STUDYING VIETNAM’S PERI-URBAN AREAS BASING ON THE T.G.MC GEE THEORY: THE CASE OF URBAN AREAS IN WESTERN HANOI

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ABSTRACT
In 1991, T.G. McGee published a chapter, named “The Emergence of Desakota Region in Asia: Expanding a Hypothesis” as a part of the book The Extended Metropolis Settlement Transition in Asia. This is his findings on the transitions and changes of peri-urban areas in Asia, particularly in Southeast Asia, which contributes to sketch a spatial model and structure of major cities and to elucidate relations of the transitions in peri-urban areas to core cities. In this essay, based on the T. G. Mc Gee’s research, we examine a de-facto situation which is occurring in peri-urban areas of Western Hanoi, specifically in Hoài Đức, Đan Phưong, Quốc Oai, Thạch Thất, and Chương Mỹ districts.

KEYWORDS: Hanoi, Western Hanoi, Major City, Peri-Urban Area, Desakota.

1. INTRODUCTION
In the second half of the twentieth century, the urbanization process launched dynamically in Asia, especially in Southeast Asian countries, and this tendency continues to the two first decades of the twenty-first century. In several countries, such as China, Japan, Korea, Thailand, Malaysia, Indonesia, and India, the urbanization process has been occurred more extensive. Vietnam did not stand out of this track that of the urbanization process became a leading phenomenon in Vietnam’s last decades, particularly in major cities, namely Hanoi, Hải Phòng, Đà Nẵng, Huế, Hồ Chí Minh City, and Bình Dương. In Vietnam, the urbanization process focuses on city cores before spreading to rural-adjacent areas which was demonstrated through a number of features, comprising the expansion and merge of administrative boundaries; the built-up of residential land; the expansion and connection of infrastructure systems; the formation of satellite cities; the emergence of planning projects and industrial zones, all of which produce a huge motivation to change the spatial structure of peri-urban areas which were formerly rural or village areas, and featuring by exclusively-agricultural productions.

Up until present, there has a few studies on peri-urban areas of Hanoi which are based on the T.G.Mc Gee’s approachment. Inspite of that, it is possible to explore several works researching peri-urban areas of Hanoi, addressing various disciplines and research objectives. For example, in terms of Sociology are works of Nguyễn Hữu Minh, 2005 and of Nguyễn Duy Thắng, 2009; in the field of Cutral Transformation are works of Ngô Văn Giá, 2007 and of Nguyễn Thị Phương Châm, Đỗ Lan

In this paper, the T.G.Mc Gee’s findings related to the studies of peri-urban areas in Asia and Southeast Asia will be utilized and examined in a specific case: the peri-urban areas in Western Hanoi. This region is shaped as a principal research objective in my study.

**SOURCES AND RESEARCH METHODS**

This paper was completed based on several sources, including published books, essays of Vietnamese and international scholars as well as our fieldwork reports, in those, the latter source played a central role in our study. To conduct the surveys, I spent a vast amount of time in industrial zones and new residential estates to observe and take pictures which later could be helpful for me in analyzing, assessing and making comments on the features of peri-urban areas of Western Hanoi. Another kind of source, which was used in this paper, is the decisions and resolutions promulgated by central and local authorities relating to the planning construction projects in Western Hanoi. Combining the results obtained from my fieldworks and the planning maps of Western Hanoi, which were released on the internet, I detailized and drew a spatial map of peri-urban areas of Western Hanoi as shown in Figure 4.

**PERI-URBAN AREAS IN THE STUDIES OF T.G.Mc GEE**

T.G. Mc Gee is a visiting professor at the University of British Columbia, Vancouver, Canada. His studies of major cities in Southeast Asia and Asia, particularly in Indonesia, conceptualize the pattern of a major city area in Asia and Southeast Asia. T.G. Mc Gee explored that all of the cities in this area have a similar manner in the development and expansion process. He emphasized the relations of major cities towards rural areas and peri-urban areas. Gleaning from these research results [T.G.Mc Gee,1991: 3-26], he drew a spatial system as follows.
Figure 1: Spatial Configuration of a Hypothetical Asian Country


