Writeup

Over the last fifty years, the world's population has gravitated towards cities in ever-growing numbers. This worldwide increase in urbanization is increasingly driven by developing countries, where the vast majority of population growth now occurs (Ritchie & Roser, 2023). In these countries, a significant percentage of the urban population lives in "informal settlements": neighborhoods that are built gradually, by citizen initiative, and exist, to varying degrees, outside the framework of top-down urban development practices and legally sanctioned land and housing markets that define modern urban planning.

These settlements have often been referred to as "slums", but for the purposes of this literature review, "informal settlements" is the most accurate term. The term "slum" is a pejorative used to describe an urban area beset with poverty and substandard living conditions, and it has no bearing on the legal/formal nature of a given neighborhood. There is undeniably a large amount of overlap between slums and informal settlements, but many slums are part of the formal housing sector, and many informal settlements (especially older ones) have above-average living conditions (Silva, 2018). Furthermore, neighborhoods referred to as "slums" are almost always done so by non-residents, and the term is often used to build consensus for the wholesale demolition ("clearance") of these neighborhoods and their replacement with "modern" housing; the residents of the so-called slums are rarely consulted in this process (Gilbert, 2007).

Other than slums, informal settlements are sometimes called "squatter settlements" a more accurate (but still imperfect) term that refers to the common root of many informal settlements as small groups of squatters on public or unoccupied land (Srinivas, 2015). While many informal settlements can be (or could at some point be) accurately called squatter settlements, many others cannot. They may have negotiated with private landlords outside of the usual legal system of property transfers when they originally settled, or they may have originally been squatters that have since gained legal status. All things considered, informal settlements is the most neutral way to describe these neighborhoods, and it will be used for the rest of this literature review. That being said, many of the sources synthesized here do refer to informal settlements as either slums or (less commonly) squatter settlements.

A large body of literature exists on the subject of informal settlements, but the bulk of this work focuses on the growth and upgrading of existing settlements, not on their actual formation. This review will synthesize what research does exist on the process of informal settlement formation, and will answer a few core questions:

1. Why and how are informal settlements first settled?
2. What do informal settlers have in common with each other?
3. What kind of land are new informal settlements built on (and what tenure do the settlers have)?

Along with answers to these questions, compiled below is a list of prominent researchers investigating informal settlements and their formation, as well as a few research hubs dedicated to informal settlements and informal urbanism more broadly.

Why are informal settlements first settled?

As no two urban areas are exactly alike, the exact set of driving forces behind informal settlement formation are subtly different in every city. Despite this, there are still similarities that almost all informal settlements worldwide share. At the most basic, definitional level, informal settlements exist because of the failure of formal legal, economic, and planning practices to accommodate the housing and infrastructure needs of all inhabitants of an urban area (Dovey & Kamalipour, 2017). This is not to say that informal settlements require a formal city to exist; indeed, informal settlements existed long before what we now think of as formal cities (for example, the medieval cores of many European cities began as informal settlements) (Dovey & King, 2011).

Beyond this basic similarity, researchers have been able to determine several common patterns in cities across the globe that lead to the establishment of informal settlements. One of the most readily apparent of these patterns is the tendency of (many, but not all) informal settlements to be located in post-colonial countries. This is no accident: in fact, the process of colonization in many parts of the world created the very conditions that promoted informal settlement as well as the informal/formal dichotomy, a particularly Western paradigm (Anyamba, 2011). In many parts of Africa, for example, cities were divided by colonial planners into “two distinct zones: a ‘European’ space that enjoyed a high level of urban infrastructure and services and an ‘indigenous’ space that had marginal services” (Ono & Kidokoro, 2020). In Nairobi, the subject of two studies on the formation, growth, and nature of informal settlements, many Kenyans moved to the city to pursue work despite lacking a pass required by the colonial government; having no option to live in the colonial-run formal city, they were forced to build homes in the informal settlements that were quickly established outside the city boundaries (Anyamba, 2011).

Outside of a post-colonial context, new informal settlement construction is primarily economically motivated (Gonzalez, 2009). Informal settlements are generally significantly cheaper to live in than formal settlements (in many cases, the land is free), and this is especially true of newer informal settlements (Smolka, 2003). While some established informal settlements can become as or more expensive than formal neighborhoods, newer ones usually lack connections to city services (utilities, roads, etc) and are generally located on land of lesser value than established formal neighborhoods, like in wetlands, on steep slopes, or along the side of railroads or highways (Dovey & King, 2011).

