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# Seeing the Forest through the Trees: Sociocultural Factors of Dense Urban Spaces

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**Abstract:** Coming to terms with the complexity of dense urban areas represents one of the major challenges people, organizations and governments will face in the next few decades. Defining, explaining and modeling socio-cultural factors associated with the development of dense urban regions will be among the most complex problems researchers will face when studying dense urban areas. In this paper, we seek to open the discussion and begin to define the modeling process by conducting a literature review and creating a conceptual framework based on Verba, Binder, Coleman, La Palombara, Pye, & Weiner's (1971) model of political development. The model emphasizes six key elements of political development, which we use as a point of departure to begin to identify key socio-cultural factors of dense urban areas. Our framework also embarks on identifying a difference between factor relationships in loosely and tightly integrated cities. The interrelationship between variables and the recursive nature of variables are some of the major difficulties we identify when it comes to modeling sociocultural dynamics in dense urban areas.

**Keywords:** socio-cultural modeling; dense urban areas; political development; military operations in dense urban areas

## 1. Introduction

The world is becoming increasingly more urban. Today, more than fifty percent of the world's population lives in urban centers. Economic structures are more focused on urban centers than ever before. In addition, political and cultural structures are strongly influenced by urban centers and urbanization. As a result, in order to understand most societies, it is essential to understand the major urban centers of the region.

With the majority of people living in urban centers, along with cities being the focal point for political, cultural and economic development, urban centers will become more important than ever. This new emphasis on urban centers represents a significant challenge for various socio-cultural actors, from all perspectives. Urban centers are a space that is unique in all aspects and represents a new challenge.

What makes dense urban spaces unique? The size and the sociocultural characteristics of a city create a complex environment. Complex problems are problems that are not easily solved. They are often constantly evolving and are influenced by our actions as we attempt to understand and manipulate them. The city is a dense settlement, filled with a diverse and dynamic population. While there are certain characteristics that exist in all dense urban areas, the way these characteristics manifest themselves is unique from place to place. Dense urban areas are also highly connected both internally and to the rest of the world. All of this complexity creates a daunting set of research

questions. First, what are the key factors that influence the development of urban centers? Once these factors are identified, how do we measure and model those factors. Finally, how do the factors interact to create a series of networks that influence urban development.

In this paper, we identify the six key networks that influence the development and functioning of dense urban areas from the socio-cultural perspective. While other networks are also important to understanding cities, we focus on the socio-cultural factors due to their complexity. These six networks are presented as an organizing principle for the vast number of socio-cultural variables needed to model a city. While an exhaustive list of variables is beyond the scope of this paper, the organizing principle presented here should help guide research and provide a point of departure of modeling. Each city will differ in the specifics, there are general trends that contribute to understanding how a city functions. Cities can also be classified, using these six factors viewed against the taxonomy of megacities created by the Chief of Staff of the Army's Strategic Studies Group (CSA SSG) [1]. The six factors function differently based on the level of development of a city. In order to effectively function in an urban environment, one must begin to understand the impact of their actions upon these six networks in a city.

## 2. Frameworks for Analyzing Dense Urban Areas

Due to the complexity of these networks, a framework is needed to categorize the various flows and connections and provide a point of departure for any analyses of dense urban areas. Several different scholars have used varying approaches develop a framework. Each one has an emphasis on a certain aspect of urban development, as the city is a large and complex environment, making it highly challenging for one research team to address all aspects of urban development. Cox [2] emphasizes the "new urban politics" in which local interest collaborate to bring capital to a region to enhance the value of land. This new urban political approach is inherently economic, focusing on partnerships that target capital development within a region. The end product is increased value of urban space.

This economic approach is contrasted with a more environmental approach. While, Jonas and Gibbs [3] concede that the economic approach tends to be dominant but they also emphasize the importance of environmental issues. From "river cleanups" through redeveloping industrial sites for gentrification, environmental aspects have a major influence on urban development. They emphasize that environmental issues have gained traction in recent years and become a major influence on inner city development.

