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**Earth Deity Shrines of the Greater Taipei
Area: A first edition curated dataset**

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Earth Deity Shrines of the Greater Taipei Area: A first edition curated dataset

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Abstract

Community tutelary shrines in Taiwan have been identified as excellent resources for grassroots-level heritage. As community ritual assemblages, they are able to encode data about a settlement's social, political, and economic history in their material composition, aesthetic choices, artifacts, displays, and orientations. This data paper previews a first edition dataset related to 752 such shrines found throughout the greater Taipei area in northern Taiwan. It explores the basis for such a dataset, how it can be used, and what has been produced. This dataset is available on the *depositar* research data repository, operated out of the Institute of Information Sciences at Academia Sinica in Taipei, and is publicly available for download.

Keywords

spatial humanities, Tudi Gong, earth deity, tutelary spirit, shrine, sanctuary, Taiwan, temple, social geography, dataset, digital humanities, Taipei, New Taipei

Introduction: a dataset about earth deity shrines in the greater Taipei area

The greater Taipei area is a unique cultural landscape that has undergone a series of developments and economic transformations since the seventeenth century. From an indigenous space penetrated by European entrepots to a Chinese imperial frontier to a world class metropolis, it first developed haphazardly as market towns created a series of trade networks among themselves and influenced the location of imperial garrisons until the twentieth century when it was intentionally planned as an administrative center by Japanese colonial administrators and the subsequent Nationalist Chinese (Republic of China) government. Bearing witness to these developments, and linked intimately to the fortunes and land base usage of the region's communities, are hundreds of tutelary earth deity shrines representing each community as a distinct unit of social organization.

Earlier research has identified the significance of these shrines as sites of heritage, storytelling, and a sense of “place” (Dell’Orto 2002), and as representative of community cohesion and social organization (Ahern 1986, Yang 1994, Feuchtwang 2001, Weller 2007). Significantly, although some surveys have been conducted of shrines in the region and reports have been drafted and published (林美容 2000, 周志衡 2016, Dell’Orto 2002), no attempts have been made to digitize, index, and make available the data collected at these sites. Most recently, the author has published an English-language doctoral thesis with a limited dataset of 636 surveyed tutelary earth deity shrines in northern Taiwan that contains data about shrine names, locations, GPS coordinates, and other metadata (Morris 2023). This recent research has recognized that when the local data collected at these community tutelary shrines is studied as a whole, a new picture of northern Taiwan’s social linkages, economic and political networks, historical patterns, and heritage becomes visible, producing a broad and clear picture of historical trends that have impacted the greater Taipei region’s communities and development.

This dataset has since grown to 752 shrines, and will continue to grow in its scope and scale. For the present, the basic data related to these 752 shrines has been made available as a first edition dataset through the *depositar* archive system (Morris 2024) in the hope that other researchers will find it useful for their research. This first edition is released as .XLSX, .CSV, .RTF, .PDF, .JPG and .ZIP files representing data processed by the author of this data paper. This first edition has been made available as a ‘completed’ set, not to be edited or changed (correcting errors being an exception), representing an expanded but nevertheless still limited preliminary corpus of processed data. It should be noted that this first edition dataset is not necessarily representative of the full body of data collected from these 752 sites; there is still much data to be processed, and will be made available in future editions. In the spirit of FAIR data (findable, accessible, interoperable, and reusable), this first edition of the dataset is being published for others to search, sort, manipulate, and visualize with the hope that it will aid their own research projects.*^{1, 2}

The research

This dataset represents the culmination of more than nine years of field work, beginning in early 2015, surveying tutelary earth deity shrines in the greater Taipei region. This project relied on the natural geography of northern Taiwan to limit its survey to the lowland, alluvial plain, and slopes of the greater Taipei region, consisting of the Tamsui River estuary, the Taipei basin, and the lower courses of the Tamsui’s tributaries (the Dahan River, the Xindian River, and the Keelung River). This survey represents most of Taipei City, portions of New Taipei City, and areas of Keelung City and Taoyuan City.

Why earth deity shrines?