The sectors configuring the above spatial system are illustrated as follows,
(1) The major cities of the urban hierarchy, which are often dominated in the Asian context by one or two extremely large cities.
(2) The peri-urban regions, which are those areas surrounding the cities within a daily commuting reach of the city core. […]
(3) The region labeled desakota, which are regions of an intense mixture of agricultural and non-agricultural activities that often stretch along corridors between large city cores. The regions were previously characterized by dense populations engaged in agriculture, generally but not exclusively dominated by wet-rice.
(4) Densely populated rural regions, which occur in many Asian countries, particularly those practicing wet-rice agriculture.
(5) Finally, the sparsely populated frontier regions found in many Asian countries that offer opportunities for land colonization schemes and various forms of agricultural development. [T.G.Mc Gee, 1991: 6-7]

Those above five regions linked by small and medium cities, so-called satellite cities and transportation routes.

To elucidate the above spatial system, he emphasized that the development process of core cities and desakota play a vital role in this transformation. The formation of mega-urban regions is often combined by two large urban cores and connected by effective transportation routes. These regions are composed of major cities, peri-urban areas, and extensive zones of mixed rural-urban land use along
such routes. Mixed economic activities may occur in villages in these zones, where are less accessible and where economic linkages are more reliant on social networks [T.G. Mc Gee, 1991: 7-8]

In his research, T.G. Mc Gee supposed that there are at least three types of the spatial economy transition occurring in Asia currently (Figure 2), those are:

First, there are those countries that have seen a decline in rural settlement, land use, and agricultural population as the population has moved to urban centers. In such countries, agricultural land use may remain important as a reflection of government land or agricultural protection policies. This pattern has been associated with overall increases in income and productivity in which rural populations fall well behind those of urban areas. South Korea and Japan are examples of such a spatial economy transition. These countries will be labeled desakota Type 1. […]

Second, there are those regions in which, over varying periods of time, productivity gains in agriculture and industry, and secular shifts from agricultural to nonagricultural activities are focused particularly on the urban cores and adjacent regions. These changes are linked to rising household income, improved transportation linkages, and improved infrastructures. Examples occur in regions such as Nanjing-Shanghai-Hangzhou, the Central Plains of Thailand, the Taipei-Kao hsiung corridor, the Calcutta region, and Jabotabek in Java. These may be identified as desakota Type 2 and are characterized by rapid economic growth compared to other regions of the country.

Third, there are those regions of high density in which economic growth is slow. Often such regions are located close to secondary urban centers that have slow economic growth and are characterized by continuing high population growth, surplus labor, and persistent low productivity in both agriculture and nonagricultural. Examples are the Jogjakarta region in Java, Kerala in South India, Bangladesh, and the Sichuan Basin in the interior of China. These regions will be labeled desakota Type 3 and characterized by slow growth of income and involuntary economic activity. [T.G. Mc Gee, 1991: 8-9]
In another study, T.G.Mc Gee did not dissociate the spatial space among regions (Figure 3), which include core cities, peri-urban zones, and desakota [T.G.Mc Gee and I. Shaharudin, 2016: 499-516].

- Core City: characterized by a high residential place; having service and financial activities.
- Peri-urban Zone: expanding in a radius of 50km from the city core; characterized by the co-existence of residential estates, industrial estates, low-income housing, satellite towns, and migration flows; having no agricultural production activities.
- Desakota Zone: characterized by the domination of agricultural production activities; small unregulated industry; low-income housing; satellite towns; residential estates; migration flows in a radius of 150km. [T.G.Mc Gee and I. Shaharudin, 2016: 502].
PERI-URBAN AREAS IN WESTERN HANOI

Applying the research findings of T.G.Mc Gee’s studies into the case of a megacity - Hanoi, particularly in fringe areas in Western Hanoi, including Chương Mỹ, Hoài Đức, Quốc Oai, Đan Phượng, and Phúc Thọ districts. Aiming to examine the spatial system of T.G.Mc Gee, we are going to clarify three main points: i) the formation of the small compound industrial zones; ii) the emergence of new residential places; iii) the connection of transport systems and satellite towns. T.G.Mc Gee and I.Shaharudin mentioned only two megacities of Vietnam, i.e. Hanoi and Ho Chi Minh City, without analyzing the spatial structure of these two cities. He categorized Hanoi and Ho Chi Minh City in Type 3 (Figure 2). Through observation, we extract some below features and trends emerging in the fringe areas of Western Hanoi currently.