Putting the economic and environmental together is a key point of departure for studies that emphasize sustainability in urban settings. Shen, Ochoa, Shah and Zhang [4] study sustainable development plans for nine cities. In their analysis, they attempt to create a manageable model of sustainable development in cities by reducing the number of sustainable development dimensions to four: environmental, economic, social and governance [4]. Once the authors define the dimensions, they apply the dimensions to the nine cities to look for areas of commonality and areas of departure. The end result is what they view as a method to implement sustainable development programs in cities are various levels of development.

Most studies of urban development that emphasize economics or environment, or adopt a sustainability approach generally emphasize economic and environmental factors and tend to, at best, briefly mention political, cultural and social factors. Typically, the discussions of sociocultural factors are framed within the discussion of economic development or environmental reactions to economic development and do not focus on the unique nature of the sociocultural factors themselves. These studies tend to minimize the importance of identity, political legitimacy, social networks, political penetration by the government and other factors that also strongly influence urban development. This gap in the literature is addressed through the construction of a model that emphasizes sociocultural variables through the lens of a political development model. Binder's model begins to fill this gap by

not only emphasizing key political factors but also including a discussion of economic factors that are important to the development of a region.

Binder's [5] approach to political development provides a basic model of political development that divides up political development into five categories or networks (production, identity, legitimacy, participation and penetration). Scholars, including La Palombara [6] and Fierman [7], who have worked with Binders model have added a sixth category known as allocation. Framed within the discussion of dense urban areas, the process of urbanization is the result of the continuous interaction of networks within the city and the continuous evolution of these networks and their interactions both within the city and to the larger global political-economic system. While influenced by forces external to the city, these networks and interactions are strongly influenced by people in the dense urban areas (both residents and nonresidents). As Giddens [8] (1979) emphasized in his duality of structure, people change the urban networks and are changed as a result of interacting with the various networks. This duality needs to be at the heart of any analysis focusing on dense urban areas. The six categories, defined by Binder, all provide insight into urban development and work to organize the vast complexity that influences urbanization.

*2.1. Production Networks*

Production refers to the physical production of material goods. La Palombara [6] emphasizes that governments must choose a development strategy in which the state can "assure the kind and amount of skilled manpower that can maximize the material and related things the nation (sic) can produce." In dense urban areas, labor (both skilled and unskilled) can be divided into two categories, formal and informal. The formal sector of the economy is regulated by the government, through laws or taxes. Spring [9] defines the formal sector as "taxed, registered and regulated businesses." This is the sector most people think of when focusing on the economy. The formal business sector employs mostly skilled labor, or formal labor.

The informal sector of the economy focuses on economic activities that are unregulated by the state. Ihrig and Moe [10] define the informal sector as the sector that "Produces legal goods but does not comply with government regulations." This includes payment "under the table," the black market and other lesser recorded economic activities. The informal business sector hires mostly informal labor. Williams [11] suggests that sixty percent of the global workforce is employed in the informal sector. While this number is subject to debate and is nearly impossible to calculate, the important conclusion is that the informal sector is significant. Traditionally, informal activities are dominant forms of employment in recent immigrants and slum settlements. In their analysis, Ihrig and Moe [10] conclude that a "negative, convex relationship" exists between real GDP and informal sector output, suggesting that as real GDP increases the informal sector will decrease.

Globalization is critical in understanding production in the urban center. The global assembly line and the new international division of labor demonstrates how cities are intertwined in the larger production network that governs the global political-economic system. Globalization also has an impact on the informal sector. As people are pushed out of the rural regions, they move towards rapidly growing urban centers and often find themselves seeking employment in the informal sector because the formal sector is not growing quickly enough to accommodate the vast influx of people. As a result of this movement to the city, the influence on the internal networks is substantial. New migrants integrate into communities, seeking to find housing and employment within neighborhoods. Often these searches are influenced by issues of identity, as well as traditional aspects of supply and demand.

