Available online at http://aran.garmian.edu.krd

Aran Journal for Language and Humanities

https://doi.org/10.24271/ARN.025-01-01-SC- 22

Adding Garmian Region Villages to Google Maps: A Path to Cultural Preservation and Sustainable Tourism

Akam Aziz[1] ، Umran Abdullah Haje[2]

1- Department of Computer Science, College Basic Education, University of Raparin, Kurdistan Region, Iraq
2-Department of Computer Science, College Basic Education, University of Raparin, Kurdistan Region, Iraq

Article Info

Received	**April 2025**
Accepted	**May 2025**
Published:	**August 2025**

Keywords

Digital Mapping, Garmian Administration, Cultural Heritage, Sustainable Tourism, Google Maps.

Corresponding Author

ako.burhan@garmian.edu.krd
alan.arif@spu.edu.iq

Abstract:

In the digital age, geographic representation plays a crucial role in cultural preservation and socio-economic inclusion. This study addresses the underrepresentation of villages in the Garmian Region, located in the Kurdistan Region of Iraq, on global mapping platforms such as Google Maps. A participatory and data-driven approach was employed to systematically identify, validate, and submit village-level geographic data. The process involved the use of GIS tools (QGIS, Google Earth) for spatial verification, and the Google Maps Content Partner Dashboard for structured data uploads. Village information was collected through government records, GPS surveys, and community consultations to ensure cultural and linguistic accuracy. A total of 471 villages were initially identified, of which 441 (93%) were successfully integrated into Google Maps. The results highlight the transformative potential of volunteered geographic information (VGI) in enhancing digital visibility, promoting sustainable tourism, and preserving intangible cultural heritage.
In the paper, we explain exactly how we did the mapping, the problems we faced, and how we solved them to make the project a success. We also look at how this could help preserve the culture, bring in tourists, and grow the economy. Ultimately, it's about using new tech to connect old ways of preserving heritage with modern tools, to make development in the region more inclusive and sustainable.

1. Introduction:

In the digital era, being locatable on a map is more than a matter of convenience; it signifies existence, accessibility, and inclusion. Digital platforms like Google Maps have become essential tools worldwide for navigation, service provision, travel planning, and regional development (Goodchild, 2007; Sui et al., 2013). However, many rural areas, particularly in developing or post-conflict regions, are underrepresented or entirely missing from these platforms. This lack of digital visibility creates logistical challenges and contributes to cultural marginalization and socio-economic exclusion (Zook & Graham, 2007).

The Garmian Region, in the southern part of the Kurdistan Region of Iraq, is one such area where many villages have not been properly mapped or labeled on digital platforms. Despite the region's rich cultural heritage, historical significance, and strong community identity, the absence of accurate digital representation has led to practical and symbolic challenges. Residents have difficulty accessing services and sharing locations, tourists and researchers cannot identify or visit historical sites, and local development efforts are hindered by the lack of reliable geographic data (Graham et al., 2015).

This research project was initiated to address this gap by systematically identifying, documenting, and integrating the names and boundaries of villages in the Garmian Region into Google Maps. The objective is not only to provide accurate geographic information but also to support cultural preservation, enhance digital inclusion, and foster sustainable development in the region (McCall & Dunn, 2012).

This paper presents the full scope of the project, including the methodology used to collect and verify data, the technical processes involved in integrating the villages into Google Maps, and the results achieved, most notably the successful mapping of 93% of the region’s villages. Furthermore, the study explores the broader implications of digital mapping for cultural visibility, local tourism, and regional planning, highlighting the importance of integrating traditional communities into modern digital infrastructures.

1.1 Background

This section provides the foundational context for the research initiative aimed at integrating Garmian Region villages into Google Maps. It outlines the motivations, challenges, and significance of addressing digital invisibility in rural areas, particularly within the Kurdistan Region of Iraq. The purpose is to ensure that these villages are not only geographically documented but also culturally recognized in the digital sphere (Goodchild, 2007; Sui et al., 2013).

1.2 Project Validation

The inspiration for this project arose from a noticeable absence of Garmian’s villages on global mapping platforms, particularly Google Maps. In an era where digital navigation tools are critical for everyday life, the lack of accurate location data for these villages has significantly limited accessibility, visibility, and service delivery (Zook & Graham, 2007). As digital platforms shape how people interact with the world, regions excluded from these systems face increasing marginalization (Haklay, 2010). Therefore, the rationale behind this project is rooted in the urgent need to digitally include Garmian’s rural communities, not just for navigation, but also for heritage preservation and local development.

