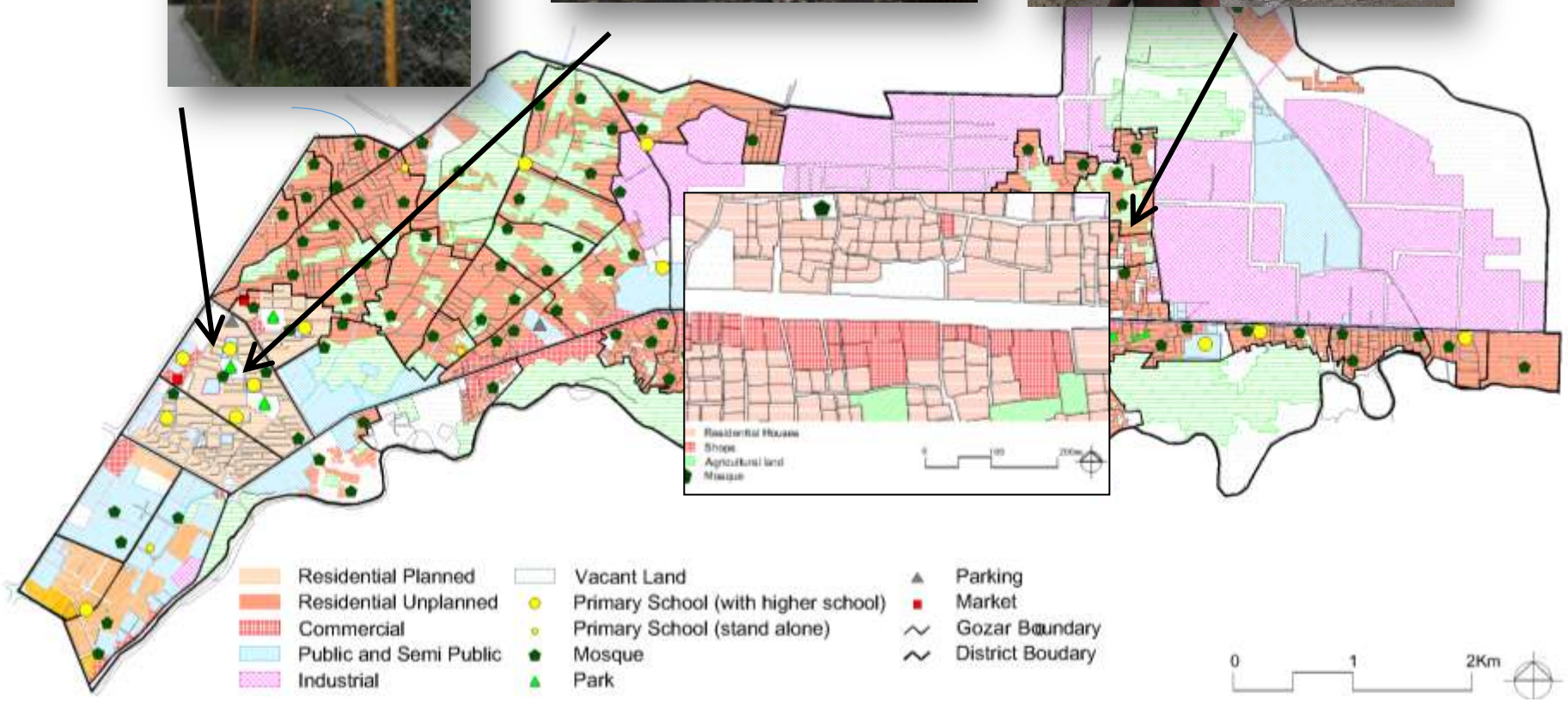


Mosques

- No difference in distributions of mosques over planned and unplanned areas
- 131 mosques (According to the representative's answers)
- 88 mosques (identified during site survey)



