
Mapping Through Stories: A Landscape Walking Narratives Procedure for Cavite's Cultural Landscape Characterization

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Abstract

Landscape Walking Narratives (LWN) is a landscape-based mapping procedure that came from the PhD research project entitled, "Capturing the Dynamic Character of the Philippine Peri-urban Landscape: A Landscape Character System Approach for the Region of Cavite" (2021). The LWN used a walkers-based cataloging procedure to collect cultural landscape narratives from walkers. LWN also incorporated oral history methodologies to find intangible cultural landscape features, resulting in landscape word clouds and graphs. This mapping approach pushed the boundaries of landscape characterization by demonstrating the ability to translate narratives into meaningful data formats to help in future planning decisions for Cavite.

Keywords: Landscape Walking Narratives, Cultural Landscape Mapping, Peri-urban Landscape, Cavite's Cultural Landscape, landscape word clouds

I. Introduction

Developing the Landscape Character System (LCS) for Cavite, a geopolitical region adjacent to Metropolitan Manila in the Philippines, was a challenge that Nadal took on in a PhD research project titled, "Capturing the Dynamic Character of the Philippine Peri-urban Landscape: A Landscape Character System Approach for the Region of Cavite" (Nadal, 2021). The research effort resulted in the development of landscape-based methodologies capable of producing landscape data that can be included in the region's planning framework. The project centered on developing a solution to the issues that Cavite's landscape was facing as a result of urban sprawl, as demonstrated by its extremely diversified landscape character.

The research project began with years of resource inventory mapping to understand Cavite's landscape situation. Various landscape characterization approaches (LCAp) were collected prior to the creation of several approaches intended to enrich the LCS. One of the LCAp for the LCS is presented in this paper, The Landscape Walking Narratives (LWN), to explain how this mapping technique can help produce a more robust set of landscape data for the LCS of Cavite. The LWN was designed to investigate the cataloging of intangible landscape qualities gleaned from narratives about Cavite's landscape while walkers engaged in the walk. As its data extraction approach, the procedure used the mobile walking method in conjunction with oral history research methodologies. When integrated as the LWN, an adapted methodology that regarded landscape actors' journeys and narratives as a tool in description mapping was considered as part of the LCS.

II. Research Methodology and Research Design

In Nadal's design of the LWN (2021), the extraction method was walking and the landscape components in the form of narratives were the research objects to be categorized into landscape word clouds (LWCs). As instruments moved across the environment, the researcher and the landscape walkers became embodiments and producers of data. The walkers were viewed as data production units, with data being words and narratives that can be analyzed subjectively and statistically. The LWN were intangible landscape features from narratives of individuals on a stroll, as transformed into a visual format that provided perceptual descriptions for the LCS. A landscape word

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cloud (LWC) was the visual format employed by Nadal in this study (2021) because the format provided a more straightforward collection of walkers' perceptual quality of the landscape.

A. Psychogeography, Oral History, Walking Theories as Related Fields for Developing Landscape Walking Narratives (LWN)

Nadal (2021) began the research with a survey of the literature in domains connected to landscape studies such as psychology. From this point forward, it was clear that landscape data may be generated by human perception, knowledge that demonstrated the connection of landscape to the study of psychology. The hypothesis that the mundane, everyday lifestyle of those who live and visit Cavite could be used as references for the LCS was derived from this ideology, thus leading to the possibility of developing a procedure that can extract data from the text and stories of those who have experienced the effects of urbanization processes in Cavite.

The Landscape Walking Narratives (LWN) was designed to extract data to be used in the LCS. The process was driven by Guy Debord's Psychogeography theory (Coverley, 2006) which Nadal (2021) recognized as an important reference to prove the potential of psychology and the geographical layers of the environment in expressing landscape character. Altman and Chemers' (1980) additional study on the inputs that psychological activities, specifically mental and behavioral activities, were also consulted and supported the value of the field of psychology in landscape studies even more. Both ideas emphasized the importance of landscape actors' behavior and mental activities in making LCS data robust. Furthermore, as another theoretical underpinning for the LWN, the *Dérive*, or aimless walking process used in psychogeography (Coverley, 2006), was added reference in the study. The *dérive*, also known as the drift, was a form of stroll that attempted to unveil the character of the urban terrain through a free walk about the city. It was intended to reduce bias throughout the walk, allowing the character of the city to gradually emerge (Coverley, 2006; Knabb, 2006). The *Dérive* was also intended to be unexpected and to provide chances relating to the nature of locations along the path.

Nadal's LWN (2021) also used Oral History approaches (SGSAH/SS Spring into Methods Programme, 2018), with the intention of preserving material from narratives as a reference for landscape data production. The story of landscape actors as a reference for landscape data, as well as the recalibration of the walk as a performance, were critical to this strategy. The performance was then viewed as a research instrument, with the participant acting as the narrator. The landscape was also changed from a background to a multi-sensory story source. The structure was also designed to collect audio material from the walkers' stories, which was then included in the audio walks.

