"Smart" Colonialism and Digital Divestment: A Case Study

ANNA KENSICKI

Much has been written about how information communication technologies (ICTs) detract from nations' planning and development norms, but there remains insufficient theoretical examination of the way ICTs may drive extranormative national aims. This paper examines such a case by disentangling the complicated relationships between telecommunications, city planning, and economic development in one modern settler-colonial context. The author explores how planning and development norms are adulterated in Palestine-Israel to further a select set of interests, in the service of an evolving national project. Palestinian and Israeli demographics and telecommunications infrastructure on both sides of the Green Line are examined, revealing the role of these technologies in facilitating population dispersal, economic exploitation, and political control at various stages of settler colonialism.

PLANNERS HAVE LONG REGARDED information communication technologies (ICTs) as catalysts for national economic growth and planning. While researchers caution against uninformed investment or misuse of them, ICTs are generally lauded for their benefits—ranging from modest to revolutionary—[1]or, alternatively, simply as a means to maintain the status quo.[2] Proponents of ICTs credit them with many virtues, including making cities more livable; promoting communities' safety,[3] economic growth, and inclusion; and raising standards of living.[4] ICTs and their ability to transport information, individuals, money, and experiences are integral to life in modern nations. While much has been written about the capacity of ICTs to augment or undermine planning and development norms, there remains insufficient theoretical exploration of how they drive *extra*normative, or counterproductive, national initiatives. This article offers up such an exploration in the Palestine-Israel context, examining the complicated relationship between Israel's ICT4D (ICTs for economic development) policy, on the one hand, and settler-colonial theory, on the other.

For the purposes of this discussion, ICTs are understood to relate to internet-enabled communications. Seamlessly integrated into all aspects of contemporary life, ICTs keep us constantly connected to places and people, irrespective of distance. Here, I examine the deployment of fixed and nonfixed infrastructure, in particular. As its name implies, fixed ICT infrastructure requires the physical installation of ICT hardware for connectivity, such as a telephone line or broadband connection. In contrast, while it requires some hardware, nonfixed infrastructure does not bind

users to a single location. A good example of nonfixed infrastructure is cell phone coverage, which requires cell phone towers but does not mandate that users remain in a fixed place. Secondarily, and to further deepen the discussion, this article touches upon some of the communications content arising from such infrastructure—namely social media.

Settler colonialism, for its part, is a structure in which land is conquered and then repopulated by the conquering party. While the literature on ICT4D has drawn many links with traditional colonialism,[5] no such relationship has been shown with *settler* colonialism. In contrast to colonialism, the goal of settler colonialism is to displace, rather than merely exploit, a group of people. In the planning literature, such displacement is often justified by the seemingly benign need to accommodate expanding populations. In economic development texts, a modernizing or civilizing mission is invoked, and for the religious, manifest destiny or divine dispensation is reason enough to displace people wholesale. Regardless of the rationale, in all of these cases, the end result is the dispossession or extermination of indigenous groups "and the subsequent cultural, economic, and political subordination of the remainder."[6]

Both ICT4D and colonialism share the common goal of transforming and modernizing societies in the name of what is termed progress.[7] As the following pages will illustrate, while settler-colonial development is also a modernizing mission, its orientation toward space and society is markedly different than that of traditional colonial or liberal democratic regimes. In the realm of city planning, best practices are deemed to be democratic and to employ inclusive and deliberative approaches that factor in historical contexts, existing communities, and socioeconomic disparities. ICTs have been increasingly integrated into development planning because of their potential for and role in equalizing stratified societies, opening borders to the global marketplace, and promoting capitalism and the free exchange of information.

Settler colonialism's relationship to migration, native depopulation, and exploitation represents unique departures for normatively driven ICT4D. Customarily, ICTs are meant to improve the agency and functionality of isolated or marginalized communities by developing decentralized processes and operating irrespective of borders, distances, and boundaries. In settler colonialism, however, ICTs advance *im*migration to isolated areas, with the goals of inclusion for the immigrant and of displacement and marginalization for the native. In short, while the thrust of ICTs is toward *de*territorialization, the exact opposite is true of settler colonialism, which is inherently territorial.

Much has been written on the selective deployment of ICTs in Palestine-Israel, but few scholars have explored the relationship between selective deployment and population density or economic outputs, or looked at ICTs in the context of settler colonialism. By examining ICT use on *both* sides of the Green Line, this study brings about a more nuanced understanding of settler-colonial development and its functioning at various stages.

Setting Up the Discussion: Defining Terms

Before delving into the Palestinian-Israeli case, I begin with a discussion of the norms and best practices of planning and development, especially in reference to the literature on ICT4D and settler colonialism.

MODERNIZATION

ICT4D is based wholly or in part on modernization theory.[8] Modernization describes the transition from a premodern, or traditional society, to a modern and technologically advanced one, emphasizing the internal factors (or failings) of traditional society, and often emphasizing the necessity of a benefactor from outside that society to intervene.[9] It tends to privilege affluent countries and identifies positive social or political qualities as contingent on Gross Domestic Product (GDP). Not surprisingly, modernization has been central to the justifications of colonizing missions,[10] postcolonial transitions,[11] and the proponents of globalization.[12] Notwithstanding criticism of ICT4D in particular,[13] modernization theory persists as the guiding theme in many nations' approaches to planning and economic development.

It is a generally accepted truth that citizens from countries with low ICT deployment or underdeveloped infrastructures tend to migrate to locations with more or highly developed ICT infrastructure,[14] which most often means from rural to urban areas.[15] In other words, most migration is driven by economic need, and ICTs and industrial potential tend to go hand in hand.[16] Scholars have found that the human resources needed to harness ICT4D are themselves often products or manifestations of natural economic growth, and that transposing ICT4D onto resource-poor societies is risky and prone to failure.[17] Therefore, what is known as organic ICT4D—that which occurs naturally based on existing market forces, rising educational attainment, and local investment—is deemed most effective.[18] In that sense, ICT4D and modernization theory are deeply intertwined with migratory and demographic trends. In the case of Israel and its ICT4D initiatives, this article will show that the state's demographics and ICT4D are characterized neither by organic growth nor rational investment.

