

# Maps, Politics and Data Sharing: A Palestinian Puzzle

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## ABSTRACT

Palestinian towns and cities are being left out of the online mapping revolution. The puzzle of why this is occurring, despite formal street names, GIS expertise and a lack of obvious political/security factors, is likely to be solved by increased data sharing by Palestinian governments, international organizations and map makers. An analysis of data collected through interviews, emails and media reports, provides the basis for recommendations to enhance data sharing in support of improving development and accessibility of online maps.

## Keywords

Geographic Information Systems, Palestine, maps, data sharing

## 1. INTRODUCTION

While Google Maps is readily available in Jerusalem, just a mere 20km north in Ramallah, a boom town of roughly 100,000 inhabitants, the map becomes unusable for its lack of detail. How could this city appear barely populated on popular online maps? In what follows, I explore some possible reasons for the lack of online maps for Palestinian cities, including lack of agreed-upon names, lack of GIS expertise, political/security concerns and a lack of data sharing. While a definitive answer is elusive, the investigation highlights the complex web of politics, management, and data sharing necessary to ensure development and broad access to detailed, interactive online maps, and provides recommendations for map makers, governments and international organizations.

The discussion is based on inductive analysis of both primary and secondary data. Primary data were collected during a two week period in July 2013 through in-person interviews with international development organizations, a Palestinian municipal office, an Israeli academic, as well as Skype interviews with UN and international non-governmental organization (INGO) personnel, and email exchanges with Google personnel. Secondary data were collected from news and Google websites.

In what follows the first section contextualizes the map problem through a discussion of the emerging Palestinian nation and its online presence. The second section discusses Palestinian maps, map making and data sharing. The final section offers recommendations.

## 2. EVOLVING PALESTINIAN STATE

Nations are defined in part by their physical boundaries and nowhere are physical boundaries more contested than in Israel and

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Palestine. Many Israelis and Palestinians support a 'two state solution,' which would define borders and establish a Palestinian nation. Currently Israel refers to the area as the 'Palestinian Territories.' The disputed land, a part of which is commonly referred to as the West Bank<sup>1</sup>, was divided in the Oslo II Accord of 1995 into three sections: Areas A, B, and C, to differentiate Israeli, Palestinian or shared control. And while Israel objects to the term, the UN, European Union and others, have referred to these areas as the Occupied Palestinian Territories (oPt).

Since 1974 Palestine has held observer status at the UN as a 'non-state entity.' However, on November 29, 2012 the UN General Assembly voted (138 in favor/9 opposed) to upgrade Palestine to 'non-member observer state' status and use 'State of Palestine' in official UN documents. Opponents characterized the move as 'counterproductive' and the U.S. State Department opined that this would not 'produce the results the Palestinians claim to seek.'<sup>2</sup>

Opponents feared the move would further derail the peace process and that the Palestinian State would seek to join certain international organizations, with both political and monetary implications. While Palestinian leaders have been reserved in these activities, one strategy they have pursued aggressively is online representation.

To date, most online menus contain no reference to Palestine or the Palestinian Territories, leaving Palestinians the choice of self-selecting either Israel or Jordan.<sup>3</sup> Having achieved UN recognition, the Palestinian Authority (PA) sought to change this by sending letters to global corporations requesting Palestine be added to the lists of countries found on their drop down menus.

Google, having already acknowledged the unique status of Palestinians by launching the google.ps search engine in August 2009<sup>4</sup>, made a bold move and on May 1, 2013, changed its reference from 'Palestinian Territories' to 'Palestine.' The use, applied across all of Google's products, changed the label under the Google logo on its search page and changed labels on Google Maps<sup>5</sup>.

Reports of reactions to the change by different arms of the Israeli government indicate a conflicted stance, ranging from assertions

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<sup>1</sup> For simplicity, the discussion here is limited to the West Bank and does not include the area of Gaza.