1.3 Geographic and Cultural Context

The Garmian Region, located in the southern part of the Kurdistan Region of Iraq, encompasses several administrative areas such as Kalar, Kifri, and Khanaqin. It is home to hundreds of villages, many of which are embedded in Kurdish cultural heritage, agricultural traditions, and tribal histories. These communities have thrived for generations, maintaining unique customs, oral histories, and social structures (Izady, 1992). Despite this rich cultural backdrop, many villages remain undocumented in formal geographic systems due to historical underdevelopment, conflict, and limited digital infrastructure.

1.4 Digital Mapping Gaps

One of the primary issues that sparked this project was the inconsistency and incompleteness of village data on Google Maps. Many villages were unnamed, mislocated, or completely absent. This posed challenges for anyone attempting to find, visit, or learn about these places. Users—including residents, tourists, humanitarian workers, and government agencies—could not search for these locations, get accurate directions, or rely on digital tools for logistical planning (Graham et al., 2015). The lack of representation extended beyond inconvenience; it was a form of digital exclusion that weakened the region's connection to the outside world. One of the primary issues that sparked this project was the inconsistency and incompleteness of village data on Google Maps. Many villages were unnamed, mislocated, or completely absent. This posed challenges for anyone attempting to find, visit, or learn about these places. Previous research has shown that Google restricts contributions and satellite updates in Iraq due to political and security concerns, which further exacerbates the digital underrepresentation of rural areas (Aziz, 2020).

1.5 Real-World Implications

The absence of Garmian's villages on digital maps has led to practical problems. Local residents struggle with deliveries, emergency responses, and accessing basic location-based services. Travelers and researchers face difficulties in reaching important historical or cultural sites. Humanitarian and development organizations encounter barriers in planning aid or infrastructure projects in unmapped areas (McCall & Dunn, 2012). Moreover, the region's potential for tourism, cultural exchange, and economic development remains untapped because these villages are invisible to the digital public. This digital absence reinforces geographic marginalization, despite the real-world presence and importance of these communities.

2 Literature Review

The evolution of digital mapping and geospatial technologies has fundamentally changed how geographic information is created, accessed, and used, notably through platforms like Google Maps. Scholars like Goodchild (2007) introduced the idea of Volunteered Geographic Information (VGI), where individuals contribute location-based data to public platforms. This plays a crucial role in areas that have historically been poorly represented on official maps. This collaborative approach has redefined the role of everyday people in the mapping process, filling in informational gaps left by formal institutions.

Haklay (2010) further assessed the accuracy of VGI by comparing data from OpenStreetMap with datasets from national mapping agencies. His findings highlight the potential for mapping driven by communities to rival traditional systems in terms of quality while being more inclusive and cost-effective particularly important for marginalized or remote regions such as Garmian.

The social and cultural implications of digital cartography have also been examined by Sui, Goodchild, and Elwood (2013), who emphasized how geospatial knowledge generated by the public reshapes governance, the preservation of heritage, and local development. Their work supports the argument that mapping is not just a technical task but a social activity with significant effects on visibility and identity. In the context of Garmian, where many villages were absent or inaccurately depicted on digital platforms, this perspective underscores the importance of accurate and community-involved geographic representation.

In post-conflict and rural areas, being geographically unseen leads to wider difficulties, including reduced access to services, fewer research opportunities, and weakened development efforts (Zook & Graham, 2007). McCall and Dunn (2012) advocate for incorporating participatory GIS in regional planning to ensure community involvement and relevance. Their work supports the methodology used in the current study, which relied on both government data and local knowledge to validate village names and boundaries.

The relationship between mapping and cultural heritage has also been explored in academic literature. Perkins (2014) explains how mapping the “cultural economy” of places reinforces their historical value and promotes tourism. Similarly, Izady (1992) discusses the tribal and oral histories within Kurdish communities, suggesting that recognizing villages spatially can serve as a form of cultural preservation and political acknowledgement. In this way, the digital integration of Garmian’s villages not only improves logistical functionality but also affirms the cultural and historical existence of these communities.