By analyzing the modernization of two societies, Israeli and Palestinian, at varying stages of displacement and resettlement, the discussion will demonstrate that the failures of ICT4D align with many critiques of modernization theory. In settler-colonial states, such failures are intentional, I argue. Principal among the reasons for those failures is that ICT4D does not account for the contexts, histories, and economies of the locations in which they are deployed.[19] To compensate for poor and uncontextualized investments in settler communities, a trend has emerged in which these communities have begun to rely on privatized investment and planning. This unsustainable placement of ICT4D as well as privatization are driven by a select set of interests and almost never by any notion or approximation of the social contract with the occupied community.[20]

DECENTRALIZATION

Best practices in planning have trended away from centralized master plans, toward decentralized, incremental planning. Master planning, the traditional approach to city planning, is informed by comprehensive, long-range, national, or regional agendas. By and large, master planning seeks to accommodate the growth and emergence of new cities by mapping their confines and orienting them around industries, infrastructure, and identities.[21] Over time, however, planners have abandoned this approach as it failed to account for population growth—particularly in unofficial, urban settlements—and because amending master plans is cumbersome.[22] Incremental planning, for its part, is predicated on a decentralized and flexible process that allows planners and communities some autonomy. It fosters community engagement in decision making and aims

to facilitate dialogue with planners.[23] Unlike centralized planning, this approach is seen as more efficient, since it requires fewer revisions and less bureaucracy, and accommodates change in rapidly growing communities.[24]

Typically, ICTs help decentralize and incrementalize planning efforts.[25] They lend themselves to three broad yet overlapping beneficial uses. First, ICTs offer planners a mechanism to collect community-level data, which enables them to identify emerging neighborhoods, boundaries, cultures,[26] and perceptions of place.[27] Second, they enable planners to engage directly with citizens. For example, e-Participation or smart governance systems allow citizens to engage with planners online through voting platforms, and to contribute to datasets that facilitate the spatial analysis of communities.[28] Finally, ICTs streamline the provision of city services, either as a consequence of more thorough and timely data collection, or as an integrated part of the city. Examples of the latter include smartcards or responsive, sensor-based streetlights and navigation systems. This is the basis of today's "smart city,"[29] which this article also explores since Israel is one of the world's leading developers of smart cities.

In the pages that follow, I will examine the competing needs of the Israeli settler-colonial regime, whose state apparatus requires, on the one hand, incremental and flexible planning processes to accommodate the state's rapidly expanding boundaries and a semiautonomous settler-driven movement, and long-range and cohesive national plans to curb the growth and expansion of Palestinian communities, on the other. Israel's ICT infrastructure installation reveals how it lays the "connected" foundations of Jewish settlements and economies on Palestinian land ahead of their incorporation into the state and simultaneously disconnects Palestinian communities within and between the same territories.

COMMUNITY AND NATIONALISM

Planning plays a central role in shaping intergroup dynamics and in the expression of community identities. Dictating the distribution of space available to different communities and thus how they construct or challenge the ethnonational order, city planning can either open or close the public sphere to certain parties. In this way, planners are regulators of nationalism, whose work offers different benefits to in-groups and out-groups.[30] Although seemingly neutral, planning and development discourses shape the hierarchical character of cities and produce a "regime of truth," which often serves the most powerful group's political and economic aims.[31] The intricate web of power relations which develops from this "truth" is often not reflected upon by planners in their day-to-day work, as they tend to depoliticize these spaces and overlook that planning itself can be the cause of inequality or conflict.[32]

Many ICT4D initiatives, particularly those focusing on "communications" rather than "technology," aim to counteract the depoliticization of space and the "regime of truth." For example, communications-oriented ICT4D often uses social media to provide marginalized groups with platforms to reengage with planners and policy makers.[33] These initiatives counter exclusionary development and planning—either by directing investment to underdeveloped communities or by enabling the marginalized to participate in planning from remote locations.

By the same token, communications-oriented ICTs can be polarizing, both causing and communicating society's dissatisfaction with government-community relations. In his historic

analysis of Palestine-Israel's radio telecommunications, Alexander Berler found that ICTs occupied a central role in attenuating societal discontent, particularly as it managed the expectations and aspirations of out-groups. In the presence of developed communications infrastructure, societal aspirations are more likely to challenge governments on current levels of development. In other words, the more connected a society is to the rest of the world, and the more freely it exchanges ideas with groups of higher standards of living, the more likely it is to oppose its own government. At the time of Berler's writing in the 1970s, telecommunications constituted radio, telephone, and the written word. Today, with the widespread integration of ICTs into everyday life, one would expect such a trend to be exponentially more pronounced.

Settler-Colonial ICT Paradigm

The analysis in this article draws on the settler-colonial paradigm to understand how ICTs can facilitate a nation's extranormative political aims. While many studies of ICT4D highlight implementation failures, specifically their shortcomings in accounting for context and inequality,[34] I argue that such failures are central to the successful functioning of settler colonialism and have yet to be empirically examined or theorized alongside community-level data. This study applies settler-colonial theory to community-level demographics in an effort to define the relationship between the two in the case of one modern, and as yet incomplete, settler-colonial venture: Palestine-Israel. In particular, I examine *demographic displacement, economic exploitation*, and *political control*.

The goal of *demographic displacement*, or demographic engineering, is to ensure a favorable ratio of the colonizer to the indigenous. Thus, ensuring such a favorable ratio serves as the threshold for most decision making in settler-colonial contexts, with *economic exploitation* occurring selectively to benefit settlers when they are unable to displace the indigenous. In the case of ICT4D, I show that the level of permanency such an investment entails for the indigenous serves as an intervening variable in terms of the level of exploitation that occurs. In such cases, and as long as it does not enhance their permanency on the land, ICT4D may inadvertently benefit indigenous groups. In cases where displacement cannot be achieved, ICTs are used by settlers to exploit the indigenous who remain. Lastly, *political control* is critical to obtaining indigenous land and entails the manipulation of the political systems of both the settler group and the indigenous to curtail the latter's participation in decision making. Such political control includes assembling regulatory bodies or passing legislation that supports the technology needs of the settler—or failing to do so when it would benefit the colonized. It may also entail manipulating the connectivity technology provides, as well as its content. The latter approach is more subtle but nonetheless serves to manage the expectations of indigenous groups.

It is these facets of settler colonialism that shape the story of Israel. Planning is, in many ways, a form of storytelling, and planning texts—most notably in the Israeli case—write the history of the state while laying the foundations for its future. The repopulation of "abandoned cities,"[35] abstract notions of an "ideal demographic balance,"[36] and judgments as to which theories and models constitute a modern or provincial approach to planning[37] do not reflect the Palestinian reality. Not surprisingly, such plans fail to align with Palestinians' interests. Despite the use of mainstream, normative

development language, the discourses of settler-colonial regimes as they relate to the public interest can easily be located within their extranormative aims.[38]

The Case Study: Israeli Planning

City planning in Israel has followed a complicated and controversial trajectory since the state's founding in 1948. From that time, and until the early 1990s, a momentous transformation occurred: Palestinian cities and towns throughout the country were evacuated and their former residents, unable to return to their homes, relocated to other countries in the region or remained within the new state, resettling in the north or south and around coastal cities, such as Haifa and Nahariya. Simultaneously, a massive influx of Jewish immigrants rapidly resettled former Palestinian cities and towns or established new settlements and townships throughout the countryside.

Zionist settlement and immigration were managed by the British prior to the creation of the state, and by the Israeli military thereafter. Akin to instances of colonial implantation elsewhere, many of the Jewish settlements reflected the designs of the colonizers' own models and planning needs.[39] And like other European colonizers, the Zionist leadership of the newly established state resorted to centralized planning.[40] They used Ottoman and British law to expropriate Palestinian land, as spatial planning and development were placed in the service of Zionist colonization. After 1967, they did the same using Jordanian law, despite the prescription under international law that occupying forces must enforce the indigenous legal and administrative systems in place prior to occupation, with the aim of providing stability to the occupied group's community.

