



Digital Divide:

Discrimination in Digital
Infrastructure Against Palestinian
Citizens in Israel

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7amleh- the Arab Center for the Advancement of Social Media

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Executive Summary

At a time when illegal Israeli settlements in the occupied West Bank are connected to the best of Israel's internet infrastructure, Palestinian citizens of Israel often do not enjoy the same connectivity, where even their most basic needs have been restricted or denied over 76 years. Clear disparities in internet access across Israel exist and will be investigated in this report.

The first section will focus on the most basic forms of internet access. In this section, we examine the Israeli government's claim to universality and how it falls short when it comes to Bedouins in the Naqab (Known as Negev in Hebrew). By not recognizing the Palestinian bedouin towns and villages in the Naqab, their communities are denied the most basic of services, from water to electricity and internet. When the Israeli government looks at universality, Bedouin communities are not included, even though in theory they are supposed to be equal citizens.

In the second section, we focus on Fiber optics as a faster and more reliable connection. We consider Nazareth (the largest Palestinian town in Israel) as a case study and compare it to Nof Hagalil (Upper Nazareth). Additionally, when we contrast Nazareth's access to Ariel, an illegal settlement in the West Bank, we again highlight the Israeli states' priorities which put illegal settlers at an advantage above all Palestinians' needs, including Palestinian citizens of Israel.

In the third section, we consider a similar case study on mobile internet access, using the Nazareth area to compare and contrast. Lastly, we highlight how there are more areas of discrimination in the provision of the Internet to Palestinian communities in Israel. The report highlights issues of faulty infrastructure, lack of competition, and more, to paint a picture of Israeli discrimination in internet provision. This report will dive deep into that digital gap between Palestinian and Jewish citizens of Israel, from an infrastructure point of view, showcasing the grave discrimination in service provision, and attempt to explain it.

Introduction

Palestinian citizens of Israel, are the indigenous Arab Palestinian population which remained in their homeland -historic Palestine- after more than 80% were displaced during the Nakba of 1948, following which the state of Israel was established on over 78% of historic Palestine. After this, the 150,000 original Palestinian inhabitants were granted citizenship by Israel. From the beginning, this citizenship was not complete.¹ Palestinians were subjected to direct military rule and glaring discrimination.

Living under direct military rule until 1966, today Arab Palestinian citizens form about 20% of the total population of the Israeli state. They continuously face discrimination in many aspects of life, from land confiscations, house demolitions, racist laws, and lack of access to basic needs. Some suffer from police violence and unlawful killing without equal access to justice.²

One additional aspect of this discrimination is equal access to telecommunications infrastructure, specifically internet infrastructure. While it is not a new topic,³ it persists still and is increasingly important to discuss. In an age when more and more of our lives are being digitized, this discrimination becomes more glaring and light needs to be shed on it. As the latest report by the Israeli Internet Association shows, Arab Palestinian citizens are behind when it comes to available infrastructure, available user devices, and digital literacy.⁴ This report by 7amleh will aim to address the gaps in internet access.

In this report, we first explore the literature discussing digital gaps. After which, we zoom in on the Israeli context to address the glaring discrimination faced by the Palestinian community, vis a vis on how the Jewish community is treated.

After which we focus on what happens on the ground. Real and damning case studies, look at Nazareth and the unrecognized Bedouin Villages while contrasting it with the Israeli settlements in the West Bank. This will display the disparities Palestinian

1 Masri, Mazen. (visited on the 30th of October 2024). Palestinian citizenship in Israel, An unwanted minority asserts its narrative and identity. Interactive Encyclopedia for the Palestine question. <https://www.palquest.org/en/highlight/10585/palestinian-citizenship-israel>.

2 IMEU. (2021). Fact sheet: Palestinian citizens of Israel. Retrieved from: <https://imeu.org/article/fact-sheet-palestinian-citizens-of-israel>.

3 Fresco, Oren. (2018, 22nd of October). The digital gap between Arabs and Jews shrank but remains significant. The7eye. Retrieved from: <https://www.the7eye.org.il/307163>.

4 Israel Internet Association. (2024). Connected but not equal: digital gaps, infrastructure, web uses and protection in the Arab community in Israel. (In Hebrew). Retrieved from: <https://www.isoc.org.il/public-action/digital-gap/digital-gap-arab/digital-inequality-arab-society/home-2>.

citizens of Israel face in regards to internet infrastructure. This discrimination will focus on the abundance of internet sources in the Israeli Jewish community, whilst the Palestinian community lacks the most basic of infrastructure. The discrimination is not just in normal internet infrastructure but also includes cable infrastructure, fiber optics, and mobile.

Finally, the report will end with a full discussion and conclusion. We argue that the case studies presented highlight discriminatory policies towards Palestinian citizens in Israel. Not only that, but this contrasts with the abundance of infrastructure in illegal Israeli settlements. We conclude that the Israeli state is discriminating against its citizens, and this must end. To aid in this, we end with recommendations for future work.

Theoretical section

Digital rights - the right to internet access

Digital human rights are fundamental to all human beings in this day and age. These rights must be protected from discrimination and arbitrary interference. State and private actors have a duty under international law to guarantee and protect these rights.⁵

Digital rights include a whole array of obligations which must be respected and protected. These include the right to privacy online, the right to express your opinion freely online and many more. However, in this report we will focus on the increasingly-recognized fundamental human right to internet access, as mentioned in the UDHR's Article 19, mainly discussing the physical infrastructure required for connectivity. The right to access the internet is fundamental, enabling people to become active participants in the modern world. It opens up opportunities to share and acquire knowledge, connect and express themselves through social media, engage in political organizing and be part of the global economy.⁶

When discussing internet access there is an element which relates to both physical and digital access. As a fundamental right, it must be protected from discrimination based on gender, race, ethnicity, political opinion or religion. It is thus the responsibility of authorities to ensure that the internet is accessible at all times.⁷

The digital divide

The digital divide is defined as the gap between those who have access to forms of information and communications technology, and those who do not.⁸ Primarily, it focuses on access to computers and the internet. According to Van Dijk, the digital divide is a complex and dynamic phenomenon.⁹ However, in the simplest version, the digital divide is usually defined as the unequal access and use of the internet. Thus, it is typically measured via **access to the internet**.¹⁰ The causes for the digital

5 7amleh. (2024). Palestinian Digital rights, Genocide, and big tech accountability. 7amleh. Retrieved from: [here](#).

6 *ibid*.

7 *ibid*.

8 Van Dijk, Jan (2005). *The deepening divide: Inequality in the information society*. Thousand Oaks, CA, US: Sage.

9 Jan van Dijk & Kenneth Hacker (2003) The Digital Divide as a Complex and Dynamic Phenomenon. *The Information Society*, 19:4. Pp. 315-326.

10 Ragnedda, Massimo and Muschert, Glenn.(Eds.). (2013). *The Digital Divide*. London and New York: Routledge.

divide are vast, such as income, regional aspects, education and more.¹¹ In this report, we wish to counter two main points always made, economics and geography.¹²

Today many scholars see the internet as increasing existing inequalities rather than mending them.¹³ One of the important aspects of the digital divide has been ethnicity.¹⁴ The studies show that ethnic minorities have less access to the internet, the causes mentioned include: income, education levels, occupational differences and attitudes towards technology.¹⁵

Wedimann Et al. writes that the difference of access to the internet between different ethnic groups cannot be explained by economic and geographic factors.¹⁶ They hypothesized that since almost all internet access is done through governments, by controlling these governments, ethnic majorities develop their territories and/or underdeveloped minority areas, thus leading to sustained inequality.¹⁷

The Israeli case

Mesch Et al. attempt in their paper to study the sources for gaps in access and use of the internet among ethnic groups in Israel. In it, they show that occupational categories had more of an effect on access than income or education. And that ethnicity explains these differences because of one's occupational class.

Here, we will expand on this issue. The differences between Palestinian and Jewish Israeli citizens go beyond occupational categories. In this report, we will document clear policy decisions by the Israeli state, to disregard the needs of its Palestinian citizens and focus mainly on its Jewish population, especially in the illegal Israeli settlements in the West Bank.

11 Dhakal, S.P. (2010). The digital divide and gender: A survey of environmental community organizations' leaders in Perth, Western Australia. *Journal of Community Informatics*, Vol.5 (3) and 6 (1).

12 Digital responsibility organization. Retrieved from: <https://www.digitalresponsibility.org/what-are-the-causes-of-digital-divide> (On October 31st, 2024).