The tutelary earth deity, often called Tudi Gong (土地公) or more formally Fude Zheng Shen (福德正神), has been observed to act as a sanctifier over the community’s relationship with its land base, and the shrines are as much a physical contract between

the community and the deity over the use of the land as they are a symbol of community cohesion (Morris 2023). Instances of renovation and elaboration (as opposed to repairs) often correspond with moments of renegotiation of this contract (ibid.), particularly when the community has accumulated excess wealth and its members seek to derive additional value from the land as economic patterns shift.

When renovations occur at these ritual assemblages, new information about the community is often encoded within the site. Some earlier information, often construction materials, may be lost in the process, but other information that survives a renovation, such as venerated antique tools and ritual artifacts, becomes 'locked-in' during these moments. Other times, the sanctuary space serves to keep elements of the surrounding land preserved while urbanization occurs next door. Such examples include an old mortar stone for food preparation kept behind Xiaokeng Fude Gong (小坑 福德宮) in Taipei's Wenshan District (Site ID: 230) or tombstones behind the altar of Hengke Baixing Gong (橫科 百姓公) in New Taipei's Xizhi District (Site ID: 540). Similarly, renovation is an opportunity for the community to revive its heritage, and deliberate acts of encoding heritage data have also been observed at these shrines. Such a case is observed at Jiantan Sanjiaodu Tiande Gong (劍潭 三腳渡 天德宮) in Taipei's Shilin District (Site ID: 142) where illustrations of the historical river system and former traditional fishing activities have been incorporated in the shrine's decorations. Please note that these examples have been elaborated upon in the author's earlier dissertation (ibid.), and have only been referenced here in order to contextualize the circumstances for the development of this first edition dataset.

Periods of renovation are opportunities for upwardly-mobile community members to make donations and enter the gentry class. The display of names from donors on prominent placards at many shrines provides another opportunity to investigate the changing demographics and social fortunes of the community. As the number of names changes between renovations, the frequency of names and the proportion of certain surnames may suggest changes in the economic fortunes and demographic makeup of the community.

Similarly, inter-community linkages and political linkages can be observed at many shrines. They may feature placards and certificates affixed to the wall from affiliated shrines, temples, and communities, and may represent associations among ritual alliances or could also represent communities of origin for Taiwanese who migrated to Taipei's urbanizing landscape between the 1960s and 1980s. As social gathering places, these become representative of local interests and reflect two-way social and political influences. Local politicians regularly visit temples during their feasts and festivals, and many of the large auspicious commemorative placards called *bian-e* (匾額) displayed on the temple walls are donated by notable persons and politicians.

Developing the dataset and its content

The intent of this dataset has always been to represent the shrines as heritage sites, and to digitize, categorize, and index features, elements, attributes, and entities found at these

sites. In its initial stages, a working directory and spreadsheet were developed for the collection, processing, and organization of this data.

To develop the dataset, each shrine was given an identification number (Site ID), and digitized data for each shrine was saved in a computer directory associated with the number. These folders primarily contained photographs and videos of the shrine and its site. Photographs depict the structure, its environs, and various features (including facades, artwork, altars, offerings, epigraphy, etc.). Videos often depict events (including processions, crowds, rituals, blessings, etc.). A working spreadsheet was developed using Google Sheets for the organization and indexing of features, elements, and attributes of each shrine. The Y axis features the shrine ID numbers so that each row contains data unique to each shrine. Many shrines have been regularly revisited over the years to collect additional information and to update the dataset.

Originally developed for the support of a doctoral dissertation (Morris 2023) of 636 entries (of which, only 627 were deemed valid -- the remaining 9 entries were located at Keelung Harbor, outside of the Taipei basin system), the spreadsheet contained information about shrine locations, names, deities, dates, sizes, materials, environments, and a variety of indexable elements and attributes.

Due to the limitations of a printed dissertation, only data about shrine locations and names were included in the document. Consideration was given to how this original working spreadsheet with its greater amount of data could be shared. A link was provided as a reference in the dissertation, however it has since become unusable, resulting in accessibility problems. To resolve this issue, the *depositar* archival system operated out of the Institute of Information Science at Academia Sinica in Taipei has been identified as a longer-term solution (Chuang et al. 2021, Chuang et al. 2022). *Deposit* (generally stylized with a lower-case letter d) is an online repository built on CKAN open source software for research data operating with FAIR principles (findable, accessible, interoperable, and reusable), wherein each dataset receives a permanent ARK identifier as a unique citation reference and link that can be easily found using internet search engines. For the present, *depositar* has been chosen as the current storage solution for this published first edition dataset. Since the publication of the dissertation, as of publishing this paper, the dataset has grown to 752 shrines.