To enhance the theoretical background, walking theories were also consulted (Macpherson, 2016; Pierce and Lawhon, 2015) to further enhance the procedure designed also further for this study.

B. The Landscape Walking Narratives (LWN)

Table 1. Table of Landscape Walking Narratives Walkers with Coded Categorization (Nadal, 2021)

Code	Gender	Residential Background	Industry Sector Type
M-R-P-01	Male	Resident	Primary
M-R-S-02	Male	Resident	Secondary
M-R-T-03	Male	Resident	Tertiary
M-R-N-04	Male	Resident	Non-working
M-NR-P-05	Male	Non-Resident	Primary
M-NR-S-06	Male	Non-Resident	Secondary
M-NR-T-07	Male	Non-Resident	Tertiary
M-NR-N-08	Male	Non-Resident	Non-working
F-R-P-09	Female	Resident	Primary
F-R-S-10	Female	Resident	Secondary
F-R-T-11	Female	Resident	Tertiary
F-R-N-12	Female	Resident	Non-working
F-NR-P-13	Female	Non-Resident	Primary
F-NR-S-14	Female	Non-Resident	Secondary
F-NR-T-15	Female	Non-Resident	Tertiary
F-NR-N-16	Female	Non-Resident	Non-working

Following the final plan for the LWC data format, project limitations were developed, with walking and time bounds added to control variables that emerged during the walk. These territorial and temporal constraints became important aspects of Nadal's research project (2021) to regulate extracted data inside the agreed-upon territory and time period by the researcher and walkers. Aside from controlling the location and access to spaces as one of the elements of the walk, the walkers who consented to participate in the research procedure were expected to have familiarity with Cavite and must represent the various groups of walkers developed for this study.

The integration of the researcher's past knowledge and observations was an essential factor to consider in the LWN. Thus, Nadal (2021) carried out field surveys in order to assess the landscape data instrument, and walk facilitators underwent instruction to minimize bias and optimize all LWN-related tasks.

Walker classification came next. Gender, residential origin, and industry sectors were all considered. Nadal (2021) then analyzed Cavite's industrial profile (Cavite's Socio-Economic and Physical Profile from Cavite Provincial Planning and Development Office, 2013) and added the following sector groups in the categorization:

1. The primary sector of Cavite - agriculture, livestock, and fishery;
2. The secondary sector of Cavite - mining, manufacturing, electricity, and construction;
3. The tertiary sector of Cavite - retail, hotels, transport, real estate, public administration, education, health, and social

A nonworking category was included in the classification to encompass walkers who are not part of Cavite's income-generating economic networks. Overall, the categories chosen confined the findings inside the defined categories as shown in Table 01.

C. Other Walking Factors Considered

The location of the walk, as well as its boundaries, were among the walking parameters evaluated for Nadal's study (2021). Safety and security were also considered for the walk. Time was also a consideration, with a 9 a.m. to 4 p.m. schedule being adopted because that was when the location was well illuminated, and the physical characteristics of the site were visible. This was critical for walkers to create stories based on what they could see.

The site location, People's Park in the Sky, was chosen for this study for the following reasons:

1. Because of its elevation, vistas of the Cavite region were available from the walking areas.
2. Walking was permitted on the property and along the trail walks during the time chosen.
3. During the selected dates, the weather in the park was favorable for walking.

Based on the availability of the researcher and walker, these walking dates were chosen as the site visit window in 2019: February 02, 03, 09, 10, 23, and 24. Aside from the dates specified, a group of facilitators did a pre-walk assimilation at the University of the Philippines to evaluate the suggested walking technique. This portion of the research was completed on February 1st and 2nd, 2019. The outcome of the pre-test provided a guideline for how the walks will be conducted in Cavite. Furthermore, the circumstances

indicated below were examined throughout this time period.

1. the distance walked
2. the questions created for the walk
3. the weather conditions during the walk

Nadal (2021) facilitated the walk with the help of Master of Tropical Landscape Architecture students who examined the correctness of the informed consent and recording agreement documents before walking. Walking facilitation likewise included management training, where facilitators gained knowledge of how to oversee research facilitation. By doing so, they became aware of the ethics of research facilitation and the format adopted from the *Derive and Oral History*, ensuring the format and facilitation followed comparable procedures. Furthermore, the technique had to be tested again until the conditions were met. During the pre-test, research objectives, as well as facilitation norms and procedures, were also determined.

D. Recording Protocols and Walking Questions

Nadal (2021) described how the recordings were made utilizing audio and video formats that were then transcribed into text format. It was explained how the walking began, with all walking participants given a few minutes before the walk to read over the agreement documents. This step was also critical in establishing the walkers' permission as an essential component of research management. Texts from audio and video collected during the walk were eventually anonymized in scholarly papers with the walkers' permission.

As a guide for the walking facilitators, a list of probing questions was subsequently produced for this study. The resultant table of questions (see Table 02) became the reference for walking facilitators during the walk. The questions were also translated into the indigenous tongue during the walking process.