Several authors have also demonstrated differences between the formal and informal sector, especially in terms of the demographics of the members of each sector and the economic characteristics of a region. Ihrig and Moe [10] conclude that informality is positively related to tax rates and negatively related to enforcement of taxation. They [10] emphasize that if a country would like to limit the informal

sector, they need to lower tax rates and/or increase penalties on workers in the informal sector when they do not pay taxes.

There are also some significant demographic differences between workers in the formal and informal sector. Both Spring [9] and Hart [12] emphasize the gendered nature of informality in Africa, especially small-scaled informal activities. Gindling [13] emphasizes that the formal and informal sector of the economy are segmented and developed a model that shows how gender, education, age, place of birth (urban or rural), head of household and experience in the labor market all influence where an individual tends to find employment. Regardless of the makeup, the informal and formal sector of cities are often so intertwined that separating them is futile. In many dense urban areas, informality is the new normal.

### 2.2. Allocation Networks

Allocation refers to the way in which goods are distributed through society [6]. Allocation is closely related to legitimacy as insurgencies tend to flourish in regions where people have issues getting basic needs. In dense urban areas, there are many allocated goods, (food, water, medicine, infrastructure systems, among others) one such basic need is the allocation of housing. Housing is identified here not as the "best" example but as an example of the complexity of allocation networks. In some respects [14], land tenure and housing is often the most contentious allocation networks in cities. Often, housing in slum environments are not permanent structures made of materials readily available on property with uncertain ownership status, creating a perpetual temporary status for the residents of slum regions.

This current era has seen a dramatic growth in urbanization, especially in the peripheral (i.e., lesser developed) states of the global economy. According to Davis [15], the policies of agricultural deregulation and financial discipline, as prescribed by the IMF and World Bank have unleashed a large number of rural laborers to move to the urban centers. Most rural migrants move to urban slums with the hope of finding employment in the city. Often, because formal employment cannot keep pace with increasing population, the promise of employment is an empty one, resulting more and more rural migrants trapped in the slums of dense urban spaces and employed in informal activity.

The issue of slums is significantly more important in peripheral dense urban areas as opposed to the core. Davis [15] estimates that slum residents make up 6% of the urban population in developed countries but an astonishing 78.2% of urban residents in the least developed countries. This demonstrates that the allocation of housing in slums is a highly significant issue in the cities of lesser developed countries.

Housing markets in peripheral dense urban areas are often outside the control of the government. Davis [15] suggests that modern neoliberal economic policies, including Structural Adjustment Programs, influenced the increased privatization of housing markets and a lack of social welfare programs in peripheral states. When governments do get involved in urban slums, it is often to "clear" them, in an effort to make way for a more desired land use application such as a commercial district or roadway. These attempts to "beautify" the city often occur in advance of a major, high-profile international event.

Frequently, land is consolidated in the hands of a few elites, a process referred to by Evers and Korff [16] "absentee landlordism." Baken and van der Linden [17] estimate that 75% of urban space in Mumbai is owned by 6% of all urban households. As a result, new migrants are often forced to seek out housing through a murky, black market that is usually run by informal or illicit networks.

Squatting is one of the most common forms of land allocation in urban slums. Davis [18] defines squatting as "the possession of land without sale or title". It is important to note that this does not mean that squatting is without cost. Often, squatters are forced to pay bribes and rents to various formal, informal and/or illicit groups in order to gain and keep access to land. While over time, this may be more expensive than formally buying a plot of land, the appeal of squatting lies in the fact that the initial payment is significantly cheaper and overall costs are spread out over a significant period of time [18].

However, as development progresses, squatter settlements are often formalized, especially in regions where land has greater value. Today, most squatter settlements remain on marginal and vulnerable land towards the edge of cities. Most of this land is environmentally degraded, for example near garbage slums [18], toxic industries [18] or on floodplains, hillsides and swamps, that are considered to be environmentally vulnerable.

### 2.3. Identity Network

Group membership is at the base of identity. Verba [19] sees identity as the "definition of the set of individuals whom it is believed appropriately fall within the decision-making scope of the government." In other words, how does the government define the people it governs. This identity is something that is designed to be shared by all citizens of the state. National identity is usually built on a common ethnicity, religion and history [20]. Key categories for identity include ethnicity, language, religion, political, among others. In dense urban areas, identity groups tend to live in organized communities in specific regions of the city. Along with the organization, a state can coopt identity to promote its own ideas and advance its own legitimacy.