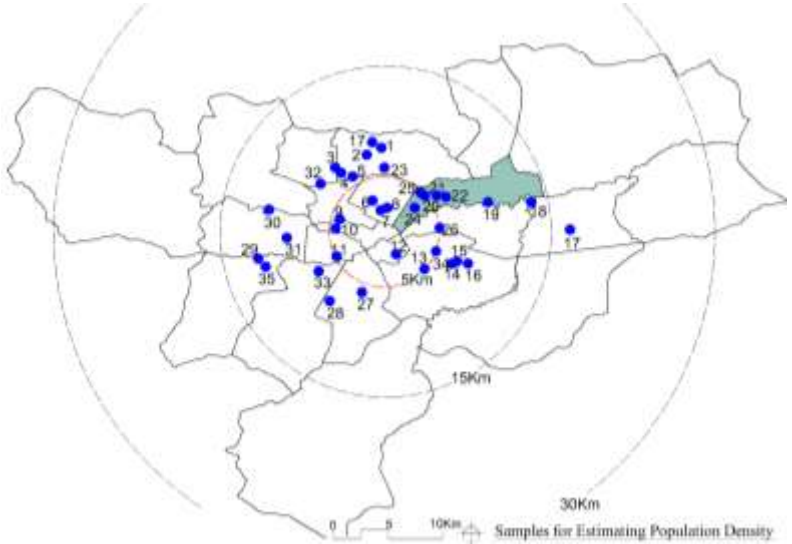
Overall


Residential Planned
Residential Unplanned
Commercial
Public and Semi Public
Industrial
Vacant Land
Primary School (with higher school)
Primary School (stand alone)
Mosque
Park
Parking
Market
Gozar Boundary
District Boudary
0
1
2Km

Demographic Estimations

Procedure:

- The planned density is measured through **sampling** within entire Kabul City by using aerial maps
- The measured density (11.01 dwelling units/ gross ha) is applied to the **potential land** for development (vacant land and agricultural land)



Demographic estimations for district nine

Demographic Indicators	JICA 2011	CSO	Measurements by Map
Area (Km2)	25.5	-	*35.8
Number of dwelling units	-	-	22,271
Number of households per dwelling unit	1.56	-	-
Household size (persons/household)	6.69	6.33	-
No. of persons per dwelling unit	10.4	-	-
Population (persons)	-	250,100	-
*The gross area within district boundaries			

Demographic Estimations Cont.

- **Pupils' number** and number of classes required are found for full and current enrollment ratios and **scenarios** are assumed

Estimation of pupils' current and full enrollment ratio

Pupils' Enrollment Indicators	Current enrollment ratio according to school survey of 2013 (a) case	Full enrollment ratio according to ACSO (b) case
Percentage of pupil's population	15.0%	19.2%
Pupils' enrollment percentage	78%	100%
Pupil's number	34,793	44,471
Pupils' no. in each grade	5,799	7,412
Number of classes for each grade	145	185

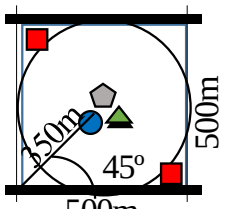
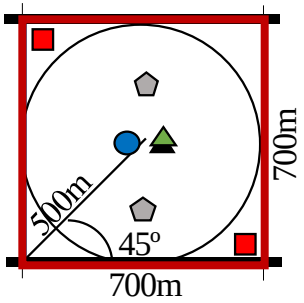
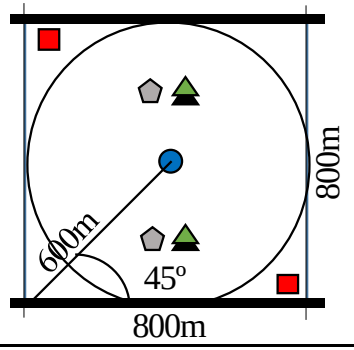
Comparisons between the scenarios and the current state

Specifications		Current State	(A) Full built-up state (Planned)	(B) Full built-up state (Unplanned)
Area		1272.56	2,416.27	2,416.27
Number of dwelling units		22,271	34,863	43,544
Population		231,618	362,578	452,858
(a)	100 % Pupil enrollment ratio	44,471	69,615	86,949
	Classes required	1,112	1,740	2,174
	Classes required for each grade layer	185	290	362
(b)	Current pupil enrollment ratio (78%)	34,793	54,465	68,027
	Classes required	870	1,362	1,701
	Classes required for each grade layer	145	227	283
* According to the Education Law of Afghanistan, the number of pupils per class is taken 40				

Vision Proposal Models

- For finding the number of primary schools:
  - Three options of full day school program are explored
  - Among them, the primary school of 24 classes is proposed to be the adequate size