13 Van Dijk, Jan (2005). *The deepening divide: Inequality in the information society*. Thousand Oaks, CA, US: Sage.

14 Mesch Et. al. (2013). "Explaining digital inequalities in Israel: Juxtaposing the conflict and cultural perspectives". In: Massimo, Ragnedda; and Glenn, Muschert. (Eds.). *The Digital Divide*. London and New York: Routledge. Pp. 222-236.

15 *ibid*.

16 Weidmann Et. al. (2016). Digital discrimination: Political bias in Internet service provision across ethnic groups. *Science, New Series*, Vol. 353, No. 6304. Pp. 1151-1155.

17 *ibid*.

Digital gaps under Israeli rule

Israel treats Palestinians as second-class citizens. But, Israel also views Palestinians as a security threat. Thus, this translates to its behaviour towards the Palestinian citizens of Israel, not just Palestinians in the West Bank and Gaza. The theory of Securitization ties viewing communities as a threat not only to extreme violence, but to negligence as well. Israel does not invest proportionally, prioritizes illegal settlements over Palestinian towns for infrastructure, and continues to hinder any economic development, all in the service of further land grabs and ethnic cleansing. Once we add this frame to the mix, the picture becomes clearer.

Methodology

For our report, we will be mostly conducting an analysis and research of publicly available information and reports. Almost all the sources will be exclusively from Israeli authorities and institutions. We will scan these reports and analyze how they treat and report on Palestinian citizens of Israel. As for connection availability, we rely on both public reports as well as internet providers' sites. These sites are open for all to use and search locations to determine if a certain type of connection is available. Lastly, for mobile connection quality and speed, we rely on a public website. The Ministry of Communications requires mobile providers to report coverage type and download speed to the ministry. The website has compiled all this information into a publicly available map, which we will rely upon when discussing mobile internet connection.

First Section: Palestinian citizens' internet access

"The forgotten" - unrecognized Palestinian towns and the false claims of universality

Connection Types

For land internet connections, there are three different types: Land phone infrastructure (DSL), Cable infrastructure (will be referred to as just cable) and Fiber optics (referred to as fiber).¹⁸

1. DSL: based on copper cables, used normally for the telecommunication infrastructure (phones). The speed of this technology is heavily dependent on the length of the copper wire being used to transfer the information. Newer technology like (G.fast) has enabled this to reach up to 1.6 (Gbps) speeds. This tech today has fiber elements fused with it. Techs included in DSL include: DSL, ADSL and more...
2. Cable: Infrastructure based on Co-Axial cables.¹⁹ Made primarily for TV, today this infrastructure with (Docsis 3 tech) can provide up to 1 (Gbps) of speed. Here, in the Israeli case, supplies up to 500 (Mbps) to its clients through this tech. This tech today blends elements of fiber with it.
3. Fiber: This tech is mainly affected by the distance between the fiber and the client. When discussing fiber infrastructure, mostly it refers to FTTB (Fiber to the building) or FTTH (Fiber to the house). In theory, there is no real speed limit with technology, it is determined based on an amalgamation of factors (number of active users, distance from fiber and more). Fiber has many advantages, not just in speed. It is physically smaller, provides higher quality and less latency, lower maintenance cost, and is more durable.²⁰

18 Knesset. (2020). Internet infrastructure that is based on fiber optics and the 5G - economic benefits and policy tools. Retrieved from: https://fs.knesset.gov.il/globaldocs/MMM/c7545c47-829e-ea11-8114-00155d0af32a/2_c7545c47-829e-ea11-8114-00155d0af32a_11_16218.pdf. (In Hebrew).

19 A cable with two conductive tissues, isolated one from the other.

20 *ibid.*

Universal or not?

According to the Israeli government, most public services such as electricity, water, telecommunication and postal services operate under the principle of universality. This is because these services are viewed as essential. Thus, no group may be excluded from them, not even due to geographical reasons.²¹ The purpose of the universality principle is the promotion of equitable justice, equal distribution, social mobility, bridging between rural and urban, and creating quality of life in the periphery.²²

In regards to our topic, there are two companies with national internet infrastructure, Hot and Bezeq (a duopoly). Both companies are supposed to apply the universality principle and operate a network across the country equally.²³ The Israeli state prides itself on being one of the few OECD countries with universality for internet infrastructure, and the only state where this applies to more than one company.²⁴

Crucially, however, the Knesset report claims that Bezeq fulfills its universality obligations, meaning it has a network that is available nationally and provides equitable service.²⁵ In a footnote attached to the report, the following is written: "There exist a few places in the country which are not connected to the Bezeq stationary network, but according to Bezeq, this is an anecdotal problem that is estimated at 0.1% of Israeli households. This situation exists in particular in the towns of the Bedouin region that through the years gained legal status". Important to note, that this anecdote is from 2020.²⁶

What this means is that Israel disregards its citizens in Bedouin villages it does not recognize. It does not count them when it discusses universality. It claims only 0.1% do not have access when the reality is over 1.5%, or 15 times more. Here we see a clear policy choice, to discount any Palestinians who are citizens of the state of Israel, who do not conform, and who wish to continue living in their ancestral home

21 Knesset.(2020). Non-portable internet infrastructure and internet speed in periphery towns. Retrieved from: https://fs.knesset.gov.il/globaldocs/MMM/54b02e53-d9b6-ea11-8116-00155d0af32a/2_54b02e53-d9b6-ea11-8116-00155d0af32a_11_16397.pdf. (In Hebrew).

22 *ibid.*

23 *ibid.*

24 *ibid.*

25 *ibid.*

26 *ibid.*

The Bedouin Palestinian towns - unrecognized and forgotten

Over 270,000 Arab Palestinian Bedouins reside in the Naqab desert (Known as Negev in Hebrew). All Bedouin towns are in the lowest socio-economic echelon. They suffer from severe economic hardship and lack of educational capacity.²⁷ 120,000 Bedouins live in villages and towns that are unrecognized by the Israeli state. These Bedouins have lived in the region for centuries and some were even moved to these towns by Israeli authorities. However, due to historical reasons, land registration is difficult in the Naqab. Israel uses the lack of land registration to not recognize these towns, confiscate their lands, and concentrate the Palestinian population in smaller and smaller areas. To this day, 35 towns are still not recognized by the state.^{28, 29}

What does it mean, though, to be illegal on your land? By being unrecognized, the residents may not get any permits, thus they are in constant danger of house demolitions and expulsion. On average, over 2000 demolitions occur in the region annually. A great example is the village of Al-Araqeeb. As of the time of writing, the Israeli authorities have demolished this town 230 times. Nine times in 2024 alone. Israeli authorities arrested many of the village's residents for refusing to give up their ancestral homes and lands. All is a part of the grand project of removing the Arabs from their lands in the Naqab.^{30, 31} These towns also do not have regular water and electricity services, lack means of transportation, and have no schools, even though Israeli law guarantees it.³²

This has led to many difficulties in times of crisis. During the COVID crisis and after October 7th, it was extremely difficult and risky for the residents to go out and

27 Abu Kishk, Hama and Solomovich, Lior. (2024, August 13th). Digital Inequality: Challenges facing female bedouin students in the digital space. Sapir college. Retrieved from: <https://mediaframes.sapir.ac.il/digital-inequality/>.

28 Sikuy-Afaq. (2020). The complete truth about the unrecognized villages in the Naqab - and the fight for equality. Retrieved from [here](#). (In Arabic).

29 Tamleh. (2018). The drawing of the separation map. Retrieved from: <https://7amleh.org/msa/pal.html>. (In Arabic).

30 Arab48. (2024, 23rd of September). The demolition of AlAraqeeb's tents for the 230th time. Arab48. Retrieved from [here](#). (In Arabic).

31 Madar center. (2020, 25th of August). The National Jewish Fund and the plan to resettle Israel by 2040. General features of the Judaization of the Naqab and Galilee!. Madar. Retrieved from [here](#).

32 Sikuy-Afaq, above.

get food due to lack of infrastructure.^{33,34} Furthermore, because these villages are unrecognized, they do not possess the protections afforded to others during wartime, such as missile shelters and sirens. The Israeli army and government think of these villages as open ground, so any missile defence system is not activated because the area is not registered as a village, therefore leaving Bedouin communities without the same level of protection against rocket strikes that other citizens of Israel receive.³⁵

In their latest report for 2024, the Israeli Internet Association discussed the digital gap between Jewish and Palestinian citizens of Israel. The poll conducted amongst Palestinian citizens showed that 25.2% of respondents used their mobile phones as their main internet supply. Of these, 29% live in a town where other internet infrastructure is unavailable, which amounts to 152,000 citizens.³⁶ This amounts to 7.3% of all Palestinians living in Israel and about 1.5% of the total Israeli population. This corresponds with what we laid out before. 120,000 Palestinian Bedouins are denied basic services including internet access because Israel does not recognize their villages. The report also states that the percentage of people who rely on their mobile phones for access is more than twice as high for Palestinians in the Naqab than in the rest of the country.