This available dataset represents only a portion of the indexable data collected. Although the working spreadsheet and dataset are comprehensive, they are still being expanded and require additional data processing. Because of the evolving nature of this documentation project over nine years, certain features were overlooked and were left undocumented early on. Where this disparity in the dataset is glaring, this incomplete category has been left out of the first edition. As a result, what is available in this first edition is limited to complete and mostly complete data: locations, names, deities, the relation of the shrine to markets and other temples, the name of the researchers who conducted the documentation, and notes relating to the shrines and the status of this research project. It is hoped that many of the issues of incomplete data will be addressed in the second edition.

Users will also observe that several shrines exist within this dataset that do not appear to host earth deities but may instead contain venerated trees, stones, anonymous ghosts, or burials. These have been included in the dataset because they represent stages in the process of becoming tutelary shrines; the “recognition” process is underway. Whether this process will continue is less important than the chthonic tutelary significance that is being cultivated. Users are asked to excuse several shrines in this dataset that are not located within the Taipei basin. These had been collected out of convenience, and, although they may not fit within a study of the greater Taipei area, they will be useful when this project expands its scope.

Using this First Edition

This first edition contains data related to 752 community tutelary earth deity shrines in the greater Taipei area. The dataset exists as both an .XLSX and .CSV spreadsheet, “read me” .PDF and .RTF files, and a series of .ZIP directory files of corresponding visual reference .JPG photographs of each shrine. The .CSV file can be uploaded into GIS software for spatial exploration. In its present form, it allows users to filter for certain indexed traits and combinations that can reveal patterns identified through these shrines. Shrine photographs are named utilizing the following convention based roughly on the first several indexical categories in the spreadsheet (when applicable): [Site ID]_[City]_[District]_[Li Name]_[Community Name(s)]_[Temple Name]_[Photographer]_[Original file name]. These photographs have been chosen in order to contextualize the shrine in its location, and an attempt has been made to select photographs that are aesthetic as well as contextual, however when this research began, the collection of data and metadata was the primary motivation for digital photography, as it still is today, and so users may find some photographs are utilitarian in their composition. Return visits will attempt to address these and other issues arising from incomplete documentations in the future.

The index categories found in the first edition dataset are presented in Table 1.

Additionally, six columns exist in the dataset featuring an incomplete set of Chinese characters representing Li Name (里名), Community Name (社區名字), Secondary Community Name (其他地名), Temple Name (廟名字), Main Deity (神名字), and Host Temple Name (大廟名字). For the categories Li Name, Main Deity Name, and Host Temple Name, all sites (001 through 752) have been transcribed into Chinese characters when applicable. For the categories of Community Name, Secondary Community Name, and Temple Name, Sites 001 through 400 have been transcribed fully. Additional transcriptions have been provided for Sites 401 through 752, however this data is not complete.

Further commentary is to be made on these categories. The Site ID number can be cross-referenced between the spreadsheets and directory images. Some liberty has been taken when applying “**Site ID**” identifiers to shrines that have been relocated, split, merged, or are set side-by-side. Whether one or two numbers are assigned depends on spatial, communal, worship association, and historical contextual factors. Prior to 2023 these