Table 2. Table of Questions used for the Landscape Walking Narratives (Nadal, 2021)

Main Question <i>(the main question is the query trigger that is given to the walker at the start of the walk to start the narration process)</i>	Probing Questions <i>(probing questions are queries given to the walker when narration stops when the walk is still in progress)</i>
What comes into your mind from what you see now?	Tell me more about what you are thinking now?
	What do you mean by this?
	What is it used for?
	When was this? Is it during the time when you were...?
	When did it happen?

E. Walking Narratives Flow Process

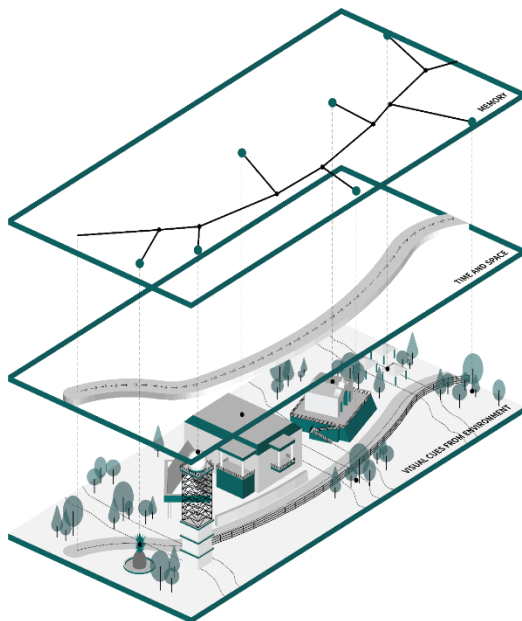


Figure 01. Visual Rendition of the Transect Map showing Landscape Attributes being collected from narratives of walkers engaged in the Walking Narratives (Nadal, 2021)

The walk began at an area in the park as shown in Figure 02. This location was extremely important since it contained not only views of Cavite but also an ideal combination of public and private places, allowing the walker to move the narration along any space on the site.



Figure 02. Images of the Starting point of the Landscape Walking Narratives in People’s Park in the Sky, Tagaytay, Cavite, Philippines taken last 2019 (Nadal, 2021)

The walkers picked their own pathways through the park. As the walker strolled boundless routes within the area, the idea of the walk evolved. Walkers were then given the choice to go anywhere within the boundaries of the park, as long as they stayed below the 3-minute walking time limit.



Figure 03. Images of the Walker as they engage in the Landscape Walking Narratives at People’s Park in the Sky, Tagaytay, Cavite, Philippines last 2019 (Nadal, 2021)

F. Theme Extraction and Visualization

Nadal (2021) was able to gather audio transcripts about Cavite as the major type of word descriptor. This group of words was categorized, resulting in coded versions used for the landscape word clouds (LWC).

The process designed for the study included the transcribing of texts from the voice recording. The text versions of the narratives contained words that were tallied with the number of times they were used in the transcription. The tallied information then followed transcription description rules where common words were then grouped. A detailed data set can be found at <https://doi.org/10.7488/ds/3772>, to further understand how the categorization was made.

Figure 04 explains the topic extraction and visualization procedure used to create the Landscape Word Clouds (LWC). The extraction framework was developed by Nadal (2021) based on grounded theory (Glaser and Strauss, 1967; Wertz et al., 2011; Lawrence and Tar, 2013). Due to a lack of information on the intangible characteristics of Cavite's landscape, it was necessary to investigate the use of Grounded theory in this section of the research. The grounded theory was used to analyze the LWN audio text transcriptions in order to code data into LWC for analysis.

Nadal (2021) took the following steps during the development of the visualization process:

1. Word labeling and categorization as data collection for coding
2. Using the initial layer of word data to hypothesize the finding of intangible landscape features and landscape processes,
3. As input to the process flow, abstract categories are inductively constructed.
4. Refining the classification in item three (3) based on theoretical sampling,
5. Writing landscape descriptive memos for analyzing the codes and words that are being created, and
6. Creating the theoretical framework that identifies the various clusters of LWCs

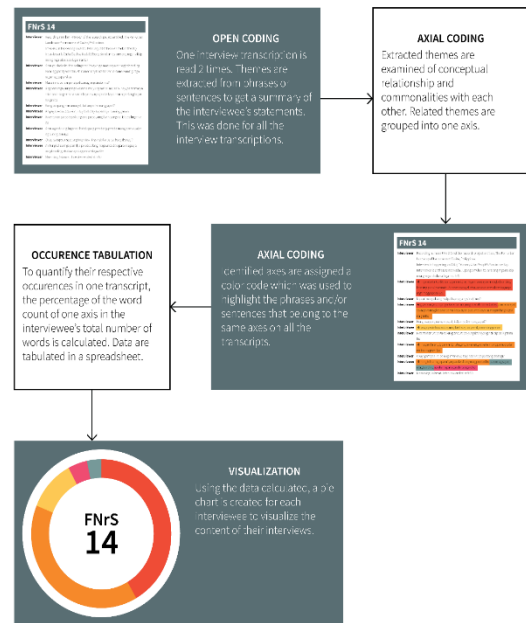


Figure 04. Theme Extraction and Visualization Process for the creation of the Landscape Word Clouds (LWC) (Nadal, 2021)

The initial layer of data categorization was done using open coding, where words were classified based on similarities. This initial phase was significant to Nadal's (2021) research since it helped limit the data into sets of thematic landscape qualities. During the open coding process, data was read numerous times to build a preliminary categorization that summarized the data labels.