The Establishment of Small Industrial Zones

The industrial zones in Eastern, Northern, and Southern Hanoi (Note 1) emerged earlier compared to those in Western Hanoi. This fact was caused by several reasons, mainly from the geographical advantages of these locations as well as the governmental and provincial development policies which facilitated and synchronized the infrastructure and transport systems in Eastern, Northern, and Southern areas, thus furnishing convenient conditions in transferring exported goods to harbors or border checkpoints in the South and the North. The industrial zones were founded in Western Hanoi around the late 1990s and the early twenty-first century. Doing surveys in this area, we have found...
that there has a cluster of small industrial zones establishing and operating in Hoài Đức, Quốc Oai, Dan Phương, and Chương Mỹ districts (Figure 4).

![Figure 4: Peri-urban in Western Hanoi Designed by: GIANG Van Trong, IVIDES, VNU](image)

In Hoài Đức district, several industrial zones were established, namely An Khánh Industrial Zone, founded in 2004; Lai Xá-Kim Chung Industrial Zone, founded in 2007; Lai Yến Industrial Zone, founded in 2008; Dương Liễu Industrial Zone, founded in 2012 and stretching in an area of 12,05ha. In 2017, new industrial zones were approved to establish in this district, including Trường An (An Khánh) Industrial Zone stretching in an area of 10,85ha; Di Trạch Industrial Zone building on an acreage of 9,99ha, Vân Canh Industrial Zone (13,39ha), Đặc Sở Industrial Zone (6,28ha), and La Phú Industrial Zone (11,49ha).

In Quốc Oai district, Ngọc Liệp Industrial Zone was established in 2002, building on a former agricultural land. In 2007, Thạch Thất - Quốc Oai Industrial Zone was founded on a land of 72ha. Ten years later, another industrial zone was placed in Quốc Oai district, namely Yên Sơn Industrial Zone with an acreage of 8,76ha. All above-mentioned industrial zones are situated along Thăng Long highway.

In Thạch Thất district, a number of industrial zones were founded and placed along the Route 419, namely Bình Phú Wood Processing-Industrial Zone (in 2007), Phùng Xá Steel Manufacturing Industrial Zone (in 2007), Chàng Sơn Wood Processing-Industrial Zone (in 2008). These industrial zones upgraded from traditional handicraft villages.
In Chương Mỹ district, Phúc Châu and Phú Nghĩa industrial zones were established in 2007, located along the National Route 6. Phú Nghĩa Industrial Zone was built on an area of 408ha, has been attracted substantial fundings from internal and foreign investors.

Đan Phượng district has Phùng Town Industrial Zone founding in 2006, Tân Lập Industrial Zone appeared in 2007, Dan Phượng Industrial Zone established in 2009 on an acreage of 6,8ha, and Hồng Hà Industrial Zone created in 2020 in a 6ha land.

In Phúc Thọ district, there have Vững Xuyên Industrial Zone establishing in 2002 and other newly-founded industrial zones appearing in 2020, including Long Xuyên Industrial Zone locating in an area of 5,96ha and Thanh Đa Industrial Zone locating in an area of 8,3ha.

To sum it up, all the above-mentioned industrial zones situate along routes, categorized by various manufacturing productions.

### Setting New Residential Areas

In Hoài Đức district, due to its location, which is nearby the central area of Hanoi, there have more new residential areas in comparison to other districts in Western Hanoi (Figure 4), namely Splendora Urban Zone (so-called Bắc An Khánh Urban Zone) and Nam An Khánh Urban Zone were built in 2006-2007 after the acquisition of agricultural land of 513.852.5m2. In An Thượng village, there is a housing project of Hà Đô Dragon City Group which is in processing. This project was allocated 300.251m2 from the agricultural land in 2005-2007. In An Khánh and An Thượng villages, many apartments have been sold and used, such as Sudico, Thăng Long Victory, Vinhomes Thăng Long, Geleximco, The Golden An Khánh, and Thăng Long Capital. These urban zones were constructed along Thăng Long highway.