numbers were assigned based on a rough alphabetization system organized by city and city districts. During and after 2023 these numbers were assigned based on the chronological order of new shrine documentations. The “**City Name**” has been converted into a three-letter city code in the photograph directory: “TPE” for Taipei City, “NTC” for New Taipei City, “KLC” For Keelung City, and “TAO” for Taoyuan City. “**Market Shrine**” and “**On Temple Grounds**” are given simple “yes,” “no,” “uncertain,” or “incomplete” qualifiers. “**Market shrines**” refer specifically to tutelary deities who only preside over a distinct market space, often installed somewhere within. “**On Temple Grounds**” refers only to shrines that protect a temple’s defined territory, and are not necessarily meant for the benefit of the community outside of the temple sanctuary. When a host temple is identified, its name is provided under “**Host Temple Name**.” The “**Documented by**” category indicates who the primary investigator for each site has been. The “**Notes**” category will feature subjective and objective comments from the researcher, including uncategorized observations and methodological commentary. An entry with “Incomplete” indicates missing data. The entry “NA” indicates not applicable index categories. Readers are reminded that the preliminary nature of this first edition has resulted in many entries of “uncertain,” “incomplete,” and “NA.” This will be resolved as more data is processed and subsequent editions are made available. Generally, Chinese names will be presented in Hanyu Pinyin Romanization. Exceptions include common or popular names that are widely known by other Romanization systems (i.e., “Taipei” instead of “Taibei” and “Tamsui” instead of “Danshui”).

Moving forward with this research

Moving forward, a goal of this project is to produce a second edition of this dataset that reflects more data; both an expanded list of shrines and a more robust documentation and indexing of shrine features, elements, and attributes. Extrapolating from what is known about the greater Taipei area and identifying regions of the Taipei basin and Tamsui watershed that have not been thoroughly documented, it is estimated that an additional 100 to 200 shrines still exist that have not yet been visited and digitized within the cultural landscape under study. A return to many shrines that have already been documented will also be necessary in order to address the problem of incomplete or missing data.

It is hoped that future efforts will be automated, relying on OCR guided by AI to pull epigraphic information out of digital photos. Automation or streamlining will be necessary in the future as new sites are regularly being identified and added.

As more data is processed, it is anticipated that additional indexed categories will be included in a second edition, including: reported dates of construction and renovation; chthonic and burial associations; additional deities; ritual alliances between temples; demographic data; etc.

Eventually, it is hoped that a robust relational database will be developed for all of the community tutelary shrines in the greater Taipei area and for the rest of Taiwan. The

potential for this paradigm of studying grassroots Taiwanese socio-economic-political history is promising.

Conclusion

This data paper has introduced the first edition of a dataset that has surveyed 752 community tutelary earth deity shrines in the greater Taipei area of northern Taiwan. This dataset has been made available for researchers on the *depositar* repository archiving system operated by the Institute of Information Sciences at Academia Sinica in Taipei. This dataset has been made publicly available as a first edition for use by other researchers for the benefit of other research projects. This paper has been written to present the dataset, introduce its utility, contextualize its information, and establish a baseline for this research moving forward.

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Conflicts of interest

The authors have declared that no competing interests exist.

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Endnotes

- *1 To visit this dataset on the *depositar* repository, please visit <https://pid.depositar.io/ark:37281/k549m8r1q> or use the ARK identifier 37281/k549m8r1q.
- *2 Licensing for content and metadata on the *depositar* repository is CC0. This includes descriptions, information, and metadata developed specifically for the "Earth Deity Shrines - First Edition" dataset. The data and files archived within the dataset have been licensed as CC BY-SA. Users are free to share and adapt the files but must attribute credit to the original creators and contributors of this dataset. Any adaptations must be shared under the same CC BY-SA licensing.

Table 1.

Index categories found within the dataset.

City	The name of the city in which the site is located. A three-letter city code has been given for the directory names.
District	The name of the city district in which the site is located.
Li Name	The name of the lowest-level official administrative unit in which the site is located.
Community Name	If a shrine or its worship group is associated with a traditional place name or has adopted a name for its community.
Secondary Community Name	If a shrine is associated with another name that can be attributed to the site or community.
Temple Name	The displayed name of the shrine or temple.
Main Deity	The name of the main deity associated with the site.
Market Shrine	Whether a shrine is specifically associated with a market or not.
On Temple Grounds	Whether a shrine is found on the grounds of a larger temple.
Host Temple Name	The name of the larger temple if the tutelary shrine is found on its grounds.
Latitude	Decimalized position of the site latitude using WGS-84 geodesic system.
Longitude	Decimalized position of the site longitude using WGS-84 geodesic system.
Documented by	Identifies the name of the primary researcher.
Notes	Qualitative and quantitative commentary or metadata about the site and data collection methodology.