Following the first data categorization, axial coding was used to further categorize results into conceptual groups. The coded sets were axially coded using Nadal's (2021) interpretive lens, and the initial coded sets were clustered based on another layer of conceptual qualities.

Finally, Nadal (2021) employed selective coding to transform the conceptual families of landscape features into a more formal network of landscape variables that shows not only words but landscape interrelationships to the walkers. With occurrence tabulation, selective coding was generated into clusters chosen to describe the narratives utilized in the walk.

III. Cavite’s Landscape Word Clouds (LWC)

LWCs were the LWN's output. The LWCs, as cluster types, were idealized visualizations of landscape-related terms derived from the narratives of the walkers who went for a stroll in the park. Landscape Walking Narratives (LWN) were used to collect these data types, overcoming the difficulty of understanding landscape character data from individuals who can experience the area firsthand.

The LWCs obtained for this investigation varied. Nadal (2021) observed a change in the outcomes as a result of the interaction of gender, residence, and industry classification. The combination of these walker attributes was shown to be critical in the alterations seen during the evaluation. At this stage, LWCs have established a very adaptable data structure that may be further improved if extra information is contributed to the gathered data.

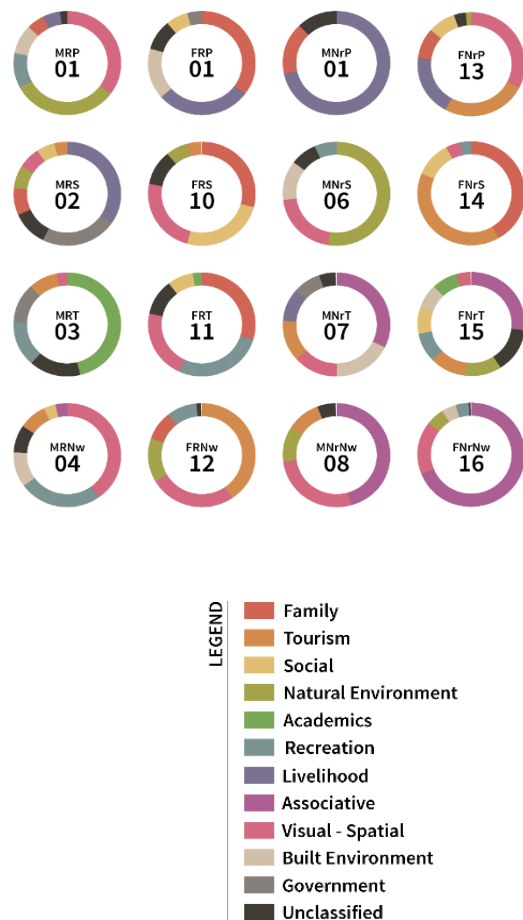


Figure 05. Theme Extraction and Visualization Process for the creation of the Landscape Word Clouds (LWC) (Nadal, 2021)

The multiple LWCs developed by Nadal (2021) for her study are shown in the photos below. One of the images, Figure 18, also included an example image of the resultant text coding from the LWN. This example demonstrated how color coding was done, simulated, and categorized. The categories of information provided in each combination of words or phrases were used to group them. Color selection was arbitrary, but when colors were added to each sensory attribute type, the differentiation between them became clear. Color schemes were useful in estimating the number of perceptual qualities from each walker type. Furthermore, the text extraction approach used presented a more measurable means of comprehending the qualitative attributes of Cavite’s landscape.

