



Universidade de Évora - Instituto de Investigação e Formação Avançada

Programa de Doutoramento em História da Arte

Tese de Doutoramento

**New methodological approaches of investigating the identity
of Historic Settlement**

Md Shajjad Hossain

Orientador(es) | Fernando António Baptista Pereira
Filipe Themudo Barata
Paulo Alexandre Rodrigues Simões Rodrigues

Évora 2023



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Paulo Alexandre Tormenta Pinto (ISCTE - Instituto Universitário de Lisboa)

O desenvolvimento de novos métodos de investigação na identificação de sítios históricos ocupados

Resumo

Para estabelecer a “identidade” de um sítio histórico, a utilização de uma metodologia baseada na aplicação de ferramentas de mapeamento para análise de indicadores tangíveis e intangíveis pode ser de grande interesse e significância, uma vez que esta metodologia ainda não tem sido amplamente utilizada em pesquisas patrimoniais, apesar de ser uma ferramenta poderosa. Nesse tipo de mapeamento, a paisagem, a arquitetura e as camadas de mudança que foram depositadas no território sobre elas, ao longo dos tempos, são consideradas indicadores tangíveis, enquanto a toponímia, a história, a memória e os antigos dizeres locais são considerados indicadores intangíveis. Os indicadores, sua existência, geolocalizações, processos, significado e distribuição espacial, transformações etc. devem ser mapeados em diferentes camadas e posteriormente alguns conjuntos e subconjuntos devem ser justapostos para obter combinações e resultados. Portanto, informações produzidas a partir destes indicadores tangíveis e intangíveis de forma científica e matemática, apoiadas na história, artefactos e vestígios, princípios de urbanismo, inscrições e manuscritos, podem revelar muitos aspetos desconhecidos dos sítios históricos. Os métodos precisam ser de natureza mais científica e objetiva para excluir o viés de uma percepção distorcida. Também é uma boa técnica testar o método em mais de um local que tenha antecedentes diferentes, mas configuração semelhante, a fim de provar a validade e eficácia universal do método. Assim, Khalifatabad (Bangladesh) e Évora (Portugal) são os dois locais de um estudo de caso que visa testar a metodologia acima referida, uma vez que ambos foram declarados Património Mundial da UNESCO e possuem valor histórico semelhante.

New methodological approaches of investigating the identity of Historic Settlement

Abstract

In order to establish the identity of an ancient settlement, the use of a methodology based on the application of mapping tools for analysis of tangible and intangible indicators might be of great interest and significance, as this methodology has not yet been extensively used in heritage research despite of its being a powerful tool. In this kind of mapping, landscape, architecture and the layers of change that have been deposited on them throughout ages are considered as tangible indicators, while toponymy, story, memory and ancient local sayings are considered as intangible indicators. The indicators, their existence, geo locations, processes, spatial significance and distribution, transformations etc. are to be mapped in different layers and later some set and subsets are to be juxtaposed to obtain certain combinations and results. Therefore information produced from both tangible and intangible indicators in a scientific and mathematical manner, supported by history, artefacts and vestiges, principles of urbanism, inscriptions and manuscripts, can reveal many unknown aspects of historic sites. The methods need to be more scientific and objective in nature to exclude biasness of perception. It is also a good technique to test the method on more than one site that has different background but similar configuration in order to prove the validity and efficacy of the method. Therefore Khalifatabad (Bangladesh) and Évora (Portugal) are the two sites of a case study that aims to test the above mentioned methodology, as they both were declared UNESCO World Heritage and carry similar historic value.

New methodological approaches of investigating the identity of Historic Settlement

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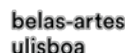
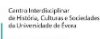
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Abbreviations

Centro Historico: Historic Centre

ORU : A Operação de Reabilitação Urbana Simples (The Simple Urban Rehabilitation Operation)

RJRU: Regime Jurídico da Reabilitação Urbana (Legal Regime of Urban Rehabilitation)

CH/CHÉ: Centro Historico (Historic centre of Évora)

CMÉ/CME: Camara Municipal de Évora (Municipality of Évora; also known as City Hall)

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Abstract

In order to establish the identity of an ancient settlement, the use of a methodology based on the application of mapping tools for analysis of tangible and intangible indicators might be of great interest and significance, as this methodology has not yet been extensively used in heritage research despite of its being a powerful tool. In this kind of mapping, landscape, architecture and the layers of change that have been deposited on them throughout ages are considered as tangible indicators, while toponymy, story, memory and ancient local sayings are considered as intangible indicators.

The indicators, their existence, geo locations, processes, spatial significance and distribution, transformations etc. are to be mapped in different layers and later some set and subsets are to be juxtaposed to obtain certain combinations and results. Therefore information produced from both tangible and intangible indicators in a scientific and mathematical manner, supported by history, artefacts and vestiges, principles of urbanism, inscriptions and manuscripts, can reveal many unknown aspects of historic sites. The methods need to be more scientific and objective in nature to exclude biasness of perception. It is also a good technique to test the method on more than one site that has different background but similar configuration in order to prove the validity and efficacy of the method. Therefore Khalifatabad (Bangladesh) and Évora (Portugal) are the two sites of a case study that aims to test the above mentioned methodology, as they both were declared UNESCO World Heritage and carry similar historic value.

Title:

General Introduction

Main challenge of the thesis

The main idea behind the thesis started from small idea of exploring a six hundred years old human settlement which is already occupied by a contemporary settlement (Lab 1 in Chapter 4). Therefore the ancient vestiges that are seen here and there are the only tangible signs of that period along with a location map of those. While this is the tip of the iceberg, the sunken intangible parts are found in oral history, story, toponymy, literature, local cultural activities and many other sources. Therefore, it was a deconstructive approach to separate all the sources (information) in layers, find the relationship of information across geo-referenced layers and thus to reach out to a comprehensive understanding to the subject matter and in this approach spatial dimension was extremely important. This idea of layers and manoeuvring transformed data into layers is the heart of the thesis.

The methodology to be established by the research work is supposed to be universal to a certain extent. That means it could be used in other cases of the world as well as other disciplinary researches. In every uses the sub-set of methods supported by the methodology would change according to needs and nature of the project. That is why other Labs attempted (Lab 2 in chapter 5 and Labs in collaboration in chapter 6) in the time frame of this PhD journey has separate site specific methods, theoretical framework, own literature survey and results.

Lab 1 and Lab 2 has in depth study and conclusive remarks (to the extent that was affordable and feasible in the time frame of doctoral study) where the way was paved by the fact that author had lived experience in both sites (Bangladesh and Portugal) and “Participant observation”, a well-known research method in anthropology, came very handy. In the “Labs in collaboration” the geographic context (Germany, Kenya, Tanzania and Mozambique) was without lived experience and less familiar but co-organizers from other disciplines (e.g. landscape architect, social anthropologist) and participants from corresponding countries filled the gaps to bring out fruitful outcomes. The author’s disciplinary training as an architect was very advantageous for this research as well as teaching experience in both context allowed having a pedagogical approach in sharing experiences as well as disseminating information and knowledge through seminar, classes, conferences and web-mapping.

Unique approach and organization of the thesis

This thesis is aimed primarily to develop a methodology for a certain type of investigations and results that came out from different case studies are by products. It is also very important to note the interdisciplinary nature of the work which crosses

history, archaeology, geography, landscape and anthropology. Some work, especially in the analysis part, cutting edge scientific technique of mapping and drawing (crossing the discipline of cartography, geography and urban planning) is used. Therefore, instead of identifying traditional problem and investigating, author was motivated to a different approach here to address the complex nature of the work. The capacity of the methodology developed to articulate different types of information, including the most subjective, such as the perception that individuals have of the places, and to transform these data into analysis tools, stands out above all.

It is useful for the reader to be aware of the structure and organization of the thesis. Given the objective of the research work, the thesis is deviated from formal and traditional structure. There are multiple research works on different sites/case studies, each one is considered as an independent laboratory work. These labs are equivalent to mini theses connected together under a broad umbrella; for example in Lab 1, the methodology was developed and utilized in order to achieve evidence based historic information where as in Lab 2, the methodology was developed as a tool to aid public policies and in the end, the thesis connected the ideas of mapping, urbanism, heritage and so on. Therefore, instead of having separate comprehensive chapters on literature review, theoretical framework, methodology etc., each chapter (especially the Labs) has its own context specific and requirement specific items. The usual contents of initial chapters of a traditional thesis are now divided in different chapters here. This technique is adopted deliberately to facilitate the organization of the thesis.

Publications

It is important to share with the readers how the research work is appreciated by the academia. During the PhD journey, the following publications were accomplished. 8 (4 are peer reviewed) of a total of 10 publications listed below are closely related to dissertation chapters (no# 1, 2, 7 is related with chapter 4; no#8 is with chapter 2; no#3 with part of chapter 5; no#4 with chapter 3; Others are related to overall understanding and knowledge gained through the research activities). The data collected during the research, the methods followed and literature review were used in combination to produce these publications which are actually a re-written version of dissertation chapters to be suitable as journal/proceeding's article and book chapters. The effort to publish during research was made with a review, opinion and testing from external scholars in mind (of course supervisor and co-supervisors are well aware of them) on one hand, exchange of knowledge, ideas and contemporary scholarly works are on the other. The publication process, especially peer review, has enormous contribution to this thesis because the opinions from scholars/reviewers and editors opened different perspectives, add and adjust the content of the articles, omit poorly argued parts and sometimes strongly defend some claims/arguments. It enlightened the author and it has been reflected in writing the thesis. The impact of the published articles is noteworthy, especially no#8 which contains the core idea and concept of this research, is already cited 10 times till date worldwide.

Academic Publications

Accepted / Forthcoming

- (1) Hossain, S., Barata, F. T., & Fardaush G., (forthcoming) “Valorisation and institutionalization of Historic Khalifatabad: view towards a sustainable heritage management” in Mallick F.H. (Eds.) Next50: Critical-creative perspectives on the built environment in Bangladesh, UPL [**peer reviewed**]
- (2) Hossain, Shajjad, (forthcoming) “Interpreting 15th century eremitical architecture and architect in between materiality and immateriality”. In Volzone, R., Fontes, J. L., and Martins, D. (editors). 2022. Architectures of the Soul. Multidisciplinary approaches to the experiences and landscapes of seclusion and solitude. Lisboa: CEHR, IEM, DINÂMIA'CET-Iscte, CHAIA. ISBN: 978-989-781-582-9 [**peer reviewed**]
- (3) Hossain, S. & Tatovic, N., (Eds.)(forthcoming) "Mapping Heritage(s)" , UNESCO Chair in Intangible Heritage and Traditional Know – How: Linking Heritage, Évora

Published

- (4) Hossain, Shajjad, “ICH at fingertips: Dissemination and pedagogy through digital media”. in Konvit, M.; Barata, F. T.; Conde, A. F. e Bombico, S. (Coord.). (2022) - *Intangible Cultural Heritage and Digital Media: Portugal - Slovakia Readings*, University of Évora, UNESCO Chair in Intangible Heritage and Traditional Know – How: Linking Heritage, pp.112-135. ISBN 978-972-778-269-7 (e-book) available at <http://hdl.handle.net/10174/32325>
- (5) Tatovic, N., & Hossain, S., (Eds.). "Drawing Heritage(s) Workshop Proceedings" UNESCO Chair in Intangible Heritage and Traditional Know – How: Linking Heritage, Évora. 2021. Available at: [Livros de Membros da Equipa e Colaborações – Cátedra UNESCO em Património Imaterial e Saber-Fazer Tradicional: interligar patrimónios \(uevora.pt\)](https://www.uevora.pt/Livros%20de%20Membros%20da%20Equipa%20e%20Colaboracoes%20-%20Catedra%20UNESCO%20em%20Patrim%C3%B3nio%20Imaterial%20e%20Saber-Fazer%20Tradicional%20interligar%20patrim%C3%B3nios)
- (6) Saif, S. A. & Hossain, S., (2021). “The Future of our Treasured Past” in CONTEXT: Design.Architecture.Culture. Available at: <https://contextbd.com/the-future-of-our-treasured-past/>
- (7) Hossain, Shajjad & Barata, Filipe. “Mapping the Literature through Digital Humanities Protocol: Decoding the Morphology of a Historic Settlement” In: H. Griffin (ed.), AMPS Proceedings Series 20.1. Connections: Exploring Heritage, Architecture, Cities, Art, Media. University of Kent, UK. 29 – 30 June (2020). pp.[187-200]. Available at: <http://architecturemps.com/wp-content/uploads/2021/03/Amps-Proceedings-Series-20.1.pdf> [**peer reviewed**]
- (8) Hossain, Shajjad & Barata, Filipe. (2019). Interpretative mapping in cultural heritage context: Looking at the historic settlement of Khan Jahan in Bangladesh. Journal of Cultural Heritage. 39. 10.1016/j.culher.2018.09.011. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S1296207417308890> [**peer reviewed**] [10 citations till date]

- (9) Hossain, Md Shajjad. "A Parametric Study of Window, Orientation and Shading to Minimize Energy Consumption in Mechanically Ventilated High Rise Office Buildings in Dhaka, Bangladesh." *Asia Pacific Journal of Energy and Environment*, vol. 6, no. 2, 31 Nov. 2019, pp. 103–114., Available at: <https://doi.org/10.18034/apjee.v6i2.271> [*peer reviewed*]
- (10) Reza, M. H., & Hossain, S., (2017) Technical Report on research project "Documentation of Islamic Heritage of Bangladesh" Aga Khan trust for Culture and BRAC University. DOI: 10.13140/RG.2.2.24226.02242. Available at: https://www.researchgate.net/publication/317304484_Documentation_of_Islamic_Heritage_of_Bangladesh

Public communication

Communication with public, audience and fellow researchers is an important part of the doctoral research experience. The experience gained and exchange of ideas and arguments with researchers from different parts of the world are invaluable. Conferences and workshops are places where scholarly exercises were accomplished with the interconnected research schemes having heritage, history, mapping and human settlement in the middle. In addition to related disciplines of history and heritage, it was very important to understand whether the mapping methodology, proposed in the thesis, is universal, even to a certain extent. That is why some collaborative exercises were attempted (no# 11, 12 and 18). It was found that the methodology in combination with other methods (e.g. a drawing walk, photo voice) works very well in research areas dominated by other disciplines (e.g. socio anthropology). The outputs from the participants of these co-organised workshops were very satisfactory (elaborated in chapter 6).