<sup>2</sup> [http://www.nytimes.com/2012/11/29/world/middleeast/us-and-israel-look-to-limit-impact-of-palestinian-authority-upgrade.html?\\_r=0](http://www.nytimes.com/2012/11/29/world/middleeast/us-and-israel-look-to-limit-impact-of-palestinian-authority-upgrade.html?_r=0)

<sup>3</sup> <http://rt.com/news/google-palestine-un-israel-781/>

<sup>4</sup> <http://english.wafa.ps/index.php?action=detail&id=12894>

<sup>5</sup> <http://www.bbc.co.uk/news/world-middle-east-22395494>

of great concern to an attitude of irrelevance<sup>6,7</sup>. For example, a letter sent by an Israeli Deputy Foreign Minister to Larry Page, Google's CEO, seeking redress, suggested the move in effect recognizes the existence of a Palestinian state<sup>8</sup>. Yet, separate statements by a Foreign Ministry spokesman expressed a lack of concern, noting Google has no authority to formally recognize states as it is neither a political nor diplomatic entity<sup>9</sup>.

The Knesset's Science and Technology Committee was similarly conflicted as reflected in its meeting with Google's California-based head of Public Policy and Government Affairs for its Geo Products division. Interestingly, in this meeting Google's Israeli-based office made it clear they had no involvement in Google's decision to change its designation for Palestine.

Reports of the meeting indicate some questioned the appropriateness of the Science and Technology Committee even holding a discussion with Google, arguing it was the purview of Foreign Affairs or Defense. However, the Committee's chairman, while recognizing Google's lack of authority in the matter, asserted that given Google's reach and popularity, its actions brought it into the debate. He noted Google had 'overstepped its mandate,' but also that: *'with one word Google can change the very order of things. Whether I am living in Micronesia or in Europe, when I open Google, I find that your company has changed one word, which, in turn, changes the very laws of nature...'*<sup>10</sup>

In response, Google's representative read a written statement explaining its reliance on UN, ICANN and International Organization for Standards (ISO) positions in determining naming choices and noted it was in line with other organizations. In fact, a participant in the discussion pointed out that Yahoo Maps has also adopted use of 'Palestine.'<sup>11</sup>

### 3. MAPS

Palestinians applauded the change, with a Palestinian Authority advisor describing Google's actions as 'putting Palestine on the Internet map, making it a geographical reality'. The reference to putting Palestine on the map was both figurative and literal. Currently the quantitative and qualitative difference in detail of Google Maps for major Palestinian towns versus those for Jewish West Bank settlements is striking. An example of this disparity is depicted below in Figure 1. On the right is the Israeli settlement of Kiryat Arba, with roughly 7,800 inhabitants, while on the left is the adjoining Palestinian city of Hebron, with roughly 250,000 inhabitants. The map of Ramallah is similarly sparse. Google's Hebron map can be compared with the fairly detailed map of the area created by the United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA) (Figure2).

The OCHA map suggests an online map presence is possible, and indeed the OpenStreetMap of Hebron, is an improvement. However, this map still lacks detail and, perhaps more importantly, the ease-of-use of search and navigation functions available with commercial maps (e.g. Google, Bing).

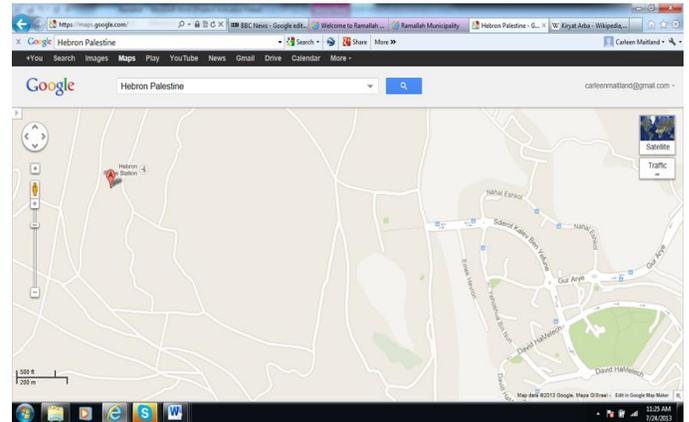


Figure 1: Screen shot of Google Map of Hebron (left) and the adjoining settlement of Kiryat Arba (right)