If any temporary solution existed, and offered a reprieve to the Palestinian citizens of these towns, reason would indicate that the state should embrace such temporary measures. But, what we witnessed on the ground showed the total opposite. As the state refused to provide basic services for its citizens, some pirate providers started popping up, mainly in Druze and Bedouin communities.³⁷ They operate by illegally connecting to nearby Bezeq or Hot infrastructure. The Israeli government is now attacking these piratical providers without providing any alternatives. This risks many Palestinians losing their already limited internet access.³⁸ Israel is already

33 Adva center. (2023). Food insecurity in Bedouin unrecognized villages in the Naqab. Retrieved from: <https://adva.org/wp-content/uploads/2023/09/FoodInsecurity-Negev.pdf>. (In Hebrew).

34 Adva center. (2023). Lessons from the covid pandemic were not learnt: unrecognized Bedouin towns in the Naqab on the brink of starvation. Retrieved from: <https://adva.org/he/foodinsecurity-negev-war2023/>. (In Hebrew).

35 Arava Center. (2023). No recognition and no protection: report on the bedouin villages in the Naqab. Retrieved from [here](#) (In Arabic).

36 Israel Internet Association. (2024). Connected but not equal: digital gaps, infrastructure, web uses and protection in the Arab community in Israel. (In Hebrew). Retrieved from: <https://www.isoc.org.il/public-action/digital-gap/digital-gap-arab/digital-inequality-arab-society/home-2>.

37 Crystal, Mirav. (2021, 8th of August). "Pirate internet infrastructure in the Bedouin and Arab community will be regulated or disconnected". Ynet. Retrieved from: <https://www.ynet.co.il/economy/article/sysbweajf>. (In Hebrew).

38 *ibid.*

considering halting the operation of normal cable infrastructure in places where fiber is available, denying customers the choice. However, it states that expanding cable infrastructure should continue in areas where fiber has not been installed.³⁹ The aforementioned is damning as fiber optics are at an advanced level throughout Israel, warranting the halting of cable infrastructure in many areas, while 120,000 Palestinian citizens of Israel still have no access to the internet infrastructure at all.

The Israeli claim to universality does not stand in reality as more than 152,000 Palestinians with Israeli citizenship do not have universal access. Moreover, any attempt from the community to solve this issue is attacked without offering any solution or alternative. This goes to show that Israeli claims rely on the sidelining of Palestinians, all in the service of further expansion and cleansing of an indigenous population from their ancestral land. These examples will only become more clear in the next chapter.

³⁹ Mostacky, Edeal Eitan. (2024, 22nd of July). Switching to Fibers: the ministry of communications is advancing the shutting down of cable infrastructure of Bezeq and Hot. Calcalist. Retrieved from: https://www.calcalist.co.il/local_news/article/hk0xyqso0. (In Hebrew).

Second Section: Fiber optics and the politics of digital divide

Case Study: Nazareth and Nof Hagalil (Upper Nazareth)

For years the Israeli government boasted about bringing internet infrastructure, especially fiber, to the Palestinian community⁴⁰. Claiming it will close the rural-urban gap and bring faster internet to the community. However, two years after the declaration, implementation is lacking.⁴¹ IBC HOT's fiber provider only launched in a Palestinian town in 2022.⁴² The government has increased attempts to install fiber after the war on Gaza,⁴³ with more installations around the country, even in the Gaza envelope.⁴⁴ The government touted the use of a so-called "incentives" fund, to expedite installation in non-viable economic zones.^{45,46} According to the ministry, this will result in nearly 100% of households being connected by the end of 2024.⁴⁷

In order to combat justifications of discrimination, such as distance or economics, we looked for case studies that disprove these arguments. The story of Nazareth, and the Israeli-built town of Upper Nazareth, (Today known as Nof Hagalil) is such a case.

Nazareth is the largest Palestinian city in Israel,⁴⁸ with a population of 82,485, it ranks

40 Hendel, Yoaz. (2020, 14th of October). Facebook. (Yoaz Hendel הַנְדֵל יוֹאָז). Blessing for the Arab community. Retrieved from: <https://www.facebook.com/YoazHendelpage/photos/a.474477329275370/3487802057942867/>. (In Hebrew).

41 Domba, Ami Roxas (2022, 15th of January). IsraelDefence. Ministry of communications is not pleased with the fiber installation rate in the Arab community - a designated team will find ways to accelerate. Retrieved from: <https://www.israeldefence.co.il/node/53442>. (In Hebrew).

42 IBC website. (2022, 9th of August). IBC. Fiber optics arrive in the Arab community: installation began in I'bilin. Retrieved from [here](#). (In Hebrew).

43 Ministry of communications. (2023). Due to the war: steps to accelerate fiber installations in incentive zones. Retrieved from: <https://www.gov.il/he/pages/23112023>. (In Hebrew).

44 Ministry of communications. (2024). All of the country is Fibers: for the first time - installation of fiber optics in Shokada in the Gaza envelope - in the presence of the ministry's CEO. Retrieved from: https://www.gov.il/he/pages/26032024_1.

45 Mostacky, Edeal Eitan. (2024, 6th of May). Calcalist. Fiber installation still not complete, and the incentive fund is again discussed. Retrieved from: https://www.calcalist.co.il/local_news/article/hjnuferzr#google_vignette. (In Hebrew).

46 Peretz, Gad. (2024, 21st of March). Zmanavir. Incentives fund is back: telecommunications companies will set aside 0.5% of revenues in order to complete fiber optic installations in the periphery. Retrieved from: <https://zmanavir.co.il/internet/23791/>. (In Hebrew).

47 Ministry of communications. (2022). Getting close to full fiber optics installation in the periphery. Retrieved from: https://www.gov.il/he/pages/26102022_2. (In Hebrew).

48 Kanaaneh, Rhoda Ann. (2002). Birthing the nation: strategies of Palestinian women in Israel. California: University of California press. P. 117.

in the third lowest socio-economic echelon.⁴⁹ It is also the administrative center for the district, a cultural and religious hub. Upper Nazareth (Nouf Hagalil) on the other hand, has a population of 55,511 and is ranked in the 5th lowest socio-economic echelon.⁵⁰ It was created "as a Jewish urban counterweight to Palestinian Arab Nazareth because, at the time of the establishment of the State of Israel, there were practically no Jews living in the center of Galilee. It became a national priority of the new Israeli government to dilute the concentrations of Palestinian Arabs in the Galilee region."⁵¹ Moreover, "Nazareth is inhabited exclusively by Palestinian Arabs, while Nouf Hagalil is overwhelmingly (90 percent) Jewish. While the two towns are physically contiguous and linked by a single local bus service, they are separate in terms of jurisdictional authority and administration. The two municipalities rarely cooperate, although both derive their authority and budgets from the Israeli Ministry of the Interior. Contrasts in infrastructure and development features of the two cities are pronounced".⁵²

This context is important to understand how we got here and why we chose to focus on Nazareth/Nof Hagalil. They are geographically glued, separated by a single road a few meters wide. Socio-economically, they are close as well, one being at the third and the other at the 5th lowest echelons. Both are included in the blue incentive region by the Ministry of Communications.⁵³ This means that both should have fiber optics infrastructure supplied by Bezeq until 2027. Crucially however, Nazareth has a higher population than Nouf Hagalil (Over 50% more), thus it would make sense for Bezeq to begin installations in Nazareth; however, the reality tells a different story.

For this case study, we did a simple comparison. Using available public data, we went along the border between Nazareth and Nouf Hagalil (a single road). The only factor that decides if you have access to fiber optics or not depends on which side of the road you live on.⁵⁴ Those living in Nouf Hagalil (a majority Jewish town) do have access to fiber optics and have had it for a while (most location in Nouf Hagalil that we highlighted had both Bezeq and Hot). Across the street in Nazareth, there

49 The Israeli bureau of statistics. (2024). List of population per town. Retrieved from: https://data.gov.il/dataset/residents_in_israel_by_communities_and_age_groups.

50 Population statistics are for 2024 and socio-economic are from 2021.

51 Dumper, Michael, Stanley, Bruce E., Abu-Lughod, Janet L. (2007). *Cities of the Middle East and North Africa: a historical encyclopedia*.