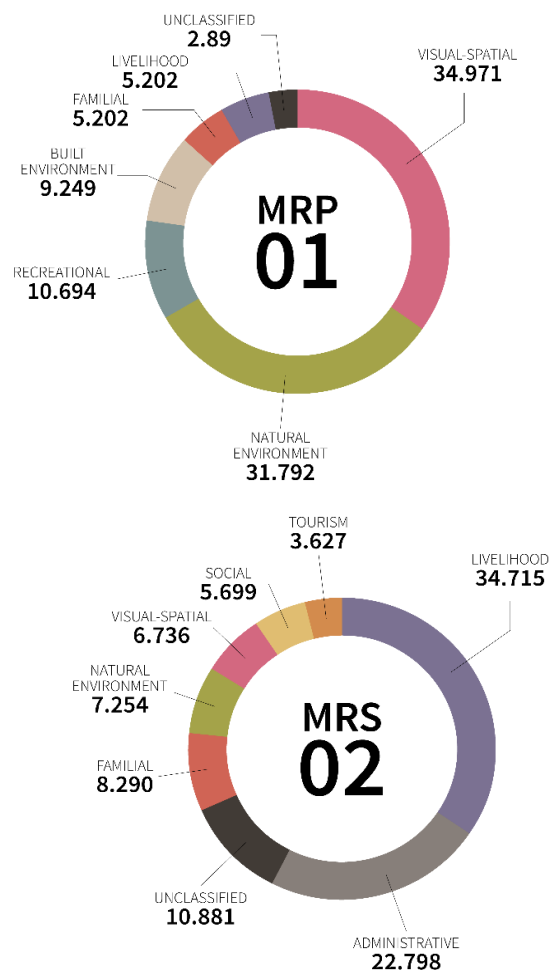


Figure 06. Landscape Word Clouds - LWCs generated from the Landscape Walking Narratives - LWN – MRP and MRS (Nadal 2021; Visualization by Nadal and Barroga, 2021)

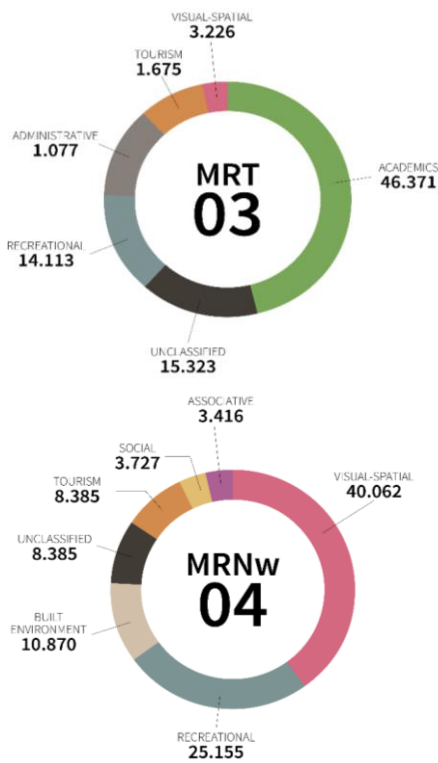


Figure 07. Landscape Word Clouds - LWCs generated from the Landscape Walking Narratives - LWN – MRT and MRNw (Nadal 2021; Visualization by Nadal and Barroga, 2021)

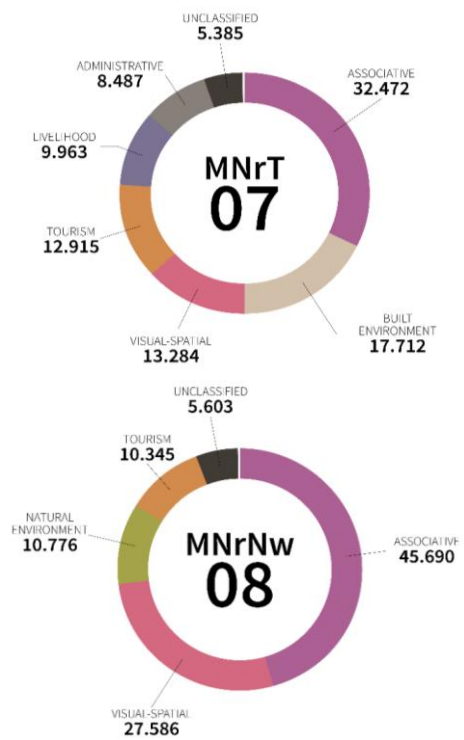


Figure 09. Landscape Word Clouds -LWCs generated from the Landscape Walking Narratives - LWN – MNrT and MNrNw (Nadal 2021; Visualization by Nadal and Barroga, 2021)

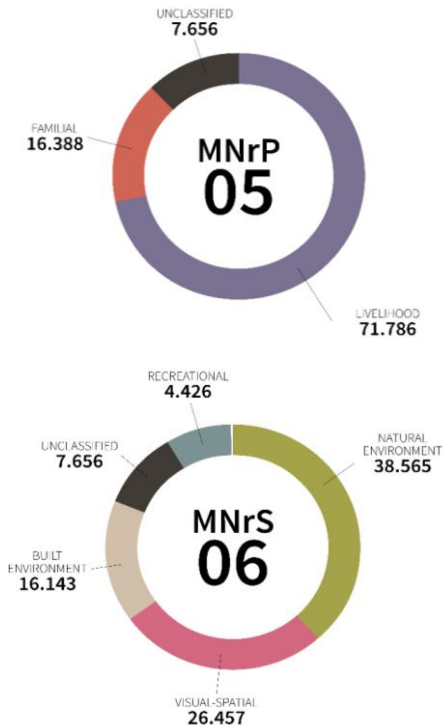


Figure 08. Landscape Word Clouds - LWCs generated from the Landscape Walking Narratives - LWN – MNrP and MNrS (Nadal 2021; Visualization by Nadal and Barroga, 2021)