A key question that is important to understanding nations is: how do nations develop? Anderson [21], Hobsbawm [22] (1990) and Gellner [23] emphasize that creation of nations is not necessarily based on primordial characteristics but that nations are usually manufactured from a selected set of potential characteristics. The set of selected national characteristics is referred to as an "imagined community" by Anderson [21]. This is a process that is manipulated by the power holders within a state. Anderson [21] emphasizes that "[n]ationalism is not the awakening of nations to self-consciousness: it *invents* nations where they do not exist." Anderson sees the development of the printing press as the key step in the formation of a national identity [21]. Print was a homogenizing agent on the evolution of a national language.

Hobsbawm also agrees with Gellner and Anderson in the constructivist approach to nationalism. Hobsbawm emphasizes that the nation is not a static social entity. The nation is a product of a "particular and historically recent period" [22]. The nation is a fluid concept, a product of both local and state level decisions that evolves as a country progresses historically. Therefore, it is essential to view nations as a historical construct that is strongly influenced by decision makers at various scales and is historically specific.

Networks of national identity and identity in general illuminate many key issues in dense urban areas. From identity politics to the interplay of nationalism and economics, preferential hiring practices, anti-immigrant protests, national identity is a strong influence on dense urban areas. The creation and perpetuation of migrant communities is another key aspect where identity influences the structure of cities. Lawson looks at transnational communities in her analysis of migrants' stories that are intertwined within the political-economic and cultural contexts of a region. She [24] defines a transnationalism as "the extent to which migrants maintain plural identities and experience complex relations of incorporation and resistance to projects of globalized modernization, urban progress, national belonging." This is key as migrants navigate new influences on their identity and need to reevaluate their sense of belonging, exclusion and affiliation [24]. Lawson's interviews show the complexity and intertwining of networks of economic development, ethnicity, gender and nationalism. These networks all interact to influence a person's experience in a dense urban network.

### 2.4. Legitimacy Network

Verba et al. [25] defines legitimacy as the "basis on which and the degree to which the decisions of the government are accepted by the populace of society because of normative beliefs on the part of the populace as to the rightness of the ways in which decisions are made." If a population believes a government is legitimate, they are likely to follow the laws of society. If not, then the population will not likely follow the rules of society. At the most foundational level, legitimacy is forged when a government provides the basic needs for its population. When those needs are

not provided, populations will often look to other organizations to provide the basic needs and view them as legitimate leaders in the city. In slums the lack of formal government involvement in slum communities has led their delegitimation and the rise of insurgent movements. As Crane [26] emphasizes, "based on their own definitions of legitimacy, the people of the contested region will decide the victor."

In an insurgency environment, Anderson and Black [27] define legitimacy as a contest "through which incumbent state organizations and insurgent organizations . . . shape the very categories of thought that people use to recognize and interpret "state" organizations and their activities." In other words, the insurgency is a battle to be recognized as legitimate. Ledwidge [28] echoes this statement in his conclusion, "complex insurgencies are powered by injustice" and "legitimacy is the main objective . . . without the host nation achieving legitimacy, COIN cannot succeed." When a government fails to meet the needs of the population, other groups will step in to meet those needs in an effort to gain legitimacy and potentially remove the power of the standing government.

Eizenstat, Porter and Weinstein emphasize the importance of legitimacy in a discussion on development. To them, the "legitimacy gap" [29] refers to the government's need to "protect the basic rights and freedoms of its people, enforce the rule of law and allow broad-based participation in the political process. This is paired with two other gaps identified by Eizenstat et al. [29] the "security gap" where states must protect citizens and preserve sovereignty and the "capacity gap" where a state must provide basic services and health care. When states fail to meet these gaps, their legitimacy declines.