52 Ibid.

53 Ministry of communications. (2024). Maps of incentive zones for installation of advanced networks. Retrieved from: https://www.gov.il/he/Departments/ministry_of_communications/map/29062021_1.

54 A small section on the Nazareth side of the road does have access, many of its locations belong to the Nouf Hagalil municipality though.

is no fiber infrastructure, as we have concluded manually by researching publicly available information.⁵⁵

Furthermore, Nazareth is not just an important city for the reasons mentioned above. It also houses a tech park and hosts a few well-known Palestinian and global tech companies.⁵⁶ This park has been in operation for years.⁵⁷ We could not verify if the park itself was connected, but all streets around it were not. Even Microsoft, which has an office in the center of Nazareth, is still not connected to fiber. Locations which lacked fiber access in Nazareth included hotels, hospitals, shopping centers, fire departments and other strategic locations. The latest announcement of bid results, published by the Ministry of Communications, named many towns in the incentive zones, including some Palestinian towns (Rahat, Yarka, Nahaf). However, Nazareth is not, but Nouf Hagalil (Upper Nazareth) is again.⁵⁸

We will showcase in a different section of this report how having competition in an area between internet providers leads to better prices, service, and quality. Nouf Hagalil doesn't only have access to fiber through Bezeq, but some areas of the city have fiber access through IBC (the company that provides fiber services for HOT).⁵⁹ Thus, Nouf Hagalil residents have access to two fiber providers while its neighbor, the largest Palestinian Arab town in the country, has neither.

In 2022, the Israeli communications ministry hosted a conference in Nazareth about installing fiber optics in Palestinian communities in Israel. In the conference, they discussed the installation and an ad campaign in Arabic.⁶⁰ They picked the largest Palestinian town in the country, hosted a conference about fiber optics and Nazareth; yet, based on our research through publicly available information, there is no access to fiber optics in Nazareth.

55 Using publicly available websites, including Bezeq's own website, we entered manual addresses in Nazareth and found out that no access is available.

56 Industrial parks official website. Success stories. Visited on October 31st 2024. Retrieved from: https://iparks.co.il/success_stories/. (In Hebrew).

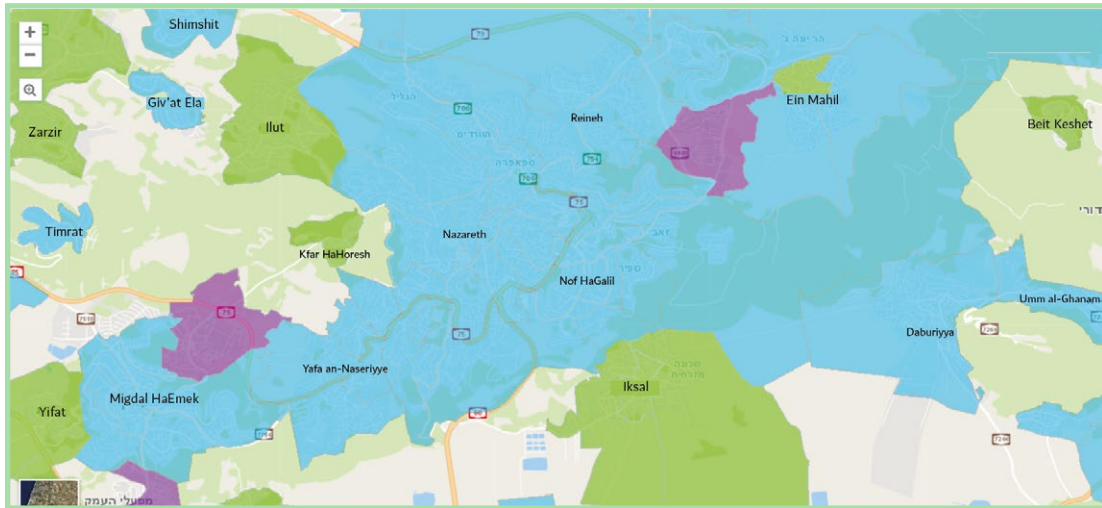
57 <https://www.ynet.co.il/articles/1,7340,L-3789338,00.html>.

58 Telecom News. (2023 2nd of February). The results of the second incentive bid for fiber optics of the ministry of communications were published. TelecomNews. Retrieved from [here](#).

59 IBC official website. (2024). Map of IBC fiber access in Israel. Retrieved from [here](#).

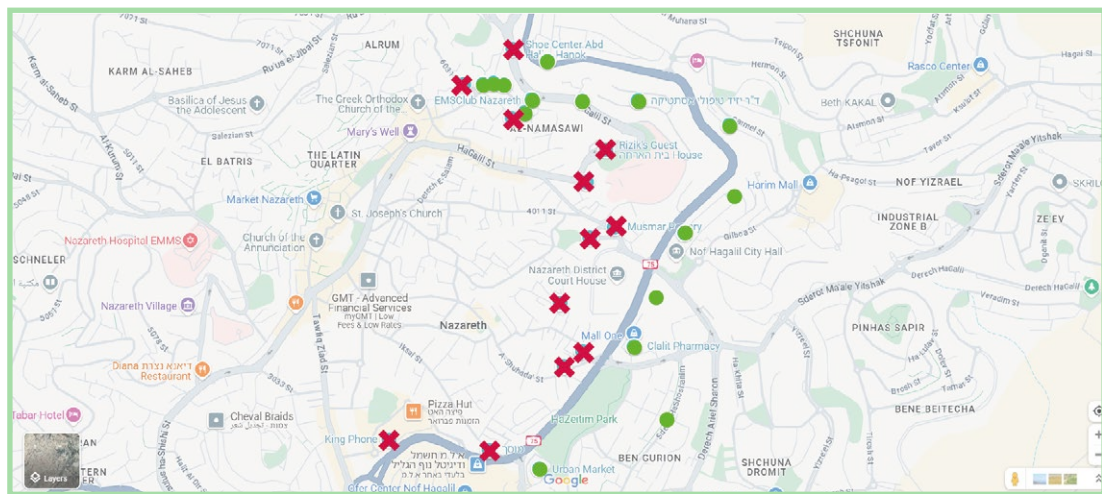
60 Israeli ministry of communications. (2022). Welcome fibers: the communications ministry hosted in Nazareth a conference about the installation of fiber optics in the Arab community and is marketing a wide explanation campaign in Arabic. Retrieved from: https://www.gov.il/he/pages/16112022_4.

Map (1) - Incentive regions for Fiber construction - Both Nazareth and Nof Hagalil are in the blue zone.⁶¹



62

Map (2) - The border between Nazareth and Nof Hagalil.⁶³

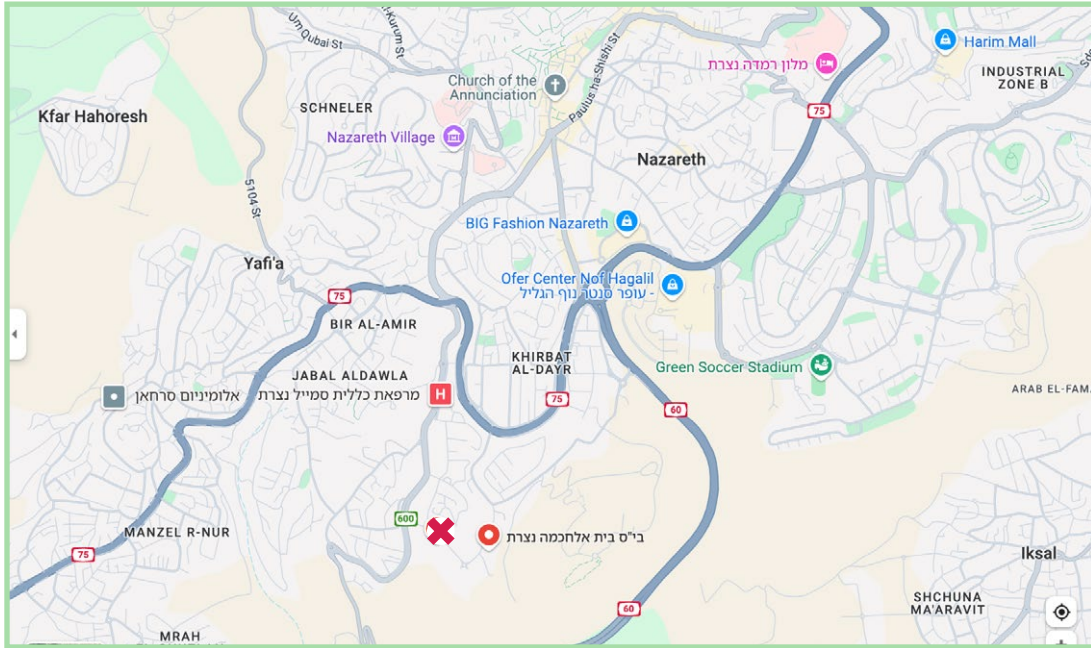


61 Map extracted on the 20/02/2025 from the ministry of communications website: https://www.gov.il/he/Departments/ministry_of_communications/map/29062021_1.