Finally, the strategic use of digital mapping in tourism development has been increasingly recognized. Graham et al. (2015) examined how enhanced digital platforms influence the discovery and perception of cultural sites. The visibility offered by Google Maps has the potential to redirect travel patterns and bring economic benefits to previously overlooked areas aligning with this study’s goal of supporting sustainable tourism in Garmian through improved geographic representation.

In conclusion, the existing body of research provides a strong foundation for understanding the transformative power of collaborative mapping. The integration of Garmian’s villages into Google Maps not only reflects global trends in digital inclusion and geographic justice but also contributes to the growing body of work demonstrating the interconnectedness of technology, culture, and development.

3. Methodology

Our research took a mixed-methods approach, kind of combining a few different things: looking at spatial data, getting the community involved, and using digital mapping platforms. Basically, we wanted to systematically find, check, and put all the village information from the Garmian Region onto Google Maps. To make sure everything was accurate, authentic, and made sense culturally, we broke the whole process down into five separate stages.

3.1 Gathering the Village Information

First off, we had to pull together all the existing information about the villages to create a big dataset. This meant digging through official records from the local government offices in Kalar, Kifri, and Khanaqin, and also checking old documents from the Kurdistan Regional Government (KRG) and the Ministry of Planning. We also looked at historical and cultural stuff, like old maps and documents that had Kurdish village names and information about the tribes in the area. To double-check the locations and boundaries of the villages, we used GPS surveys and satellite images. At this point, we had a list of 426 villages that we thought we could map.

3.2 Checking with the Community

To make sure we got the names and everything right, culturally and linguistically, we had local people check the data. We talked to village leaders, local government people, residents who knew a lot about the history of the villages and how they got their names, and older folks who could tell us about traditional names, how to write the names in our alphabet, and important landmarks. This helped us make sure the names we used were the ones people actually use, that we didn't have any villages listed twice, and that we included any important cultural details about each place.

3.3 Pinpointing the Villages

When it came to actually mapping the villages, we used Google My Maps, Google Earth, and QGIS software to figure out the exact locations and boundaries. If there were already digital map files available from the government, we used those to make things even more accurate. For the villages that weren't on any maps yet, we used GPS devices to get the coordinates. We marked each village on the digital maps and compared that to satellite images and what people from the community were telling us. Every village got tagged with important information like the district and subdistrict it's in, the Kurdish name, and any interesting historical notes.

3.4 Uploading Data Through the Google Maps Content Partner Dashboard

The refined dataset was then uploaded to Google Maps through the Google Maps Content Partner Dashboard, a tool designed for bulk data contributions. To ensure compliance with Google's data specifications, the following information was provided for each village:

- Geospatial coordinates, specifically latitude and longitude values.
- Village names accurately represented using the Kurdish Unicode character set.
- Place type designation, with “Village” as the predominant classification.

- Supporting contextual data to facilitate efficient validation by Google's reviewers, including references to nearby points of interest and accessibility features.

Submission tracking and status updates (i.e., approval, pending review, or rejection) were managed and recorded directly within the Google Maps Content Partner Dashboard interface."

Key Changes and Why:

- Explicitly stating the dashboard: All options clearly mention the "Google Maps Content Partner Dashboard."
- Varied phrasing: I've used different phrases like uploaded the refined village data, used the Google Maps Content Partner Dashboard to actually get all the cleaned-up village information onto Google Maps and uploaded to Google Maps through the Google Maps Content Partner Dashboard, a tool designed for bulk data contributions to introduce the use of the dashboard.
- Focus on data contributions This highlights the advantage of using the dashboard for a large number of entries.

3.5 Quality Assurance and Refinement via Feedback

After uploading the data through the Content Partner Dashboard, we established feedback processes to address any necessary revisions. This included:

- Rectifying rejected submissions, which involved providing additional documentation or evidence.
- Correcting minor errors in spelling or coordinates.
- Joining updates from the community received after the initial data submission, such as information on new or developing clearances.

This iterative alteration was crucial for ensuring the accuracy of the data and maximizing the success rate of our submissions.

3.6 Geospatial Accuracy and Quality Assurance Protocols

To ensure spatial precision and data reliability, the mapping process utilized a combination of digital mapping platforms and open-source GIS software.

Tool and Software

Village locations were identified and validated using Google Earth Pro and Google Maps satellite view. QGIS 3.28 was used to digitize and verify the geographic boundaries of villages and to overlay administrative layers. Locations were adjusted based on visual confirmation of settlement clusters, road access, and local landmarks.