In the early 1990s, the Oslo Accords set in motion a series of agreements between the Palestine Liberation Organization (PLO) and the Israeli government that purportedly sought to reorganize the spatial-demographic arrangement, ushering in the possibility of an independent Palestinian state. At the time, the State of Israel occupied the area east of the Green Line, the West Bank, and Gaza—areas referred to by the Accords as the occupied Palestinian territories (oPt). The stated objective of Oslo was to set in motion a multiphase Israeli withdrawal from the oPt, and under the agreement, the West Bank area was divided into three administrative territories—Areas A, B, and C—to be jointly or separately governed. Even today, the return of Palestinian land has not occurred; indeed, the expansion of illegal Israeli settlements beyond the Green Line has been ongoing. Israel continues to pass legislation to legitimize its presence in the oPt by "legalizing" both new settlements and older ones, incorporating them all but in name within the state.

Historically, Israeli planning and development have been characterized by a hierarchical, top-down approach, based on the state's two primary goals: population dispersal and the settlement of border regions to increase Jewish presence over the land.[41] By design and necessity, new settlements on Israel's periphery have been dependent on centralized government and Jewish metropoles, as they were settled in the absence of local economic infrastructure.[42] Many new Israeli immigrants, particularly those of Middle Eastern or African descent and those with lower socioeconomic statuses (SES), are directed to these areas. This group, often referred to as Mizrahim, populates most rural townships, or "development cities," which are located within or alongside Palestinian towns in order to curb the latter's development and expansion. Further up

the pecking order, above both the Palestinians and Mizrahim, are Jewish immigrants of European origin, the Ashkenazim, considered Israel's "founding" or "charter" group.[43] Today, individuals from this group tend to immigrate to established cities, where they invest high levels of social and economic capital. Below the Ashkenazim and Mizrahim, but above those Palestinians residing in the oPt, are the Palestinian citizens of Israel (PCIs), who remained within the state's borders in 1948 and now represent 20 percent of its population. While the PCIs hold Israeli citizenship and are nominally afforded the same rights as other Israelis, like Palestinians in the oPt, they are prevented from obtaining permits to accommodate the natural expansion and development of their towns, they receive fewer government funds than their Jewish counterparts, and, for all intents and purposes, they reside in Israel as second-class citizens.[44]

ICTs in Palestine-Israel

Since the establishment of the Palestinian Authority (PA) in accordance with the Oslo Accords, Palestinians in the oPt have been legally permitted to import and establish their own ICT infrastructure.[45] However, oPt infrastructure is highly deficient when viewed in terms of territories with comparable income levels, a fact that is largely attributed to Palestinian dependence on Israeli permit systems—a mainstay of the settler-colonial regime.[46]

Israel controls access to internet frequencies by: limiting the PA's ability to develop infrastructure in Palestinian-controlled Area A; allowing limited development in Area B, under ostensibly joint Israeli-Palestinian control; and forbidding development in Area C, which represents the majority of the oPt, and is under the exclusive control of Israel.[47] In addition, there is a striking difference in the ability of providers to import equipment such as transmitters; doing so can take up to two years for Palestinians in the oPt, but typically only weeks for Israelis.[48]

Moreover, due to Israel's restrictions on the development of fiber-optic cable technology and other fixed ICT infrastructure, Palestinians must use the only fixed ICT (that is, broadband internet and landline) provider permitted to build in Area C, PalTel, which routes all calls through Israel.[49] As a result, Palestinians pay twice for their calls—once to the Palestinian-owned PalTel and a second time to its Israeli counterpart.

Until 2009, the cell phone company Jawwal was the only Palestinian-owned cell phone service provider operating in the oPt, deploying 2G and, less often, 3G. Around that time, Israel permitted Wataniya (now Ooredoo[50]) to enter and diversify the market, but granted this Palestinian company the lowest frequency spectrum (among commercial providers) in the world.[51] Finally, in late 2015, Palestinian cell phone providers in the oPt were legally permitted to deploy 4G. Akin to users that rely on PalTel landline services, who pay both the Palestinian company and the Israeli one to route calls through Israel's switchboards, cell phone users pay added fees for long-distance calling, as Ooredo and Jawwal were assigned two separate area codes. Such costs are magnified once again due to insufficient coverage and associated roaming throughout the oPt.

Despite the new mandate for 4G, most Palestinians today continue to operate on only 2G bandwidth.[52] At the time of this writing, Ooredo had announced that it planned to offset some of

these added fees by providing free 3G to Palestinians in the oPt and free calls to its users in Gaza. Nonetheless, over a quarter of Palestinian mobile users continue to contract with Israeli providers using the same networks that service illegal settlements within the West Bank.[53] Not only is the Israeli market liberalized, with four major (and cheaper) providers, but connections are among the fastest in the developed world and provide users frequencies up to two thousand times greater than that of their Palestinian counterparts.

If ICTs are to be understood within the settler-colonial framework, and its goals of spatial displacement and political and economic control, one would be remiss not to analyze the reality of *all* groups involved: the PCIs, oPt Palestinians, settlers in the oPt, and Jewish Israelis residing inside the Green Line. It is important to note that many studies on Palestine-Israel do not correctly capture or compare the diversity of connectivity between populations on either side of the Green Line. These omissions also do not account for service provision to Israeli settlers in the oPt (distinct from those within Green Line), or to the PCIs, who are often omitted altogether from such studies.

By examining the four groups enumerated above, it is clear that while they may be located in many of the same places, these groups live in highly disparate conditions. The analysis that follows demonstrates that it is within these overlapping spaces and disparities that we can best understand the settler-colonial enterprise and ICTs' role therein. Here, colonizers are in the unique position of choosing between advancing their own development and that of the occupied under conditions that defy reason, normative development, or profit motive.

Settler Colonialism: Re-engineering the Rules and Norms of ICT4D

Many scholars have noted that settler colonialism is most obvious where it fails.[54] As ICT4D and modernization missions are oriented around market flows rather than the social contract, their use often inadvertently marginalizes the poor who reside on the fringes of the market. The Israeli case is no exception, although interventions omit indigenous economic growth by design rather than happenstance, in this instance. What is unique here is that the settlers live among the indigenous, making the primary benefits of ICT4D difficult to assign discriminately. Thus, Israel's approach to ICT4D amid the continued presence of Palestinians on the land reveals the mechanics of a settler-colonial system in which ICT4D fails to "modernize."

Inside the Green Line, ICT infrastructure enjoyed by the PCIs is deceptively similar to that of Jewish Israelis. Those (mostly displaced) Palestinians remaining within the state after 1948 were granted Israeli citizenship, and therefore seemingly share the same benefits. In particular, they enjoy similar levels of wireless connectivity to other Israelis. The difference lies in the two groups' connectivity through fixed infrastructure, which requires the permanent installation of hardware and a permit.