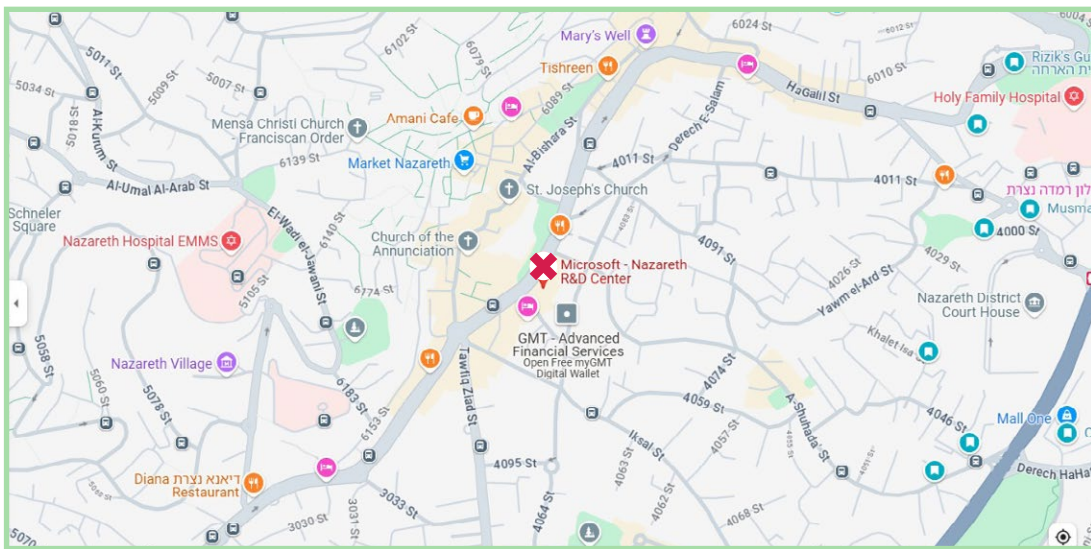
62 Map extracted from: <https://www.nperf.com/he/map/IL/-/1664.Pelephone/signal?ll=32.69883862771314&lg=35.30871010761249&zoom=15>

63 Fiber access for all the locations was extracted on 20/02/2025 from one of the these publicly available websites: 1, 2, 3.

Map (3) - Nazareth Industrial park.



Map (4) - Microsoft R&D center in the heart of Nazareth.



Quality of connection

This is not just an issue of access to better technology, it translates into better quality of connection for the customer. That is clear from the Israeli Internet Association's poll, where fiber connection translated into higher satisfaction rates by the customers.⁶⁴ Hence, we may correlate that fewer fiber connections in the Palestinian community would result in less quality, and thus lower satisfaction. We see this in the polling, where Palestinians had lower satisfaction with their internet connection, 51% of the Palestinian citizens in Israel stated they were dissatisfied with their internet provision.⁶⁵ Data from the internet association from 2023 show an even bigger discrepancy, with 55% of Palestinian users claiming their dissatisfaction with their internet quality, compared to 45% in the Jewish Israeli community.⁶⁶

Fiber optics and international law - Fibers optics in illegal settlements in the West Bank

In addition to discussing the case of Palestinian citizens of Israel, it is important to also discuss illegal Israeli settlements in the West Bank.

Since Israel occupied the West Bank in 1967, the process of building illegal settlements on Palestinian land was initiated. Even though many experts, international organizations, and decisions by the UN have called this illegal, there are still over 750,000 Settlers in the West Bank today.

Recently, the ICJ (International Court of Justice), ruled that this occupation is illegal and must end within a year.⁶⁷ However, Israel remains defiant and continues the occupation and settlement expansion.

One way Israel reinforces these settlements is by providing them with services at the state's expense. One great example is the topic of this chapter - Fiber optic cables. One might assume that illegal settlements are an economic burden, and being located deep within Palestinian land, would be difficult to reach, geographically isolated, and

64 Israel Internet Association. (2024). Connected but not equal: digital gaps, infrastructure, web uses and protection in the Arab community in Israel. (In Hebrew). Retrieved from: <https://www.isoc.org.il/public-action/digital-gap/digital-gap-arab/digital-inequality-arab-society/home-2>.

65 *ibid*.

66 Israel Internet Association. (2023). Quality of internet connection all around Israel, by geographical region and providers of residential internet. (In Hebrew). Retrieved from: https://www.isoc.org.il/sts-data/internet-quality_il_2023.

67 International court of justice. (2024). Summary. Retrieved from: <https://www.icj-cij.org/sites/default/files/case-related/186/186-20240719-sum-01-00-en.pdf>.

thus very costly, and potentially illegal, to connect fiber optics. However, as one may witness from the map provided by the Ministry of Communications, many of these settlements belong to zones which will be connected to fiber earlier than many other Palestinian regions within Israel (purple and green). Here we have an announcement by the minister bragging about bringing Fiber to the settlers in Hebron, as well as stating that this will support the settlements movement in the West Bank.⁶⁸ In addition, the ministry plans to expand cellular coverage for settlers in the West Bank. Furthermore, recent reports reveal that the Israeli army has installed civilian cellular towers inside Gaza, such as those along the newly constructed Nitzanim Corridor. These towers serve military needs while also symbolizing a deeper entrenchment of Israeli control over the region's telecommunications landscape.⁶⁹ On its website, IBC (which Hot owns a significant share of), is advertising how its fiber services are available in Ariel, for example, a settlement of 20,000 and is ranked 6 on the socio-economic scale. These settlements not only enjoy the latest technologies but also have the advantage of multiple suppliers to increase competition and reduce costs.

Map (5) - Ariel a settlement in the blue zone as well.⁷⁰



68 Ministry of communications. (2023). Israel is getting connected - and now the fiber optics revolution also arrives in Hebron. Retrieved from: <https://www.gov.il/he/pages/22082023>. (In Hebrew).

69 ציר נצרים החדש: מאות מיליונים הושקעו בעבודות תשתית, והקבלנים עושים קופה (2024) retrieved from: https://www.calcalist.co.il/local_news/article/b1gx6e84kx.

70 Extracted on 20/02/2025 from the ministry's website: https://www.gov.il/he/Departments/ministry_of_communications/map/29062021_1.

Third Section: mobile networks - the quality of connections and effects on Palestinians' access

As the report from the Israeli Internet Association shows, 25.2% of Palestinian citizens of Israel rely on mobile phones as their primary source of internet access.⁷¹ Hence, we thought it would be important to see how the mobile infrastructure and its quality differs between neighboring Palestinian and Jewish towns to see if any discrepancy exists.

In order to do so, we will document which different types of connections are available. The existence of more advanced technology for cellular connectivity correlates to more quality, speed and access. Then, we compare public download speeds, using available public sources.

An overlay of different connection types⁷²

Mobile phone infrastructure is usually divided based on generations:

- **Generation 1 (1G):** The original cell phones, used analogue networks that allowed a call at a high cost and limited coverage.
- **Generation 2 (2G):** Worked by using digital networks, and allowed calls and texts.
- **Generations 3 (3G):** Enabled data and internet usage, including emails and video calls, coincided with the introduction of smartphones. Usage for entertainment and business.
- **Generation 4 (LTE):** Allowed high data services through the phone, including video, music and mobile games. LTE stands for (Long Term Evaluation) and can support a download rate of up to 300 Mbps. LTE-advanced (known also as generation 4.5) increased the rate to 1 Gbps. This technology offered carrier aggregation as well, giving telecommunication companies more flexibility in the provision of Internet services.

71 Israel Internet Association. (2024). Connected but not equal: digital gaps, infrastructure, web uses and protection in the Arab community in Israel. (In Hebrew). Retrieved from: <https://www.isoc.org.il/public-action/digital-gap/digital-gap-arab/digital-inequality-arab-society/home-2>.

72 Knesset. (2020). Internet infrastructure that is based on fiber optics and the 5G - economic benefits and policy tools. Retrieved from: https://fs.knesset.gov.il/globaldocs/MMM/c7545c47-829e-ea11-8114-00155d0af32a/2_c7545c47-829e-ea11-8114-00155d0af32a_11_16218.pdf. (In Hebrew).