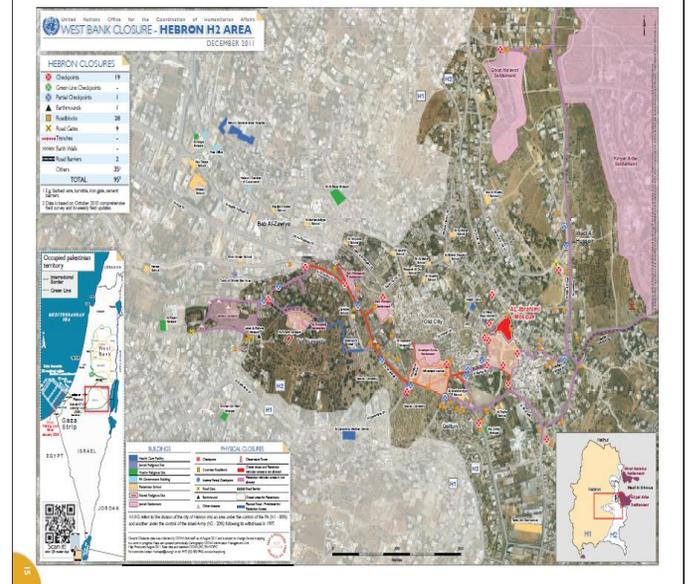


Figure 2: UN OCHA Hebron Closure Map<sup>12</sup>

This example highlights the status of online maps for Palestinian cities and demonstrates the differences between maps of Palestine and Israel. It also demonstrates the mapping capabilities of some international organizations. However, questions as to the reasons for the poor online maps still remain. One reason may be the street names have yet to be agreed upon.

Conflicts in toponymy, or naming, have been documented around the globe (see [1]). In Israel, studies of tourism development, including map making, have demonstrated the political sensitivities and lack of consensus that may emerge [2,3]. For example, in the city of Acre, the Israeli government tourist bureau sought to establish a tourist map of the Muslim-dominated Old

<sup>6</sup><http://www.nbcnews.com/technology/israel-says-google-palestine-page-harms-peace-hopes-6C9784007>

<sup>7</sup><http://www.haaretz.com/news/diplomacy-defense/.premium-1.530781>

<sup>8</sup> <http://media.npr.org/documents/2013/may/googleletter.pdf>

<sup>9</sup><http://www.npr.org/blogs/parallels/2013/05/14/183966785/for-palestinians-googles-small-change-is-a-big-deal>

<sup>10</sup><http://www.haaretz.com/news/diplomacy-defense/.premium-1.530781>

<sup>11</sup> Ibid.

<sup>12</sup>[http://www.ochaopt.org/documents/ocha\\_opt\\_the\\_closure\\_map\\_2011\\_12\\_21\\_hebron\\_old\\_city.pdf](http://www.ochaopt.org/documents/ocha_opt_the_closure_map_2011_12_21_hebron_old_city.pdf)

City (city center). The result was a conflicting set of street names and signs, including municipally-determined signs written in Arabic, Hebrew and English, together with local resident signs in Arabic, and signs indicating place numbers assigned during the British Mandate Period (1920-1948) [2].

This is not the case in Ramallah, as demonstrated by the municipality's online tourist map (see Figure 3), with extensive labeling of street names. The municipality decides street names through use of a committee with approval granted from the City Council<sup>13</sup>. City employees did report one instance where Israel protested the naming of a street but the name was not changed and the matter closed. Therefore, despite the existence of adequate data, commercial online map providers such as Google have, for unknown reasons, yet to incorporate these data.

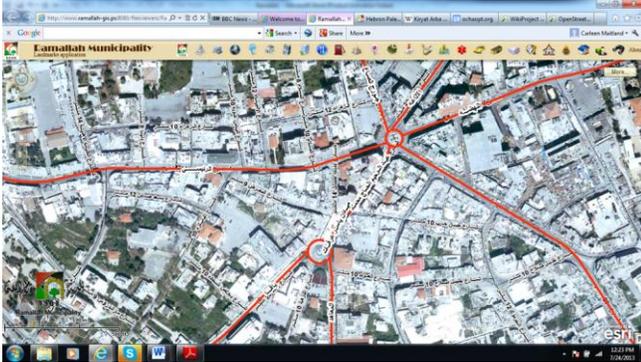


Figure 3: Ramallah Municipality's Online Tourist Map<sup>14</sup>

Another potential reason for the lack of online map detail may be limited GIS skills. However, as the above map suggests, the Palestinian government has long emphasized GIS skills and expertise. For example, the Palestinian Central Bureau of Statistics began computerization of enumeration areas in 1997, and introduced use of ArcGIS in 2003 [4]. In Hebron, a GIS unit was established as far back as 2002<sup>15</sup>. In Ramallah a GIS unit was established in 2010 and now includes three experts with doctoral degrees in GIS from western universities.