Conferences, Workshops, presentations

(Co-)organized Conferences and workshops

- (11) Workshop "The Afterlives of International Development: A two part methodological workshop" under the scope of ERC project "Development Initiative in East Africa" [Y.N.Ge], 26 August and 9 September 2021 (online)
- (12) Workshop "Tracing Afterlives: Methodological Exercise" under the scope of Advance Bachelor Course Research in Development Studies: (Un)Intended Consequences of Development Interventions, University College Freiburg, Germany on 20 May - 8 June 2021 (online)
- (13) Symposium on "Cities in Transition: preserving our past, building for the future" jointly organised by ContextBD and Bangladeshi Architects in Australia (BaA) on 20 March 2021 (online)
- (14) Interdisciplinary Workshop "DRAWING HERITAGE(S)" on 28 September 2019 at University of Évora - Colégio do Espírito Santo followed by a field trip to the archaeological site Almendres Cromlech for drawing in situ experience.

Conference presentations and Panellist

- (15) Video presentation "Heritage and Climate: Strategy in Local Context" published on DIMS2022 platform by The Directorate-General for Cultural Heritage (DGPC), in collaboration with ICOMOS Portugal on 18 April 2022 (INTERNATIONAL DAY OF MONUMENTS AND SITES 2022) Available at: [Dia Internacional dos Monumentos e Sítios | DIMS \(patrimoniocultural.pt\)](#) and [Heritage and Climate - strategy in local context - YouTube](#)
- (16) "JUST history of a Cultural Landscape: mapping methodology to organize a narrative", 52nd International Annual Conference EDRA52 DETROIT: JUST ENVIRONMENTS, 19-23 May 2021 (Online)
- (17) 4-minute film "Mapping Reveals" published and displayed at the European Researchers' Night by CIDEHUS at MSCA 2021 (available at: <https://noitedosinvestigadores.org/> and <https://www.youtube.com/watch?v=iBh27svGRcg&feature=youtu.be>)
- (18) Panellist "Narrative and Documentary of Architectural History" at SAH Method Acts Virtual Workshop organized by Graduate Student Advisory Committee (GSAC) team, The Society of Architectural Historians, 15 January 2021 (online)
- (19) "Mapping the Literature through Digital Humanities Protocol: Decoding the Morphology of a Historic Settlement", International Conference CONNECTIONS: EXPLORING HERITAGE, ARCHITECTURE, CITIES, ART MEDIA, University of Kent, Canterbury, UK 29 - 30 June 2020 (online)
- (20) "Literary cartographic approach to investigate the identity of historic settlements", International Conference 'WRITING SPACES, MAPPING WORDS', FLUL, University of Lisbon, 29-31 May 2019
- (21) "Interpreting 15th century eremitical architecture and architect in between materiality and immateriality", 2nd International Seminar Architectures of the Soul, ISCTE-IUL, Lisbon, 8-9 November, 2018.
- (22) "Is "institutionalization of Heritage" a mapping problem? An insight of Khan Jahan style." 25th European Conference on South Asian Studies (ECSAS2018), Paris 24-27 July, 2018
- (23) Poster Presentation "Interpretative Mapping in Cultural Heritage Context: Looking at The Historic Settlement of Khan Jahan in Bangladesh" at HISTÓRIAS DA ARTE EM VIAGEM: CIRCULAÇÃO DE IDEIAS, FORMAS, OBJECTOS ; Colégio do Espírito Santo, Anfiteatro 131, Universidade de Évora, Évora, Portugal, 4- 6 July 2018
- (24) Poster Presentation "CIDEHUS open access publication" and "CIDEHUS open science" in Jornada Sobre Derechos de Autor y Acceso a la Información en la Era Digital held in University of Évora, Portugal on 17 November 2017
- (25) Poster Presentation "Mapping as methodology of investigating the identity of Historic Civilization" in Encontro Ciência 2017 at Centro de Congressos de Lisboa, Portugal, on 3-5 July 2017
- (26) "Living Social Landscape through Mapping" in the department of Architecture, University of Évora, Portugal, 2014

Step Ahead of this research

There is a multifaceted future projection of the research. One of them is **scaled-up exercise**. Take the case of mapping interview. It is a very unique method to interview people to bring out results that people themselves are aware, even subconsciously, which is a plus to the traditional question-answer interview. But to create an impact to the urban planning and strategic decision making, there is a need of scaled up number of interviews as well as budget and time. So the step ahead might be new projects with higher budget and timeframe to produce impactful results while incorporating the methods.

Through this thesis the methodology of mapping is so far tried in the discipline of history, heritage, architecture, urbanism and urban planning as well as social anthropology. There are **other disciplines** where the spatial discourse and mapping skills may play critical role in research and that include Archaeology, Languages and literature, Economics, Geography, Political science, Agriculture, Business, Environmental studies and forestry, Family and consumer science, Medicine and health etc. Therefore exploring non-conventional methods with these disciplines to find out spatially oriented analysis and insights can be future agenda.

There are enormous possibilities to exploit this methodology in **Digital Humanities**. There are already some recent advancement to explore it in literature as seen in the articles in the book "Literature and Cartography: Theories, Histories, Genres" and the works are synonymous to Geography of fiction, literary geography etc. But the step ahead of this research is to explore the methodology for oral history, intangible heritage, various forms of data modelling and many other sectors wherever it is feasible.

Chapter 1:

Theoretical and Conceptual Framework and Literature Review

1.1 Introduction

Human life and society are never static. It is always changing, transforming and progressing. Settlements are tangible evidence of the phases of this transformation. Settlements too, are in constant transformation. In most definitions (Revision 2019; Pesaresi and Ehrlich 2009) human settlements refer to populated places, with relative permanency. Functions, buildings, infrastructure etc, might change with time, so do the generations of human but the settlement endures quite long. As a result it can accumulate imprints of all ages and transformations which is a very important knowledge. Human can progress smoothly when has a knowledge background. Socio-economic, political and cultural activities are an inseparable part of human settlement (Small and Nicholls 2003) and occupies an important share in the knowledge field. It is impossible to grow up, expand and transform sustainably without utilizing this knowledge but this knowledge is usually stored in different sources: documentation, oral history, collective memory, tangible urban elements, landscape and so on. When knowledge and narrative are scarce and the recollection is a problem, it is necessary to apply different methodologies. Regarding human settlement which geographically possesses a permanent location, spatial knowledge and narrative is of utmost importance and so is the methodology to acquire it. For spatial affairs, it is inevitable to relate the methodology to the discipline of mapping and associated others.

1.2 Background of the research

A methodology based on application of mapping tools for analysis of tangible and intangible indicators might be very significant and interesting for the identity of historic settlement, provided that despite being a powerful tool it has not been extensively used in heritage research yet. Landscape, architecture and layers of change accumulated through ages, are considered a tangible indicator as toponymy, story, memory, folklore are considered an intangible indicator for mapping. Information produced from both tangible and intangible indicators in a scientific and mathematical manner, supported by history, artefacts and vestiges, principles of urbanism, inscription and manuscript can reveal many unknown aspects of historic sites. Khalifatabad, in Bangladesh and Évora, in Portugal are two sites taken for case study to test the methodology because both have a status of UNESCO world heritage and carries similar historic value.

1.3 State of the Art

In the realm of investigating a historic site and civilization Geo-science, radio-carbon test, Remote sensing and LiDAR, drone application, literature review and pictographic analysis,

Predictive modelling based on statistical method and some other pathways are well exercised. But very efficient and scientific method of mapping to logically deduce the morphology and geographic location is rarely used in the research of heritage. There has been considerable improvement and development in application of mapping tools in past two decades.

Corner(2011) describes the chronological development of mapping (categorized by drift, strata, Game-board and rhizome) by explaining the works of Guy Debord, Richard long, Rem Koolhaas, Peter Eisenman, Raoul Bunschoten, Deleuze and Guattari, Charles Minard and himself. Corner concludes that mapping is not endless data accumulation but is rather better seen as a practice of relational reasoning that intelligently unfold out new realities of existing constraints. His powerful views were appreciated by his editor as “Corner’s writing evokes the emancipatory potential of mapping, at a time when it was much more usual to demonize it as a form of elite discourse, facilitating government by the powerful”. Mathur and Cunha (2006) read the city of Bangalore, India as a Deleuzian enterprise and by the application of most advanced rhizome mapping for landscape and architectural research revealed numerous layers of interventions of 4 factors that shaped Bangalore’s Landscape: the War, The Survey, the Picture, and the Garden. Barata and Mascarenhas (1997) investigated the historic landscape of Évora, Portugal to map the land organization during Roman period. The study specially looked for vestiges of Roman period with the help of physical survey, satellite image and aerial photograph. Supported by the history of chronological development of landscape and settlement pattern, the authors analyzed and deduced the ancient morphology, arrangement and spatial organization of settlement during roman period. Vestiges (remains of ancient roman period) and traces included cobblestone and stretches of hollow paths, rural tracks, banks, ancient stone walls, boundary stones, canalized water course etc. Mapping, assessing and reconstructing of landscape of antiquity and ancient urbanism hidden within present day landscape might be revealed in a non-invasive way by modern survey techniques (Vermeulen and Barata 2009). Dodge, Kitchin and Perkins (2011) brought together the changing nature of cartography over the last half century. Here they composed writing and mapping exercises from numerous relevant authors to cover the themes of Conceptualizing mapping, Technologies of mapping, Cognition and cultures of mapping, most relevantly. Mapping specially helps to see the imperceptibles in a cognitive process. Very recent development in “mapping the intangibilities” of a place like stories, histories which may provide identity and sense of specific places, are found with the following authors. Ortega and Bayón (2015) exercised mapping of symbolic and tangible heritage in Bilbao with the intension of understanding the most recent urban transformation. Santo(2014) and Irwin(2014) exercised mapping of tangibles as well as performing intangibles in the context of Europe and Canada. Regarding historic center of Lisbon and Porto, Mateus (2014) and Romeiro(2015) presents exercises of thematic cultural mapping.

However, despite the extensive contribution of mapping tool in the field of cartography, Geography, Anthropology, Architecture, Engineering, Computer Science and Graphic Design, there are still significant lack of application of this efficient tool in the research of ancient settlement and civilization, especially regarding morphology and placement. This is even more potential when the tool is used as a practice of relational argument to reveal new realities out of existing constraints(Cosgrove 2002) and that is where this research aims to focus on.

Regarding the historic sites, there are numbers of publications as stated following. The core book about Khalifatabad “The Buildings of Khan Jahan in and Around Bagerhat”(N. Ahmed 1989) retains history, current situation of the city, level of conservation, description of individual structure and the phenomena of material decay. There are dozens of books on cataloguing Islamic heritage and architecture of Bengal that include Khalifatabad like (N. Ahmed 1984), (Michell 1984), (Zakaria 1999), (Hasan 1988; 2007), (Dani 1961), (Akhtaruzzaman 2021), (A. S. M. Ahmed and Hossain 2006) but almost all of them just gives a description and analyse architectural styles of the conserved monuments of Khalifatabad. Some of them include drawing and photograph of architecture and a little indication about the city. Very recently research of Masood Imran(Imran 2014) revealed a predictive model by spatial distribution analysis and compared it with the diagram of Mitra¹ (1914) and Ahemd(1989). It is so far the only recent effort to reveal a visualization of the morphology of Khalifatabad. Therefore, if we exclude traditional cartographies, there is significant lack of mapping interpretations regarding Khalifatabad. SPARRSO (Bangladesh Space Research and Remote Sensing Organization) is the core agency of mapping in Bangladesh (Chowdhury, 2014). High quality satellite and airborne data of proposed site area would be obtained from here.

The city of Évora is well documented in several books, papers, government databases. The most notable work regarding the city and territory of Évora in Roman and Moorish period are in the works of researchers mostly based in University of Évora. The articles by (Capelo, Barata, and de Mascarenhas 2011) and (Mascarenhas and Barata 2005) discusses relict landscape around Évora, e.g. roman cadastral system, Montado and vestiges in Mitra, Valverde region around Évora with Arabian wall structure, Roman military field and other relics. A book chapter by Barata and Mascarenhas (1997) is a core resource about using mapping tool (with data from physical survey, satellite image and aerial photograph) to research about Roman Ebor territory. The authors deduced the ancient morphology, arrangement and spatial organization of settlement during roman period by analysing vestiges and traces included cobblestone and stretches of hollow paths, rural tracks, banks, ancient stone walls, boundary stones, canalized water course etc. to an interesting finding of orthonormal land division as a first line of land organization. There are more similar publications highlighting different aspects and elements of ancient Évora. Among the government organization and database that have information about ancient and present Évora are most notable: SIPA (Architectural Heritage Information system) made by : DGEMN (Digital constitui-se como um projecto de divulgação), ENDOVELICO GIS database made by IPPAR (Portuguese Institute of Architectural Heritage) (Carvalho and Barata 2008). High quality satellite imagery can be obtained from the following resources: Amherst GIS, Google Earth Professional, Digital Globe, USGS Landsat, Satellite Imaging Corporation, Global Land Cover Facility etc.

More details on literature survey on each site is available in respective chapters (Lab1 and Lab2)

¹ The same book has been reprinted in 2001.