- Generation 5 (5G): allows more users, more devices, and more traffic. Thus, it enables download speeds up to 20 Gbps, more capacity and low latency for smooth data transfers.

5G was developed with "big data" in mind and to allow the development of futuristic technologies such as smart cars and cities.

Case study: comparing neighboring Jewish-Palestinian towns in Israel

Nazareth

Nazareth's neighboring Nouf Hagalil (Upper Nazareth) has way less population, not a big difference in socio-economic status while Nazareth is culturally, religiously, and administratively more central than Nouf Hagalil.

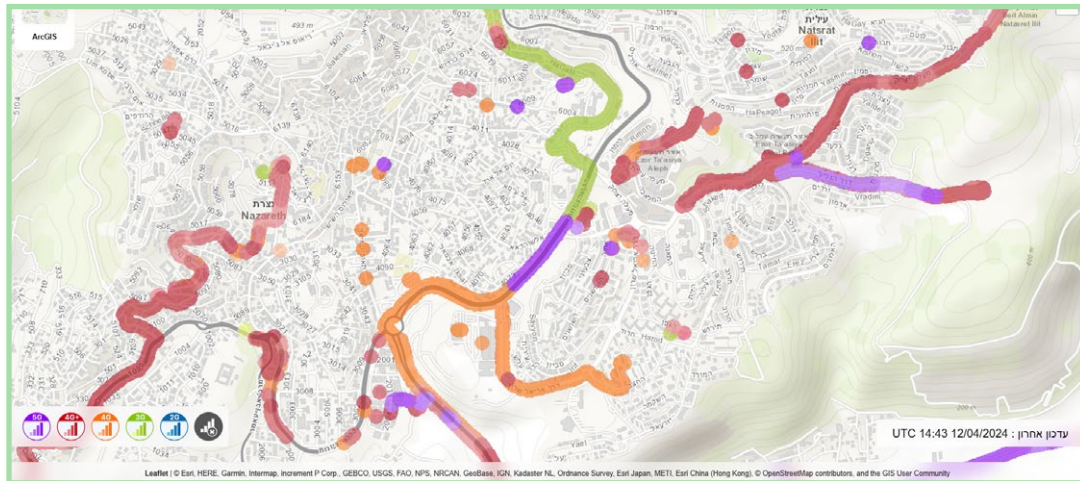
When it comes to mobile technology, the difference is stark. According to publicly available data⁷³, based on maps reported to the ministry of communications by the companies themselves, such as Pelephone cellular company (Map 6), one may indicate the road (the border) that separates Nazareth from Nouf Hagalil (Upper Nazareth), as the line between better advanced mobile technology and less. Almost all 5G coverage is exclusive to the eastern side of the road (Upper Nazareth), with the rest being 4 and 4.5G. While the 3G areas are all to the west (Nazareth side) of the road. Cellcom (See map 8) has 5G coverage in some parts of Nazareth that are close to Nuof Hagalil. For Partner Cellular Company (See map 10), the 3G areas are only in Nazareth, whilst almost all the areas with 5G coverage are in Nouf Hagalil. Hot mobile Cellular Company (See map 12) is more evenly split. For 3 out of 4 companies, the border between the two cities is effectively the border between having faster mobile connection and slower connection.

When considering download speed, Nouf Hagalil (Upper Nazareth) takes the lead again. For Hot Mobile (See map 13), no download speed is visible in Nazareth at all. For Cellcom (See map 9), an overwhelming majority of connections (over 86%) in Nazareth are on the lower end of the spectrum compared to 33% in Upper Nazareth. Also, the lowest in Nazareth are at the bottom end of the scale. For Partner (See map 11), it is equal percentages, however, Nazareth still has a lower threshold compared to Upper Nazareth. Pelephone continues to be dire (See map 7), with 75% on the low

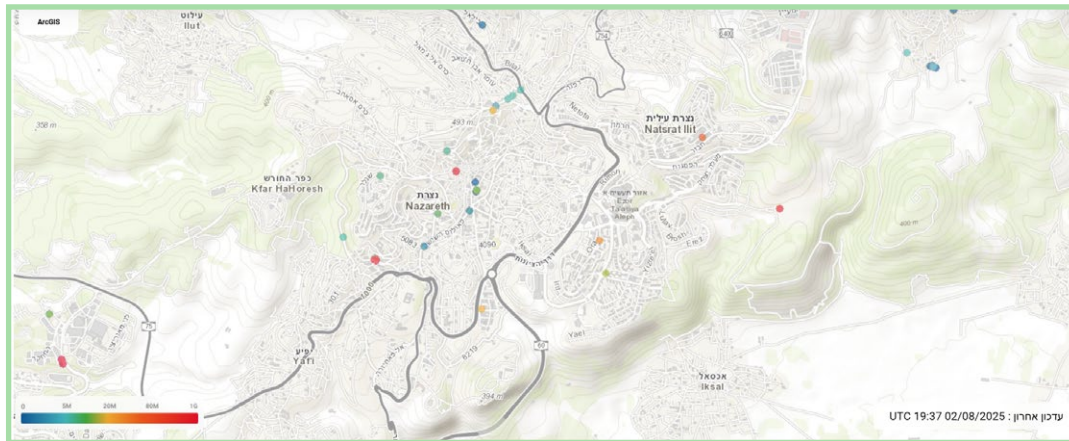
73 Nperf. (2024). Map of cellular coverage. Retrieved from: <https://www.nperf.com/he/map/IL/-/1664.Pelephone/download?ll=32.69589223272467&lg=35.30310431145646&zoom=14>.

end for Nazareth compared to 40%. Important to note that Upper Nazareth has a few points of the highest speeds when Nazareth's maximum is barely in the middle of the spectrum.

Map (6) - Types of cellular coverage provided by Telephone Telecommunications.⁷⁴



Map (7) - Download speed provided by Telephone Telecommunications.⁷⁵



74 Image extracted on the 20/02/2025 from: <https://www.nperf.com/he/map/IL/-/1664.Pelephone/signal?ll=32.69883862771314&lg=35.30871010761249&zoom=15>.

75 Image extracted on the 20/02/2025 from: <https://www.nperf.com/he/map/IL/-/1664.Pelephone/download?ll=32.700427638139935&lg=35.30624145859069&zoom=14>.

Al-Naqab / Negev

Another important region to focus on is the Naqab desert. According to the report by the Israeli Internet Association, 42% of Palestinians living in the Naqab desert rely on mobile internet as their main connection method.⁷⁶ This is way higher than any other region in the country. One would expect if there is a heavy reliance on this mobile connectivity that the service would provide appropriate access. However, according to recent research by Abu-Kaf et. most mobile internet in unrecognized Bedouin towns uses 3G technology, and not the 4G, which is already available in most of the country. Thus, it comes as no surprise, that in a poll done by the Israeli Internet association, bedouins in the Naqab reported higher dissatisfaction rates than any other group of Palestinian citizens of Israel.⁷⁷ Another recent report found that over 30.5% of female Bedouin students did not have any cell service at all.⁷⁸

In contrast, just recently, the Israeli finance minister, Smotrich, announced a plan to expand cell service access in the illegal settlements in the West Bank. The plan calls for increased cell service coverage, to have similar coverage levels to that inside Israel.⁷⁹ Smotrich stated he is worried about the lack of cell service near illegal settlements in the West Bank, claiming it could be a risk to human life. But again, the same considerations are never given when it comes to the Naqab.

76 Israel Internet Association. (2024). Connected but not equal: digital gaps, infrastructure, web uses and protection in the Arab community in Israel. (In Hebrew). Retrieved from: <https://www.isoc.org.il/public-action/digital-gap/digital-gap-arab/digital-inequality-arab-society/home-2>.

77 *ibid.*

78 Beor, Haim. (2024, 26th August)." As a female student I want the most basic needs: internet access, better infrastructure to help me continue my studies and function in society. The issue is I have no access". *The7eye*. Retrieved from: <https://www.the7eye.org.il/527567>.

79 Peretz,Gad. (2024, 26th November). Minister of finance demanded the annunciation of a bid in Judea and Samaria by next Thursday. *Zmaravir*. Retrieved from: <https://zmanavir.co.il/article/26655/>.