Locating along the national route 32 is the Brightcity apartment, built in Lai Xá village on the acreage of 14.350m2. The Văn Canh Urban Zone acquired 641.790.7m2 of the agricultural land and was built in the years 2006-2007. The Lideco Urban Zone (so-called the Northern National Route 32) started to construct in 2007, however, after 10 years of construction, it has not been finished yet. The Kim Chung and Di Trạch urban zones were built in 2008, having blocks of semi-detached houses situated on the former agricultural land of 1.388.670.1m2. There has a newly-built urban zone that comprises modern villas locating in the Tr.imgur Town in the Southern National Route 32. The Tân Việt Apartment is near to the Trươn Trôi Town.

In Quốc Oai district, there are three new residential areas, including the Sunny Garden City Urban Zone, the Bamboo Garden Apartment, and semi-detached houses, which were constructed by CEO Group on a land of 244.147m2 in Sài Sơn. The Tuấn Châu ecotourism project started in 2008 on an acreage of 1.986.378.2m2, is also located in Sài Sơn.
Dan Phượng, Phúc Thọ, and Chương Mỹ districts, where are 20-30km far from the center of Hanoi, have several urban zones. In Phùng Town (Dan Phượng district), two urban zones were constructed, comprising Tân Tây Đô Urban Zone, which is located on a former agricultural land of 99,894.8m2, and The Phoenix Garden. Due to the geographical condition of Phúc Thọ and Chương Mỹ, where are remote, we have not found any new residential estate during our surveys.

**Connecting Transport Infrastructure to Satellite Towns**

Since the early twenty-first century, the transport infrastructure linking the center of Hanoi to rural areas of Western Hanoi, including Hoài Đức, Quốc Oai, Dan Phượng, Chương Mỹ, and Phúc Thọ districts, has been built and maintained. There have at least three vital routes, departing in Hanoi to spread to the West in the ray structure (Figure 4).

The Thăng Long Highway, which is 30km long, connecting Hanoi to satellite towns, including Hoà Lạc, Xuân Mai, and Sơn Tây, is the most modern road in Western Hanoi. This four-lane route was built in two periods. Stage 1 was in the last years of the late twentieth century, the stage 2 was operated from 2005 to 2010.

The National Route 32 departs from Hanoi, passing through Hoài Đức, Dan Phượng, Phúc Thọ, and Sơn Tây satellite towns. This route was maintained and improved during last years, especially the road from Mai Dịch to Nhổn was expanded to a two-lane road. Locating along the National Route 32 are several eminent sites. For example, the Phùng bridge over the Đáy river, built in 2010, has four lanes and 4km long; and an elevated railway from Nhổn to the Hanoi station, commenced in 2010, is projected to complete in late 2021.

The National Route 6 links the Hanoi center to Western and Southwest peri-urban areas, connecting Hanoi to Chương Mỹ, Xuân Mai Urban Zone, and passing through Hòa Bình province. This route has a long history and locates in the Southwest gateway of Hanoi.

A new project, which is operating, is the Thăng Long highway, linking Hanoi and Sơn Tây town on a 33km long road, paralleling to the National Route 32. This highway starts from Hanoi, prolonging to Dan Phượng and Phúc Thọ districts, and also connecting to Sơn Tây towns. This project began in 2019 and is anticipated to complete in 2021.

Besides those above arterial traffic routes, there have many satellite towns in this region, including old and new ones. We classified them into two groups as follows (Figure 4).

Group of Urban Class 1 is a large-scale urban area, such as Sơn Tây and Xuân Mai towns, and Hoà Lạc Urban Zone. Prior to 2008 (Note 2), Hà Tây was not merged to Hanoi yet, and Sơn Tây and Xuân Mai towns were the large urban areas. After merging into the administrative boundary of Hanoi, the importance of these two towns towards the development of Hanoi remains unchanged. Sơn Tây and
Xuân Mai towns are considered as vertices of the economical triangle in Western Hanoi of which comprises Hanoi-Sơn Tây-Xuân Mai in the spatial area of the National Route 32 - Sơn Tây; the National Route 21A - Sơn Tây - Xuân Mai; the National Route 6 - Xuân Mai - Hà Nội. This economic triangle is situated in all districts mentioned above.