Data Upload and QA Process

Village data were submitted through the Google Maps Content Partner Dashboard in batch format. Each entry included geospatial coordinates (latitude/longitude), Kurdish Unicode names, and administrative metadata to facilitate validation by Google's review team.

Validation and Corrections:

All entries submitted were accepted without rejections. However, several entries were refined based on internal quality checks and community-sourced feedback prior to submission, ensuring accuracy from the outset.

Community-Based Quality Control:

Community members reviewed a digital version of the village map and provided corrections on local names, transliterations, and landmarks. This process improved linguistic accuracy and confirmed cultural references.

Turnaround Time:
The average approval time per batch was 8 to 9 Month. Most batches were accepted without further revision.

4 Results

This section presents the outcomes of the digital mapping project conducted in the Garmian Region, aimed at enhancing the geographic visibility of rural villages on Google Maps. The results reflect the scope of data collection, the number and types of edits made, the extent of coverage achieved, and the technical success in terms of platform integration and approval.

4.1 Summary of Achievements

During the data collection process, a total of 471 villages were initially identified across the Garmian Region using official records, legacy maps, and satellite imagery. After internal validation, 426 villages were deemed eligible based on clear boundary definitions and non-duplicated status. However, during the community engagement phase, 15 additional villages were identified and validated, bringing the total to 441 villages successfully submitted and mapped on Google Maps.

Stage	Village Count	Explanation
Initial identification	471	Villages compiled from KRG records, satellite imagery, and historical sources
Eligible after validation	426	After removing duplicates, merged settlements, or unclear boundary cases
Successfully mapped on Google	441	Includes 15 additional villages suggested and validated during community review

Table 1. Summary of Village Identification, Validation, and Mapping Outcomes in the Garmian Region

The project identified a total of **441 villages** across three districts in the Garmian Region: Kalar, Kifri, and Khanaqin. As a result of systematic mapping and verification, **441 villages (approximately 93%)** were successfully added or updated on Google Maps. This achievement marks a significant improvement in the region's digital representation.