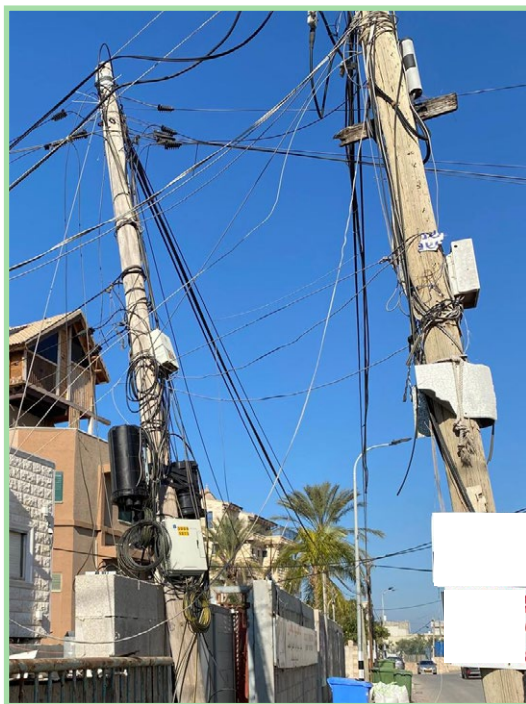
Fourth Section: Other avenues of discrimination

Faulty old infrastructure

Discrimination shows up not just with neglect and lack of investment, it also manifests in the lack of care for the lives and the space inhabited by the discriminated population. As the previous parts of this report demonstrated the lack of investment and the inequality in digital infrastructure, this part discusses how old Bezeq and Hot infrastructure invades Palestinian towns, being placed in bothersome locations, and poses a threat to public safety.⁸⁰

A lot of these cables are not being used, but the cables are exposed and within a child's reach, posing risk to electrocution or suffocation. The report above documents cases from the last 2 years ago.

Pictures of old telecommunications infrastructure in Palestinian towns.⁸¹



80 Shaalan, Hassan. (2022, 14th June). Bezeq pillars are shaky and falling close to Arab schools: "in a Jewish town this would not be happening". Ynet. Retrieved from: <https://www.ynet.co.il/news/article/h1mcbchfq>.

81 Taken by the author on 04/02/2025.



The "good" monopoly - how the universal internet access claim meets the reality of the monopoly

Monopolies produce high prices, have less innovation and contribute to lesser quality of services.⁸² The same can be said when it comes to the provision of internet services for Palestinian citizens of Israel.

The case of "HOT" - glaring discrimination under the vale of universality

According to the Knesset report, two companies exist in Israel that provide wire internet infrastructure nationally, Hot and Bezeq, which constitutes a duopoly.⁸³

The universality requirement is applied to both companies, meaning they both have to provide services nationwide in an equitable manner to every user in the country. They have to build the infrastructure and provide fair and equitable service, including

82 Doris, Aine. (2021, 13th of October). Do Monopolies Actually Benefit Consumers?. Chicago Booth Review. Retrieved from: <https://www.chicagobooth.edu/review/do-monopolies-actually-benefit-consumers>.

83 Knesset.(2020). Non-portable internet infrastructure and internet speed in periphery towns. Retrieved from: https://fs.knesset.gov.il/globaldocs/MMM/54b02e53-d9b6-ea11-8116-00155d0af32a/2_54b02e53-d9b6-ea11-8116-00155d0af32a_11_16397.pdf. (In Hebrew).

speed and price.⁸⁴ According to the report (which does not include "unrecognized villages"), 92% of households have access to Hot's infrastructure. Out of the remaining 8%, which amounts to nearly a million people, 66% are Palestinian citizens of Israel.

This is crucial, because for close to 700,000 Palestinians (a third of total Palestinians in Israel), Bezeq effectively acts as a monopoly when it comes to internet services.

This monopoly harms the consumer. In an examination by the Ministry of Communications from 2019, a "statistically clear" difference was found between areas with Hot services and the ones without. Meaning that it can be concluded that having more than one provider correlated with better prices and services. Moreover, it turns out that despite the universality requirement for the price, the average price paid by the consumer in areas (where Bezeq was the only supplier) was higher, including the price per megabyte. Lastly, the Ministry concludes that a difference of a whole year - in terms of service and service quality - exists between areas with a monopoly compared to the ones with a duopoly.⁸⁵

Palestinian citizens are hurt two-fold when it comes to Hot's lack of infrastructure. They are stuck, the internet is a crucial service and part of daily life for all people; however, they only have one provider and cannot do anything to change the situation. In addition, they pay higher prices and have to live with lower quality of service.

This monopoly's impact adds to evidence of digital discrimination.

84 *ibid.*

85 *ibid.*

Discussion and Conclusion

In this report, we analyze telecom services provided to the Palestinian community in Israel. The purpose of the case studies, and information provided, is to contribute to a bigger picture of internet infrastructure discrimination against Palestinian citizens.

From the unrecognized villages of the Naqab, all the way to the illegal settlements in the West Bank, Israeli discrimination is glaring. To promote so-called "strategic" or "security" goals, Israel provides advanced technology and infrastructure to settlers in the occupied West Bank, whose presence is considered illegal under international law. On the other hand, citizens of the state are discriminated against despite the claim of "universality."

Moreover, we have the example of Nazareth, the largest Arab Palestinian city in Israel. Nazareth exists in the same promotional zones as Nouf Hagalil (Upper Nazareth) or Ariel, geographically similar to Nouf Hagalil, and has a similar economic situation. Yet, if you factor in its total population and tech sector, we find that it is lagging in crucial internet infrastructure (mobile and fiber), critical for future economic development. Palestinians also face discrimination when it comes to hazardous infrastructure, competition, prices and services.

This report highlights the discrimination and plight of Palestinian citizens of Israel in regards to internet infrastructure. The digital gap exists and requires further action. Palestinian citizens of Israel are claimed to be equal citizens, yet they are denied basic services because they are viewed as a threat.

Recommendations

For Civil Society and Palestinian Communities

- Continue documenting digital rights violations, particularly the lack of internet infrastructure in unrecognized Bedouin villages and underserved Palestinian towns. Amplify these findings through local and international advocacy campaigns.
- Support community-led connectivity initiatives, encourage and expand grassroots projects aimed at increasing internet access in marginalized areas, especially in the Naqab region, and collaborate with local organizations to provide temporary and sustainable solutions for connectivity.

- Law Centers may go to the courts to pressure telecommunications companies to give equal services.

For International Organizations and Policymakers

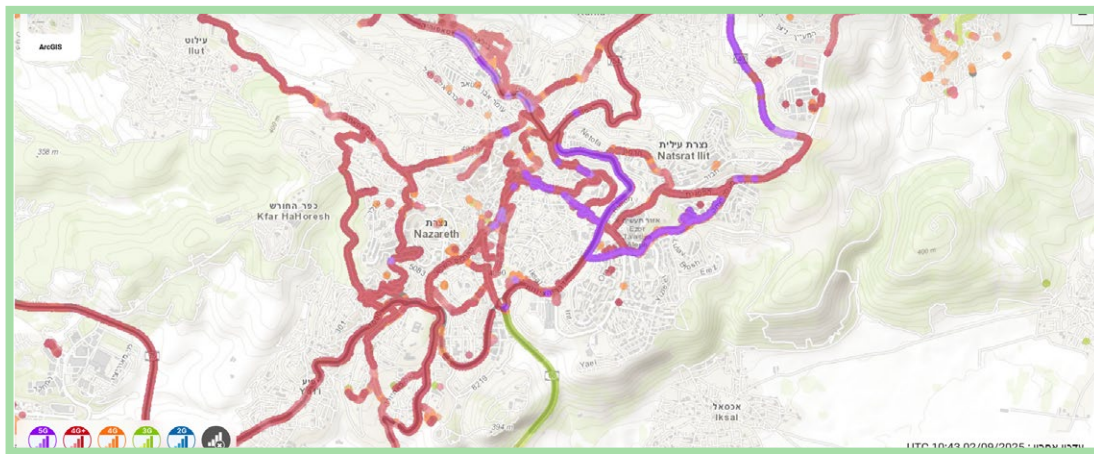
- Advocate against Israeli policies that discriminate in the provision of digital infrastructure, framing these as violations of international human rights and humanitarian law.
- Push for recognition of internet access as a fundamental right under international conventions and emphasize Israel's failure to meet this obligation for Palestinian citizens.
- Promote accountability for Israeli telecommunications companies complicit in violations of international law by providing infrastructure to illegal settlements in the West Bank.