How exactly does settlement take place?

There are two main ways that informal settlements are first established. First, settlers can illegally “invade” land they do not own, establishing their settlements without approval of the landowner and banking on a mix of negligent landlords, inertia, and government protection to protect them from eviction. This practice seems to be common on both government and privately-owned land (Brueckner & Selod, 2009). This type of settlement is also much more likely to occur on abandoned or unused land. Settlement like this requires a considerable level of organization and cooperation between settlers, especially during the act of settlement and the initial years of settlement growth (Samper, 2017). Because settlements like these are often dealing with a hostile landlord, they must quickly build permanent settlements and infrastructure

on the land to make eviction as difficult as possible. For example, in Turkey, a legal loophole prevents the demolition of houses with permanent roofs, even on illegally occupied land (Arefi, 2011). This has led to informal settlers in Turkish cities building *gecekondu* (literally "built overnight") houses rapidly as an initial step in the development of informal settlements. This type of informal settlement is what is sometimes called "squatter settlements" due to the formation without the permission of landowners (whether private or public). When settlements are formed in this way, it's usually by a core group of 25-100 households that are able to organize their settlement through existing social ties or community organizations (Samper, 2017).

The other main way that informal settlements form is through the gradual conversion of non-residential land into informal housing. In this form of settlement, the initial land purchase or rental is legal, but the housing built on that land is illegal; this can be because of noncompliance with zoning/permitting laws and/or a failure to meet city requirements regarding access to urban services like water, electricity, and paved roads (Gonzalez, 2009). Settlements of this type generally form on former agricultural land; as cities expand outside of their traditional boundaries, farmers on the edge of the urban fabric realize that they can earn more money from selling (or renting out) their land to city dwellers than they can from farming (Jones, 2021). They sell off their land directly to prospective settlers in smaller plots, but also to land speculators who purchase large tracts and subdivide the land for sale to individual households; the latter practice is perhaps the closest analog to formal neighborhood development.

What kind of land tenure do settlers have?

On a definitional level, informal settlers have no formal land tenure (if they did, they wouldn't be informal settlers); however, real-world settlements differ greatly in their types of tenure and security in their presence on the land. The main difference in tenure status derives from who owns the land a settlement is established on. If that land is privately owned, settlers will generally have arranged with the landowner to pay for and construct housing on the land they occupy; although this purchase is informal, this transaction grants a decently high level of tenure security to the settlers, especially if they are actively paying rent to the landowners (Razzaz, 1993). Settlement on private land without even informal deals being made with the landowners seems to be exceedingly rare.

On public land, settler tenure can be more unstable, as governments are generally unwilling to negotiate directly with potential settlers (as landowners are). Knowing this, settlers on public land employ tactics to make removing their settlements legally and politically difficult for public agencies. As mentioned above, settlers in Turkey rely on a legal loophole to prevent the speedy demolition of houses with roofs, forcing hostile authorities to go through a lengthy court process to remove their settlements (Arefi, 2011). These tactics are most effective in countries with strong bureaucracies, where city authorities can't unilaterally tear down settlements without court permission. Informal settlers can also mobilize politically to prevent their eviction from public land.

At the earliest stages of settlement, this mobilization relies on the strong social ties between settlers; as settlements expand, they can also become politically influential in their own right, either through the formation of neighborhood associations or (in democracies) through the simple power of settlement residents voting as a block (Fischer, 2019). These legal and political

strategies share the aim of delaying state action against settlers, allowing them to establish *de facto* tenure and increase their legitimate claims to land ownership. The tactics outlined here may also help explain why settlements on public lands tend to increase in population more quickly than those on privately owned land (Dovey et al, 2020).

However, the process of settlement formation on public land does not always involve state hostility towards settlers. Sometimes, the state can turn a blind eye (if not outright encourage) the practice of informal settlement on unused land. In some cases, state action (such as the draining of a previously uninhabitable wetland without a clear plan for development) can encourage settlement (Dovey et al., 2020). In cases like these, settlers don't have formal state endorsement, but the state usually turns a blind eye to development in the unspoken expectation that the settlements will be incorporated into the formal urban landscape eventually.

What do informal settlers have in common with each other?

Informal settlers generally share common economic motivations for establishing new informal settlements; they choose to form settlements because living in a new informal settlement is cheaper than living in the formal city (which cannot provide enough housing at prices that meets the needs of its citizens) (Gonzalez, 2009, and Smolka, 2003). Also, their economic motivations drive the location of the settlement; proximity to labor opportunities is a major factor in the location of new settlements, and it seems to be common for informal settlements to spring up near major employment centers (e.g. construction sites).