1.4 Research Aims, objectives and research questions:

Interpretative Mapping is proposed as a unique and powerful tool to analyse tangible and intangible indicators of inheritance in the process of establishing the identity of a historic settlement. Despite being a very useful, non-invasive and inexpensive tool, it has not yet been extensively used in the context of cultural heritage. The aim of the research is to test whether interpretative mapping can demonstrate considerable performance as a tool to do interpretation, which might include combining chronological information of history, landscape, monuments and cultures of a historic site, exhibit transformation of indicators, provide evidence for hypothesis, authenticate claims of historians and manifest facts that can aid actions of Cultural Heritage agencies.

The main goal of the research project is to explore an inexpensive but effective methodology based on mapping tool to inquire and analyse the identity of historic settlement considering tangible and intangible cultural heritage in a scientific and mathematical manner. The rationale behind the goal (or methodology) is to find an easy, quick, non-destructive, non-invasive, inexpensive way to read and analyse the antiquity from an existing set up of landscape or reality (which is the main principle of mapping) before involving big budget and latest technology for urban development or archaeological excavation or any other purpose.

Therefore the proposed research intends to answer the following question-

- (i) Can Interpretative mapping, with recent development, act as a powerful, effective and inexpensive tool to reconstruct historic sites, identities and features?
And
- (ii) Can the tool perform universally or need to be customized according to different sites?

To tackle the research problem it is necessary to explore the mapping tool in the light of recent and diverse application, pick up the technique and approach and experiment as well as utilize in the field of heritage. It is also necessary to test the method in other academic disciplines with wider community of fellow colleagues. In the research two historic sites with status of UNESCO world heritage site, one in Portugal and other in Bangladesh, are taken as case studies.

One objective the proposed research is to reveal and unfold urban morphology of historic settlement and artefacts (of two case studies) to evaluate the effectiveness of the methodology, considering both sites as tabula rasa. For example, it might be aimed at defining a territory of medieval Muslim rule in south of Bengal under Khan Jahan Ali. The other objective is to produce a collection of documentation of those sites by mapping from the perspective of ancient urbanism and to enrich the present state of knowledge about them.

The other objective with the second case study in Évora is to test the efficacy of Interpretative mapping method in identifying cultural identities that relates to social urbanism and heritage

urbanism, as Évora is very well documented in terms of history, urban morphology and architecture of different periods.

1.5 Methodology

General approach and methods:

The research is about a new methodology which is less expensive and based on signs tracking and modern visual construction from landscape of antiquity and present time, analysis of tangible and intangible indicators. Landscape and the reading of change in landscape, are vital tangible indicators. Many layers of landscape information (of river course, flood plain, agricultural land, typology of vegetation, digital elevation model of land, tidal inundation, forest) produced by cartographic and mapping tool, juxtaposing and comparing them with present and past similar situation, might indicate possible position for artefacts and therefore spatial organization of historic sites. Visualization of landscape underlies history, geography, politics, and policies too. Toponymy is an important intangible indicator which may indicate possible geo-locations for artefacts and memories. Information produced from both tangible and intangible indicators, supported by history, story and memory, artefacts and vestiges, principles of urbanism, inscription, manuscript, and ancient local sayings can reveal many unknown aspects of historic sites.

In addition to the above activities, interviews (especially walking interviews and mapping interviews) are important contributors in this research. Local resource persons, experts and scholars are very important personnel to do interviews. Collaborative works like seminar, workshops are very effective strategy and part of this research as this provides opportunities to share the methodology with other scholars and test the efficiency of the method on different backgrounds.

The work plan comprised with extensive literature review followed by relevant mapping exercises to identify mapping techniques suitable for landscape of antiquity. Literature review identified the extent of already available research and documentation that is relevant with the proposed research. Fieldwork in two proposed sites in Bangladesh and Portugal was followed by a mammoth task of digitizing the collected data and production of interpretative mapping was performed. The phase of juxtaposing and analysing the maps in consultation with published literature and history gradually concluded towards results for each site. Periodically there were participation in national and international conferences, panel talks as well as submission of articles for publication during different stages of research.

Case Study (LAB):

Two historic sites, with the status of UNESCO world heritage, were selected for investigation: The aim of selecting two historic sites that are documented and conserved to very different extent but carries similar historic value is to validate the universality of the methodology mentioned above.

Lab 1 : Khalifatabad, Bangladesh (15th century) is early medieval city located in south western region of Bangladesh, characterized by unique “Khan Jahan architectural style”. It is the mosque city of present Bagerhat. After 600 years, only a handful of physical vestiges

(structures and natural heritage) are conserved. 15th century is the most intense period of development of settlement in Khalifatabad. Beforehand, the area was part of mangrove forest Sundarbans (which is another UNESCO world heritage now), the settlement replaced the forest in this saline area but from the next century the decline began and nature slowly started to grasp the urban elements. Building materials (brick and terracotta) were also vulnerable and prone to quick decay in saline environment. However, out of around 360 said structures, few handful ones (both restored and ruins) still exist along with historic water tanks.

Lab 2: Évora, Portugal (57 BC to present) is well preserved old town centre with vestiges from various historical periods including medieval ones. It is now capital of Alentejo region of Portugal and member of Most Ancient European Towns Network. The weather, nature and landform as well as building material in Évora, Portugal is quite different from that of Khalifatabad. Stone as a very durable building material and nature not so hostile like the other case study allowed vestiges to be found for a big range of timeline, which include pre-historic, Roman, Moorish, Portuguese rule during 15th century and finally the recent history of last 400 to 500 years. The influence of recent period (during and after 15th century) in the architecture, morphology of the city and surrounding landscape is very vivid and obvious. But elements and vestiges from Roman and Moorish period are still present, hidden to some extent, with the exception of some famous tourist attractions (a temple dedicated to the Emperor from the 1st-2nd Century A.D.). The urbanism, architecture and cultural identity from later period are quite prompt and live. Therefore in this lab the mapping study would not be directly corresponding to lab 1 but the efficacy of the process will be same. The simplified sought after aspect is the identity of settlement to be retrieved by this methodology.

Lab 3: Labs in collaboration (contemporary) was in plan to accomplish but the site, participant and context were not planned at the outset of thesis. It was gradually developed with time. Finally, there were three workshops in three contexts- Bangladesh (Asia), Germany (Europe) mozambique+Kenya+Tanzania (Africa). These workshops allowed exploiting mapping methodology in different disciplinary background to address the second research question of universality of the method.

Walking Interview :

While doing fieldwork, walking interview is an important method to be included. No other resource is as valuable as authentic local resource. Walking interview is extensively used in anthropological research. Here, in this research, there were some parts of fieldwork where it was necessary to interview local people, local resource persons whose testimony, childhood memory and knowledge of local folklore are invaluable. The method comes as a great aid when that information has a spatial dimension and not documented in literature. In such a circumstance, walking interview is extremely necessary.

Mapping Interview :

Mapping interview is slightly different from previous which enables the interviewee visit the site virtually, look at the site from bird's eye view and spatially connect important information that otherwise would be impossible to think, document and communicate. Basically it intends that selected interviewee illustrate on key map and include short comment which enables them to express their spatial knowledge, perception and information more holistically.

Mapping in layers:

Overall all the mapping activities by author are intended to accomplish in layers. This is a deconstructive approach to separate information and turn them into geo-referenced data and plot the data in different layers. This brings a benefit of including intangible information by turning them into plottable data in addition to tangible elements. It allows one to look into any data/information objectively and in isolation out of its own context which is very necessary to process them further in the research.

Synthesizing the layers:

Having all the data layers separated brings the liberty to compare and synthesize with some of them. It allows researcher to examine multiple factors independently as well as in comparison with one another. For example, a population density map layer can be compared and synthesized with a bus route and stoppage layer for further insight where other thousands of urban information is absent because extra information makes the analysis process chaotic.

Interpretation:

It is useful to interpret from the synthesized and juxtaposed layers and this process of separating and reconstructing multiple map layers together allows to gain some interpretative insights of the context. Take the case of the example from previous paragraph- bus route and stoppage map compared with the population density map really make the insight stand out whether the distribution of stoppage or the location of bus route really corresponds to the population distribution on a certain district or urban area.

Resource:

Existing documentation and publication is a must to go through and utilize in applicable places. Probable places to find documents about Khalifatabad are UNESDOC database, UNESCO World Heritage Convention Documents, ICOMOS and ICCROM publications, Department of Archaeology library in Bangladesh and in Jahangirnagar University, National Archive Bangladesh (NAB), National library, documentation project from non-govt. agency (e.g. Institute of Architects Bangladesh, AGA Khan Trust for Culture etc.), local publication (in the city of Bagerhat and Barobazar), satellite images from Google maps. NAB and National Library, as published in their website, have a quite a big collection of books, documents and maps including the following: Barisal and Jessore district records, Survey maps of Rennell, Maps of several Char areas and important Rivers (1980-1982), Maps of Bengal in the 19th century, Diara survey map of Bakerganj (1880-1881), Diara survey map of the river and Char (1881-1882), Map of Bakerganj (1878-79).

In case of Évora, probable resources are from UNESDOC database, UNESCO World Heritage Convention Documents, ICOMOS and ICCROM publications, Public Library archive Évora, Câmara Municipal de Évora, Publication from researchers of University of Évora, satellite images from Google maps.

Finally designed field work is the fresh source of current data for both sites.

Fieldwork:

Pre-fieldwork planning, paperwork, collection of equipment, reviews with supervisors, approval were accomplished for a 2 month-long of fieldwork in Bangladesh in 2018. In Bangladesh the field work was divided in 2 cities: Dhaka (for the lengthy process of searching and collecting old maps and documentation from National Archive) and Bagerhat (actual site of Khalifatabad). In fieldwork, GPS location, current picture and footprint of the old

architecture, vestiges and water tanks was recorded. Elevation of land in pre-chosen spot was noted. On site, site sections were drawn in critical spots for diachronic reading of landscape. In Bangladesh the chosen season was good to do field work because all spots of the site were accessible, which otherwise become inundated due to high tide or flood or rain in monsoon period. A second visit and supplementary field work was accomplished in 2019 for 2 weeks.

Fieldwork in Évora was quite flexible timetable wise as the host institution is University of Évora. The field work was done in the later part of the PhD journey, especially the mapping interview was accomplished at the end 2021 and beginning of 2022. The initial plan of some fieldwork in Évora was disrupted due to Covid19 pandemic lockdown. Therefore total time of fieldwork in Évora was quite long and distributed before, during and after the pandemic. Similar procedures were followed like the first fieldwork in Bangladesh. One major difference between them is interview method- while in Bangladesh only walking interview was accomplished, in Évora mapping interview was in focus.

Training:

Summer school and other training programs were attended that are related to mapping, photogrammetry and other technologies that aid mapping, cultural heritage management, digitization etc. The list of trainings and workshops are available in the chapter “General Introduction” before this chapter. All of them had immense contribution to this journey, improving the methodology bit by bit.

1.6 Scope and limitations

Site specific approaches:

It was clear from the fieldwork section that every site is different and so is the context. It is normal that one method might not be similarly effective and bring different results for different enquiries. That is why the mapping methodology (Interpretative mapping) is proposed as a set of methods to obtain certain flexibility. This allowed to apply “site specific methods” to each site/case study in order to better suit the research process.

Subjectivity:

Since the result of the proposed methodology is an interpretation, it can be varied and different depending on the researcher and context; hence the process is subjective. To minimize the subjectivity the strategy of “deconstruction” was adopted to process the data as discreetly as possible in different layers. Only the choice of layers to process together remain the subjective choice but again this whole choice options are made available online for anyone to readjust the choices and make their own interpretation. This invitation of public participation is a strong answer to the subjectivity of the proposed method.

Extent of Acquaintance with context:

Since the author has more acquaintance with one case study (born and brought up in that context) and less acquaintance with another (few years in connection to the doctoral study)- this fact can affect the results of mapping and interpretation provided the subjectivity. To minimize this effect a few initiatives were taken such as learning the foreign language, attending school for kid, social communication with native and so on.

1.7 Thesis structure and outline

The thesis is a written impression of the doctoral journey which is a combination of activities and learning. Now, the written impression or the dissertation is divided in several chapters. The first chapter “General Introduction” does not have a number. There are seven numbered chapters that follows.

The “General Introduction” sets the author in the context of this research, lists some other academic activities and publications during the doctoral study to help reader understand the learning path author went through.

Chapter 1 “Theoretical and Conceptual Framework and Literature Review” formally introduces the research problem, the context of the problem, the objective of the reasearch and exact questions to asked as a research question. It briefly discusses about the general methodolgy too along with limitations.

Chapter 2 “Methodological and Operational Approaches” corresponds to the intellectual discussions about the research domain and placing the proposed methodology in appropriate domain. It guides the reader along to narrow down to the exact activities of mapping to obtain a result.

Chapter 3 “Mapping Projects around the world and practical implication in Digital Humanities” looks around for benchmark in the context of contemporary similar works around the world and guides reader to the overlapping common ground where the author intends to take him. This chapter also gives an idea of practical implication of this methodology although the future possibilities are limitless.

Chapter 4 “Lab 1 : Mapping in Khalifatabad, Bangladesh” is written about the first case study. The chapter is quite long and contains detail information of site specific methods, relevant literature and results. The images and information included are to make it easier to the reader to connect with the process and learning; many data were not included to avoid being overwhelmed.

Chapter 5 “Lab 2: Mapping in Évora, Portugal” is about the second case study. The chapter is quite long too and contains detail information of site-specific methods, relevant literature and results. The images and information included are to make it easier to the reader to connect with the process and learning, many data were not included to avoid being overwhelmed.

Chapter 6 “Labs in collaboration” is about three workshops conducted and co-conducted in three different continental ontext. The information and images shared here are limited to respect other people’s privacy and copyright issues to some materials.

Finally the chapter 7 “Conclusion” is a very short chapter to deliver some final comments, admitting some limitations, take home knowledge and wisdom as well as some recommendations for future.