Thus, so far, unresolved naming issues and a lack of GIS expertise appear to be unlikely reasons for the state of online maps. In discussions with some Palestinians it was suggested that perhaps the maps are being blocked by the Israelis. However, those more directly involved with mapmaking believed this to be highly unlikely given Israel's willingness to share aerial photography with Palestine and international organizations. These informants also saw the possibility of security-driven blocking as unlikely because sensitive areas such as military facilities were already blurred on aerial photography and Google typically sources data that complies with laws of countries from which data is procured.

A final possible and most plausible explanation is a lack of data sharing. The lack of data sharing may be attributed to management and/or cost issues. Informants suggested the Palestinian government was simply too busy (or incompetent or

corrupt) to provide the data to Google. However, others reported the Ministry of Local Government had been attempting to provide maps to Google for 5 years to no avail. In fact, a knowledgeable source indicated the Ministry of Telecommunications is currently working with Google to make Street View available.

This raises the question of Google's role in this process. An email questioning the lack of detail on the Ramallah map sent by me to the Google Outreach Program Manager for Middle East and North Africa (MENA) elicited the following response: "Thank you for your feedback on the quality of Maps in Palestine. Google Maps are updated daily with updates including the latest road names, business addresses, public transit schedules, and Street View photos. Our base map is built from more than 1,000 authoritative sources including public and commercial mapping data, imagery from every level (satellite, aerial and street level), and user contributions."<sup>16</sup>

It is unclear whether the information was simply not available to this manager or if the public relations staff that vetted the message was unwilling to release a more precise answer.

However, it raises the important point that maps typically consist of several layers and the layers may be provided by different organizations. For example, UN OCHA gathers data from several organizations for its base map (streets and names), school locations, food distribution centers, etc. Further, the accuracy of any one layer may be validated by triangulation with data from different sources. One of these sources may be citizen cartographers.

Citizen cartographers are an emerging and potentially important source of data for online maps. Where map data does not exist or exists but is simply unavailable due to an unwillingness or inability to share data, citizen cartographers provide an additional or alternative source. One program, Google's Map Maker with its associated Map Ups (collective citizen cartography), uses a compelling mantra: 'local maps in local languages made by local people.'

The Map Maker program has been very successful, with citizens contributing to maps in over 200 countries. In promotional literature Google emphasizes data control. For example, on a figure depicting thousands of lines on a map of the world, Google states: "These are all roads currently editable inside of Google Map Maker, the majority of them contributed or improved on by individuals just like you." A further statement reads: "None of these maps would exist without you."<sup>17</sup>

While citizen cartography can make important contributions, it is important for citizen cartographers to be aware of existing data for the following three reasons. First, if the GIS expertise exists locally, it may be important for the local community's perception of itself. Instead of seeing their community or government as technologically backwards, they may simply feel a part of the larger world where data sharing is routinely problematic. Second, knowing data exists may present future opportunities for validation and triangulation between the data sets. Third, data collected and made available by international organizations, may help citizen cartographers understand spatial relationships in important development indicators (poverty, health, education).

<sup>13</sup>Interview, manager Ramallah Municipal Government, July 2013.

<sup>14</sup>[http://www.ramallah-gis.ps:8080/flexviewers/Ramallah\\_Landmark/?m\\_id=75](http://www.ramallah-gis.ps:8080/flexviewers/Ramallah_Landmark/?m_id=75)

<sup>15</sup><http://www.hebron-city.ps/page.aspx?id=wCf3YBa1171607943awCf3YB>

<sup>16</sup> Personal Email Communication, July 17, 2013.

<sup>17</sup>[https://docs.google.com/presentation/d/1AqZXfYAUBciivfHskQuve8Iv6fJQ86rRdDUZL15z3cw/edit#slide=id.gf27478d\\_8\\_34](https://docs.google.com/presentation/d/1AqZXfYAUBciivfHskQuve8Iv6fJQ86rRdDUZL15z3cw/edit#slide=id.gf27478d_8_34)

Careful and detailed assessments of data availability and accessibility may also help citizen cartographers assess the costs of collecting data versus the costs of trying to gain access to existing data. Costs incurred in data collection are not only time and equipment. For example, a Google MapUp effort in Abuja, Nigeria, with volunteers roaming the streets with laptops and cameras, raised the eyebrows of some locals. Citizen mappers reported locals as sometimes unsupportive of their efforts, fearing attacks or questioning whether the information will be used by the government for evictions or expropriation<sup>18</sup>. Mappers then have to take the time to explain what they are doing to allay these fears.