ICT infrastructure is like any utility, such as water, gas, or electricity.[55] Its deployment faces many of the same obstacles as any infrastructural improvement. Israeli planners note that furnishing new ICT hardware to what they refer to as "preexisting villages"[56] can be problematic, requiring significant creativity to retrofit old buildings with new connections

without compromising historical integrity. Nevertheless, Palestinian localities inside the Green Line that have been "resettled" by Jewish immigrants manage to obtain easy access to quality fixed broadband internet connection, while the PCIs who reside outside the mixed cities must use poor fixed-ICT infrastructure.[57]

Outside the Green Line, the reverse is true. As detailed above, investment in fixed ICT infrastructure, at least in Area A, is determined by Palestinian providers and permit systems. Nonfixed infrastructure and cell phone bandwidth are controlled by Israel and are thus similar to the PCIs' fixed infrastructure. The different ways in which Israeli planners deploy ICTs—which are ordinarily aimed at integrating marginalized communities—between the two populations are illustrative of Israel's exceptional ICT4D policies, notably revolving around national goals rather than need. This is especially clear where plentiful 4G cell phone coverage penetrates deep into the rural parts of the oPt for settler use, regardless of need or legality, while at the same time, coverage for Palestinians—who have only 2G or 3G connections—is not responsive to need or population density.

This differentiation between population groups is achieved largely by Israel's manipulation of the permit systems governing construction. In the oPt, cell phone coverage and bandwidth allocation are outlined by Telecommunications Law 3/1996 and fall under the auspices of the Joint Technical Committee (JTC), which is meant to represent the interests of both Israelis and Palestinians pursuant to Oslo. However, the JTC has not met in over twenty years, and permissions to build towers in the oPt (except for in Palestinian-controlled Area A) have until now been issued by the Israeli government. Like permits for other infrastructural improvements, tower permits are not approved for Palestinians for purported security reasons, and equipment imports are limited on the same grounds. In addition, such infrastructure must also be placed in elevated areas to be functional, and more often than not these areas are settled exclusively by Jewish Israelis.

The differentiation described demonstrates that ICT4D distribution is dictated by the stage at which the land has been effectively resettled and by the practicalities involved in managing occupied populations. As many point out, settler colonialism is a means to an end—displacement. However, this end may also be achieved through assimilation, subordination, or other means. Inside the Green Line, Palestinians are a numerical minority and are less existentially threatening than in the oPt; in short, the settler-colonial mission has largely been achieved there with the PCIs submitting to Israel's political systems, whether they choose to participate in them or not. In the oPt, Israel asserts greater political control by barring the installation of infrastructure or by preventing the assembly of ICT4D regulatory bodies altogether. It does so by manipulating international law governing conflict and invoking security concerns and priorities to supersede such legal instruments, which otherwise prioritize the development of the occupied group.[58] Thus, like settler-colonial systems more broadly, its ICT4D failures are most evident where Israel has not achieved a favorable demographic; here, the technology fails to "modernize" the relevant demographic in the way it is intended. For Palestinian populations in northern Israel, along the coast (inside the Green Line), and in much of the oPt, ICT4D is deployed in such a way as to localize rather than globalize communities—contrary to its intended function.

Planning for Failure

Prior to 1948, Israel's planning, however informal, could be best characterized as decentralized—guided as it was by a settler movement rather than a state. But since the state's founding, rural populations have relied heavily on centralized planning to offset their dependence on the state's central, densely populated urban core.[59] Such is the case not only because of the government's affinity for traditional planning, but because Israel's planning and economic development scheme was crafted around a national policy of population dispersal rather than informed by ordinary, organic growth.[60]

Today, Israel's urban population has increased exponentially, and the state's boundaries have expanded, with Jewish immigrants relocating to both sides of the Green Line in growing numbers. Guided by the Zionist project, the state continues to locate and fund settlement towns and conurbations in the oPt that are dependent on the central government. Incremental planning occurs only where state and settler efforts to resettle the land diverge. Such would be the case when expansion follows settler groups' installation of new outposts, or the decision to "vacate" (as opposed to formally evict) Palestinian neighborhoods. In such instances, Israel uses a hybrid form of master and incremental planning—incremental while it is illegally expanding settler communities, and master planning once these become fully integrated into the state and are used to advance its borders.[61]

Israel's investment in ICT infrastructure that covers private Palestinian land as well as illegal settlements in the oPt enables it to support quasi-independent settler expansion. By providing settlers with a flexible network that connects urban Israeli centers—new as well as unofficial Jewish settlements—and their respective resources, Israel enables inorganic migration patterns, which, alongside its investment in ICT4D, demonstrates a complete reversal of planning norms and practices.

Upon entry into Israel, Jewish immigrants are settled as a priority in "development towns" with little to no structural economic opportunities. These urban settlements, or satellite towns, are strategically located to service the surrounding agricultural settlements.[62] They absorb new immigrants who, for the most part, are characterized by their low SES and lack of education and employability.[63] As a result, many of these new settlers compete with Palestinians for jobs. While some new Israeli immigrants do eventually migrate toward the city for work, the high cost of living there often turns initially state-sanctioned housing into long-term homes, particularly as the "founders" of such conurbations tend to hold higher positions in the social hierarchy, conferring economic (and social) benefits that would be inaccessible to them otherwise.[64] Despite the absence of human or capital resources in these satellite towns, Israeli settlers inside the oPt enjoy high levels of connectivity comparable to that of their city-dwelling Israeli counterparts in central Tel Aviv. Such is the case irrespective of the settlement's age, stage of development, and need or demand related to population density (see figure 1).

Such a settlement practice, while irrational and contrary to basic planning norms, finds support in one interesting and highly contested theory. Richard Florida's theory of migration, detailed in the *Rise of the Creative Class*, comes closest to rationalizing such a dynamic.[65] Florida's main premise is that high SES migrants flow toward locales with amenities and unique social benefits rather than for the availability of jobs. In the case at hand, one could surmise the draw for such migrants is
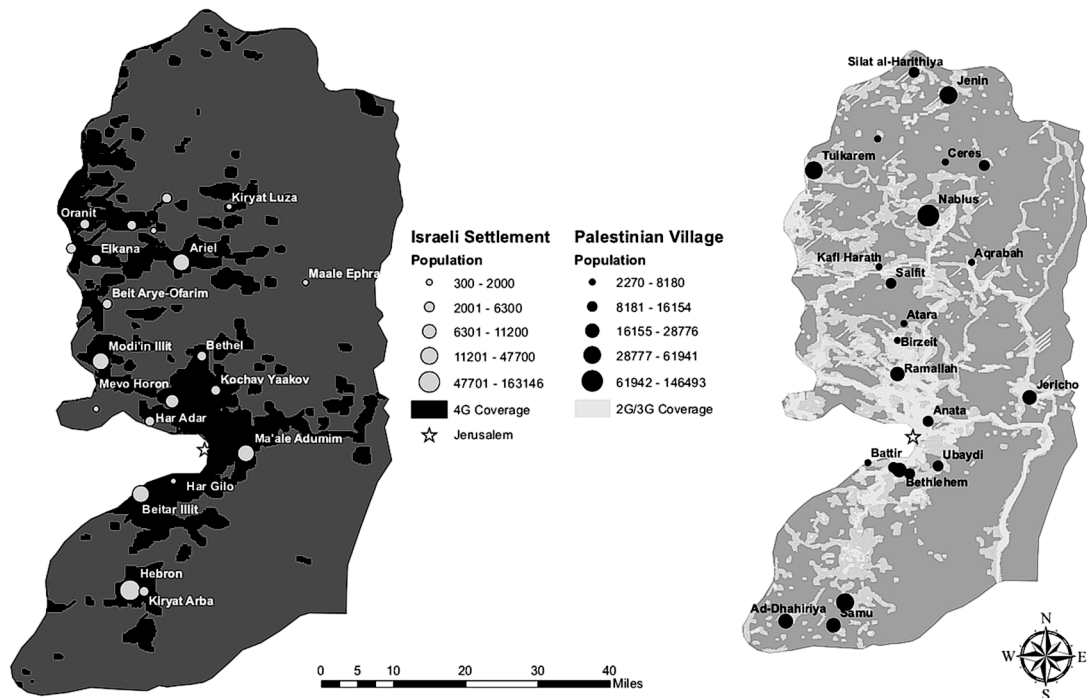
Figure 1. Comparison of cell phone coverage between settlers and Palestinians in the oPt.