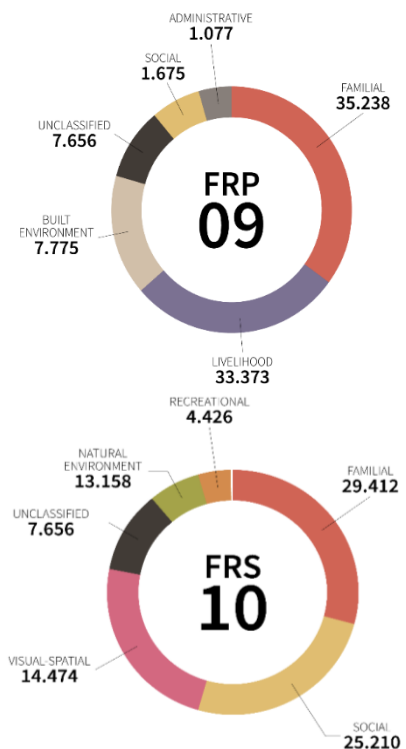


Figure 10. Landscape Word Clouds - LWCs generated from the Landscape Walking Narratives- LWN – FRP and FRS (Nadal 2021; Visualization by Nadal and Barroga, 2021)

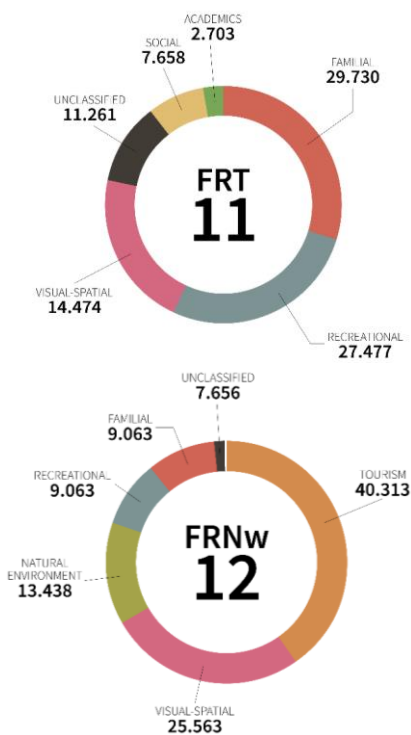


Figure 11. Landscape Word Clouds- LWCs generated from the Landscape Walking Narratives – LWN – FRT AND FRNw (Nadal 2021; Visualization by Nadal and Barroga, 2021)

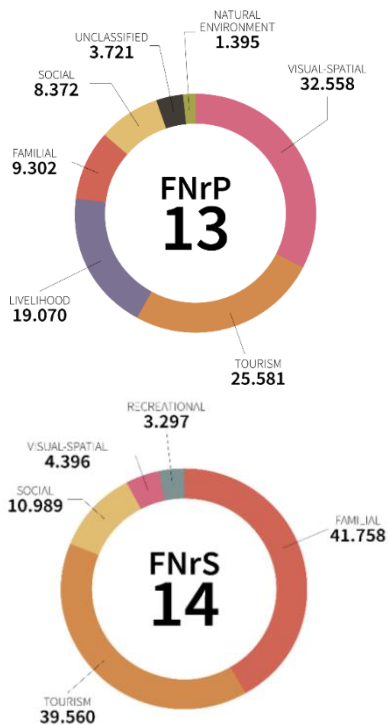


Figure 12. Landscape Word Clouds – LWCs generated from the Landscape Walking Narratives - LWN – FNRp and FNRs (Nadal 2021; Visualization by Nadal and Barroga, 2021)

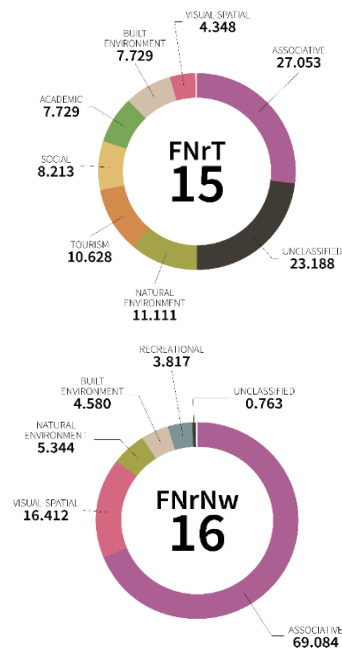


Figure 13. Landscape Word Clouds - LWCs generated from the Landscape Walking Narratives -LWN – FNrT and FNrNw (Nadal 2021; Visualization by Nadal and Barroga, 2021)