Kilcullen echoes this observation in his "Three Pillars of Counterinsurgency." He [30] identifies three pillars: Security, Political and Economic, as the three pillars that determine the success/failure of counter insurgency actions. He emphasizes that we determine success based on the effectiveness of each pillar and whether or not the population views the government's actions in each pillar as legitimate [30]).

In a dense urban environment, slums are an important incubator of insurgencies because basic needs and security of the population are often not met by the local government, consequently a legitimacy gaps appears. It is these gaps that insurgents will exploit and use to create instability. In slums where populations approach 1 million citizens, these areas are important centers of gravity for the dense urban area and therefore legitimacy in these areas is a critical component to stability.

*2.5. Participation Network*

According to Fierman [7], political participation is "any voluntary action, successful, or unsuccessful, organized or unorganized, episodic or continuous, employing legitimate or illegitimate methods intended to influence the choice of public policies, the administration of public affairs, or the choice of political leaders." Participation can run the full spectrum from traditional methods of participation to include voting, to violent actions against the government, including protests, riots or insurgencies. In many dense urban areas, the traditional paths of political participation can be severely restricted. As a result, people tend to find alternative methods of participation. One of the most common alternative methods of participation is joining and participating in social movements. These movements can focus on local issues, or use local issues to tie into larger, international movements. Most of the time, the movements have strong local motives, that focus on international issues.

Several theories have evolved to explain the formation and evolution of social movements. Two of the most prominent theories are new social movement theory and resource mobilization theory. To new social movement theorists, the unique cultural characteristics of these movements separate them from earlier movements, like the progressive, populist and abolitionist movements. These new social movements emphasize ideology and culture, rather than the desire to improve one's self within the dominant culture [31]. Gamson states, "any movement that hopes to sustain commitment over a period of time must make the construction of a collective identify one of its most central tasks" [32]. Gamson proves that this was critical to the survival of the teach-in movements of the 1960s and

Knopp [33] does the same in his study of gay and lesbian movements in Minneapolis, Minnesota. Both of these theories emphasize how a collective identity was constructed and utilized in order to sustain the success of the social movement. This collective identity must resonate within the local community and not be imposed top-down from an outside organization.

Miller identified placed-based politics as an important issue in the formation of social movements. Miller emphasizes the role of the "lifeworld", a Habarmasian term that defines the unique cultural and socio-cultural traditions of a region [34], in order to explain how place-based politics influence social movements. If the lifeworld of a society was unfavorable to the attitudes of a certain protest group, it would be unlikely that the beliefs of that social group would be accepted there. If the ideas were eventually accepted, it would be the result of a vast amount of work and expense, to tie to the issues of a social movement to the concerns of the local population.

Tucker, like Miller, emphasizes the theories of Habarmas to explain the internal workings of a social movement. He emphasizes that one cannot define social movements as "mechanistic responses to social change . . . rather, social movements may be more satisfactorily conceived as processes of latently available structures of rationality that are transposed into social practices . . . structured by cultural traditions [35] (p. 39). Therefore, one cannot study a social movement in regard to the resources available to it but one must take the culture it grew out of as a critical aspect of its success or failure.

In contrast to New Social Movement Theory, resource mobilization theory borrows heavily from economics in order to explain the success (or failure) of social movements. According to McCarthy and Zald, resource mobilization theory emphasizes both "societal support and constraint of social movements" [36]. Therefore, the resources, either ideological or financial (this is where the greatest strength of this theory lies) dictate the success or failure of social movements. Regions that are well endowed with resources that are deemed necessary for the survival of a specific social movement will support social movement while regions without such resources will not.

Modern social movements have evolved through the connectivity of global systems and the development of new technologies. According to Castells, the new era of social movements is aimed less at controlling/overthrowing governments and more about exploring "the meaning of life" [37]. The social movements gain their strength through the "construction of meaning in people's minds" [37]. As with new social movement theory, the key in the new movements is about groups forming networks based on shared ideologies, focused on a large societal issue. Castells points to the Arab Spring and the Occupy movement as two examples of such movements [37]. The key with the modern social movements is the use of social media as the medium to organize. Castells refers to these as "networked social movements" [37]. Castells sees these networks as largely unfettered and autonomous [37]. While the internet provides a key point for discussing and organizing, the movements still must occupy space in order to make itself visible to larger groups and the government [37]. The occupied spaces are important as the sites are "charged with symbolic power of invading sites of state power or financial institutions" [37]. These spaces also create public space, a space for deliberation and participate in the political process [37]. It is in these spaces where social movements move from ideology to action. While modern social movements powerfully use virtual spaces to organize and share ideologies, it is the occupation of physical space facilitates political participation and widens the influence of the social movement.