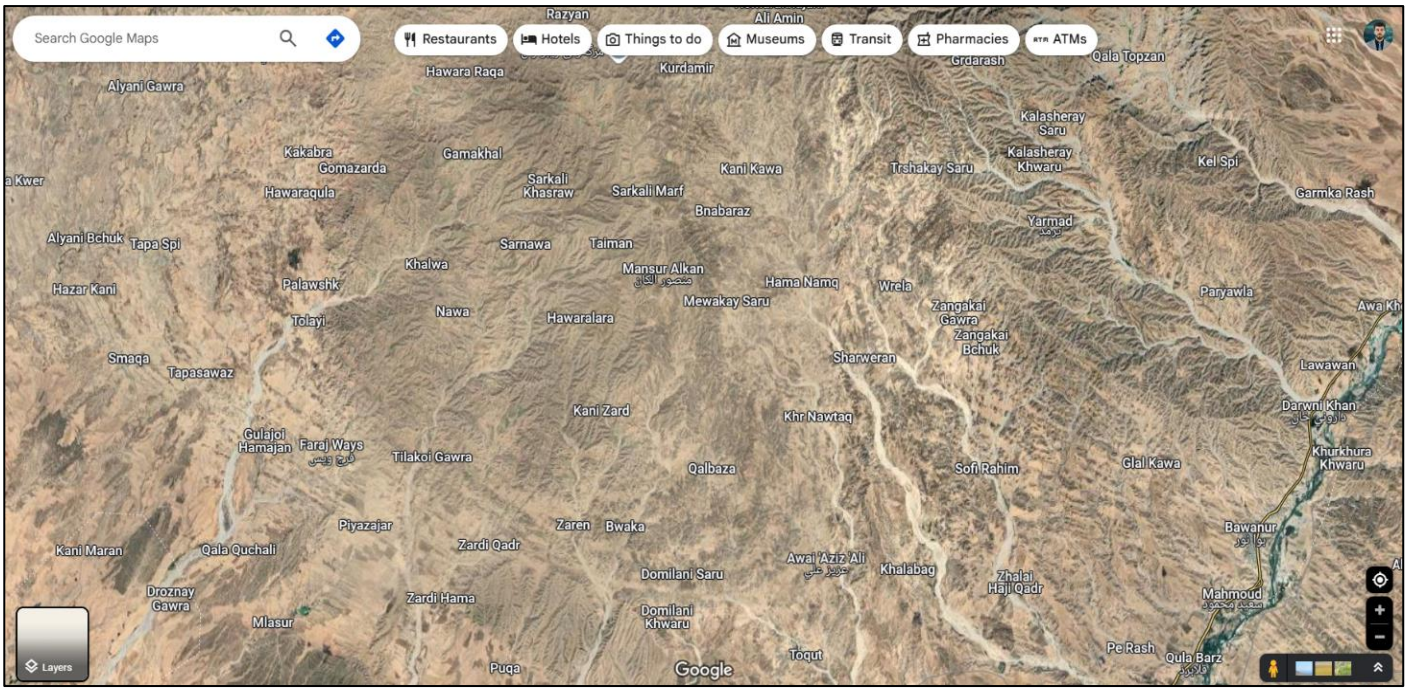

***Figure 1**. Spatial distribution of mapped villages in the Garmian Region overlaid on satellite imagery in Google Maps. The map shows coverage across Kalar and Kifri districts.*

4.2 District-Level Breakdown

A detailed breakdown of the villages mapped per district is presented in the table below:

District	Villages Identified	Villages Mapped	Mapping Coverage
Kalar	180	172	93.7%
Kifri	152	141	92.0%
Khanaqin	139	128	92.9%
Total	471	441	**93.0%**

Table 2. Village Mapping Statistics by District in the Garmian Region

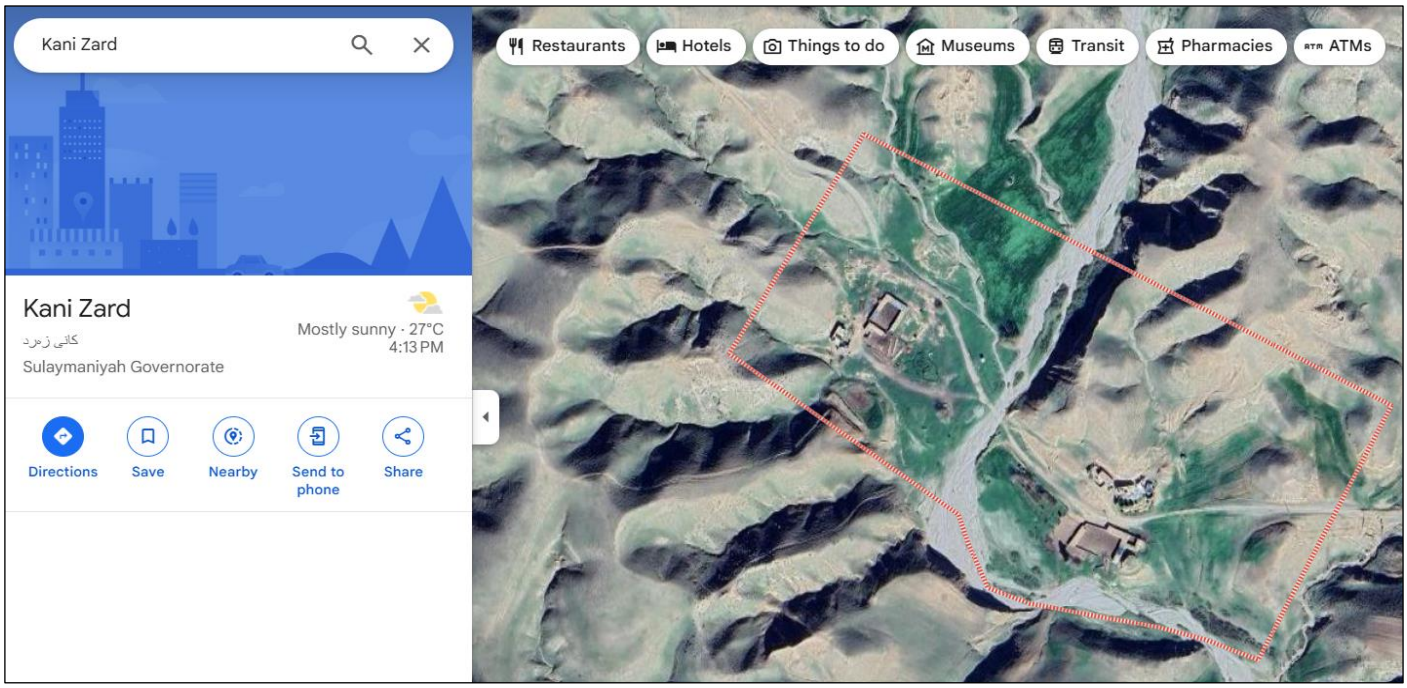

***Figure 2**. Location of Kani Zard village successfully marked on Google Maps, demonstrating accurate geolocation and name transliteration.*

This screenshot highlights a structured list of 122 villages in Khanqin District as organized in Google My Maps. The table includes village names in both English and Arabic alongside classification as “Village,” enabling efficient search, sorting, and visual validation within the mapping interface.