Beyond economic bonds, informal settlers at the earliest stage of settlement are often by extremely close social ties that play a huge role in establishing community within the new settlement and protecting it from outside influence when it's most vulnerable. A study of several informal settlements in Medellin found that the original settlers generally shared tight social bonds through community or religious organizations (Samper, 2017). These organizations may exist prior to settlement (and indeed may have been what made organized settlement possible), but they are greatly strengthened by the settlement process and the collective need of the settler community to defend itself against outside threats (generally, the government or landlords who would tear their houses down) while in its infancy. In the earliest stages of settlement, it's common for all members of an informal settlement to know each other on a personal level, and to work together on community improvement projects like building a new roof or a paved road (Samper, 2017). As settlements grow, however, the relevance of these social ties declines as new settlers move in (who may not be members of the same community or religious groups as the original settlers) and establish their own communities within the context of the existing settlement.

Aside from economic and social ties, many informal settlements are formed by groups that are intentionally excluded from establishing a presence in the formal city by government authorities due to racial and other types of discrimination. In South Africa, for example, many informal settlements were established by Black South Africans during the apartheid regime, when they were systematically denied housing opportunities within major cities (Harrison, 1992). In China, the *hukou* system requires that rural migrants coming to cities must gain official approval when seeking to change their address (Kuang & Liu, 2012). This approval is often withheld, especially for former agricultural workers, leaving them unable to acquire housing

legally and forcing them into *hukou*-dominated informal settlements (sometimes referred to as urban villages), where they remain excluded from state programs like subsidized housing (Zhang, 2011).

Where are informal settlements built?

There are two generally opposing forces that tend to determine the location of new informal settlements. First, the settlements must be built on unused or underutilized land; this tends to be far away from the center of cities, as land closer to the city center is more valuable and more likely to be already occupied by formal neighborhoods. At the same time, however, informal settlers want to be close to employment centers, which tend to be in the center of cities. These conflicting goals mean that each new informal settlement must attempt to strike a balance between finding cheap land and still remaining close enough to job opportunities to make a living.

In practice, these trends mean that informal settlements are built on what one paper calls "marginal land" - not necessarily land that's on the physical margin of a city's boundaries, but that is viewed as of marginal value by the city authorities and society broadly (Dovey & King, 2011). That same paper identifies several types of locations that tend to attract informal settlement construction:

1. Waterfronts: areas between the formal city and the water. This category also includes marshland settlements. Oftentimes, this land is considered unsafe for permanent habitation due to flooding, and informal settlers must deal with periodic high water levels. These settlements are common in the tropical cities of Southeast Asia.
2. Escarpments (steep slopes): these areas are considered too steep to safely build on by city authorities; they may also be too steep for cars, and some regularly experience landslides. Settlements of this type are common in South America.
3. Easements: informal settlements are often built alongside major pieces of urban infrastructure such as railroads, highways, or large power lines. These projects generally leave a certain amount of open space on each side of the right of way, attracting informal settlers. Elevated freeways can also lead to large informal settlements underneath the roadways. Settlements like these can vary greatly in size, but have the potential to allow informal housing much closer to city centers and employment opportunities than other kinds of settlement.

Aside from these location types, which can host settlements of a wide range of size, smaller informal settlements may form along city sidewalks, attached to existing formal buildings (often in alleyways or otherwise hidden from street view), or inside vacant lots or even large vacant buildings (Dovey & King, 2011).

New informal settlements are built on both public and private land in large amounts; however, one study suggests that informal settlements on public land are settled more rapidly, with empty land turning into housing at a greater rate (Dovey et al., 2020). This may be explained by the need of settlers on public land to establish de-facto tenure quickly by attracting as many settlers as possible (making it politically difficult for governments to remove them); it also may result from the simple fact that settlement on unused public land requires no negotiation with private

landowners (as settlement on private land generally does). Settlements on private land typically form more slowly, as settlers are usually forced to come to some form of agreement with the landowners before establishing their settlement.

Source Hubs:

Informal Urbanism Research Hub: https://infur.msd.unimelb.edu.au/

This is a research center at the University of Melbourne co-run by Kim Dovey (his bio is in the People section below) that publishes research, teaches classes, and hosts events on the subject of informal settlement and informal urbanism more broadly. They recently published *The Atlas of Informal Settlement*, a study of 51 informal settlements in cities worldwide.