*2.6. Penetration Network*

Verba [19] defines political penetration as the measurement of how much effective control the government exercises. Fierman [7] sees penetration as closely related to a government's power and authority. Penetration is quite visible on the landscape as seen through the urban built environment. The production of space in the urban built environment shows clues to the consumer (person viewing the environment) the elements of nationalism that are deemed as important by both the architect and the financier of the building or monument. Typically, the government is a very active player in the construction of the urban built environment. As a result, buildings and monuments provide

a key manifestation of the network of identity for a city and the ability of a state to penetrate a local community with its political message of national identity.

An important debate within the geographic community concerns the definition of space and how it is produced. According to Lefebvre [38], until recently, space had a "strictly geometrical meaning" in most mainstream geographic research. In other words, space was not something that was influenced by cultural or political actions, it was innocent and isolated from the political process. Outside of the mainstream, research was conducted that showed that space was more than geometric and was strongly influenced by societal development. That space was designed with a specific political motive in mind.

In more recent studies, landscapes are seen as points of contention, where all individuals are "situated inside landscapes, forming and reforming them". This challenges the traditional top-down approach to landscape studies and emphasizes that compete discourses of national development tend to vie for control of the landscape, or could view a place from disparate viewpoints. This demonstrates how the population of a dense urban area could exert influence on a higher level of government, as objects in the urban built environment often become points of conflict, physical manifestations of an underlying struggle between different groups within a society.

In a dense urban region, or any other region for that matter, the built environment is a key marker of political penetration. The effectiveness of a government's ability to promote its message, history and heroes is seen in the buildings, street names and monuments of a region. The location and condition (well maintained and free of vandalism) demonstrates how well the government's influence penetrates a region. Government penetration into informal urban areas is often limited, unless the government decided to go to the extreme measure of "clearing" the slum. In recent years slum upgrading is becoming more common but the results are mixed and it is a much slower process.

## 3. Urban Context and a Classification of Dense Urban Areas

Several people, including Harris [39], Bean and Poston [40], Lall [41], Frenkel [42] and Liu and Song [43] have created classifications of cities. Most of these have focused on economic characteristics, with little mention of other socio-cultural characteristics. Beaverstock, Smith and Taylor [44], while still emphasizing economic characteristics, move beyond basic economic functions to a discussion of influence based on the existence advanced producer services. These services act as a command and control function throughout the modern global capitalist system and begin to approximate not only an economic taxonomy but one that also addresses control of the global political-economic system through concentration of key economic activities.

The problem is that one must move beyond economics in order to understand dense urban systems. This leads to the need to create a basic classification system that addresses both economic and noneconomic socio-cultural aspects in dense areas. Such a classification is important as we seek to understand the forces that shape dense urban areas. Certain classes of cities should react to stressors differently, depending on their internal characteristics.

In 2014, the Chief of Staff of the Army's Strategic Studies Group (SSG) began to address the challenges facing the Army as it considered operations in Dense Urban Areas. In their study, they emphasized the need to readdress historical assumptions about cities that include thinking of cities as part of a larger area of operations and not the focus of the operation [44]. The new reality is that Dense Urban Areas are key centers of gravity making them areas of operation in their own right. They cannot be isolated, or avoided. They are now one of the most critical, influential regions in a country. In addition, the SSG developed a simple taxonomy of dense urban areas based on their level of development and their level of integration. Cities that are highly developed tend to be highly integrated both internally and externally. This is contrasted with lesser developed cities that tend to be loosely integrated. In the middle, they identified cities that are not highly developed but also not completely underdeveloped, similar to the semi-periphery in World Systems Theory. The SSG

classified these cities as moderately integration. In their model, integration, both internal and external, is significant to the functionality of cities.