proximity to and engagement with the Zionist movement rather than economic opportunity. Notwithstanding the criticisms his assertion may have generated,[66] Florida argues that widespread ICT accessibility and changing work cultures enable creatives to access jobs and industry remotely, freeing them to live anywhere they choose, and prioritizing access to arts, entertainment, and sporting venues, for example—rather than economic opportunity. Florida contends that today the "creative class" is the driving force of economic development, and he includes among its ranks professionals in science, education, finance, and law. Critics argue it is impractical and improbable that individuals would relocate for easier access to, say, the beach or the ballet in the absence of a job. Although it is increasingly true that job tasks can be performed remotely, the widespread use of flexible, ICT-based work has generally been found not to be a significant factor in migration, much less a driver of migratory patterns.[67] For settlers in the oPt, however, this phenomenon is both the exception and the rule. While the SES of Florida's creative class is quite different, the same settlement-development standard appears to function in the case of many new low-SES Jewish settlers. In other words, it is settlement that dictates industry and ICT investment rather than the other way around.

Typically, migration flows follow economic opportunity, from poor ICT-based infrastructure countries and regions to those with highly developed ICT-based infrastructure,[68] the premise being that industry and employment drive migration. In other words, people move to areas where they can find work, and because ICTs augment economic growth, migration flows tend to follow the conventional rural-urban direction, since it is in the cities that there are greater job prospects.

Although Palestinian migration to new localities is a rare occurrence (as the Israeli authorities seldom approve the establishment of new Palestinian communities), Palestinian laborers continue to move from rural to urban areas, from urban to urban areas, or stay and commute to work in Israeli settlements on either side of the Green Line (see table 1).[69] These patterns suggest that for Palestinians, economic opportunities dictate where they live, while for Jewish Israelis, settlement dictates opportunity.

TABLE 1. FIVE-YEAR MIGRATION PATTERNS AMONG JEWS AND NON-JEWS, BY PERCENTAGE (2003–2008)								
	(N)	Same locality	Different locality	(N)	Urban–Urban	Rural–Rural	Urban–Rural	Rural–Urban
Total	(291,322)	86.1	13.9	(40,417)	67.4	7.6	17.1	7.9
Jews	(241,868)	83.8	16.2	(39,048)	67.4	7.7	17.6	7.3
Non-Jews	(49,454)	97.2	2.8	(1,369)	69.2	1.9	4.6	24.3
SOURCE: Israel Census of Housing and Population, Statistical Abstracts 2003–2008.								

Studies show that access to ICT infrastructure exponentially improves nations' economic outputs, even absent human capital or resources.[70] Be that as it may, ICT4D critics caution against grand infrastructural investments in underprepared cities, particularly where local economies are weak or based on industries incongruent with such costly investments, as these end up being underutilized. The deployment of ICT infrastructure in the oPt reveals how Israel localizes and confines Palestinian economies while privileging the growth of that of its settler-citizens. Studies have shown that ICT investment would greatly aid remote and isolated Palestinian economies in Gaza and the oPt that depend heavily on teleconferencing and remote work to overcome spatial blockage.[71] Today, Palestinian economies[72] underperform on multiple fronts compared with their Israeli counterparts—in terms of GDP, exports, and poverty levels, for instance—but they also exhibit high levels of technical training and readiness.[73] Despite these disparities, ICTs are the fastest growing sector in the Palestinian economy, with an annual growth rate of over 10 percent, contributing to 8 percent of Palestinian GDP in the oPt.[74]

Many virtual partnerships exist within Palestinian communities across Palestine-Israel, particularly between the oPt and Gaza.[75] Palestinian ICT professionals are widely viewed as an untapped resource for the region and for the Arabic-speaking market in Israel, particularly for their potential in software development.[76] In contrast with ICT investment in ill-equipped, resource-poor communities, such as Jewish development towns, Palestinians are not only poised for such investments, many are forced to use such technology— limited as it may be—as a result of the confining conditions of the occupation.

One would thus expect to see high returns on Israeli investment in Palestinian ICT4D from either side of the Green Line. Instead, Israel, at its own expense, actively limits Palestinian development with slow, intermittent connections—with one exception: where Israel cannot practically displace Palestinian communities or "complete" its settler-colonial mission, as it has within the Green Line, the state resorts instead to *colonial* practices that simultaneously localize

Palestinian movement and ICTs and levy heavy taxes on their use. Israel's regulation of Palestinians' telecommunications market extracts heavy fees for roaming and calls, both within and between providers. Such manipulations of Palestinian bandwidth fragment the movement of Palestinian bodies, capital, and ideas, curbing both physical and economic expansion.

Regulating (Dis)content

Israeli ICT4D policy, along with the massive influx of capital and immigrants into the country, reveals how, for Jewish Israeli society, hyperconnectivity enhances Israeli nationalism and digital citizenship. For the Palestinians who remain on either side of the Green Line, in contrast, low levels of connectivity have further fragmented the Palestinian national movement as well as Palestinians' expression of discontent whether vis-à-vis the conflict or with respect to the development of their towns and cities.

ISRAEL'S SMART CITIES

Many cities around the world are becoming increasingly "smarter," with the gradual proliferation of ICT technology. No complete list of so-called smart cities yet exists due to the rapidly growing variety of cell phone applications and infrastructural advances, but we know that Israel is one of the world leaders in smart city *development*. Israeli planners and private firms service large-scale, ICT-based projects at the government level around the world.[77] In recent years, a neoliberal turn in Israel's ICT4D policies, accompanied by foreign private investment, has resulted in the emergence of several smart cities. The Jewish diaspora's investment in Israeli municipal services has led to a proliferation of such cities, both inside Israel and across the Green Line.