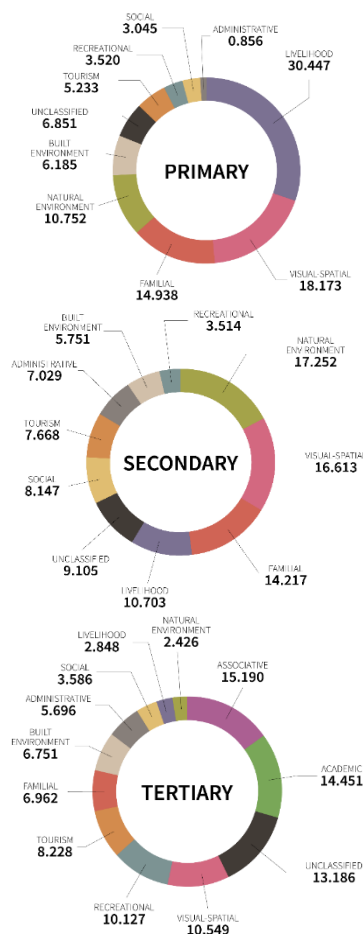


Figure 14. Landscape Word Clouds - LWCs generated from the Landscape Walking Narratives – LWN for the Primary, Secondary and Tertiary Group Categories (Nadal 2021; Visualization by Nadal and Barroga, 2021)

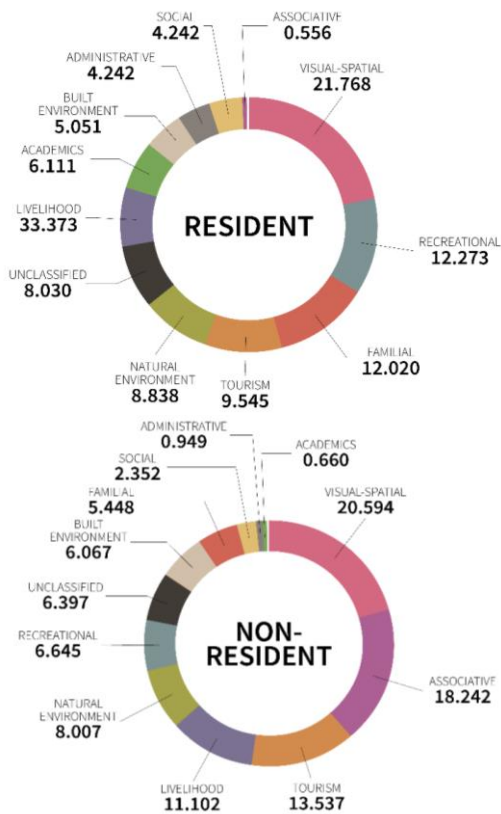


Figure 15. Landscape Word Clouds - LWCs generated from the Landscape Walking Narratives – LWN – Resident and Non-resident Group Categories (Nadal 2021; Visualization by Nadal and Barroga, 2021)

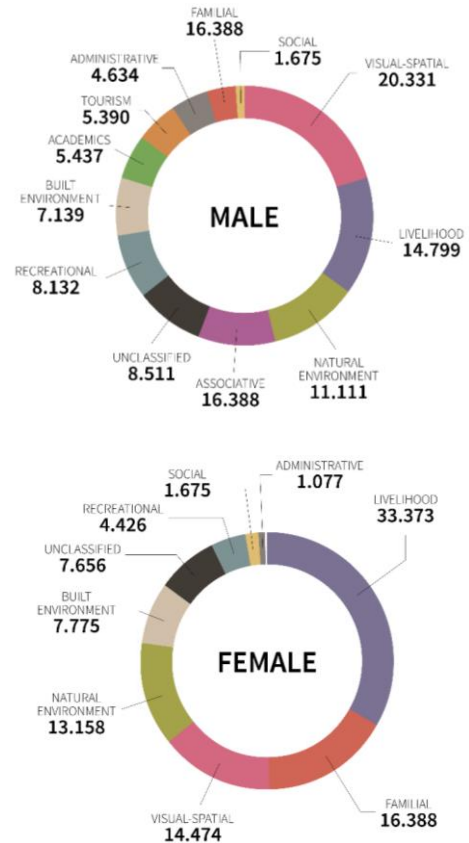


Figure 17. Landscape Word Clouds - LWCs generated from the Landscape Walking Narratives - LWN - Male and Female Group Categories (Nadal 2021; Visualization by Nadal and Barroga, 2021)

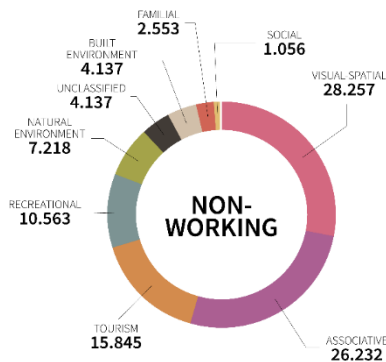


Figure 16. Landscape Word Clouds - LWCs generated from the Landscape Walking Narratives - LWN - Non-Working Group Category (Nadal 2021; Visualization by Nadal and Barroga, 2021)