Based on the existing literature, the basic framework created by the Chief of Staff of the Army's Strategic Studies Group (SSG) [1] and the six categories of Binder's [45] model of political development provide key networks for the classification. The SSG classified cities into three categories: Highly integrated, moderately integrated and loosely integrated. Following their lead, it is expected that Binder's six factors of political development should function differently in each of the categories of dense urban area as shown in Figure 1.
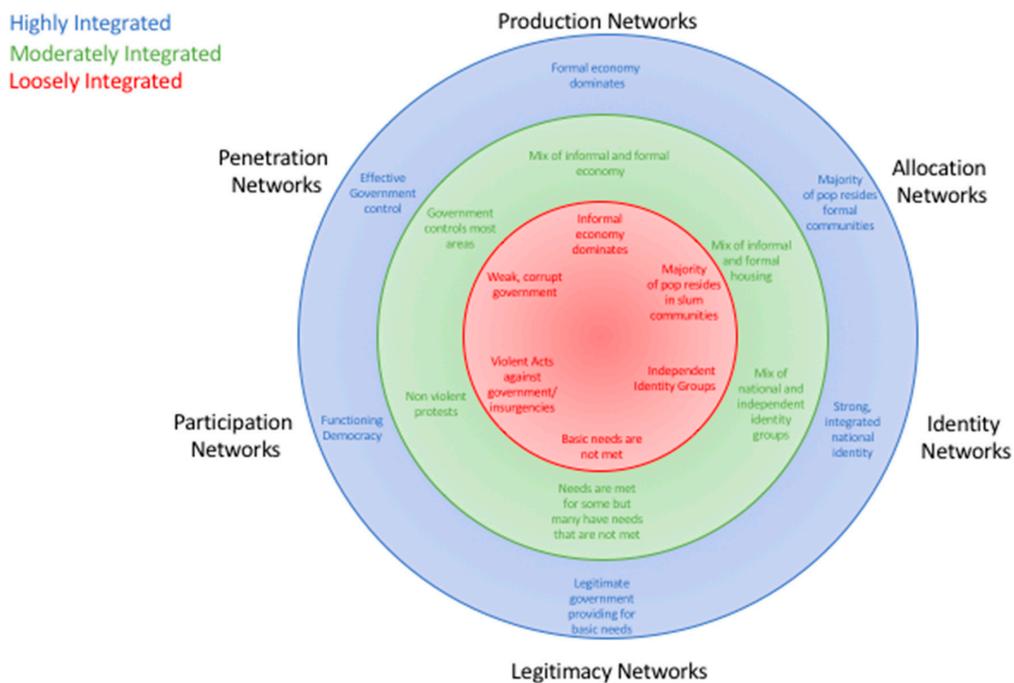


**Figure 1.** Conceptual model of sociocultural factors of dense urban areas.

Figure 1 shows the six elements of Binder's model around the circumference. The three layers show the three different categories of megacities identified by the Chief of Staff of the Army's Strategic Studies Group.

At each layer of the model, we begin to show the characteristics of each of Binder's factors. Highly integrated cities tend to be more formalized, with effective government control over most aspects of the city. At the other extreme, loosely integrated cities tend to have weak government structures, with high degrees of informality. As other variables within each of Binder's factors are added to the model, for example water in allocation, it would be expected that it would follow the same trend, very organized, with high levels of governmental oversight at the highly integrated level, while very informal at the loosely integrated level.

While each city is unique, the general trends tend to follow each category, with loosely integrated cities possessing similar characteristics as opposed to highly integrated cities. For example, in the production network, a loosely integrated region will have high levels of participation in the informal sector of the economy. As previously discussed, this is due to vast immigration and the inability of the loosely integrated (peripheral) city to absorb the large influx of population. As a result, recent immigrants tend to be directed into slum settlements and find employment in the informal sector of the economy. This is in contrast to the highly integrated cities of the core of the global economy. These cities tend to attract immigrants who can find employment in the formal sector of the economy.