References

- Ahmed, Abu Sayeed M., and Syed Zakir Hossain. 2006. *Mosque Architecture in Bangladesh*. Dhaka: UNESCO Dhaka : Distributed by University Press.
- Ahmed, Nazimuddin. 1984. *Discover the Monuments of Bangladesh*. Edited by John Sandy. UPL Limited.
- . 1989. *The Buildings of Khan Jahan in and Around Bagerhat*. Dhaka: UPL Limited.
- Akhtaruzzaman, Md. 2021. 'Khalifatabad'. In *Banglapedia*. <https://en.banglapedia.org/index.php/Khalifatabad>.
- Barata, Filipe Themudo, and José Manuel Mascarenhas. 1997. 'O Território de Eborá, E A Organização e Ordenamento da Paisagem Envolvente'. In *Paisagens arqueológicas a oeste de Évora*, edited by Panagiotis Sarantopoulos and Carlos J. Pinto Gomes. Évora: Câmara Municipal de Évora.
- Capelo, Sofia, Filipe Barata, and José de Mascarenhas. 2011. 'Why Are Cultural Landscapes of Various Values? Thinking About Heritage Landscape Evaluation and Monitoring Tools'. *Journal of Landscape Ecology* 4 (1). <https://doi.org/10.2478/v10285-012-0030-3>.
- Carvalho, Ana, and Filipe Themudo Barata. 2008. 'Portuguese Legislation on Intangible Cultural Heritage and Inventories'. In *El Patrimonio Cultural Inmaterial: Definición y Sistemas de Catalogación : Actas Del Seminario Internacional, Murcia, 15-16 de Febrero de 2007*, edited by Inmaculada García Simó. Murcia: Servicio de Patrimonio Histórico.
- Corner, James. 2011. 'The Agency of Mapping: Speculation, Critique and Invention'. In *The Map Reader*, edited by Martin Dodge, Rob Kitchin, and Chris Perkins, 89–101. Chichester, UK: John Wiley & Sons, Ltd. <https://doi.org/10.1002/9780470979587.ch12>.
- Cosgrove, Denis E., ed. 2002. *Mappings*. Reprint. Critical Views. London: Reaktion Books.
- Dani, Ahmad Hasan. 1961. *Muslim Architecture in Bengal*. Asiatic Society of Pakistan 7. Dacca: Asiatic Society of Pakistan. <https://lccn.loc.gov/sa63000666>.
- Dodge, Martin, Rob Kitchin, and C. R. Perkins, eds. 2011. *The Map Reader: Theories of Mapping Practice and Cartographic Representation*. Chichester, West Sussex [England] ; Hoboken, NJ: Wiley-Blackwell.
- Hasan, Perween. 1988. 'SULTANATE MOSQUES AND CONTINUITY IN BENGAL ARCHITECTURE'. *Muqarnas Online* 6 (1): 58–74. <https://doi.org/10.1163/22118993-90000235>.
- . 2007. *Sultans and Mosques: The Early Muslim Architecture of Bangladesh*. London: I. B. Tauris.
- Imran, Md. Masood. 2014. 'Quantifying the Spatial Pattern of Medieval Urban Space of Khalifatabad, Bangladesh'. *Pratna Samiksha*, New Series, , no. 5: 87–95.
- Irwing, Kathleen. 2014. 'Performing and Mapping'. In . Coimbra, Portugal.
- Mascarenhas, José Manuel, and Filipe Themudo Barata. 2005. 'The Cultural Park as a Platform Connecting Human Ecology with Cultural Landscape Management'. *Journal of Mediterranean Ecology* 6 (1): 11–18.
- Mateus, João Mascarenhas. 2014. 'Cultural Mapping and the World Heritage Convention: The Case of Downtown Lisbon'. In . Coimbra, Portugal.
- Mathur, Anuradha, and Dilip da Cunha. 2006. *Deccan Traverses: The Making of Bangalore's Terrain*. New Delhi: Rupa.
- Michell, George, ed. 1984. *The Islamic Heritage of Bengal*. Protection of the Cultural Heritage 1. Paris: Unesco.
- Mitra, Satish Chandra. 1914. *Jessore-Khulnar Itihas (a history of jessore and Khulna district in Bengali)*. 1st ed. Vol. 1. 2 vols. Kolkata: Parul Prakashani.
- Ortega Nuere, Cristina, and Fernando Bayón. 2015. 'Cultural Mapping and Urban Regeneration: Analyzing Emergent Narratives about Bilbao'. *Culture and Local Governance* 5 (1–2): 9–22. <https://doi.org/10.18192/clg-cgl.v5i1-2.1455>.

- Pesaresi, Martino, and Daniele Ehrlich. 2009. 'A Methodology of Quantify Built-up Structures from Optical VHR Imagery'. In *Global Mapping of Human Settlement: Experiences, Datasets, and Prospects*, edited by Paolo Gamba and Martin Herold.
- Revision, Geography. 2019. 'Human Settlements: Types and Patterns | Geography Revision'. 3 June 2019. <https://geography-revision.co.uk/gcse/urbanisation/human-settlements-types-and-patterns/>.
- Romeiro, Patrícia. 2015. 'Mapping the Intangibilities of the Historic Centre of Porto: Participation (and Its Challenges) in Cultural Mapping Projects'. *Culture and Local Governance* 5 (1–2).
- Santo, Carolina E. 2014. 'Wounded Landscapes: Mapping the Intangibilities of Place'. In . Coimbra, Portugal.
- Small, Christopher, and Robert J. Nicholls. 2003. 'A Global Analysis of Human Settlement in Coastal Zones'. *Journal of Coastal Research* 19 (3): 584–99.
- Vermeulen, Frank, and Filipe Themudo Barata. 2009. 'Hidden Landscapes and Ancient Landmarks: Some Theoretical and Methodological Issues of Studying Early Historical Landscapes in SW - Iberia'. In *From Present to Past through Landscape*, edited by Almudena Orejas Saco del Valle, David Mattingly, Monique Clavel-Lévêque, European Cooperation in the Field of Scientific and Technical Research (Organization), and Consejo Superior de Investigaciones Científicas (Spain). Madrid: Consejo Superior de Investigaciones Científicas.
- Zakaria, A.K.M. 1999. *Bangladesher Pratinasampad*. 1st ed. Agartala: Gyan Bichitra Publications.

Chapter 2 :

Methodological and Operational Approaches

2.1 Introduction

The approaches attempted and adopted in this thesis are briefly discussed in previous chapters. Given the information in “General Introduction” and cutting edge researches that are found in the contemporary academia¹, general mapping is adapted to Interpretative mapping to be used at the core of the proposed methodology. This chapter gradually explains how the adaption took place gradually and then carried forward to disciplinary themes of literary geography, narratives and digital humanities – the most recent sought after research trends. All these themes are very relevant for rest of the thesis.

2.2 Mapping

Mapping is a very old discipline in human history, practiced and being useful for administrative, navigational, cultural and other purposes since ancient time, but Interpretative mapping, at this age, has very interesting facts and efficacy in different context including the research of heritage. A brief account on chronological development and transformation of mapping might be very helpful to contextualize the focus of this thesis into the realm of mapping.

In general sense, map is a spatial and diagrammatic(Merriam-Webster.com Dictionary, n.d.) representation of elements that we see on earth, often limited in two dimensions like a surface and cartography is the discipline or science (Dictionary.com, n.d.) of constructing maps. Traditional mapping has been very useful for administrative, navigational, cultural and other purposes since ancient time. After an exclusive era of development and transformation, mapping concepts has grown further with a fresh engagement between cartography and philosophy that has either sought to refine and advance scientific cartography or to challenge and reconfigure its ontological and epistemological underpinnings (Dodge et al., 2011). Thus mapping has been conceptualized until present time, from general purpose cartography to more complexities and purposes.

¹ See section 1.3

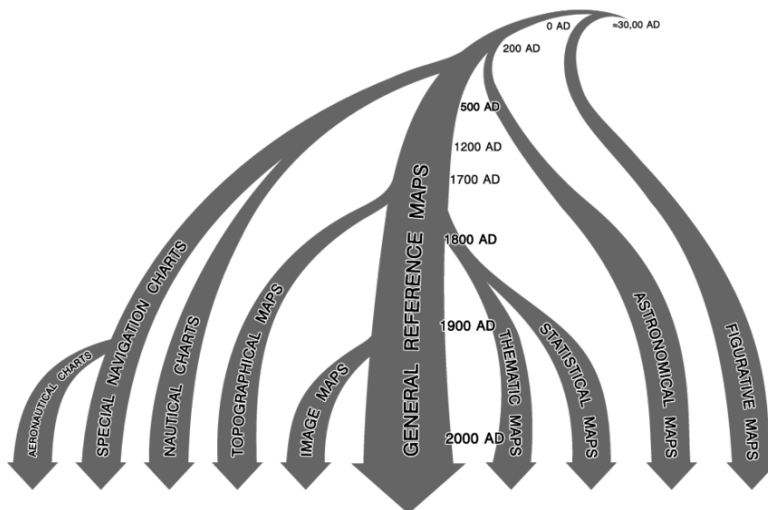


Figure 2.1: Diverse map types emerged through the long process of cartographic revolution and evolution. [Source: (Robinson et al., 1995)]

2.2.1 Traditional cartography:

The dictionary definitions suggest that the science or art of making maps as well as the process or skill of making maps is cartography (Britannica, 2022; Merriam-Webster, 2022). The discourse of cartography includes the conception, production, practice and use of charts and maps while the discourse is very closely related to the discipline of geography (Nag, 2018). The Greek origin of the word suggests writing and illustrating information on paper; while the extended meaning of cartography includes utilizing the aesthetic sense combined with scientific knowledge to model a reality for practical purpose. The purpose can be the communication of information, especially spatial information for the use of navigation and other endeavors. The same applies for charts while maps are generally used for land areas and charts are for marine areas. Traditional cartography is basically a representation of reality where the three dimensional world is represented on two dimensional surface within a scale. The represented information includes tangible object like roads, lakes, buildings as well as intangible objects like toponyms. "Map projection" is the scientific approach to translate three dimensional terrain onto two dimensional surface (i.e. paper). Excluding unnecessary objects from reality that does not interest the audience and purpose, is already part of mapping from the beginning of this practice but overall traditional cartography is always associated with hard core reality and within a scale and is not much associated/ utilized for spatial analysis. Over time cartography and cartographic products are now available digitally over internet (i.e. Google maps, Bing maps, open street maps etc.) with dynamic scale and zoom facility along with availability of much more information.

The start of early cartography is as old as 2600 years from now. The Greek and the Roman were the pioneers, mostly with the need for navigation, survey and land ownership management which was carried forward by the Arabs for the need of merchandizing by sea route. The 14th and 15th century were the prime time when the invention of the telescope, the compass, and the sextant during the renaissance brought a revolution in European cartography and the first modern atlas was published in 1570(Wilde, 2019) which continued during the 17th and 18th centuries with more refinement of map projections and advancement of printing technologies. In the beginning of 20th century the aerial photographs(Briney, 2019) taken from aircraft became major source map making and followed by more improvement with satellite imagery and GIS (Geographic Information System) technology.

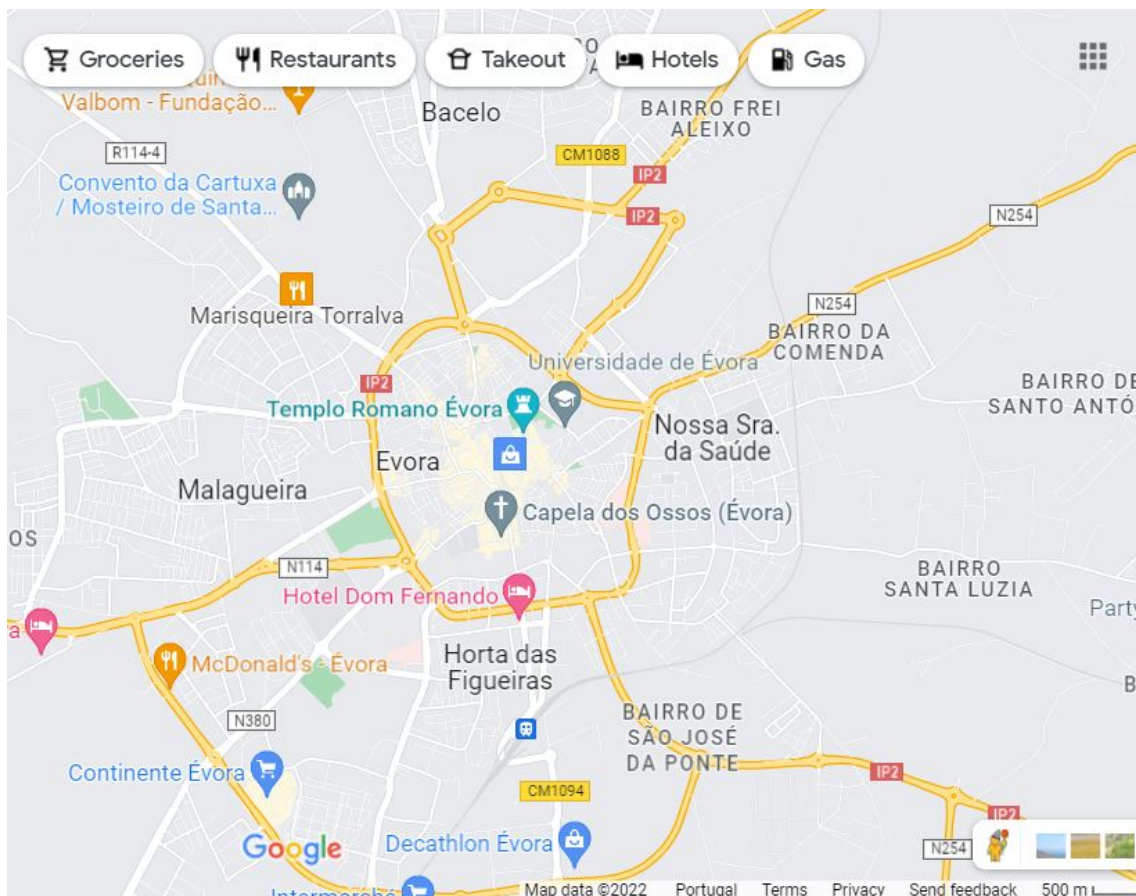


Figure 2.2: Évora in google map(2022)

2.2.2 Cognitive mapping

Cognitive map is mental representation of the reality perceived and interacted by human. Cognitive mapping is a process composed of a series of psychological transformations by which an individual acquires, codes, stores, recalls and decodes

information about the relative locations and attributes of phenomena in his everyday spatial environment(Downs & Stea, 2011). It exists as a visual manifestation of patterns relating to a place and portrays physical representations of those thoughts to produce individual's cognitive maps, or graphical representations of perceptions of place. The resulting image denotes the importance of items, playing significant roles in generating orientation and consequently forming that person's geographic imagination. People store information about their environment and use that information to make spatial decisions, with cognitive mapping helping to explain and lead more developed understanding of spatial behavior. That is why people see the world in a certain way and behave on the basis of cognitive maps one builds, whatever flaws and imperfections it possess.