Smart cities, in which ICTs are seamlessly integrated into the management of urban affairs, serve as the ultimate "playground" for real estate speculators, futurists, and master architects with excess cash to fund massive urban experiments. They integrate multiple ICT-based technologies in managing community assets—such as transportation systems, electricity, and platforms for deliberative engagement—and are intended to streamline and personalize city services. The cost of planning and implementing such endeavors is exorbitant and is mostly borne by outside, private investors, particularly in the case of remote settlements and infrastructure-poor communities. As in other instances of planning and development initiatives that are bankrolled by foreign funders, foreign investments in Israel do not necessarily benefit everyone equally. This trend is not specific to smart city planning and can be traced back to the origins of the state and its non-ICT4D projects. The largest and most systematic of these projects was the foreign-funded "Project Renewal," launched in the late 1970s to rehabilitate distressed Israeli neighborhoods under a centralized master plan marketed to funders as a Zionist enterprise.[78] Under this public-private initiative, over two hundred neighborhoods were identified as sites for redevelopment, primarily Jewish ones, although less than half have been completed. Along with promoting physical, infrastructural improvements, Hebrew-language learning initiatives and other directives were established and funded by exclusively foreign Jewish-diaspora communities. Project Renewal's

emphasis was identical to Israel's current resettlement policy, which is to rehabilitate rural, uninhabited regions for the goal of population dispersal and to primarily or exclusively benefit Jewish communities.[79]

One smart city of note inside Israel is Haluza, located in the arid southern region of the Negev. Predominantly but sparsely populated by Palestinian Bedouin communities, the Negev is characterized by comparable and low overall levels of connectivity among both Palestinians and Jewish Israelis. Haluza serves as a digital oasis in the desert, however, featuring many ICT-based initiatives that serve to effectively decentralize the management of the city, both in its governance and in the deployment of its services. Still, it is clear from its website that Haluza is not an Israeli city meant for all, and most particularly not for its Arab neighbors. Haluza's citizens, who are called "pioneers," are invited to engage in an egalitarian and democratic society by registering as residents on the website. While it is not explicitly stated that the city does not welcome Palestinians, it is clear that Palestinians would not agree to being called pioneers in a land they already inhabit.

ENGINEERING PALESTINIAN CONSENT

Earlier, I referenced Berler's 1970s research on communications management in Israel, several decades before the "internet of things," or the total embeddedness of internet-based connectivity in everyday objects and activities emerged in economies and societies across the world. In his research, Berler asserts that urbanization is, to a great extent, shaped by citizens' communication capacity, something particularly relevant to modern ICT4D and city planning.

Berler's examination of social attitudes towards communities, identities, and cities found that with higher media consumption and the free exchange of ideas, societies are more likely to identify disparities in the physical urbanization standards of their cities. At the time of his writing, Berler was talking about the consumption of unidirectional media, such as radio or print media. Berler was surprised to find that Palestinian media consumers were far more cosmopolitan and exhibited much higher levels of media consumption—and thus, psycho-social urbanization—than their Jewish-Israeli counterparts. The Palestinians he surveyed also evinced more ambitious political aspirations than Jewish Israelis, at least with regard to the planning and construction of their communities. Today, the opposite is true, as Palestinians on either side of the Green Line utilize widely disparate ICTs and much lower levels of ICT connectivity. Further, today's ICTs are multidirectional and collaborative.

According to I'lam – Arab Center for Media Freedom, Development and Research, the effects of ICTs on community aspirations on either side of the Green Line are shaped by the settler-colonial enterprise and the day-to-day conflict dynamics resulting from the occupation.[80] Here, a distinction must be made between ICT infrastructure and media consumption, especially new, or social media. While the PCIs can access Israel's sophisticated wireless ICT infrastructure, the levels and types of new media they consume do not necessarily follow Berler's findings from the 1970s. In fact, the opposite appears to be true, as is the case with many rules and norms surrounding urban development and ICTs in settler-colonial contexts. According to I'lam, despite Palestinians' lack of infrastructure in the oPt, new media content and consumption and the level of user-generated new media produced and consumed are reflective of a much more highly

politicized, informed, and mobilized populace. In contrast, PCIs enjoy better living conditions and distance from the occupation's violence, resulting in higher levels of consumption overall. Despite PCIs' high levels of new media consumption and developed ICT infrastructure, they exhibit comparatively lower levels of community aspiration and mobilization. A comprehensive follow-up study on Berler's assertions, particularly how they relate to settlers and Israelis on either side of the Green Line, would go a long way toward uncovering how his theory applies to the consumption of current media forms.

* * *

ICTs, particularly as they are used in nations' planning and development, are rapidly evolving. While their unintended negative effects on communities have been extensively documented, it is important to examine them in light of their capacity to reverse universal planning norms and best practices.

This research examines one such case for a nation whose economic development policy is guided by the highly contentious settler-colonial model. As with other instances of settler-colonial projects, analyzing how settlers fail to achieve their mission best reveals the movement's mechanics. In the Palestinian communities on either side of the Green Line in Palestine-Israel, ICT4D's failures are, I argue, intentional and a function of a carefully built network of infrastructure that serves to displace, exploit, and manipulate indigenous groups.

ICT infrastructure and the data that result from its use are increasingly providing planners and scientists with a wealth of information about how citizens conceptualize and shape cities' structures and dynamics. ICTs' potential to improve governance and inclusion, as well as to connect with planners and other citizens, is well documented. As a result, the continued application of the ICT paradigm to the settler-colonial context, and further investigation of its functioning, may therefore also provide us with a new window into the workings of settler-colonial states.

About the Author

Anna Kensicki is a PhD candidate at the School of Oriental and African Studies, University of London, and a 2017–18 Palestinian American Research Center (PARC) fellow.

	ENDNOTES

1   Kerry McNamara, *Information and Communication Technologies, Poverty and Development: Learning from Experience* (Washington, DC: The World Bank, 2003), pp. 1–100.

2   Emma Crewe and Elizabeth Harrison, *Whose Development?: An Ethnography of Aid* (London: Zed Books, 1999), pp. 23–65.

3   Christian Buckle, et al., "The Software Car: Building ICT Architectures for Future Electric Vehicles," in *IEEE International Electric Vehicle Conference* (Greensville, SC: IEEE, 2012).

4   Carol L. Stimmel, *Building Smart Cities: Analytics, ICT, and Design Thinking* (Boca Raton, FL: CRC Press, 2016). On the specific topic of ICTs and safety, see Wullianallur Raghupathi and Sarah Jinhui Wu, "The Relationship between Information and Communication Technologies and the Delivery of Public Health: A Country-Level Study," *Communications of the Association for Information Systems* 28 (2011); on economic growth as it relates to ICTs, see Simon Batchelor, Nigel Scott, and David Woolnough, *Good Practice Paper on ICTs for Economic Growth and Poverty Reduction* (Paris: Organisation for Economic Co-operation and Development, 2005); on inclusion, see Dieter

Zinnbauer, *What Can Social Capital and ICT Do for Inclusion?* (Luxembourg: Institute for Prospective Technological Studies, 2007), ftp://s-jrcsvqpx101p.jrc.es/pub/EURdoc/eur22673en.pdf.