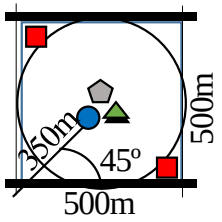
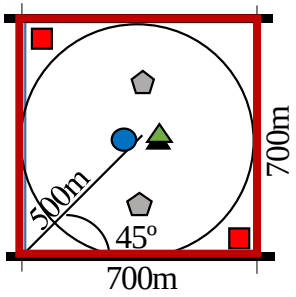
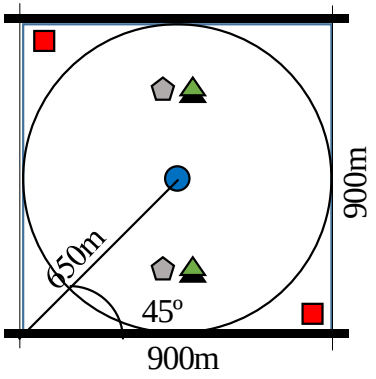
- Walking distance of the children
- The current distance between most of the main roads in Kabul City is **from 500 to 700 meters**
- Kabul Municipality tries to standardize the **Gozar size to 500 houses** or dwelling units
- Current **average Gozar size (43.1 ha, 6000 population)**

12 classes primary school	24 classes primary school	36 classes primary school
1,740	1,740	1,740
145	73	48
2,500	5,000	7,500
240	481	721
22	44	65
		

ars (full-day school program) in planned full-built-up state for full enrollment of pupils

Vision Proposal Models

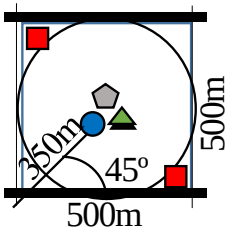
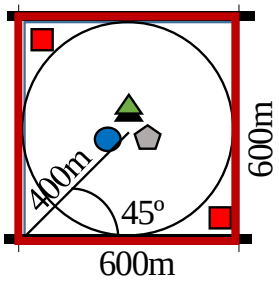
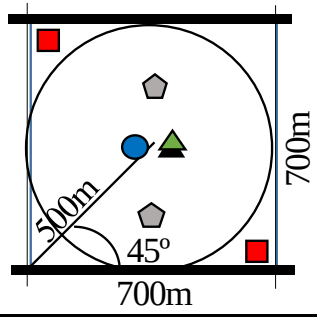
- If the pupils' enrollment is the same as current:
  - Among the three options, The primary school of 24 classes can be adequate size

Scenario 2	12 classes primary school	24 classes primary school	36 classes primary school
Total number of classes	1,362	1,362	1,362
Number of primary schools	113	57	38
Primary school district population	3,200	6,400	9,600
Number of households	308	615	923
Primary school district area (gross ha)	28	56	84
Scenario model Primary School Mosque Open Space Shops Main Road			

Vision models of school district Gozars (full-day school program) in planned full-built-up state for current percentage of enrollment

Vision Proposal Models

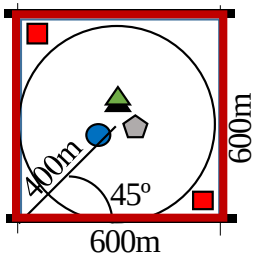
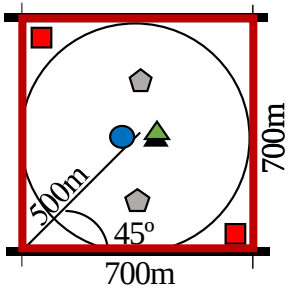
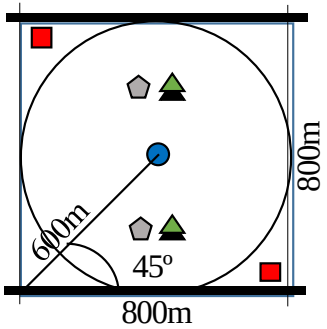
- For full enrollment of pupils:
  - Among the three options, The primary school of 36 classes can be adequate size

Scenario 3	24 classes primary school	36 classes primary school	48 classes primary school
Total number of classes	2,174	2,174	2,174
Number of primary schools	91	60	45
Primary school district population	5,000	7,500	10,000
Number of households	481	721	962
Primary school district area (gross ha)	26	39	52
Scenario model Primary School Mosque Open Space Shops Main Road			

Vision models of school district Gozars (full-day school program) in unplanned full-built-up state for full enrolment of pupils