Maps produced via this method do not display a high degree of spatial accuracy, nor is such accuracy their goal.

Maps are produced in a qualitative, hand-drawn fashion as a means for not only mapping significant features, but also for promoting more spatially literate, verbal responses from participants.

These maps may contain interesting spatial distortions and these distortions indicate the relative strength attributed to investigate reasons behind these distortions

Following is an example of cognitive mapping curated by Chowdhoree et al.(2019) during the fieldwork of his doctoral research. These maps were drawn by senior and junior adult group of men and women to indicate the past and present extent and boundary of an island settlement in Kishoreganj district in Bangladesh. The island is situated in HAOR region (Permanent water body that exist at tectonic depression within the floodplain of a river). These maps essentially denote the flood risk, water level in dry and wet season, safe areas for habitation and livelihood of people.

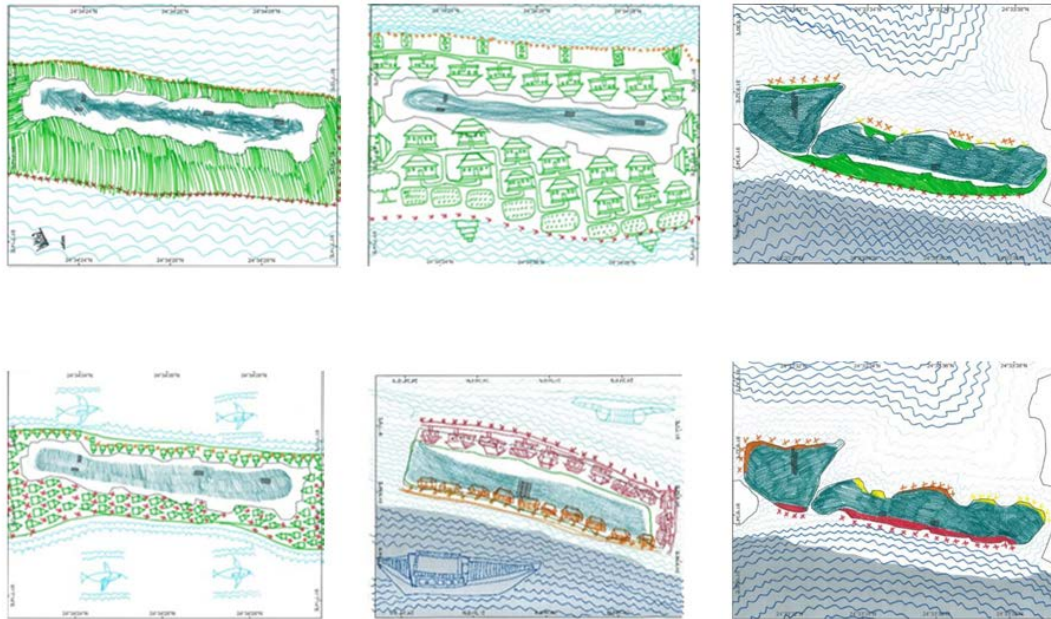


Figure 2.3: Cognitive map of Territory of an island settlement by local residents of Haor (Chowdhoree et al., 2019)

2.2.3 Progressive transformation:

The evolution of cartography was never confined in its own discipline. Robinson(2010) elaborated the artistic and aesthetical interpretation of mapping while Robinson & Petchenik(1976) emphasized on the metaphorical use in the scientific domain. Downs and Stea & Downs(2017) and Lloyd(2015) investigated the communicative purpose in levels, such as cognitive construct and people’s spatial behaviour, map reading and cartograms etc. Again, Harley(2011) and some other scholars critically reviewed the discipline of cartography in the light of Foucauldian and Derridean school of thought, to explore subjective social construction of reality such as “propaganda maps”. Thus, the development of “traditional cartography” was discovered to have a critical sibling as “mapping approaches”. Over the years, many scholars and historians were divided on the issues of cartographic deconstruction on one hand and exploitation of social theories on the other. Dodge et al.(2011) elaborated on further exploration of post-representational practice of mapping in twenty first century, based on post-structural theories and explained views of Corner, Hanna and Kitchin and Dodge. According to Corner(2011), Maps are essentially subjective, interpretative and fictional constructs of facts and so, can influence decisions, actions and cultural values. Mapping might be seen as a means of emancipation and enablement, liberating phenomena and potential from the encasements of convention and habit and thus may have the efficacy and capabilities to shape new realities. Interestingly, as opposed to the former act of “maps defined by territories”, there is a co-construction of maps and territories at this age, emphasized by Del Casino and Hanna(2005). They further elaborated that the performance is never static; rather maps and territories are always in the dynamic

process of co-creation. Throughout this history of mapping, a paradigm shift is acutely vivid by now. The shift changes the role of mapping from merely cartographic to widely social and technical practices- to solve relational problems such as plotting, planning, navigating and so on. Maps then emerge through a mix of creative, reflexive, playful, tactile and habitual practices, affected by knowledge, experience and skill. Kitchin & Dodge(Kitchin & Dodge, 2007) defines the discourse of this shift as from “Ontological” to “Ontogenetic”.

2.2.4 Mapping between visualization and cartographic representation

The paradigm shift discussed in the previous section affects all the strata of the society. The nature of map, map making and map using is continuously evolving, Alan MacEachren (2004) proposes a cognitive-semiotic framework suitable for understanding how general people would process spatial information and utilize it for knowledge creation as well as be facilitated with informed symbolization and design decisions. Although his works belong to the literature of cartography, it has important contribution with cognitive mechanism of map reading and pave the way towards Interpretative mapping.

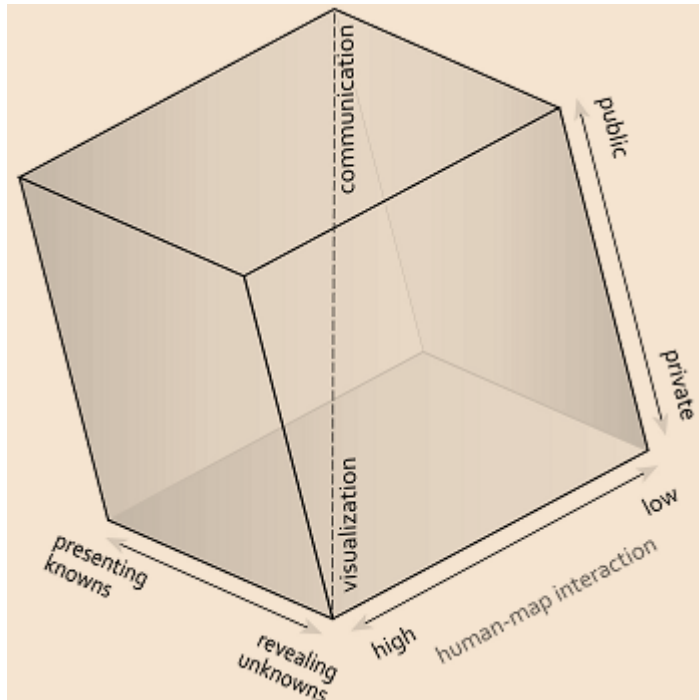


Figure 2.4: MacEachren's (1994) Cartographic cube showing a 3 way hierarchical relationship among cartographic representation and human perception and interaction

2.3 Interpretative mapping:

As an ontogenetic project, Interpretative mapping has very interesting facts and efficacy in different context including the research of cultural heritage at this age. It is, as defined in this paper, clearly linked to traditional cartography but associated with "Thematic Cartography" more, that renders statistical information about people, places and geographical processes tangible by revealing their spatial pattern (Jenks, 1963; Robinson et al., 1995). Mapping is long affiliated with the planning and design of cities, landscapes and buildings. It is particularly instrumental in the construing and constructing of lived space. The function of interpretative mapping is less to mirror reality than to engender the re-shaping of the world in which people live (Corner, 2002). Interpretative mapping is an agency, some kind of projection and improvisation over reality while still having reference to real world data. It is a social construction of reality. It is a filtration system that has the potential to reveal hidden connections, influence, consequence, history from an amalgamation of reality and any kind of ecosystem. It is also a presentation of the same. Corner (2011) explains the double sided characteristics of interpretative mapping. On one hand it is directly analogous to actual ground conditions, impression from earth surface and terrain and visual elements. On the other hand, it contains abstractness as a result of selection, omission, distance and codification.

Deleuze & Guattari (1987) also presented a comprehensible distinction between traditional cartography and interpretative mapping. Interpretative mapping is not explicitly tracing. It may foster connections between fields like cartographic elements and phenomena of real life. The interpretative map is open and connectable in all of its dimensions; it is detachable, reversible and susceptible to constant modification. It can be torn, reversed, adapted to any kind of mounting, reworked by an individual, group, or social formation. The (interpretative) map has to do with performance, whereas the tracing (Cartography, in case of this paper) always involves an alleged "competence."

Unlike tracing or traditional cartography that has physical attributes of terrain (topography, rivers, roads, buildings), interpretative mapping can hold and present more hidden forces, natural processes, historical events and local stories, economic and legislative conditions, political interest, programmatic structures etc. (Corner, 2002). It can also be a selection or isolation from cartography, to reveal intended information of designer; such as producing x-ray image of a person.

Historical heritage, where numerous manmade and natural elements and layers of change have been deposited on them throughout ages, are more complex and expensive to access and reveal information. Therefore, in the study and research on

historical heritage, interpretative mapping can be a very helpful tool besides traditional tools and methods.

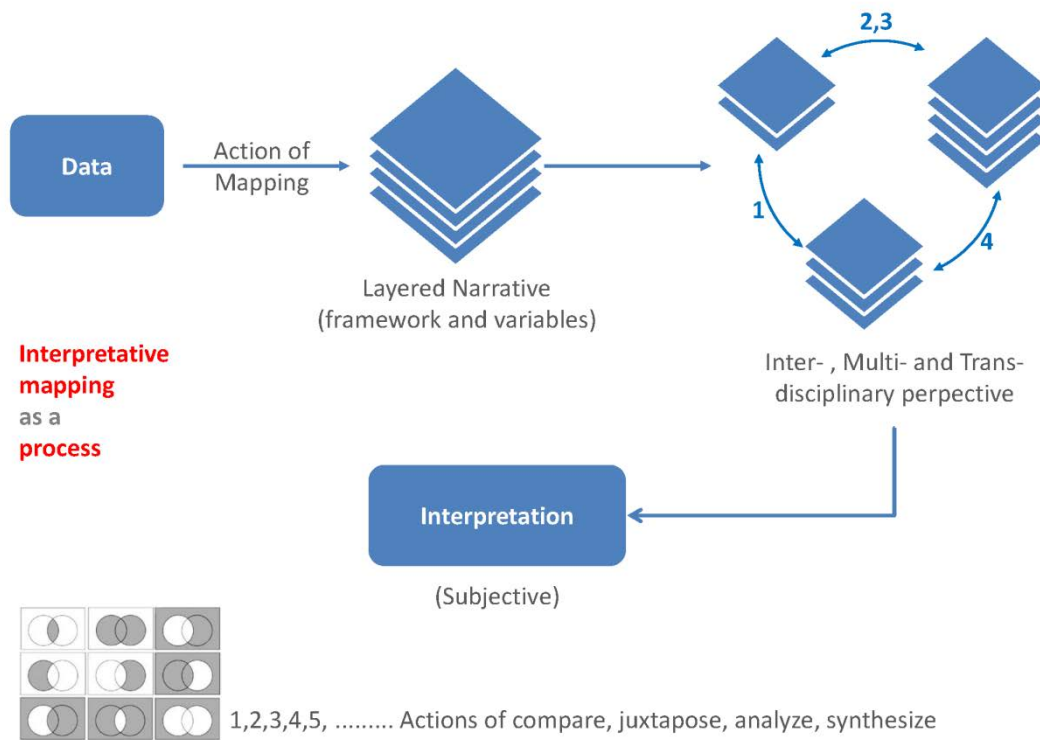


Figure 2.5: The process can be defined as Interpretative Mapping. Subjectivity is one of the main characteristic which is both strength and weakness of the process. The strength of subjectivity is to be used to advantage research outcome.

This method of Interpretative mapping is expected to yield new and diverse results, unlike the common and traditional patterns derived from mono-disciplinary or similar investigations, especially in the field of cultural heritage, urbanism and human settlement.

2.4 Why interpretative mapping is important? :

Interpretative mapping is important because it is the mapping method developed by adopting merits from different disciplines, becomes more efficient and it utilizes the efficiency for practical purposes. It is sometimes useful for an important purpose like lifesaving (as rightly identified in the following example 1).