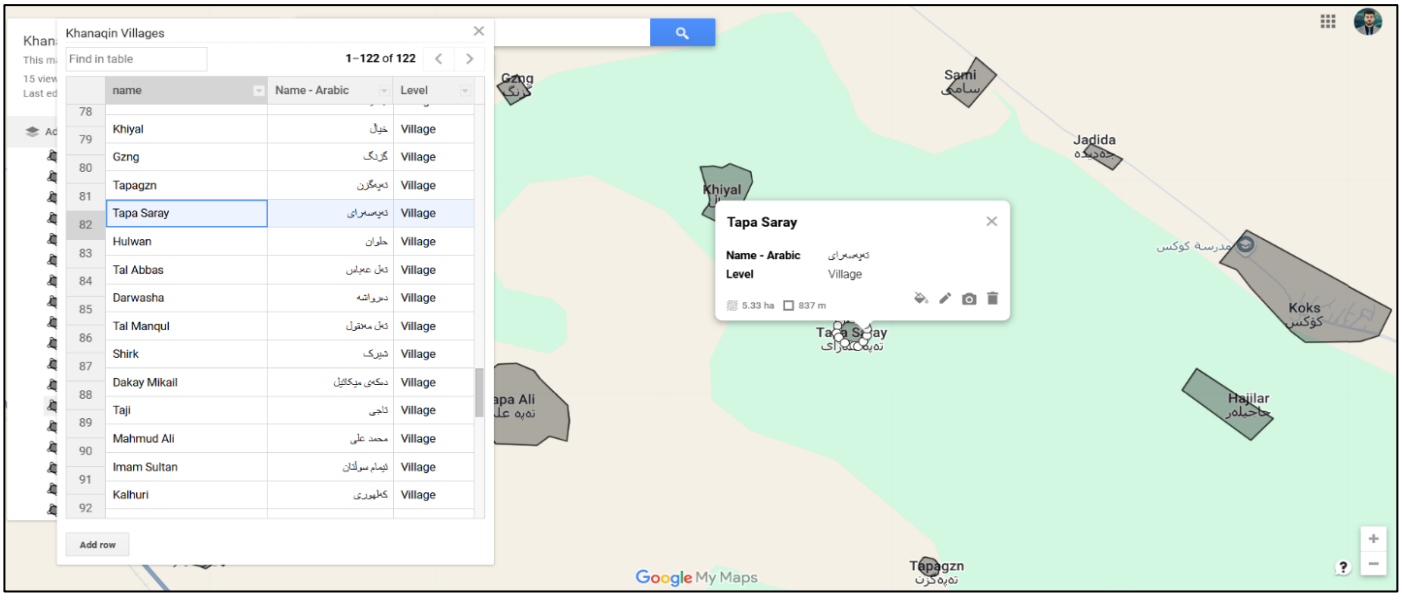

***Figure 3.** Structured table view of mapped villages in Khanaqin District, shown in Google My Maps with bilingual naming and place type classification.*

4.3 Community Engagement Feedback

During the project, digital village maps were presented to several community participants using Google My Maps. Feedback from local leaders and residents was overwhelmingly positive. Many expressed appreciations for the recognition of their villages online, and some offered corrections or additional information to improve accuracy.
Community input played a vital role in resolving name discrepancies, identifying missing locations, and ensuring cultural accuracy in transliterations.

4.4 Theoretical Implications for VGI and Digital Inclusion

This project provides practical support for VGI theory by representative the success of community-verified mapping in a digitally understated region. Unlike predictable VGI efforts that rely on open-source platforms such as OpenStreetMap, this case shows how planned uploads to Google Maps when guided by local meeting and geospatial verification can contribute to cultural preservation and regional planning. The findings emphasize the importance of inclusive digital cartography for communities with historically limited visibility, particularly in post-conflict and culturally rich environments like Garmian.