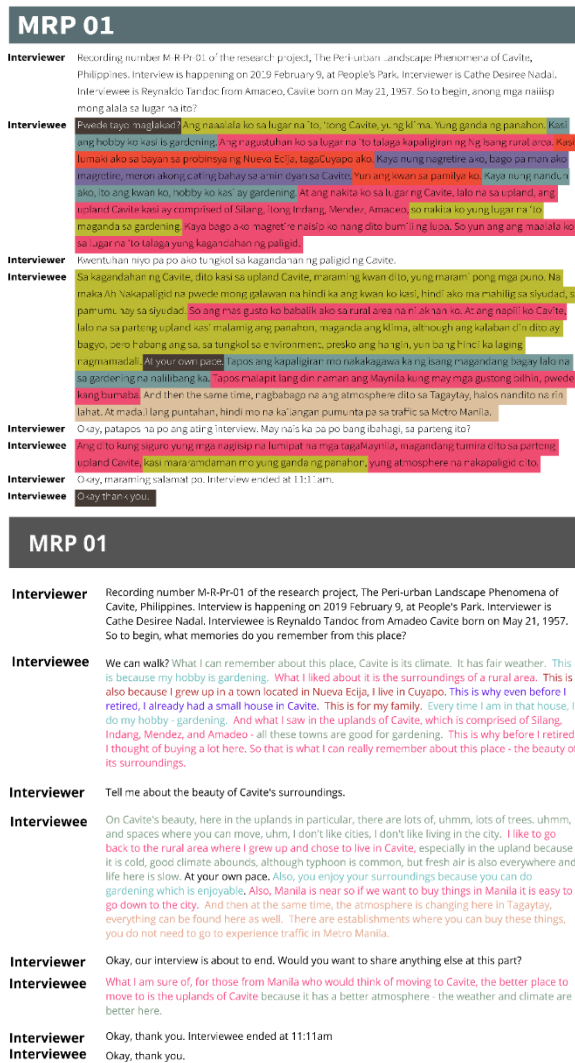


Figure 18. Sample Image of the resulting text coding from the Landscape Walking Narratives and its translation (Nadal, 2021)

IV. Conclusion and Recommendations

Nonetheless, Nadal (2021) found the LWC's benefits and weaknesses in her study. This covered the difficulties of limiting walkers to the three (3) category choices. With the likelihood that limiting to these category combinations may be inconclusive for a bigger population, there is a greater opportunity to explore adding other categorical combinations for any future study related to this method.

Despite this, the LWCs demonstrated the importance of cultural attributes in any placemaking endeavors. This remark relates to the duality of nature and culture in Philippine landscape discourse, and the LWN proved that walkers in this study were able to form a variety of cultural connections to Cavite's landscape, regardless of their category. LWCs were able to describe how people see the landscape as intangible assets related to family, tourism, society, academia, recreation, livelihood, associations, visual space, built environment, and governance, among other things. For example, the male-non-resident-primary group (M-Nr-P) had a larger percentage of word clustering towards livelihood in the LWCs gathered. In the same category, the family appeared alongside the often used term set. This admission revealed the M-Nr-P's tight relationship with his livelihood and family. Thus, these groupings of landscape walkers revealed distinct connections with the landscapes based on their own perceptions and connections.

In the end, Nadal (2021) noted shortcomings in the process design, specifically how observations generated from the LWN may only be correct for the individual recruited to walk. However, it was still a revelation that walkers interpret the landscape as a container of industry qualities through words supplied by the narrative. Another insight from the LWC resulting from the LWN was the importance of the environment as a repository of familial narratives. Both observations revealed that the environment was full of words and stories about valued traits in relation to the region they traveled.

To summarize, the volumetric data representing Cavite's landscape identity as reflected by LWCs show that a landscape actor's personal and community-level relationship with his environment may serve as the foundation for a successful placemaking strategy. The symbols, signs, and codes linked with a culturally valued setting should be key features and foundations for constructing a place image that is sensitive to the character of our Philippine landscape. The LWC data should also be used for nature and culture-based solutions, such as disaster management plans and habitat preservation, which might be suggested as part of a more sustainable regional plan in Cavite.

Acknowledgements

The author acknowledges the kindness of the UST GS CCCPET for also accepting this paper for presentation in the UST GS - CCCPET Cultural Mapping Conference scheduled this September 2023.

The author gratefully recognizes all participants, collaborators, and stakeholders who contributed to this study endeavor. Their opinions, experiences, and ideas contributed to a better understanding of the intricate and dynamic linkages that exist between people and landscapes in Cavite. Her PhD supervisors at the University of Edinburgh, Lisa MacKenzie and Simon Bell, both shared valuable insights into this research and also deserve special recognition.

Financial assistance was provided by the University of the Philippines Fellowship Grant, the University of Edinburgh PGR Fund and Tweedie Exploration Fellowship, and the National Commission for Culture and the Arts Fellowship Grant. The fieldwork help offered by the Province of Cavite Local Government and the UP College of Architecture - Landscape Architecture faculty is also acknowledged in this article.

The PhD dissertation dataset that was partially developed into the Landscape Walking Narratives (LWN) is also available through the University of Edinburgh DataShare repository in its most recent version at: <https://doi.org/10.7488/ds/3772>.

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