Example 1:

During 1854 (regarding cholera epidemic in London), doctor John Snow discovered from London map and water supply system maps- the source of cholera. The epidemic was more severe in areas related to a particular water pump. He could analyse and

take strategic decision to stop that pump and control pandemic. That was the first known conception and application of interpretative mapping while the disciplinary advancement is just developing recently.



Figure 2.6: John Snow's Cholera data during London Epidemic

Example 2:

Following is an example of mapping that is not limited to cartographic information and elements; rather it is more inclusive, denotative and suggestive. Here multiple and independent layers of information are integrated in a creative manner. The tragic fate of Napoleon's Russian campaign of 1812 is shown by Charles Joseph Minard (1781-1870). The thick brown (light colour) line starts from the left at Polish-Russian border, advances to the east (right) up to Moscow. The line loses thickness as Napoleon lost army for casualties from 422000 to only 100000. Black (dark colour) line denotes the return journey in winter with further loss of army to just 10000. The path of the retreat is linked to a temperature scale and dates at the bottom.

The map, taking over traditional cartographic element, becomes narrative, interactive and performative; capable of providing spatial visualization. It integrates the facts and interrelationships of the following: Size of the army, place names, topography, movement vector, climate, time and reference of geo-locations.

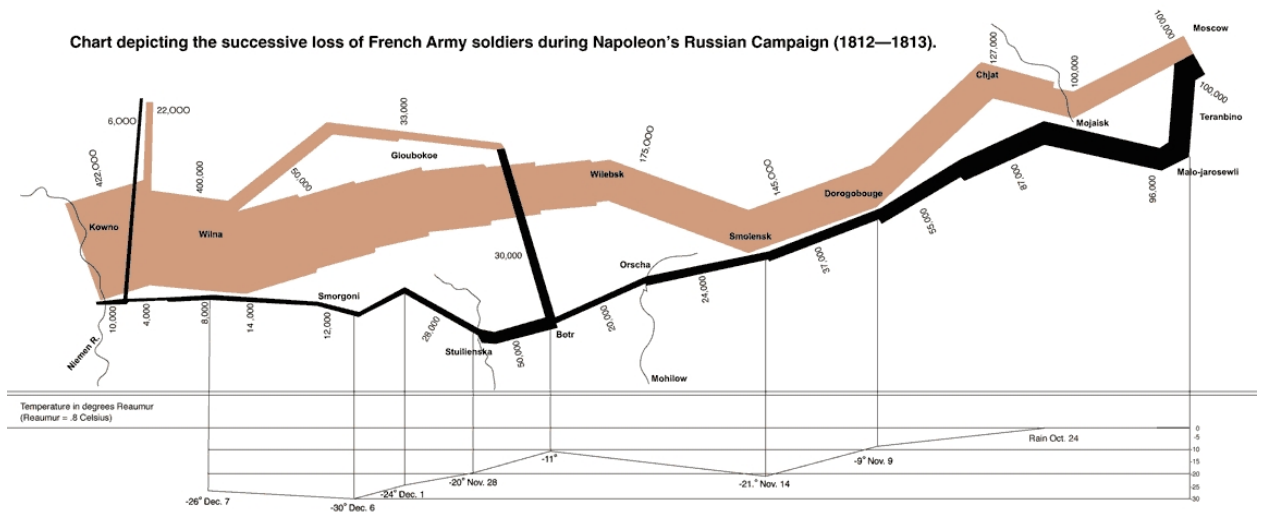


Figure 2.7: Depiction(mapping) of successive loss of French Army soldiers during Napoleon's Russian Campaign(1812-1813)by Charles Joseph Minard (1781-1870); source: (Tufte, 2001)

Example 3:

Following is another example of interpretative mapping, applied in an urbanism project (MaHS Master Studio, 2011). In the north Antwerp, Belgium from the Albert canal onwards and pressed between the harbour and neighbourhood of Merksem, lies a particular heritage of the mid-20th Century urban planning, contains abandoned car factory, harbour and railroad vestiges, large retail facility, multi-cinema complex and public housing of Luchtbal. All these mega-fragments, apparently with no interconnections, tend to produce very unproductive, notorious and diminishing segment of the city of Antwerp. The studio, with interpretative mapping method, founded and established the potential for links among the invisible existing grids of various fragments and used it as a key turning point by urban design solutions to confirm it as an active urban area again.

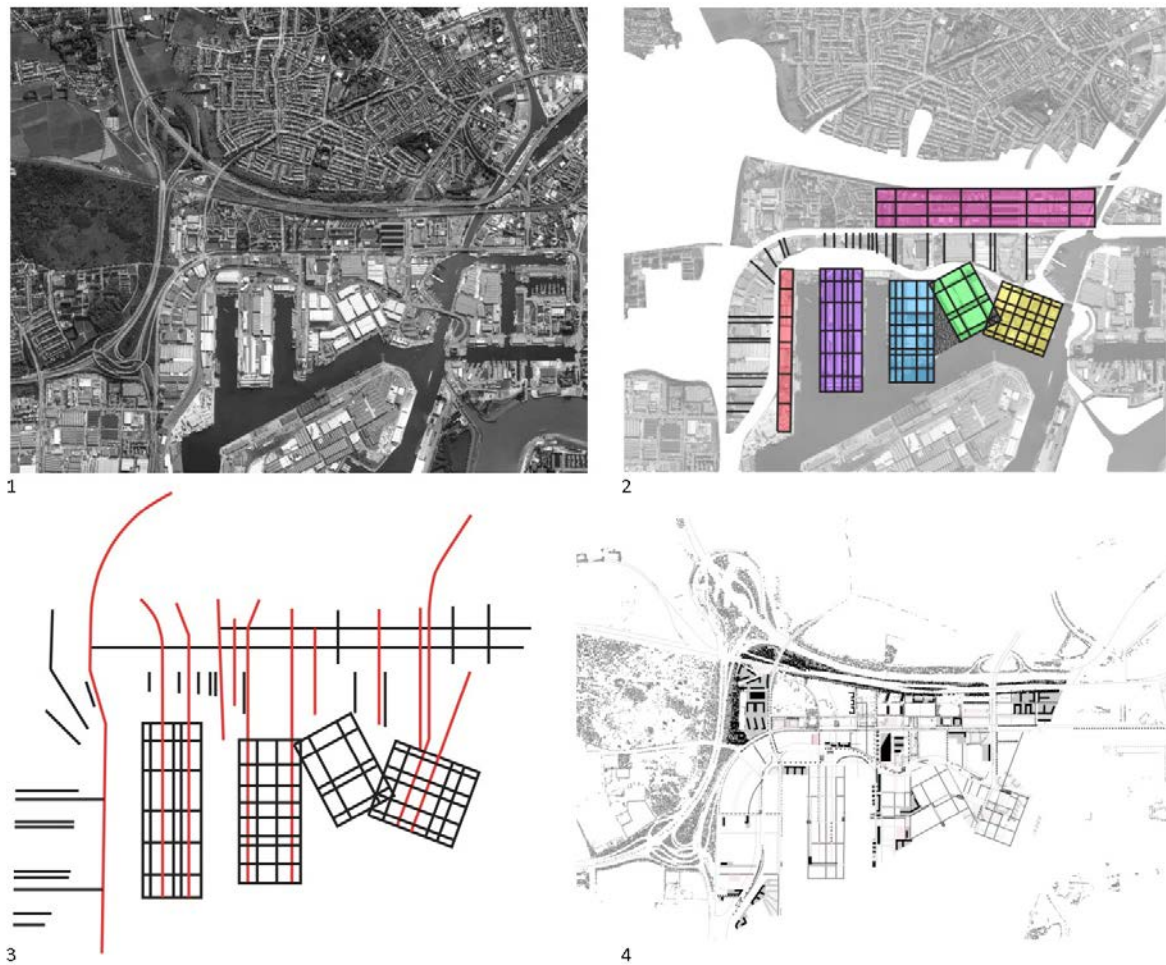


Figure 2.8: Mapping the links for potential urban design projects along the invisible grids between mega-fragments of Luchtbal, Anwerp, Belgium ; source: (MaHS Master Studio, 2011)

2.5 Mapping words, literatures and cultures _ literary geography

Application of interpretative mapping leads to involvement and output in various academic disciplines like Philosophy, Urbanism, Geography and Visual Arts etc. In recent times, there are a lot of initiatives in the literature world to utilize the mapping methods for extraordinary insight from text corpus. A recent conference “Writing spaces, mapping words: crossings between geography, cartography and literary studies” 2019 in Lisbon (ULisboa, 2019) concentrated on such subject focused on the following

“Since the initial proposals Franco Moretti, in Atlas of the European novel, 1800-1900 (1998) and Geocriticism (1999) Bertrand Westphal to the Geocritical explorations (2011) Robert Tally relations literature and space, and literature and cartography have been approached from various perspectives. The mapping of fiction in particular has attracted much discussion and specific

theorization (eg, by Piatti et al., 2017). On the other hand, the spatial turn in the humanities was also boosted by the development turn digital: digital technologies and methodologies applied to the humanities, and more specifically to literary studies, which have allowed new approaches to cultural texts and systems. In the case of literary cartography, geographic information systems (GIS), despite their practices and epistemological limitations, have helped in the development of literary digital cartography as *The space of Slovenian Literary Culture*, *Compostela geoliteraria* or *Atlas of literary landscapes of continental Portugal*, to name but a few.”



Figure 2.9: Recent scholarly works on Literary Geography

Most of the studies and digital humanities projects regarding “Mapping literature” or “literary cartography” have linguistic approach, usually start with a corpus of selected theme of interest and end up into finding analytical results with visual illustrations and geographic reference. The reference can sometimes be very precise and sometimes be quite broad depending of the literature.

2.6 The power of narratives

The identity of human as well as human settlements resides in expression regardless of time where tangible existence of the same is subject to decay over time. The expression is actually a narrative and the narrative is nothing but a fantastic storage of memories and experiences as well as way of thinking. As long as narrative theories draw on ideas from fields of rhetoric, linguistics, cognitive science, folklore etc. along with literary studies, the narrative itself may adopt various means of communication and media such as words, pictures, photographs, maps, visual illustrations, films and so on (Altman, 2008; OSU, 2011). Regardless of media, the content of memory and

experience remains the same like in the well-known parable of the Blind Men and an Elephant, if we connect the content to the elephant and media to the blind men. Therefore, the more media is consulted and combined, the more comprehensive picture is brought out from the content.

Tally(Tally, 2008) argues that, like maps, narratives are equally functional to organize data into recognizable and cognitive pattern to represent a space or place. When the intention of the narrative is to help the reader or writer to sense the world, it can be called literary cartography as it connects spatial representation and storytelling.

In recent years, A vast majority of the studies and digital humanities projects regarding “Mapping literature” or “literary cartography” have been approached from various perspectives including linguistic approach; take the case of “LITESCapes.PT—Atlas of Literary Landscapes of Mainland Portugal”(Alves & Queiroz, 2015) , “A literary Atlas of Europe”(Piatti et al., 2009) and the “Atlas of the European Novel 1800-1900” by Franco Moretti. In this approach, the project usually starts with a corpus of selected theme of interest and end up into finding analytical results with visual illustrations and geographic reference. The reference can sometimes be very precise and sometimes be quite broad depending of the literature.

2.7 Map and Mapping

Having said that literary cartography has powerful ability to bring text into geographic and spatial perception in real time through mapping; different material forms of the mapping process are inseparable parts of its cultural context. There has been increasing cross-disciplinary interest in geographical scholarship due to intensive re-conceptualization of space and it is “Cultural turn” in the approach of mapping that paved the way(D. Cosgrove, 2008). As long as the cultural context is embedded in mapping, the cultural mapping is being reviewed from traditional approach and amended and renovated with new methodologies and perceptions. Place-based approaches and spatial mapping of tangible and intangible elements of a culture are very crucial to have a deep insight of the identity and sustainable development of a society. Thus practices in disciplines like policy and planning, geography and sociology, architecture and urban design, cultural and political studies, the cultural mapping takes a “spatial turn”(Horlings, 2014; Longley & Duxbury, 2016). Nowadays the spatial turn in humanities and cultural texts is immensely facilitated by digital technologies like GIS and application on GIS platforms and subsequently elevated the opportunities to examine and experience them in spatio-temporal and spatio-cultural context; although the original purpose and practices of the technologies had a different disciplinary focus when they were created.

2.7.1 Text to map

The possibility of projecting text to produce maps and enabling maps to tell stories has been explored by many scholars and cartographers by now. Text, perhaps the most prosperous source of information, hold many dimensions of history and cultures in a linear mode and maps, on the other hand, have capability to hold and exhibit knowledge of geography, history, culture with a unique spatial perception which is very difficult for any other media to achieve. For the project in this article, the transformation of text to map is important while extracting meaning from narratives and for that purpose in GIS platform mapping is to be done by geo-referencing “features, phenomena and ideas over space”. May Yuan(Yuan, 2010) demonstrated in-depth conceptual and technical challenges as well as potential to text-map transformation by three approaches namely (1) Spatialization (2) Geo-Reference: Place Name Matching through Digital Gazetteers (3)Geo-Inference. The first approach deals with large data and very useful for digital humanities projects with linguistic approach. The other two approaches are useful for the current research because the geo-Reference method allows extracting information of placename and geo-features adding attributes of event, culture, environmental factors and human factors in layers and Geo-Inference allows various data layers to be combined based on spatial logic and topological relationships

2.7.2 Imprecise geography

Reuschel and Hurni(2011) points out below the limitation of geo-referencing texts that, fiction as well as events or phenomena are sometimes difficult to localize due to its fragmentary spatial nature.

“If the setting is relatively small geographical space, like a building, but this building is located within a larger geographical area, for instance, a suburb, a valley or a country. In those cases, determining the location is only possible imprecisely.”