Vision Proposal Models

- If the pupils' enrollment is the same as current:
  - Among the three options, The primary school of 24 or 30 classes can be adequate sizes

Scenario 4	24 classes primary school	36 classes primary school	48 classes primary school
Total number of classes	1,701	1,701	1,701
Number of primary schools	71	47	35
Primary school district population	6,400	9,600	12,800
Number of households	615	923	1,231
Primary school district area (gross ha)	33	50	66
Scenario model Primary School Mosque Open Space Shops Main Road			

Vision models of school district Gozars (full-day school program) in full-built-up state for current percentage of pupils' enrolment

Vision Proposal Models

According to the four scenarios, proposals for school district Gozar could be as:

- In planned areas:
  - Centered with a 24 classes primary school for a population of 5000 to 6500
- In unplanned areas:
  - Centered with a 24 to 36 classes primary school for a population of 5,000 to 9,600
- Having one or two Mosques located at the center or each half of the Gozar
- The boundaries to be determined by the main roads, and the main roads should not go through the primary school districts

Conclusions

- There are **Wide variety of sizes and activities** of Gozars in Kabul
- These suggested that '**Urban Gozar**' as an elemental neighborhood organization in the modern sense is **transforming through urbanization**
- This urbanization requires a comprehensive **spatial standard** on urban neighborhood
- A new spatial standard is explored as **primary school district** and also adopted in scenarios under assumption of planned and unplanned development, concerning the current needs for spatial urban model and compulsory education
- It is finally concluded that **one or two of the current Gozars** can be **combined** to make an **appropriate school district Gozar**