Legal and Policy Frameworks

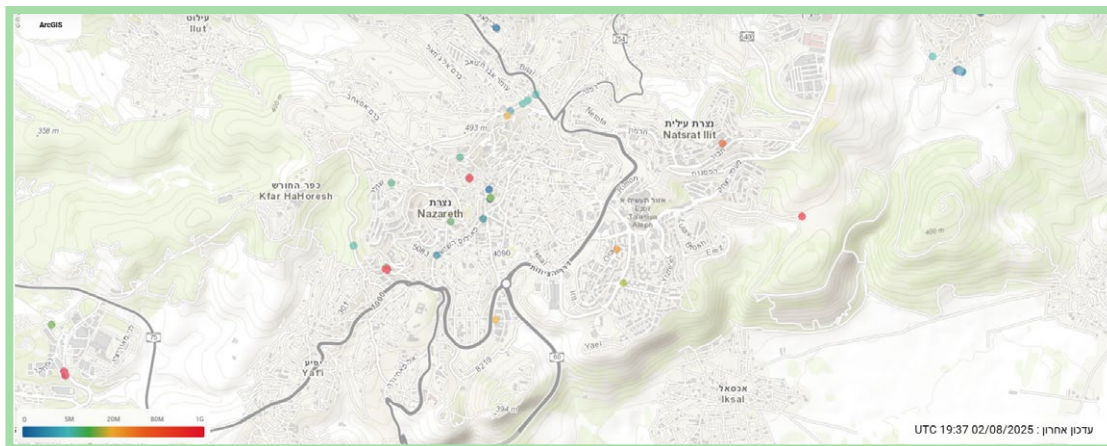
- Promote ethical technology standards and encourage international regulatory bodies to enforce standards that prevent the deployment of discriminatory digital infrastructure.

Annex - Maps of cellular coverage and download speed of different Israeli telecommunication companies¹

Map (8) - Cellular coverage for Cellcom Telecommunications

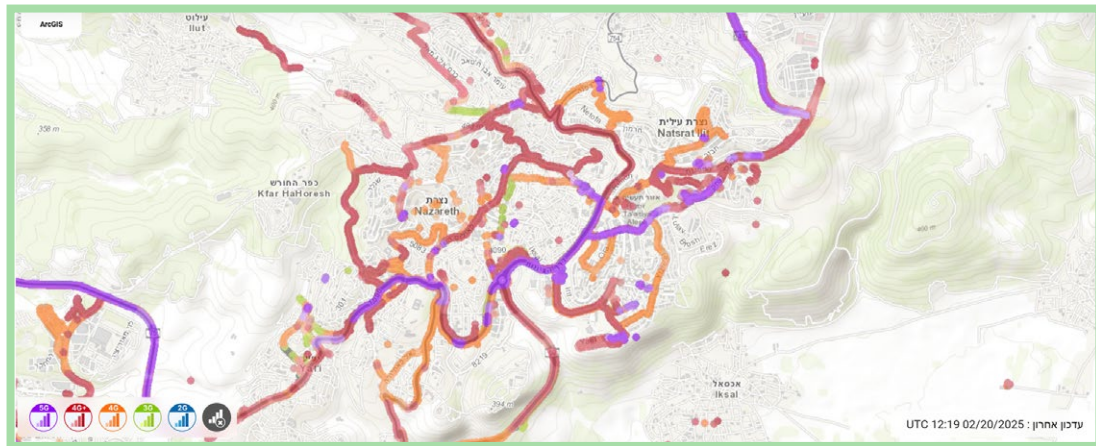


Map (9) - Cellular download speed for Cellcom Telecommunications

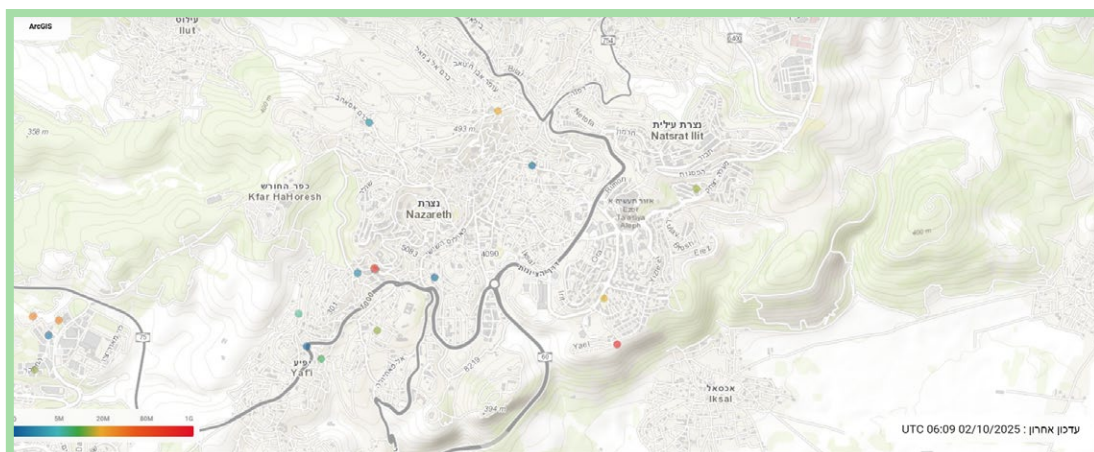


1 All of these maps were screenshot from this publicly available website on the 20/02/2025: <https://www.nperf.com/he/map/IL/-/1664.Pelephone/download?ll=32.700427638139935&lg=35.30624145859069&z=14>.

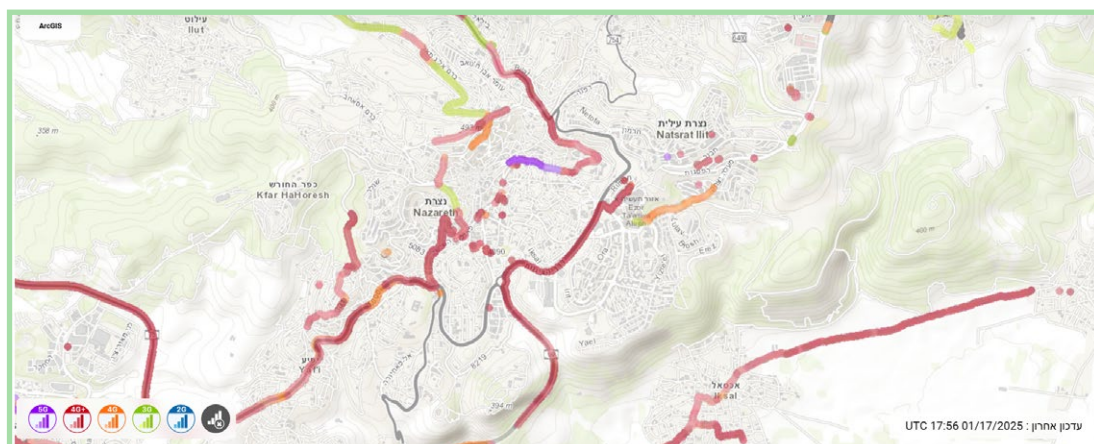
Map (10) - Cellular coverage for Partner Telecommunications



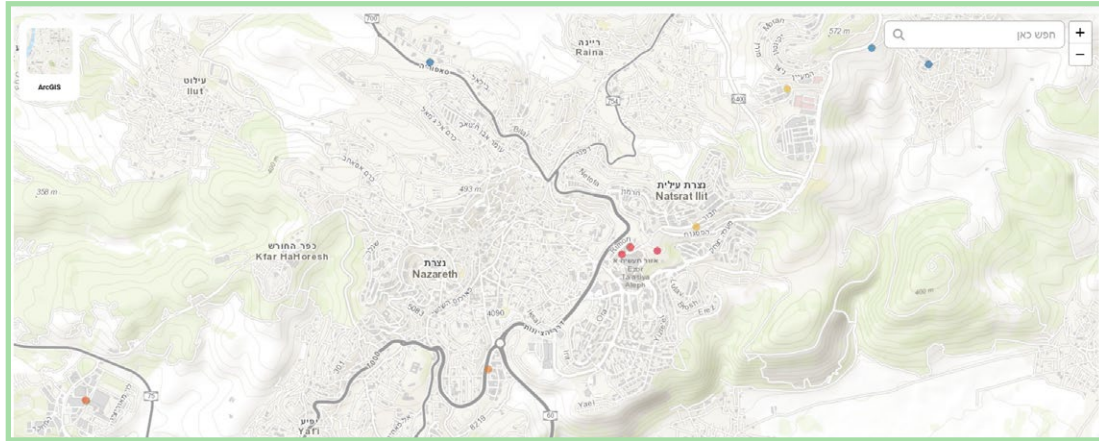
Map (11) - Cellular download speed for Partner Telecommunications



Map (12) - Cellular download speed for Hot mobile Telecommunications



Map (13) - Cellular download speed for Hot mobile Telecommunications





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