An Assessment of Effects of Urban Sprawl on Rural Settlements in Metropolitan Areas: A Detailed Look for Ankara Greater City Area / Turkey

Sevinç Bahar YENİGÜL, yenigul@gazi.edu.tr
Küpra CİHANGİR ÇAMUR, ccamur@gazi.edu.tr
Contents

- Background information
- Objective
- Case study
- Concluding remarks
Background information

What is urban sprawl?

Unlimited development towards the undeveloped areas, low density and leapfrog development.

Uncontrolled urban expansion generally affects the rural settlements negatively under development pressure. These settlements change according to the short and long term needs of metropolitan areas.

Unplanned and uncontrolled growth demands have caused patch worked urban sprawl for two decades in the metropolitan fringe area of Ankara city, the capital.

As well as the central government, the local governments have difficulties in finding solution to the problems of urban sprawl. This is also common and unavoidable problem for other developing and less developed countries.
Background information

Effects of sprawl;
- More **expensive** infrastructural services.
- Not only the **construction** but also the operation and **maintenance** of this technical and social infrastructure (services such as education, health, potable water systems, sewerage systems, public safety measures and cultural activities)
- Local governments have to **increase taxes** in order to provide income for these services.
- As the growth based on expansion does not integrate with the public transportation systems **individual ownership** of vehicles **increase** and result in not only **economical and environmental adverse** effects but also in losses that cannot be precisely quantified, i.e. **waste of time in traffic jams**.
- City expansion has **negative effects** on **agriculture** and **environment**. Transformation without an estimation of population mortgages the resources of **future generation**.
Urban sprawl

In the period of becoming metropolitan, from 1950’s up to date, a significant increase in the population of the metropolitan cities in Turkey has taken place mainly due to the industrial developments and immigration. Due to the expansion and development exceeding the planned rate, the cities expanded towards the fringe areas and consequently new settlement areas arose. This expansion caused pressure on both rural areas close to cities and surrounding natural and artificial areas. Accordingly, the new settlement areas that are closer to the cities merged with them due to changes in their functional structures. Transformation caused integration of rural areas with the metropolitan cities, change of the village like settlements into districts or sometimes even into municipalities of the metropolitan.
Background information

What are the causes of urban sprawl in Turkey?

- Rapid urban population increase,
- Developments in technology and transportation (rapid increase in car ownership and developments of high speed highways),
- Change in economical structure (transformation from public led economic policies to liberal policies),
- Unorganized planning process due to market led urbanization,
- Central and local government policies (not coordinated).
Objective

In this paper, physical, social and economical dimensions of transformation process which have influenced by urban sprawl in Ankara Metropolitan area (Ankara Greater City Municipality and the lower level local bodies within the municipal boundaries of 50 kilometers (5216 Law) will be tried to present.
Objective

• 5216 Greater City Municipality Law defines boundaries of municipalities based on the task and responsibilities of greater city municipalities.
• Pair of Compasses (Pergel) Method:

  - Istanbul and Kocaeli (Izmit) Greater City Municipality are defined as the city property boundaries
  - Other greater city municipalities; the location of the existing governorate building being the centre;
    (a) for a urban population of less than one million the boundaries of the area with a radius of 20 km
    (b) for a urban population between one and two millions the boundaries of the area with a radius of 30 km, and
    (c) for a urban population of more than two millions the boundaries of the area with a radius of 50 km is defined as the greater city municipality boundaries.
After the “5216 Greater City Municipality Law” was put into effect in July 2004, - The radius of the Ankara Greater City Municipality was extended to 50 km - 7 district municipalities, 17 town municipalities and 282 villages were included in the boundaries - 220 villages became the neighbors of the Ankara Greater City Municipality. Surface area of the Municipality was enlarged from 202,000 hectares to 780,000 hectares The service area of the Ankara Greater City Municipality was increased by 4 times - A population of 355,659 were added to the city’s total population due to newly defined boundaries.
Methodology

The following variables will be taken into consideration in the analysis:

- In-depth interviews with real estate agencies
- Changes in real estate tax values
- In-depth interviews with local people, local governments.
Methodology

1. STEP
Analysis of population data and population growth rates between the years of 1980-2007.

- The population data of settlements which were included in the boundary of *Ankara Metropolitan Area (with the new legislation)* was obtained from Turkish Statistical Institute.