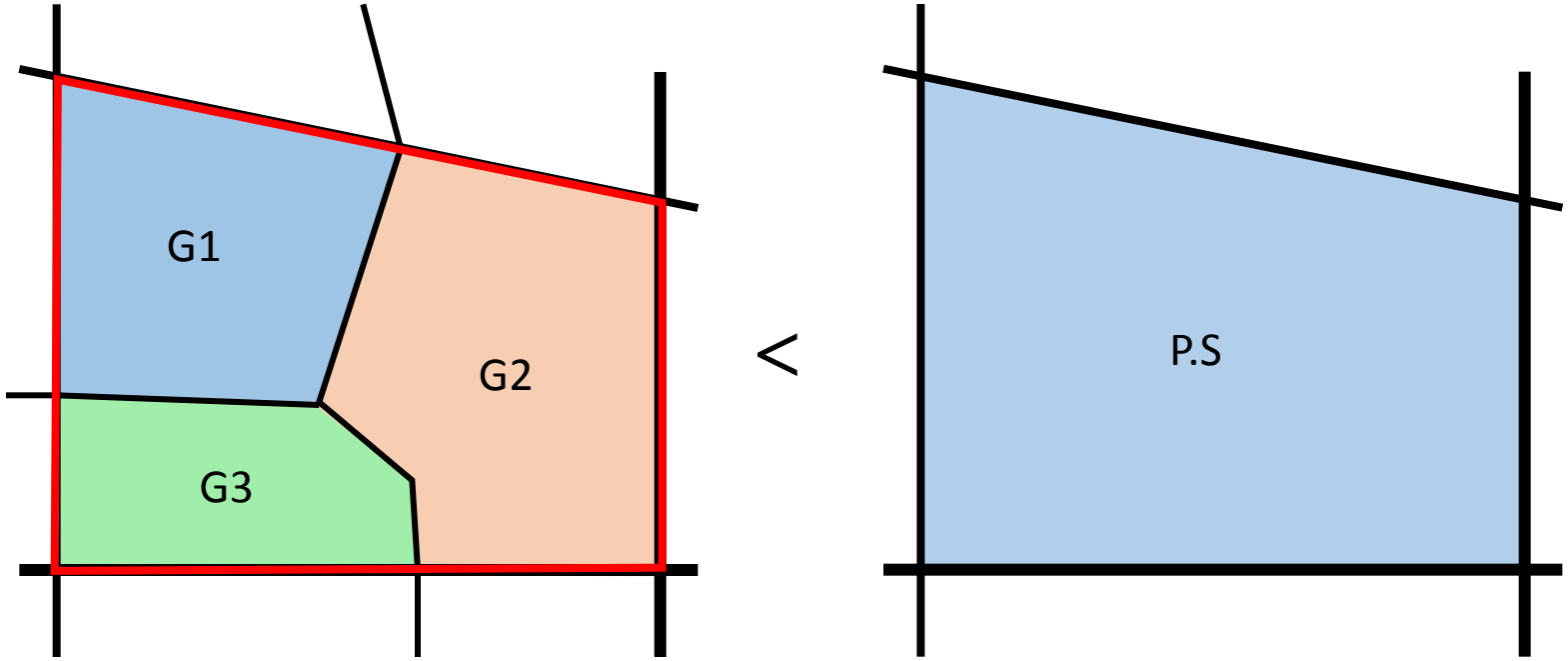
Thank You Very Much

The Gozar Sizes for Different Urban Areas

Primary School District for old built-up city area

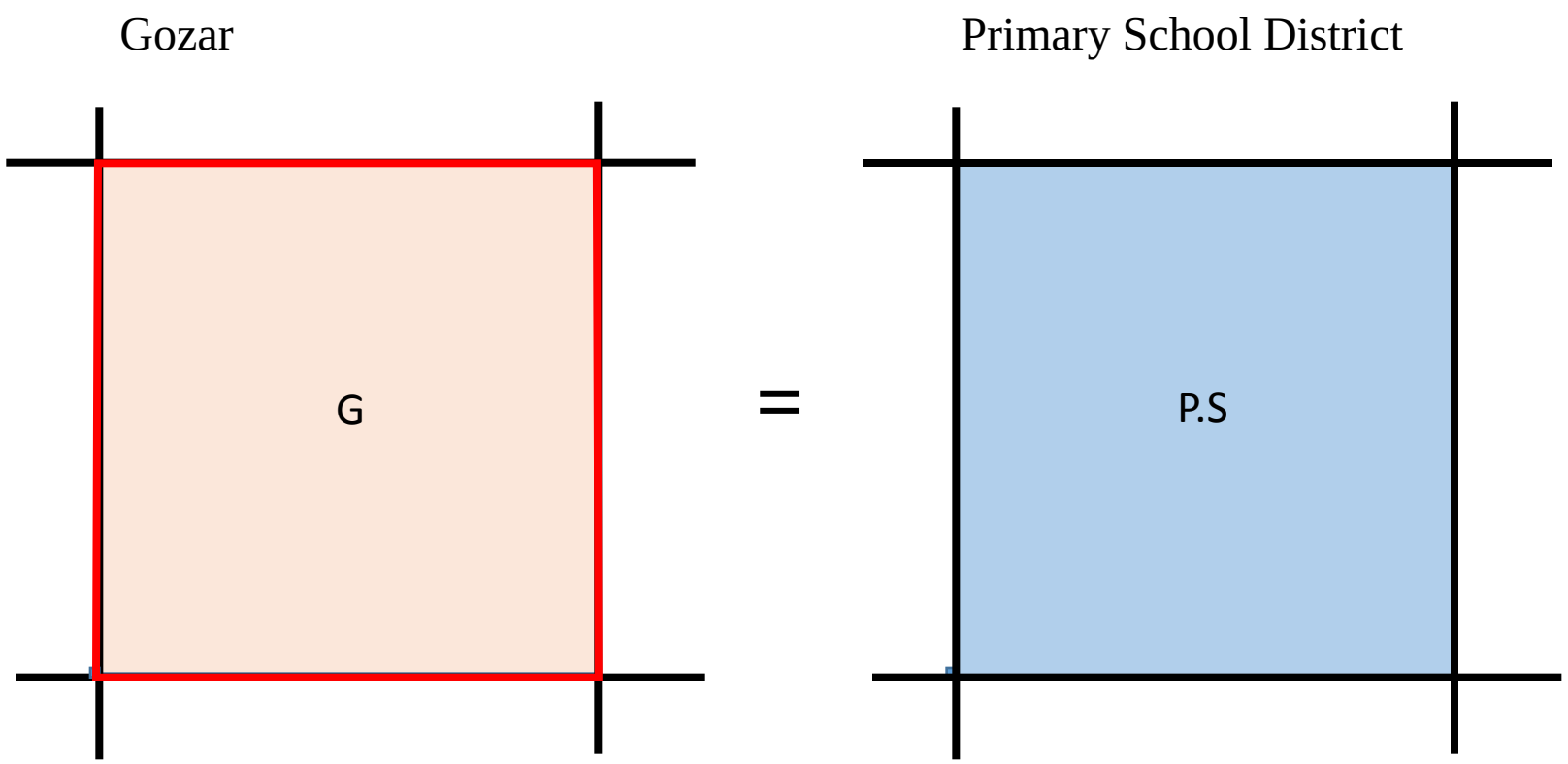
Gozar