5   Paul Dourish, "The Internet of Urban Things," in *Code and the City*, eds. Rob Kitchin and Sung Yueh-Perng (Abingdon: Routledge, 2016).

6   David Lloyd and Laura Pulido, "In the Long Shadow of the Settler: On Israeli and U.S. Colonialism," *American Quarterly* 62, no. 4 (2010): pp. 795–809.

7   James Smith, *Science and Technology for Development* (London: Zed Books, 2009).

8   Zehra F. Arat, "Democracy and Economic Development: Modernization Theory Revisited," *Comparative Politics* 21, no. 1 (1988): pp. 21–36; Akin L. Mabogunje, *The Development Process: A Spatial Perspective* (London: Routledge, 2015); Haim Yacobi, *The Jewish-Arab City: Spatio-Politics in a Mixed Community* (Abingdon: Routledge, 2009).

9   Wolfgang Knöble, "Theories That Won't Pass Away: The Never-Ending Story of Modernization Theory," in *Handbook of Historical Sociology*, eds. Gerard Delanty and Engin F. Isin (London: Sage, 2003), pp. 96–107.

10 Shlomo Avineri, ed., *Karl Marx on Colonialism and Modernization: Dispatches and Other Writings on China, India, Mexico, the Middle East and North Africa* (New York: Doubleday, 1969).

11 Frederick Cooper, "Development, Modernization, and the Social Sciences in the Era of Decolonization: The Examples of British and French Africa," in *The Ends of European Colonial Empires*, ed. Miguel Bandeira Jerónimo and António Costa Pinto (London: Palgrave MacMillan, 2015).

12 Tim Unwin, *ICT4D: Information and Communication Technology for Development* (Cambridge: Cambridge University Press, 2009).

13 Geoff Walsham, "ICT4D Research: Reflections on History and Future Agenda," *Information Technology for Development* 23, no. 1 (2017): pp. 18–41; Gerard C. Raiti, "The Lost Sheep of ICT4D Literature," *Information Technologies and International Development*, 3, no. 4 (2006): p. 1.

14 Jean-Yves Hamel, *Information and Communication Technologies and Migration,* Human Development Research Paper 2009/39, United Nations Development Programme, August 2009, http://hdr.undp.org/sites/default/files/hdrp_2009_39.pdf.

15 Kaivan Munshi and Mark Rosenzweig, "Networks and Misallocation: Insurance, Migration, and the Rural-Urban Wage Gap," *American Economic Review* 106, no. 1 (2016): pp. 46–98.

16 Nick Devas, *Managing Fast Growing Cities: New Approaches to Urban Planning and Management in the Developing World*, ed. Carole Rakodi (Essex: Longman Scientific and Technical, 1993).

17 Smith, *Science and Technology;* Devas, *Managing Fast Growing Cities.*

18 Yu Zhou et al., "De-centering 'Spatial Fix'—Patterns of Territorialization and Regional Technological Dynamism of ICT Hubs in China," *Journal of Economic Geography* 11, no. 1 (2011): pp. 119–50.

19 Smith, *Science and Technology.*

20 Eric Goldwyn, "The Most Important Transportation Innovation of the Decade Is the Smartphone," *CityLab*, 4 September 2014, https://www.citylab.com/transportation/2014/09/the-most-important-transportation-innovation-of-this-decade-is-the-smartphone/379525/.

21 Samuel Danjuma Wapwera and Charles Egbu, "Master Planning System: Constraints for Planning Authorities in Jos Metropolis, Nigeria," *Built and Human Environment Review* 6 (2013): pp. 61–81. Also see, Anssi Paasi, "Regional Planning and the Mobilization of 'Regional Identity': From Bounded Spaces to Relational Complexity," *Regional Studies* 47, no. 8 (2013): pp.1206–19; and, Erez Tzfadia and Haim Yacobi, *Rethinking Israeli Space: Periphery and Identity* (Abingdon: Routledge, 2011).

22 Kim Dovey, "Incremental Urbanism: The Emergence of Informal Settlements," in *Emergent Urbanism: Urban Planning and Design in Times of Structural and Systemic Change,* ed. Tigran Haas and Krister Olsson (London: Routledge, 2014), pp. 45–54.

23 John Forester, Raphael Fischler, and Deborah Shmueli, *Israeli Planners and Designers: Profiles of Community Builders* (Albany, NY: SUNY Press, 2001).

24   Devas, *Managing Fast Growing Cities.*

25   Maarit Kahila-Tani et al., "Let the Citizens Map—Public Participation GIS as a Planning Support System in the Helsinki Master Plan Process," *Planning Practice and Research* 31, no. 2 (2016): pp. 195–214.

26   Justin Cranshaw et al., *The Livehoods Project: Utilizing Social Media to Understand the Dynamics of a City*, Proceedings of International AAAI Conference on Weblogs and Social Media, 2012.

27   Carlos Barreneche, "The Order of Places: Code, Ontology and Visibility in Locative Media," *Computational Culture* 2 (2012): pp. 26–37, http://computationalculture.net/order_of_places/.

28   C. William R. Webster and Charles Leleux, "Smart Governance: Opportunities for Technologically-Mediated Citizen Co-production," *Information Polity* 23, no. 2 (2018): pp. 1–16.

29   Stimmel, *Building Smart Cities.*

30   Partha Chatterjee, "Whose Imagined Community?," *Millennium: Journal of International Studies* 20, no. 3 (1991): pp. 521–25; Jan Penrose, "The Limitation of Nationalist Democracy: The Treatment of Marginal Groups as a Measure of State Legitimacy," *Hagar International Social Science Review* 1, no. 2 (2000): pp. 33–62; Oren Yiftachel and Haim Yacobi, "Urban Ethnocracy: Ethnicization and the Production of Space in an Israeli 'Mixed City,'" *Environment and Planning D: Society and Space* 21, no. 6 (2003): pp. 673–93.

31   Arturo Escobar, *Encountering Development: The Making and Unmaking of the Third World* (Princeton, NJ: Princeton University Press, 2011).

32   James Ferguson, *The Anti-politics Machine: "Development," Depoliticization and Bureaucratic Power in Lesotho* (Minneapolis: University of Minnesota Press, 1994), pp. 199–201.

33   Manuel Castells, "Communication, Power and Counter-Power in the Network Society," *International Journal of Communication* 1, no. 1 (2007): pp. 238–66.

34   Kim Andreasson, *Digital Divides: New Challenges and Opportunities of e-Inclusion* (Boca Raton, FL: CRC Press, 2015).

35   Alexander Berler, *Urbanization and Communication: Communication Systems and Their Impact on Socio-cultural Urbanization in Israel* (Rehovot: Settlement Study Center, 1974).

36   Raphael Bar-El et al., *Urban Growth Centers in the Galilee: A Strategy for Aliyah Absorption and Galilee Regional Development* (Rehovot: Development Study Center, 1990).