Hoà Lạc Satellite City is in the construction process, promising to be a prominent area where focuses on developing culture, education, science, technology, tourist, and relaxation activities. The Hoà Lạc Hi-tech Complex began to construct in 1999 on an acquired land of 200ha in Thạch Thất district. In 2003, 8,606,641m2 of this complex was re-acquired for the construction of the Hanoi National University. Standing on strengths of culture, education, technological science, and tourist, the Hoà Lạc Satellite City will soon become a modern city of Hanoi. Moreover, by situated along the National Route 21A, this satellite city connects to Sơn Tây and Xuân Mai towns, forming a chain of large satellite cities in the outermost circle of Western Hanoi. When mentioned the peri-urban areas of Western Hanoi, Kelly Shannon emphasized the linkage of satellite towns, such as Sơn Tây and Xuân Mai in relation to the center areas of Hanoi during the process of expanding Hanoi’s administrative boundary [Kally Shannon, 2009: 100-102].

Group of the Urban Class 2 includes small cities, which have been long formed such as Trầm Trôi town in Hoài Đức district, Phùng town in Đà Nẵng district, Gạch town in Phúc Thọ district, Quốc Oai town in Quốc Oai district, Chúc Sơn town in Chương Mỹ district. New satellite cities in this group were formed in the early twenty-first century, placed intensively at Hoài Đức district, namely An Khánh Urban Zone, Thiên Đường Bảo Sơn Park, Đường Nội Urban Zone, Văn Canh Urban Zone, Kim Chung-Di Trạch Urban Zone, and Lai Xá Urban Zone. These urban zones locate 10km far from the center of Hanoi. Even though all of them are in the forming process, they are considered potential cities. In the future, these urban areas will link together, making a chain of satellite cities adjacent to the center of Hanoi.

In general, the two above groups are promising economical areas, sharing burdens for Hanoi in a variety of aspects.

COMMENTS AND DEBATES
Comparing the spatial structure of peri-urban areas in Western Hanoi to the pattern of peri-urban and desakota areas drawing by T.G.Mc Gee in Figure 3, we have found some similarities, those are the existence of small and medium industrial zones; new residential estates; surrounded by satellite towns, including both, newly-formed and old ones; the linkages of city cores and fringe areas by transportation routes. In addition, Hanoi has the Nội Bài International Airport and has been attracting huge migration flows of laborers from Red River Basin, who seeking a job in Hanoi, such as Bắc Ninh, Vĩnh Phúc, Hưng Yên, Hà Nam, Nam Định, and Ninh Bình provinces as well as from further regions, for example, Thanh Hóa, Nghệ An, Phú Thọ, and Bắc Giang province.
Despite that, there has a slight difference between the T.G.Mc Gee’s model and the peri-urban areas in Western Hanoi. If T.G.Mc Gee illustrated a compound of three regions, including city cores, peri-urban zones, and desakota in his study (as shown in Figure 3), it seems to be a challenging task to draw the line dividing peri-urban and desakota areas in Western as well as Eastern, Southern, and Northern Hanoi. In Hanoi, besides the core city, two other areas of fringe and desakota zones, are considered as in one concept of peri-urban area. They are not split into two distinctive areas as demonstrated in Figure 3 creating by T.G.Mc Gee because all industrial zones, new residential areas, and satellite towns of Western Hanoi are situated in peri-urban areas.

The peri-urban areas in Hanoi are characterized by the domination of agricultural productions, differing from the peri-urban areas in the T.G.Mc Gee’s studies when he claimed that there have no agricultural production activities in the peri-urban areas. Due to the concentration on agricultural production activities in Hanoi, such as wet-rice agriculture, cultivation of flowers, vegetables, fruit trees, breeding cattle and poultry, it is hard for us when dividing two areas, peri-urban and desakota. According to T.G.Mc Gee, desakota was derived from Bahasa Indonesia, combined of two words, Kota means town or city and desa means village. This word (desakota) describes a region where is in a transition from villages in rural areas to towns in urban areas. In these regions, a mixture of economic activities is operated, including agriculture and non-agriculture, and small industries, as well as having typical social matters relating to labor, jobs, and land use. In other studies, some authors named these regions as “peri-urban areas” [Nguyễn Hữu Minh, 2003; Phạm Duy Thắng, 2009; Nguyễn Thị Phương Châu, 2016]. They assumed that the peri-urban areas are dynamic and occurring a transition from agriculture to non-agriculture, a mixed rural-urban lifestyle, and vastly changing in land use. In fact, a mixture of economic activities has been undergoing in Hanoi in general and in peri-urban areas in Western Hanoi in particular as T.G.Mc Gee and Vietnamese scholars explored in their studies.