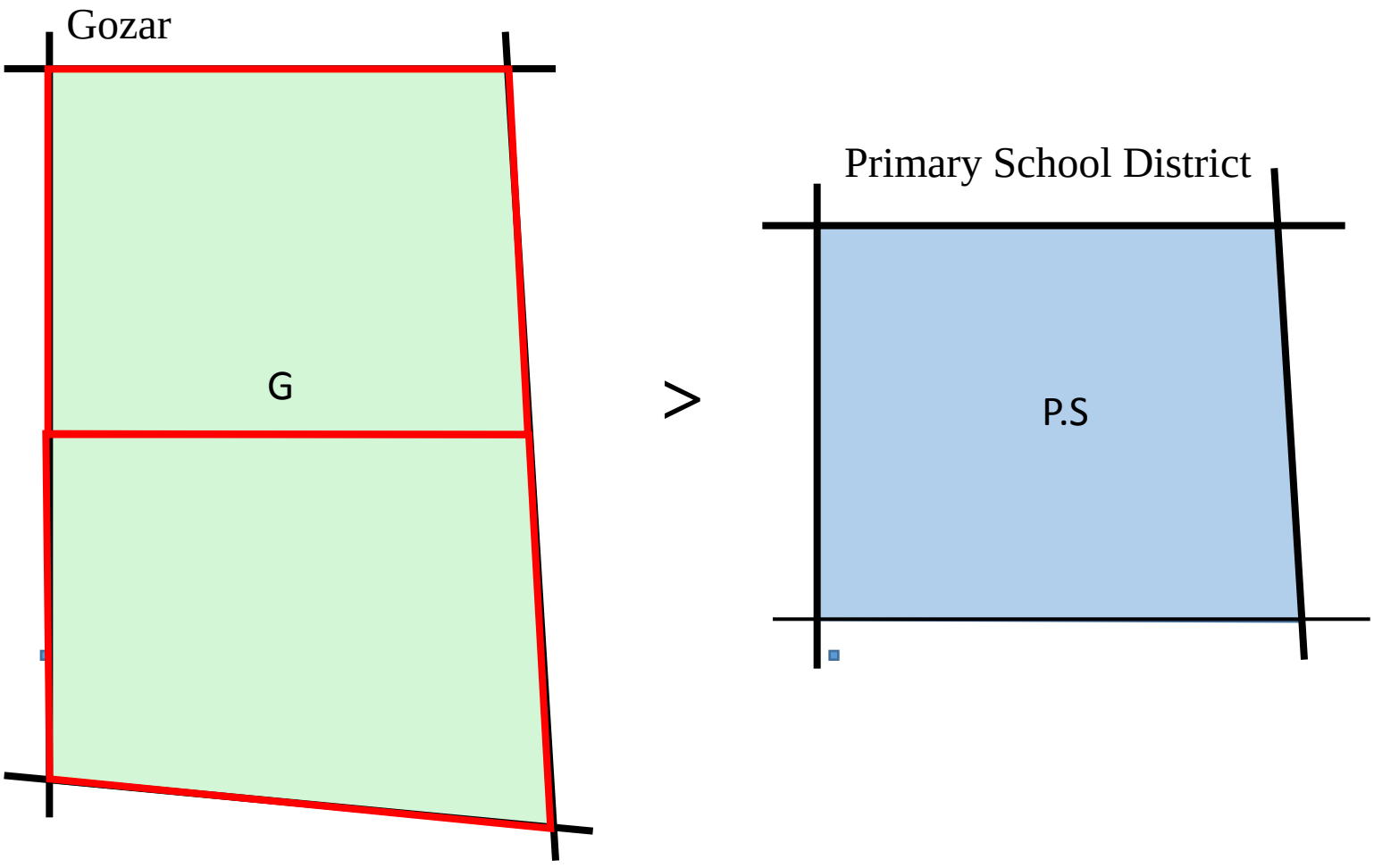
Primary School District



The Gozar Sizes for Different Urban Areas

Primary School District for urbanizing area



The Gozar Sizes for Different Urban Areas

Primary School District for suburban area