37   Forester et al. *Israeli Planners;* Amiram Gonen and Rasem Khameyseh, *Towards a Policy of Urbanization Poles for the Arab Population in Israel* (Jerusalem: Floersheimer Institute for Policy Studies, 1993).

38   Yacobi, *The Jewish-Arab City;* Oren Yiftachel and Alexandre Kedar, "Landed Power: The Making of the Israeli Land Regime" [in Hebrew], *Theory and Criticism* 16, (2000): pp. 67–100.

39   Yacobi, *The Jewish-Arab City.*

40   Devas, *Managing Fast Growing Cities.*

41   Forester et al., *Israeli Planners;* Bar-El et al., *Urban Growth Centers.*

42   Shlomo Swirski and Menachem Shoushan*, The Development Towns of Israel: Towards a Brighter Tomorrow* (Haifa: Breirot, 1986).

43   Yacobi, *The Jewish-Arab City.*

44   Amal Jamal, "Nationalizing States and the Constitution of 'Hollow Citizenship': Israel and Its Palestinian Citizens," *Ethnopolitics* 6, no. 4 (2007): pp. 471–93.

45   Helga Tawil-Souri, "Technology's Borders: The United States, Palestine, and Egypt's Digital Connections," in *American Studies Encounters the Middle East*, ed. Alex Lubin and Marwan M. Kraidy (Chapel Hill: University of North Carolina Press, 2016), pp. 263–85.

46   Sarah Kaminker, "For Arabs Only: Building Restrictions in East Jerusalem," *JPS* 26, no. 4 (Summer 1997): pp. 5–16. Also see, Ali Abdelhamid, "Urban Development and Planning in the Occupied Palestinian Territories: Impacts on Urban Form," (presentation, Conference on Nordic and International Urban

Morphology: Distinctive and Common Themes, Stockholm, 3–5 September 2006), https://staff-old.najah.edu/sites/default/files/Urban_Development_and_Planning_in_the_Occupied_Palestinian_Territories_Impacts_Urban_Form_0.pdf.

47 Tawil-Souri, "Technology's Borders."

48 Tawil-Souri, "Technology's Borders."

49 Tawil-Souri, "Technology's Borders."

50 "Wataniya Mobile Becomes Ooredoo Palestine," *The Peninsula*, 29 November 2018, https://www.thepeninsulaqatar.com/article/29/11/2018/Wataniya-Mobile-becomes-Ooredoo-Palestine.

51 Tawil-Souri, "Technology's Borders."

52 Interview with Sam Bahour, Founder of PalTel, 15 April 2017.

53 Tawil-Souri, "Technology's Borders."

54 Lorenzo Veracini, "Introducing *Settler Colonial Studies*," *Settler Colonial Studies* 1, no. 1 (2011): pp. 1–12; Elizabeth Strakosch and Alissa Macoun, "The Vanishing Endpoint of Settler Colonialism," *Arena Journal* no. 37/38 (2012): pp. 40–62.

55 Interview, Bahour.

56 Forester et al., *Israeli Planners*.

57 Interview, Bahour; Interview with Amal Jamal, senior advisor and former general director of I'lam, 4 May 2017.

58 Rassem Khamaisi, "Israeli Use of the British Mandate Planning Legacy as a Tool for the Control of Palestinians in the West Bank," *Planning Perspectives* 12, no. 3 (1997): pp. 321–40.

59 Yacobi, *The Jewish-Arab City*.

60 Ariel Sharon, *Physical Planning in Israel* [In Hebrew] (Jerusalem: Prime Minister's Office, 1951).

61 The Knesset "Knesset Passes Settlement Regulation Law," press release, 7 February 2017, https://www.knesset.gov.il/spokesman/eng/PR_eng.asp?PRID=13341.

62 Swirski, *The Development Towns of Israel.*

63 Swirski, *The Development Towns of Israel*; Oren Yiftachel, "Social Control, Urban Planning and Ethno-class Relations: Mizrahi Jews in Israel's 'Development Towns,'" *International Journal of Urban and Regional Research* 24, no. 2, (2000): pp. 418–38, http://transculturalmodernism.org/files/mvo/2011-01-10/YIFTACHEL_Israels_Development_Towns.pdf.

64 Yoav Peled, "Ethnic Exclusionism in the Periphery: The Case of Oriental Jews in Israel's Development Towns," *Ethnic and Racial Studies* 13, no. 3 (1990): pp. 345–67.

65 Richard Florida, *The Rise of the Creative Class—Revisited: Revised and Expanded* (New York: Basic Books, 2005).

66 Jamie Peck, "Struggling with the Creative Class," *International Journal of Urban and Regional Research* 29, no. 4 (2005): pp. 740–70.

67 Swirski, *The Development Towns of Israel*.

68 Hamel, *Information and Communication Technologies.*

69 Berler, *Urbanization and Communication.*

70 Jin Sangki and Cheong Moon Cho, "Is ICT a New Essential for National Economic Growth in an Information Society?" *Government Information Quarterly* 32, no. 3 (2015): pp. 253–60.

71 Interview, Bahour.

72 Organisation for Economic Cooperation and Development (OECD), *Measuring and Assessing Well-being in Israel: Key Findings* (Paris: OECD, 2016), https://www.oecd.org/sdd/measuring-and-assessing-well-being-in-Israel.pdf.

73 *Palestinian ICT Sector 2.0: Technology Sector Development Report and Recommendations Relevant to Regional and Global Market Opportunities,* Solutions for Development Consulting Co., April 2013, http://techpresident.com/files/MC-PITA_Palestinian_ICT_Sector_2_0_Report%20(5).pdf.

74   Solutions for Development, *Palestinian ICT Sector 2.0*.

75   Fadi Shafei, "Why Some Gazans Are Telecommuting with Israeli Firms," al-Monitor, 4 August 2016, http://www.al-monitor.com/pulse/originals/2016/08/palestine-israel-gazans-working-online-israeli-companies.html#ixzz5fGIKL0je.

76   Interview, Bahour; Solutions for Development, *Palestinian ICT Sector 2.0;* Avasant, on behalf of Palestinian Information Technology Association of Companies (PITA), *Palestinian ICT Market Penetration Study, Final Report* (PITA, June 2013), http://home.pita.ps/wp/wp-content/uploads/files/Studies/international_market_penetration_study.pdf.

77   Tel Aviv-Yafo Municipality, "Tel Aviv Smart City," Tel Aviv Nonstop City, https://www.tel-aviv.gov.il/en/abouttheCity/Pages/SmartCity.aspx.

78   Naomi Carmon and Moshe Hill, "Project Renewal: An Israeli Experiment in Neighbourhood Rehabilitation," *Habitat International* 8, no. 2 (1984): pp.117–32.

79   Daniel J. Elazar, ed., *Urban Revitalization and the New Frontier: Israel's Project Renewal and Other Experiences* (Jerusalem: Jerusalem Center for Public Affairs, 1992). For a full-text version of Chapter 1 of the book, referenced in this paper, see http://www.jcpa.org/dje/articles3/urbrevit-intro.htm.

80   Interview, Jamal.