When a geo-reference is sought after from a fiction (aka geography of fiction) it may be found fully or partially compliant with reality or non-compliant at all because in fictional literature there is no limitation to create virtual spaces. Piatti et al. (2008) defined the reference of real space found in fiction as “imprecise geography”. Since geographical imaginations have become commonplace topics in a variety of analytical fields, as indicated in a Stanford repository (Robichaud & Blevins, 2011), it has by now achieved a strong scholarship to define spaces in reality from literature without pinpointing the exact coordinates as long as spaces are active participants in social and cultural trends. The notion of imprecise geography is therefore adopted in this paper to refer to places and spaces that exist in real world at present time and represent the

location of any past event or artefacts (supported by evidence) but do not necessarily possess any tangible element to pinpoint the geo-location.

2.8 Digital Humanities

The shift from humanities computing to digital humanities is not merely lexical, rather a robust professional apparatus has been accumulated as long as it travels beyond the literary discipline and methodologically involves many other disciplines of science and humanities, argues Kirschenbaum (2010). "Digital Humanities" (Burdick et al., 2012) is fantastic resource to guide the researchers and readers to the subject in general and construct the etymology of Digital Humanities "by the opportunities and challenges that arise from the conjunction of the term digital with the term humanities to form a new collective singular." This new mode of scholarship allows this "computationally engaged research" to be a lower-case/small digital humanities project as it involves analysis, critique, interpretation, annotation, historical research and contextualization, especially when linking literature to GIS platform. In addition, underlying technologies and methodologies such as text encoding, geographical information system, physical computing, humanities visualization were used rigorously with a visionary and forward looking sentiment towards finding morphology of historic settlement and that is where Svensson(2012) holds his vision about digital humanities.

2.9 Urban morphology_ school of thoughts and theories:

To study and understand the spatial structure and character of a historic township is not easy if the elements to identify the urban morphology are not present due to age or war or any other reasons. This is in contrast to the morphological study of existing cities containing building forms, patterns, plots and street system, zoning and development etc. In case of Khalifatabad, there are only figures of a dozen of buildings remaining; neither any ground nor linkage of places are yet existing to understand the township's morphology by the theories of Trancik(1986). There is only one scholarly work by Imran(Imran, 2012) that possess some elements of linkage in Khalifatabad but that was only partial, out of existing few building locations and for the sake of a statistical model. To examine the township in view of several school of thoughts, as indicated by Moudon(1997), it only complies with Chicago school pattern where it can be studied from ecological and environmental approach and concentric-zonal theory along with city edge. Therefore, in terms of morphological study, the research should find way around identifying places along with footprints from the interplay of spatial data of various sources.

2.10 Conclusive Remarks

In the light of above discussion, the keywords and terminologies that relate to the research idea, objective and question described in previous chapter picked up from a vast array of literature and have several definitions, development, theories and models, separate disciplinary application and adoption. In this thesis, those keywords are applied in a series of functions and applications (figure 2.10) in advantage to answer the historical question asked in the first chapter. Thematically the thesis remains in the shared domain of academic discipline as illustrated in figure 2.11 (advancement along the diagonal line).



Figure 2.10 : Sequence to describe the theoretical framework to be used in the thesis

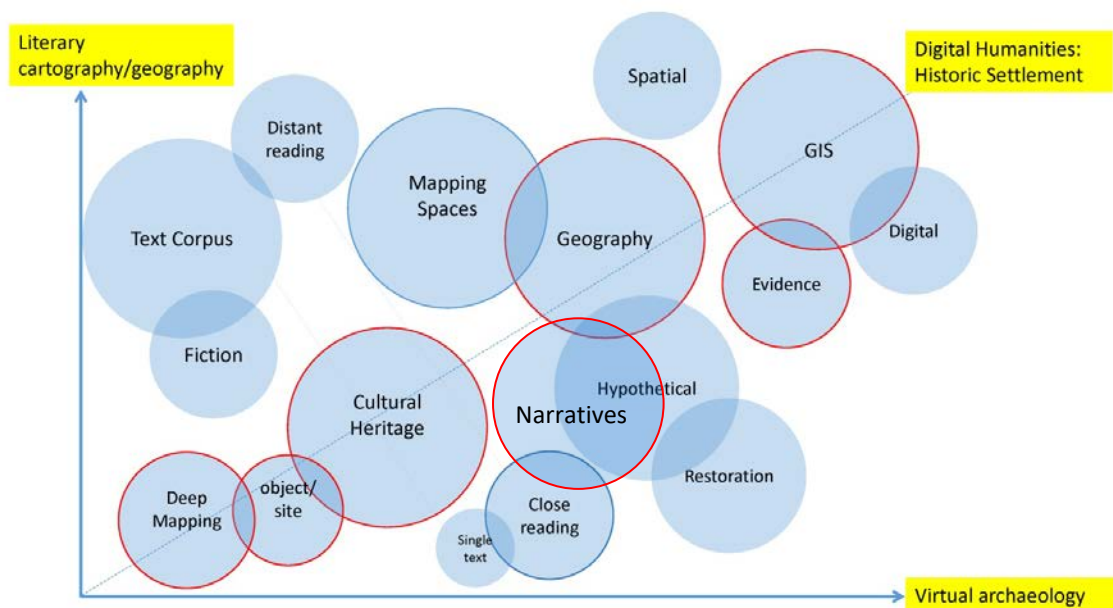


Figure 2.11: Thematic diagram for this research

References

- Altman, R. (2008). *A theory of narrative*. Columbia University Press.
- Alves, D., & Queiroz, A. I. (2015). Exploring Literary Landscapes: From Texts to Spatiotemporal Analysis through Collaborative Work and GIS. *International Journal of Humanities and Arts Computing*, 9(1), 57–73. <https://doi.org/10.3366/ijhac.2015.0138>
- Briney, A. (2019). *How Did Map-Making Begin?* ThoughtCo. <https://www.thoughtco.com/the-history-of-cartography-1435696>
- Britannica. (2022). *Cartography Definition & Meaning | Britannica Dictionary*. <https://www.britannica.com/dictionary/cartography>
- Burdick, A., Drucker, J., Lunenfeld, P., Presner, T., & Schnapp, J. (Eds.). (2012). *Digital humanities*. MIT Press.
- Chowdhoree, I., Sloan, M., & Dawes, L. (2019). Community perceptions of flood resilience as represented in cognitive maps. *Journal of Flood Risk Management*, 12. <https://doi.org/10.1111/jfr3.12478>
- Corner, J. (2002). The Agency of mapping. In D. E. Cosgrove (Ed.), *Mappings* (Reprint, pp. 213–215). Reaktion Books.
- Corner, J. (2011). The Agency of Mapping: Speculation, Critique and Invention. In M. Dodge, R. Kitchin, & C. Perkins (Eds.), *The Map Reader* (pp. 89–101). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9780470979587.ch12>
- Cosgrove, D. (2008). Cultural cartography: Maps and mapping in cultural geography. *Annales de Géographie*, 660–661(2), 159. <https://doi.org/10.3917/ag.660.0159>
- Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia*. University of Minnesota Press.
- Dictionary.com. (n.d.). Cartography. In *Www.dictionary.com*. Retrieved 3 September 2022, from <https://www.dictionary.com/browse/cartography>
- Dodge, M., Kitchin, R., & Perkins, C. R. (Eds.). (2011). *The map reader: Theories of mapping practice and cartographic representation*. Wiley-Blackwell.
- Downs, R. M., & Stea, D. (2011). Cognitive Maps and Spatial Behaviour: Process and Products. In M. Dodge, R. Kitchin, & C. Perkins (Eds.), *The Map Reader* (pp. 312–317). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9780470979587.ch41>
- Harley, J. B. (2011). Deconstructing the Map. In M. Dodge (Ed.), *Classics in Cartography* (1st ed., pp. 271–294). Wiley. <https://doi.org/10.1002/9780470669488.ch16>
- Horlings, L. G. (2014, May 28). Cultural mapping: A value centered and place-based perspective. *Proceedings of Mapping Culture: Communities, Sites and Stories*. Mapping Culture: Communities, Sites and Stories, Coimbra, Portugal. https://www.researchgate.net/publication/261793400_Horlings_LG_2014_Cultural_mapping_A_value_centered_and_place-based_perspective_Paper_for_the_conference_on_Cultural_Mapping_Coimbra_Portugal_28-30_May_2014

- Imran, M. (2012). *Patterns in the medieval urban space of Khalifatabad, Bangladesh Spatial analyses of archaeological records with a proposed surveying model*. LAP LAMBERT Academic Publishing. <http://nbn-resolving.de/urn:nbn:de:101:1-201209261819>
- Jenks, G. F. (1963). GENERALIZATION IN STATISTICAL MAPPING. *Annals of the Association of American Geographers*, 53(1), 15–26. <https://doi.org/10.1111/j.1467-8306.1963.tb00429.x>
- Kirschenbaum, M. G. (2010). What Is Digital Humanities and What's It Doing in English Departments? *ADE Bulletin*, 55–61. <https://doi.org/10.1632/ade.150.55>
- Kitchin, R., & Dodge, M. (2007). Rethinking maps. *Progress in Human Geography*, 31(3), 331–344. <https://doi.org/10.1177/0309132507077082>
- Lloyd, R. (2015). Understanding and Learning Maps. In R. Kitchin & S. Freundschuh (Eds.), *Cognitive mapping: Past, present and future* (1. issued in paperback). Routledge.
- Longley, A., & Duxbury, N. (2016). Introduction: Mapping cultural intangibles. *City, Culture and Society*, 7(1), 1–7. <https://doi.org/10.1016/j.ccs.2015.12.006>
- MacEachren, A. M. (2004). *How maps work: Representation, visualization, and design* (Pbk. ed). Guilford Press.
- Merriam-Webster. (2022). *Definition of CARTOGRAPHY*. <https://www.merriam-webster.com/dictionary/cartography>
- Merriam-Webster.com Dictionary. (n.d.). Map. In *Merriam-Webster*. Retrieved 3 September 2022, from <https://www.merriam-webster.com/dictionary/map>
- Moudon, A. V. (1997). Urban morphology as an emerging interdisciplinary field. *Urban Morphology*, 1, 8.
- Nag, O. S. (2018, August 17). *What Is Cartography?* WorldAtlas. <https://www.worldatlas.com/what-is-cartography.html>
- OSU. (2011, August 10). *What is Narrative Theory?* Project Narrative. <https://projectnarrative.osu.edu/about/what-is-narrative-theory>
- Piatti, B., Bär, H. R., Reuschel, A.-K., Hurni, L., & Cartwright, W. (2009). Mapping Literature: Towards a Geography of Fiction. In *Cartography and Art* (pp. 1–16). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-540-68569-2_15
- Reuschel, A.-K., & Hurni, L. (2011). Mapping Literature: Visualisation of Spatial Uncertainty in Fiction. *The Cartographic Journal*, 48(4), 293–308. <https://doi.org/10.1179/1743277411Y.0000000023>
- Robichaud, A., & Blevins, C. (2011). *The Spatial Turn* [Repository of essays]. Tooling Up for Digital Humanities. http://toolingup.stanford.edu/?page_id=1139
- Robinson, A. H. (2010). Cartography as a Visual Technique. In *The look of maps: An examination of cartographic design* (1st ed). ESRI Press.
- Robinson, A. H., Morrison, J. L., Guptill, S. C., Kimerling, A. J., & Muehrcke, P. C. (Eds.). (1995). History of Cartography. In *Elements of cartography* (6th ed). Wiley.

- Robinson, A. H., & Petchenik, B. B. (1976). On Maps and Mapping. In *The nature of maps: Essays toward understanding maps and mapping*. University of Chicago Press.
- Stea, D., & Downs, R. M. (2017). Cognitive Maps and Spatial Behaviour: Process and Products. In *Image and Environment: Cognitive Mapping and Spatial Behavior* (1st ed.). Routledge. <https://doi.org/10.4324/9780203789155>
- Svensson, P. (2012). Envisioning the Digital Humanities. *Digital Humanities Quarterly*, 006(1).
- Tally, R. T. (2008, May 1). Literary Cartography: Space, Representation, and Narrative. *International Society for the Study of Narrative Conference, 2008, Austin, Texas, United States*. <https://digital.library.txstate.edu/handle/10877/3932>
- Trancik, R. (1986). *Finding lost space: Theories of urban design*. John Wiley & Sons.
- ULisboa. (2019). *International conference – Digital map of iberian literary relations (1870-1930)*. <http://maplit.letras.ulisboa.pt/en/international-conference/>
- Vincent J. Del Casino Jr. J., D. C. Jr., & Hanna, S. P. (2005). Beyond The ‘Binaries’: A Methodological Intervention for Interrogating Maps as Representational Practices. *ACME: An International Journal for Critical Geographies*, 4(1), 34–56.
- Wilde, R. (2019, July 14). *Key Renaissance Events in Art, Philosophy, Politics, Religion, and Science*. ThoughtCo. <https://www.thoughtco.com/renaissance-timeline-4158077>
- Yuan, M. (2010). Mapping Text. In D. J. Bodenhamer, J. Corrigan, & T. M. Harris (Eds.), *The spatial humanities: GIS and the future of humanities scholarship*. Indiana University Press.

Chapter 3:

Mapping Projects around the world and practical implication in Digital Humanities

3.1 Introduction

The pandemic of Covid-19 made the need for go-digital more pertinent than ever and ICH (intangible cultural heritage) safeguarding and dissemination is no exception. Visiting museums virtually, exploring cultural heritage digitally has become a new-normal. The technology to support the surge in digital movement and transformation is developing fast and that is why it is very crucial to scrutiny the accuracy and authenticity of methods followed. Since digital content has now been accessible to millions of people through digital devices at fingertips, the collection of artifacts of intangible heritage is now most important to explore online (e.g. websites). This reality is in coherence with the importance of methodology based on mapping and interpretation of tangible and intangible indicators of cultural heritage assets.