Built Environment issue on Informal Urbanism*: https://www.jstor.org/stable/i23289764*

This journal issue contains several relevant articles that touch on the subject of informal settlement formation. Three of those articles (by Dovey & King, Arefi, and Anyamba) are cited in the literature review above. Unfortunately, only one issue of this journal was ever produced.

(**Potentially**) *Journal of Urban Peripheral Development*: https://www.jpusd.ir/?lang=en

This Persian journal focuses on the development taking place at the edges of cities, and many of the articles mention informal settlements and their formation. However, the full text of all articles is completely in Farsi; only the abstracts are translated to English. Because of this, nothing from this journal was used in the literature review, but it may be worth contacting some of the authors of relevant articles (one is identified below) to discuss their work.

People:

- **Kim Dovey, Professor at the University of Melbourne**
  - Homepage: https://msd.unimelb.edu.au/about/our-people/academic/kim-dovey
  - As far as I can tell, Dovey is probably the most-cited researcher on the topic of informal settlements in the last 10 years. Although he doesn't focus solely on their formation, and his most influential papers are generally studies of existing settlements, he wrote a comprehensive paper about the "morphogenesis" of settlements that discusses where new settlements tend to form, the land tenure of settlers, and the differences between the processes "occupation and intensification" of settlements. He also runs the Informal Urbanism Research Hub (details above)
  - Common co-authors:
    - **Ishita Chaterjee:** she collaborated with Dovey on the "morphogenesis" paper, as well as the *Atlas of Informal Settlement* book. She also published a 2018 paper on the formation, characteristics, and growth of an informal settlement in Delhi.
    - **Matthijs van Oostrum**: works at UN-Habitat and has written about distinctions between informal settlements and slums (with Dovey) as well as informal settlements in Shenzhen.

- **Jota Samper, Assistant Professor at the University of Colorado**
    - Homepage: https://www.colorado.edu/envd/jota-samper
    - He's written extensively on the different stages of informal settlement; most importantly for this literature review, his work (see these two papers) includes important details on what he calls the "foundation" stage of settlements (what happens during the process of informal settlement formation). He also created the Atlas of Informality.
- **Dr. Hesam Kamalipour, Cardiff University**
    - Homepage: https://profiles.cardiff.ac.uk/staff/kamalipourh
    - He's published papers on informal settlements (like this study in Vietnam) and informal urbanism more broadly. He collaborated with Dovey on several papers on informal settlement morphology.
- **Amit Patel, UMass Boston**
    - Homepage: https://blogs.umb.edu/amitpatel/
    - Studies informal settlements and their formation through computer simulations: see these two papers for best examples of this approach.
- **Dr. Mousa Kamanroudi Kojouri, Kharazmi University (Iran)**
    - Homepage: https://khu.ac.ir/cv/186/Dr%20Mousa%20Kamanroudi%20Kojouri
    - He's published extensively on peri-urban development and informal settlements in Iran, including one paper (in Farsi unfortunately) in the Iranian journal mentioned above that appears to extensively document the process of settlement formation.
- **Prof. Ir. Bakti Setiawan, Universitas Gadjah Mada (Indonesia)**
    - Homepage: https://acadstaff.ugm.ac.id/MTk1OTA2MjgxOTg1MDMxMDA2
    - Wrote his dissertation on informal settlement formation in Indonesia and has written somewhat recently on slum upgrading and informal settlement; much of his work focuses on "kampung" settlements in Indonesia
- **Tom Anyamba, University of Nairobi**
    - Homepage: https://architecture.uonbi.ac.ke/staff/prof-tom-tebesi-c-anyamba
    - He's written about informal settlements in Nairobi and their formation
- **Mahyar Arefi**, **UT Arlington**
    - Homepage: https://www.uta.edu/academics/faculty/profile?username=arefim
    - He frequently writes on informal urbanism, and wrote a good article on the formation and history of a Turkish settlement. He's also written about informal settlement in Iran and might know about other untranslated Iranian work on informality.
- **Peter Ward, UT Austin**
    - Homepage: https://lbj.utexas.edu/ward-peter-m
    - He wrote about informal settlement formation in Mexico City (in the book you gave me) and has published on informal settlements recently (but not specifically formation)
- **Alan Gilbert, University College London**
    - Homepage: https://www.ucl.ac.uk/geography/people/emeritus/alan-gilbert

- Has written a lot about slums in Latin America, although not much in the past 10 years

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