- Population growth rates were calculated:
  Settlements with the population growth rate of %10 (in rural character) %20 (in urban character) were included while the others were eliminated:
  Total sum 68 settlements
Methodology

2. STEP
In-depth interviews with real estate agencies:
According to the real estate agencies assessments:
72 settlements are under the pressure of urban sprawl and in the transformation process
Methodology

3. STEP: Determine the samples

The settlements selected with population rate (68 settlements)

match

The settlements selected with real estate interview (72 settlements)

30 settlements

Result: 30 settlements were common in the two variables
Case Study: Settlements satisfied the two variables

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pursaklar</td>
<td>64197</td>
<td>Karacören</td>
<td>2602</td>
</tr>
<tr>
<td>Bağlum</td>
<td>21147</td>
<td>Gökçehüyük</td>
<td>2247</td>
</tr>
<tr>
<td>Saray</td>
<td>11537</td>
<td>İncek</td>
<td>2222</td>
</tr>
<tr>
<td>Yakacık</td>
<td>9019</td>
<td>Yenice</td>
<td>1586</td>
</tr>
<tr>
<td>Kibris</td>
<td>9704</td>
<td>Beytepe</td>
<td>1401</td>
</tr>
<tr>
<td>Çayyolu</td>
<td>8590</td>
<td>Yeniçimşit</td>
<td>1230</td>
</tr>
<tr>
<td>Temelli</td>
<td>8280</td>
<td>Örencik</td>
<td>1115</td>
</tr>
<tr>
<td>Saraycık</td>
<td>7732</td>
<td>Kızılaçar</td>
<td>779</td>
</tr>
<tr>
<td>Yakupaptal</td>
<td>4506</td>
<td>Mahmatlı</td>
<td>778</td>
</tr>
<tr>
<td>Dodurga</td>
<td>4225</td>
<td>Kusunlar</td>
<td>648</td>
</tr>
<tr>
<td>Selametli</td>
<td>3447</td>
<td>Bağlıca</td>
<td>634</td>
</tr>
<tr>
<td>Susuz</td>
<td>3274</td>
<td>Ballıkpınar</td>
<td>525</td>
</tr>
<tr>
<td>Altınova</td>
<td>3264</td>
<td>Yayılabağ</td>
<td>390</td>
</tr>
<tr>
<td>Alacaatlı</td>
<td>3068</td>
<td>Yağlıpinar</td>
<td>290</td>
</tr>
<tr>
<td>Bezirhane</td>
<td>2612</td>
<td>Günalan</td>
<td>91</td>
</tr>
</tbody>
</table>
Case study: Pursaklar

Pursaklar:
20 km far from Ankara city center.
Recent population: 64197
Case study

General information about Pursaklar:

• It was a small village with a population of 1558 in 1980s.

• In 1987 its population grew to 2179 that brought in “municipality”

• It is settled on the edge of main road of Esenboğa International Airport, 2 km far from the Highway those really agent for its development.
Case Study
What are dynamics behind the development

• Unplanned development
  Development plans which were not coordinated with urban macroform

• Employment
  Existence of factories close to the area.

• Dwelling
  House prices are lower than the city center

• Accessibility
  Nearness to the domain
  Development of highways and public transportation

• Environment
  Fresh air, water source, climate
Case study: Demographic & Social Structure

Population growth rate from 1980-2007 is %13.8

After the 2000s the development accelerates. This can be explained with dense migration. Incomings were from the neighbor cities north side of Ankara, from Anatolia and from inner part of the city (slum areas).

Community relations are still under the influence of rurality life style.

Education is not very high level (majority is secondary school).

Income level of inhabitants are also low.
Case study:

Economic structure
Agriculture was the main labor since 1990s.

But now the labors work,
% 70 percent in services,
% 29 percent in industry,
% 1 percent in agriculture.

% 50 percent work in city center
% 20 percent work in Pursaklar center
% 15 percent work in industry close to Pursaklar
% 15 percent work in industry located north and west side of the city

There are 828 unit of commercial unit (accelerated after 1999) which are adequate for the settlement for the daily life consumption.
Case Study

Benefit from urban services

Education: 1 baby nursery, 2 nursery school, 9 primary school, 6 high school
Health: 2 village clinic, 3 policlinic, 3 private dispensary
Social facilities: Library, parks, social center, sport center,
Security: Still rural police
Sewer system: %98 percent established
Potable water system: %100 percent
Waste: Collected daily but not regularly
Transportation: Public transportation since 2005
Case study

Transformation of land use

Agricultural land transformed to urban land between 1987-2000. All the area qualified as “Urban land”

The land value increased. The tax value increased from 4 $/m² to 60 $/m² since 1990 to 2006
Concluding Remarks

- Cities grew rapidly as a result of industrial developments and immigration and particularly expanded towards periphery mainly due to the increase in uses vehicles.
- Nowadays urbanization term does not only mean extension of towns and cities but represents a whole process that has influence on the rural area as well.
- Applied plans and programs (not coordinated) not only affect the city growth models but also accelerate their unplanned development. The responsibility of application of these plans belongs to local governments.
- The new settlement areas that are closer to the cities merged with them due to changes in their functional structures. Transformation caused integration of rural areas with the metropolitan cities, change of the village like settlements into neighbors or sometimes even into municipalities of the metropolitan.
- The character of these settlements neither urban nor rural, somewhere in between,
- The physical, social and economic transformation observed. In these settlements;
  - Agriculture land was transformed to urban land
  - Agricultural activities are not main labor anymore, majority of people are working in non-agricultural activities.
  - They are not socially integrated with the city, so they shouldn’t be regarded as urban dwellers.
  - The transformation process comes true with insufficient urban infrastructure.
Thank you for your attention