In the spatial system of the major city showing in Figure 3 of T.G.Mc Gee, the peri-urban and desakota zones are large with approximately 50km for the radius of the peri-urban area and around 150km for the radius of the desakota area, while in Hanoi, a radius of a merged region is much humble, about 30-50km. In 2007, the area of Hanoi was 920,97km², since 2008 Hanoi has a total area of 3.271,96km² [Trương Quang Hải, 2010: 13, 47]. Despite the increase in its acreage, Hanoi is still a small-scale city which is about 30-50km from the core city to the peri-urban areas before ending the administrative boundary of Hanoi. In 2008, the government issued the Decision approving the Constructing Plan of Hanoi to 2020, in a vision to 2050, in a total area of 13,436km² of 7 provinces, comprised Hà Tĩnh, Vĩnh Phúc, Hưng Yên, Bắc Ninh, Hải Dương, Hà Nam, and Hòa Bình (Note 3). In 2016, an amended decision was issued, changing the time schedule to 2030, in a vision to 2050, and the scope comprised 9 provinces (Vĩnh Phúc, Bác Ninh, Hải Dương, Hưng Yên, Hà Nam, Hòa Bình, Phú Thọ, Thái Nguyên và Bắc Giang) with a total area of 24.314,7km² (Note 4).
CONCLUSION

The spatial system of major cities drawing by T.G.Mc Gee was extracted from the findings of his studies on the area of Asian countries, especially in Southeast Asian countries. This could be considered a standard for related research on matters of major cities in Asia. The academic and pragmatic values of his studies are apparent and have been applied in many research of other scholars to study the cases in China, Taiwan, Japan, Thailand, and Philippines. This helps to go to conclude that the expansion of major cities in Asia, which emphasize the role of core cities, tightly link to and control the development of peri-urban areas.

The transitions of the spatial structure in peri-urban areas in Western Hanoi are similar to which occur in the studies of T.G.Mc Gee, illustrated in figures 1 and 3. For example, the establishment of small mixed industrial zones and new residential estates; surrounded by satellite towns; improved transportation infrastructures to link core cities to peri-urban areas and even further regions.

Otherwise, the transitions in Hanoi have unique features compared to the spatial model of T.G.Mc Gee. Hanoi is a small-scale city and has a long history of formation with intensive agricultural production activities. All of these make the distinctions of Hanoi compared to the cases in the T.G.Mc Gee’s studies on major cities in Asia or Southeast Asia. This inspires us to conduct this initial research as well as paves the way for further studies in the future on city issues of Hanoi.

REFERENCES


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Notes

Note 1. Peri-urban areas in Eastern Hanoi comprise Gia Lâm district (Hanoi), Hưng Yên, Hải Dương, Bắc Ninh, and Bắc Giang provinces; Peri-urban areas in Northern Hanoi include Đông Anh district (Hanoi), Vĩnh Phúc province; and peri-urban areas in Southern Hanoi are Thường Tín district (Hanoi), Đồng Văn, and Duy Tiên districts (Hà Nam provinces).

Note 2. Resolution No.15/2008QH12 of May 29, 2008, promulgated by the Congress, on the Amendment the administrative boundary of Hanoi and related provinces. Subsequently, Hà Tây province was merged into Hanoi; Mê Linh district, Vĩnh Phúc province became a part of Hanoi; four villages of Lương Sơn district, Hòa Bình province were also merged into the land of Hanoi, including Đông Xuân, Tiên Xuân, Yên Bình, and Yên Trung villages.http://thuvienphapluat.vn/van-ban/Nghi-