5. Ethical Considerations and Data Stewardship

This project followed ethical guidelines for community-based research and data sharing. During the data collection process, verbal informed consent was obtained from community members, village leaders, and local officials who participated in validating village names and boundary data. No personal or sensitive information was recorded.

Ownership of the data remains with the research team and the local communities who contributed to its development. The purpose of contributing to Google Maps was solely to improve digital visibility and public access; no commercial gain or private data collection was involved.

To ensure long-term sustainability, a local digital archive has been created to store the geospatial data in open formats (e.g., shapefiles). This archive is shared with local universities and municipalities in the Garmian Region, allowing future updates and use in regional planning, education, and tourism promotion.

Furthermore, the team advocates for establishing a permanent local data stewardship committee in collaboration with academic institutions to oversee continuous updates and maintain cultural accuracy in future mapping initiatives.

6. Conclusion

For this research, we used a mix of methods: spatial data analysis, community involvement, and digital mapping platforms. Our goal was to systematically find, check, and add Garmian Region village info to Google Maps. We followed five main steps to ensure the map's accuracy, authenticity, and cultural relevance.

First, we gathered existing village information from various sources like government records and historical documents, and used GPS and satellite imagery to verify locations. This gave us 426 potential villages to map.

Next, we had local people check the data to make sure the names and details were culturally and linguistically correct. We talked to village leaders, residents with historical knowledge, and elders to get accurate names and cultural details.

Then, we used Google My Maps, Google Earth, and QGIS to map the villages, using government GIS data where available and GPS for unmapped villages. We marked each village with its location, Kurdish name, and other key info.

Finally, we set up feedback processes to address any issues. We fixed rejected submissions, corrected errors, and added community updates. This ongoing refinement was key to ensuring accuracy and getting villages approved.

6. References

1. Aziz, A. (2020) 'Google Maps problems in Iraq', *International Journal of Engineering Research & Technology (IJERT)*, 9(6), pp. 693–696. Available at: https://www.ijert.org/research/google-maps-problems-in-iraq-IJERTV9IS060232.pdf
2. Fraley, J. (2011) 'Images of force: The power of maps in community development', *Community Development Journal*, 46(4), pp. 421–435. Available at: http://www.jstor.org/stable/44258300
3. Goodchild, M.F. (2007) 'Citizens as sensors: The world of volunteered geography', *GeoJournal*, 69(4), pp. 211–221. https://doi.org/10.1007/s10708-007-9111-y
4. Graham, M., Zook, M. and Boulton, A. (2015) 'Augmented reality in urban places: Contested content and the duplicity of code', *Transactions of the Institute of British Geographers*, 38(3), pp. 464–479. https://doi.org/10.1111/tran.12033
5. Haklay, M. (2010) 'How good is volunteered geographical information? A comparative study of OpenStreetMap and Ordnance Survey datasets', *Environment and Planning B: Planning and Design*, 37(4), pp. 682–703. https://doi.org/10.1068/b35097
6. Izady, M.R. (1992) *The Kurds: A Concise Handbook*. London: Taylor & Francis.
7. McCall, M.K. and Dunn, C.E. (2012) 'Geo-information tools for participatory spatial planning: Fulfilling the criteria for "good" governance?', *Geoforum*, 43(1), pp. 81–94. https://doi.org/10.1016/j.geoforum.2011.07.007
8. McCall, M.K. and Minang, P.A. (2005) 'Assessing participatory GIS for community-based natural resource management: Claiming community forests in Cameroon', *The Geographical Journal*, 171(4), pp. 340–356. https://doi.org/10.1111/j.1475-4959.2005.00175.x
9. Perkins, R. (2014) 'Mapping the cultural economy: Design, development and the digital', *Cultural Trends*, 23(1), pp. 41–56. https://doi.org/10.1080/09548963.2014.862001
10. Sui, D., Goodchild, M. and Elwood, S. (2013) *Crowdsourcing Geographic Knowledge: Volunteered Geographic Information (VGI) in Theory and Practice*. Dordrecht: Springer. https://doi.org/10.1007/978-94-007-4587-2
11. Zook, M. and Graham, M. (2007) 'The creative reconstruction of the internet: Google and the privatization of cyberspace and digital life', *GeoForum*, 38(6), pp. 1322–1343. https://doi.org/10.1016/j.geoforum.2007.05.002