Housing tenure is an important example of the allocation network. Similar to the processes that influence the production network, the rapid influx of population tends to overwhelm the ability of the

loosely integrated city to absorb this shock. As a result, most housing in peripheral cities tends to be slum and squatter settlements, with questionable, or uncertain land tenure claims. This is in contrast to the highly integrated cities where most residents are allocated housing in a formal housing market.

Group membership is at the core of a definition of the identity network. In loosely integrated cities, group membership is often but not exclusively, at the subnational level, with ethnic groups and tribal/kinship networks being highly significant. This is in contrast to highly integrated cities, where national identity tends to be significant and typically connected to the government's national identity discourse. In integrated cities, different ethnic and minority groups ideally have formal representation and members feel like they are represented at the national level. This is often not the case in peripheral, loosely integrated cities.

The legitimacy network is closely linked to theories of insurgencies. In peripheral cities, governments often do not provide basic services to the local population. As a result, the citizens of these cities do not view the government as legitimate. This is in contrast to core cities in which basic services are provided. When basic services are provided, people, while maybe disagreeing with the government, tend to view the government as legitimate.

Participation networks look at how people participate in the government. In highly integrated cities, people tend to participate through formal channels (voting) on a regular basis. In loosely integrated cities, people tend to have limited access to traditional political opportunity structures and often resort to violent and nonviolent protest actions against the government to express dissent.

Political penetration refers to the ability of the government to penetrate and influence the population. In peripheral cities and/or informal regions within cities, political penetration tends to be low. As a result, the government does not have a great level of influence in local neighborhoods. Laws might not be followed, messages from the government may not be heard. These areas are ripe for the creation of alternative forms of government. This is in contrast to core cities, where the government has a strong ability to influence the local population. Laws are typically enforced and followed. People are aware and engaged with the actions of the government and tend to follow the laws of the government. The government is visible throughout core cities, where it is often not as visible in peripheral cities, especially in slum settlements.

## 4. Conclusions

As more and more of the world's population moves to dense urban areas, these spaces will serve as centers of gravity in the future. Cities are now not only population and economic centers but also political, cultural and social centers as well. The nature of development within specific cities, from highly integrated to loosely integrated, will significantly influence the characteristics and relationships between various socio-cultural factors. As governments become effective and can allocate basic needs, their legitimacy should increase and people will begin sharing an identity with the government.

As a result of the growth of significance of dense urban areas globally, there will be an increased interest in cities from a wide variety of actors, from economic to cultural to political to military. In addition to the density and mass volume of populations in dense urban areas, the greatest complexity of operating in a dense urban space is the vast number of socio-cultural factors that influence the development and functioning of cities. The model presented here begins to organize the basic categories of socio-cultural variables that are influential in dense urban areas. The first step in modeling a dense urban area is to define the variables that are critical to explaining how a city functions. While an exhaustive list of variables could never be presented in a research paper, the basic categories presented here should help to organize and demonstrate how different variables would manifest at differing levels of development. Starting with production, a popular point of departure for people studying cities, it is important to understand how goods are produced and sold within an urban space. Somewhat linked to this is allocation, which emphasizes the distribution of key resources within a city. While this does have an important economic component, there is also a socio-cultural and political component to allocation of goods. Often identity networks influence allocation as certain nationalities will use a

monopoly on the access to certain key resources as a source of power. When this happens and a certain group is excluded from access to a key resource, the government's legitimacy is challenged by the disenfranchised group. This will have impacts on both political participation and political penetration. For an outsider, both an awareness and an understanding of these complexities is essential if we are to build a model that helps explains how a city functions.

Coming to terms with the complexity of socio-cultural factors and analyzing and evaluating those factors are critical to the success of any operation in a dense urban area from modeling, to economic development to military operations, understanding the critical factors is essential to get an accurate picture of how a city functions. Failure to identify the correct variables will result in a model that yields less than accurate results and will lead to flawed policy decisions from businesses to governments.

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