While this effort was reported on in February 2013, since 2003 the Abuja government has had a dedicated GIS unit, the Abuja Geographic Information System (AGIS) Agency<sup>19</sup>. And while the AGIS does not have interactive maps accessible from its website, an independent GIS consulting firm, GoLeadDog, does. In 2006, LeadDog made detailed maps of Abuja and Lagos commercially available and the interactive maps can be viewed on their website<sup>20</sup>. It is unclear from public reports whether or not the Map Up team was aware of these data. This example suggests the Palestinian experience may not be unique.

The costs of accessing existing data vary. As an example of a possible 'best case scenario,' where data can be ordered transparently and online, the city of Bloomington, Indiana charges a maximum of \$18.00 for a base map in vector data format, and \$270 for historical aerial photography<sup>21</sup>. However, in places like Ramallah, the cost of data access may be driven more by the time and effort incurred by bureaucracy. For the municipality's GIS office to release data, it requires authorization by the office head, the city council and the mayor. It is also clear some employees are loath to share their hard work 'for nothing.'<sup>22</sup>

#### 4. RECOMMENDATIONS

This examination of the state of online maps in Palestine has highlighted issues related to politics, management and data availability. Based on these insights, I offer the following recommendations as well as their underlying justifications.

*For citizen cartographers.* First, be cognizant of the politics involved in mapping. What may appear to be a simple issue of determining a street name can raise significant cultural and religious issues. Second, be aware of existing maps. Particularly in developing countries where INGOs and UN agencies operate, it is likely they have map data and may be relatively less constrained in their release of data as compared to their local counterpart. However, one sticking point may be that maps are generated through data gathered from multiple organizations and release of data may require coordinated permissions. While it may be impossible to negotiate these complications, knowing these data exist, as it may be released at a future point, is important. Given

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<sup>18</sup><http://www.globalpost.com/dispatch/news/regions/africa/nigeria/130206/nigeria-abuja-google-maps-security-conflict-zones-technology>

<sup>19</sup> <http://www.agis.fct.gov.ng/index.html>

<sup>20</sup> <http://goleaddog.com/gis-map/africa/nigeria/>

<sup>21</sup> [http://bloomington.in.gov/documents/viewDocument.php?document\\_id=711#GISDATACDS](http://bloomington.in.gov/documents/viewDocument.php?document_id=711#GISDATACDS)

<sup>22</sup> Personal communication, July 2013.

the rise of Open Data and transparency initiatives in international development, this may happen sooner than one would think.

*For map providers.* Commercial and open map providers should put in place transparent processes by which the existence of data is acknowledged, with reference to specific problems in its acquisition (cost, bureaucratic processes, format, etc.). Communications suggesting a complete lack of maps, and hence, of GIS expertise, in places where it is clearly available, perpetuate pre-conceived notions of a lack of education and progress not only by those outside these communities, but for those within these communities as well.

*For governments.* National and local governments should establish processes, and reasonable fees where needed, for release of map data. Overly bureaucratic processes or simply a refusal to release the data are counterproductive. This is particularly true where these data are shared in closed circles of government and international aid organizations, suggesting data sharing can occur, simply not with citizens.

Secondly, as citizen cartography grows, governments need to maintain awareness of online representations of their geographic domain. Tight government control over maps and their data are being eroded, and government agencies with mapping responsibilities may want to embrace the new openness and participation. For example, government geographers may want to participate in reviews of citizen cartography efforts. Organizations such as Google Map Maker and OpenStreetMap maintain review panels for oversight of data.

*For international organizations and INGOs.* First, international organizations should, when possible, release map data into the public domain, facilitating awareness and knowledge of spatial relations in the areas of concern to development professionals, including health, education, and sanitation. Second, these organizations should ensure a two-way flow of map data with their beneficiaries. These flows can aid in validation and community empowerment. For an example of a project focused specifically on generating maps and then sharing them with local communities see CHF's Gate's-funded project 'Slum Communities Achieving Livable Environments with Urban Partners (SCALE-UP)<sup>23</sup>.

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<sup>23</sup> <http://www.scientificamerican.com/article.cfm?id=poverty-map-atlas-india-ghana>