Documentation and archiving of Cultural Heritage assets is practiced all over the world in different formats. There is one recent trend (conceptual focus) on safeguarding of Intangible cultural heritage (ICH) that overlaps with the UNESCO Convention of 2003, that notes on the need of “binding multilateral instrument for the safeguarding of the intangible cultural heritage” as well as “knowledge and practices concerning nature and universe”. The binding instrument can be geographic context, ethnographically important material or object, host architecture etc. Perhaps relevant tangible elements of heritage and embedded geographic reference are essential for the sustainable safeguarding of ICH in contrast to isolated efforts. Some of the efforts of such manners are identified. They approached with “mapping” of both tangible and intangible elements (that are often intertwined like hardware and software) as part of the cultural ecosystem, for example, transformation the information of cultural practice, folklore, placenames etc. into spatial data and mapping them towards building a comprehensive narrative. Narrative of this kind that are interactive, interpretative and regenerative, are probably the future of ICH safeguarding. The aim of this chapter is to critically review several digital humanities projects that possess the above focus and exhibit the outcomes through websites that are currently live. Some of the projects represent similar type of research work pursued in this thesis in two case studies.

The thesis tackles the problem of methodology, mostly mapping, in order to articulate the identity of historic settlement. Here methodology is the main topic of interest and historic settlement is the host for demonstration and testing. It is made clear in the first chapter that the methodology would be universal which means that it might be used in other disciplines for other research aims too. Therefore in this chapter several

digital humanities projects are discussed, some of them are not limited to human settlements.

3.2 Literature Review

Museums, traditionally habituated to safeguard and display historic as well as cultural objects, might be a very good potential resource to play roles to safeguard living cultures, because they work closely with communities to ensure recreation of ICH as well as produce didactic and interpretative framework for its dissemination. Alivizatou (2006) discussed exactly how museums can play this role, while she considers that traditional museum practices does not hold the narrative of a cultural asset completely; and to opt for a grand narrative, recreatable, living culture curation and community involvement is extremely necessary. This helps the contextualization of cultural objects while maintaining a strategic shift from objects and monuments to practice and process. She also emphasized on Hooper-Greenhill's call for a 'post-museum' in contrast to the traditional notion of the 'modernist museum', by using different interpretative ways and new media for making collections and exhibitions and become active agents in the lives of communities. The concept of new technological innovations that allow the recording and presentation of cultural expressions and practices, as described in this paper, is further explored by other authors in several projects.

Bala(2012) discussed upon preserving and transmitting cultural memories and ICH (namely rituals, customs, traditions, folklore and oral history of a particular community in India) through Digital Inventory. She detailed on essential framework for her practical work (e.g. metadata), protocol (e.g. strict interview recording policy between interviewee and interviewer for oral history) and commercialization of ICH for dissemination purpose (e.g. printing of motifs and paintings on t-shirt, sarees). Her works provide a precise and clear picture of detailed steps to preserve ICH digitally.

Veronnezzi & Carvalho(2015) advanced with an approach that allows direct community participation for tangible and intangible cultural mapping on digital platform. The authors developed the integration of a mobile device application (app) evolved from Arteria's digital platform/website for boosting the processes of collection and registration of tangible and intangible cultural assets and the dissemination of registered cultural assets. In this cultural mapping process residents are allowed to pre-register cultural assets at any time without any methodological and scientific expertise and afterwards the research team screens the data produced to speed up the cultural mapping process. The whole process is interactive and the tool (on web platform as well as mobile app) support the feature of faceted search/filter and functions of "registry", "update" and "dissemination".

While Arteria project was engaging community to digitize ICH and keep it updated at fingertips through mobile application, another project(Doulamis et al., 2017)

“Terpichore” attempted e-documentation of ICH (namely performing arts) and turning them into tangible choreographic digital object (3D reconstruction) through an innovative framework for affordable digitization, modelling, archiving, e-preservation and presentation of ICH content related to folk dances. To be more specific, the framework allows scalable 3D capturing with spatial-temporal aspects of activities/performing art and transformed into data and code so that it can be reproduced later with exact same specification, ensuring that the metadata structure is in line with UNESCO and EUROPEANA. The project is certainly a big leap compared to ordinary digital archiving of ICH by audio-video recording.

DIGICULT(European Commission, 2021) is a co-funded Erasmus+ project to provide a standardized guideline and procedure to digitalize, present and safeguard ICH assets such as folklore events, music, traditions etc. in contrast to e-platforms (e.g. Europeana) that digitize images mainly. The project yields some outcomes regarding the framework, standard/model, training course for ICH and Guidelines system. Overall, it is a standardized guideline and procedure to digitalize, present and safeguard ICH assets. The guideline covers the following: Image format, audio & video formats, text format, digital database, office applications, web platforms, metadata, cloud instruments, preservation media, skill(digital design, social media, e-commerce, web/app development, data management etc.), dissemination and training on “ICH–forms, pathways and techniques, Text documents digitization, Photographs and images digitization, Digitizing and editing Audio and video Recordings, Data Storage and Management, Copyright and Data Protection”. Details of the guideline can be viewed from the link provided in bibliography.

The guideline is a comprehensive one worthy to be adopted for contemporary time. The only thing to be added is the conceptual focus of intertwining tangible and intangible elements, as mentioned in introduction, for a sustainable future. The following section demonstrates the practical implication of the combination just stated above.

3.3 Present trends and cases

There are several projects discussed below that demonstrate present trends of researching, documenting, archiving, interpreting and showcasing historic data, events, ICH and few other topics. The links provided takes the users to the project website but the websites are actually the tip of the iceberg. Behind the interface of presentation, there are enormous hidden work in terms of database, coding, designing, literature consultation and many more. In the brief discussion below, the

metadata of the project, short description, visuals and note (comments from this author) is provided. The note points out how close is the project/website to a comprehensive narrative as well as what is lacking, and what are the take home learning aligned to the topic of this book chapter.

3.3.1 The Imperia Project

Key data:

key person(s): Kelly O'Neill

Affiliated Institution: Davis Center for Russian and Eurasian Studies, Harvard University

Time period of the project:

Time period covered: The 18th and 19th centuries

Relevant geographic location: Russian Empire

Website: <https://imperia.omeka.fas.harvard.edu/> and <https://worldmap.harvard.edu/maps/886>

Short description: The Imperia project (O'Neill, 2020) is a work of digital spatial history of Russian Empire (mostly during the eighteenth and nineteenth centuries) which emphasizes on “where”(space) in addition to “when”(time) of any historical changes. The project used GIS methods and tools to experiment with *mapping-as-historical-method*. It has many historical maps, demographical database, cultural institutions in the form of spatial data (zipped shapefiles), raster data (images of historical maps, georeferenced and otherwise), and tabular data (csv files) available at disposal to users.

At this contemporary times, historians started accepting the idea of placing and perceiving history as cultural phenomena in the context of physical settings, in other word “spaces” ; It promotes and provides the “spatial turn”(Robichaud & Blevins, 2011) in the field of history.

The Imperia project, while transforming historical atlas into digitized map to be used as source of historical information, the mapping interpretation roam around three core themes of “ ‘where’ matters”[economic, administrative, and cultural practices to match with geographical features and establish a spatial logic to maintain coherence of historical and social hierarchy across all scales.], studying the past through geodatabase [spatial analysis through the mapping process to discover apparently undiscovered relationships and patterns in historical records] and historical GIS work [curation and narration]. To combine all kind of data, spatial insight and perspectives the author curated the project content among multi-platforms: main website for narratives, interactive maps for visualization and data archive for preserving project data in stable form.

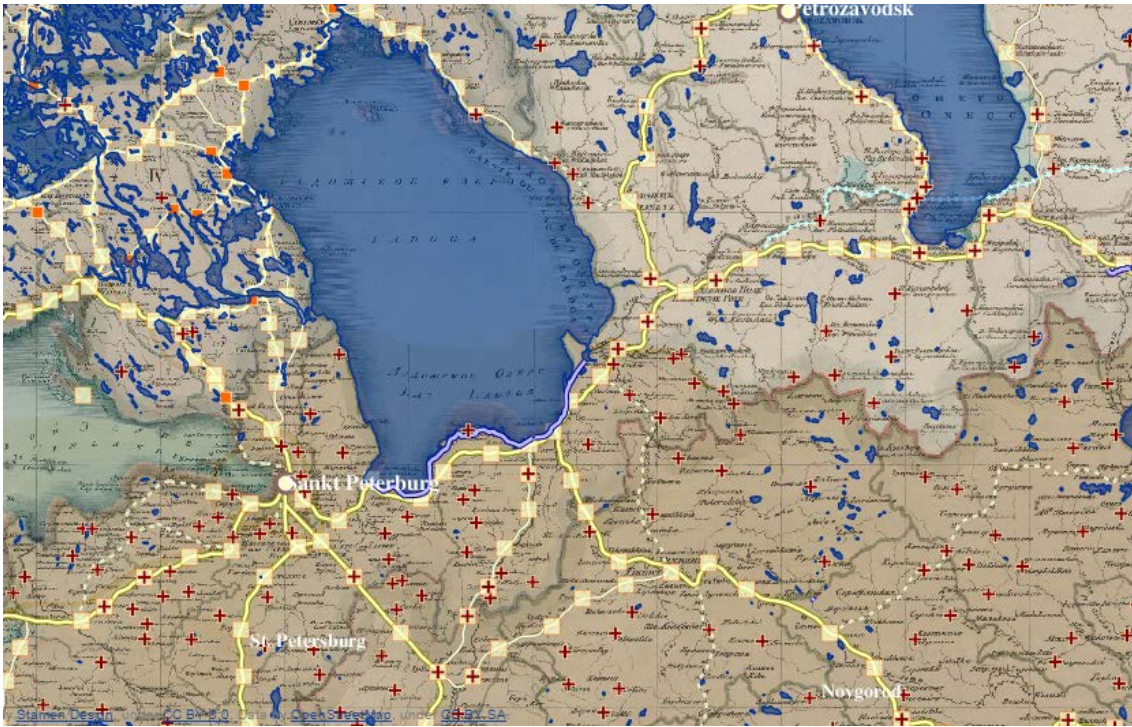


Figure 3.1: The map above shows villages, post stations, post and carriage roads, lakes, canals, and even a seasonal route across Lake Onega overlaid on a geo-referenced atlas.[source: <https://imperiia.omeka.fas.harvard.edu/>]



Figure 3.2: Summary of the culture, history, economy and geography of the Ekaterinoslav province (Ekaterinoslav, n.d.).[source: <https://imperiia.omeka.fas.harvard.edu/document/307?collection=2>]

Note: The project itself does not produce any interpretation from the data visually presented; Rather it provides a rich web-platform to demonstrate different form of data (map, text, raster, vector) which a user can select and configure (faceted search feature) to show together in a superimposed manner and the interpretation is upto the user.

3.3.2 The Project MEMORIAMEDIA

Key data:

key person(s): José Barbieri (director, Executive management) and Filomena Sousa, José Barbieri, Solange Carvalho, Ana Sofia Paiva, Rosário Rosa, Rafael Del Rio, Eva Ângelo, Teresa Perdigão

Affiliated Institution(s): IELT - FCSH – UNL (Universidade Nova de Lisboa), Portugal

Time period of the project: 2006 - current

Time period covered: The 18th and 19th centuries

Relevant geographic location: Portugal

Website: www.memoriamedia.net

Short description: The MEMORIAMEDIA project (CRL, n.d.) deals with intangible cultural heritage (ICH) of Portugal in order to study, inventory and disseminate. ICH of following categories are organized in a national inventory and published on the project website: oral expressions; performative practices; celebrations; the know-how of arts and crafts and practices and knowledge related to nature and the universe. The project started in 2006 and still ongoing as of 2020. Memorial material - Cooperativa Cultural CRL performs to manage as executive whereas the IELT. - Institute of Literature and Tradition Studies - Heritage, Arts and Culture, Faculty of Social and Human Sciences, Universidade Nova de Lisboa, is hosting of this project, with the financial support of FCT - Foundation for Science and Technology of the Ministry of Science, Technology and Higher Education, Portugal.

Note: The project is an excellent collection of artefacts of intangible heritage. The curated items were carefully chosen but they do not contain any spatial dimension. The project does not offer any interactive interface to connect the visitors with any geographic visualization.



Figure 3.3: José Lopes da loja Salarium a recolher a flor de sal, the vídeo documentary is a collection of the project [source: Memória Imaterial]

3.3.3 Inscriptions of Israel/Palestine (IIP)

Key data:

key person(s): Michael L. Satlow, Elli Mylonas, Gaia Lembi, Lauren Montieth, Margaret Follett, Dae Hyun (Sam) Kim, Wennie Zhang et al.

Affiliated Institution(s): the Center for Digital Scholarship, a unit of the Brown University Library.

Time period of the project: 2002 - present

Time period covered: 500 BCE - 640 CE

Relevant geographic location: Israel, Palestine

Website: <https://library.brown.edu/iip/index/>

DOI: 10.26300/pz1d-st89 (<https://doi.org/10.26300/pz1d-st89>)

Short description: The project IIP (Michael L. Satlow et al., n.d.) is a fully searchable digitized collection of inscriptions, database and mapping project, made available online (currently located at Brown University as an ongoing project since 2002), of published inscriptions from Israel/Palestine during the period of 600 BCE to 650 CE. According to the project description available in the website the database covers Persian, Greek and Roman periods and so far, included 3,000 (up to 10,000 in future) published inscriptions and relevant contextual information. Various images and approximate geographic information are also attached and tagged through mapping. There are few appreciable goals of the project. It aims to place together all published inscriptions in different venues during that period so that they are publicly available and accessible for further research, even for automated-analysis by programs and tools. It also aims to link this platform to open data dealing with ancient world.

The project “Inscriptions of Israel/Palestine” deals with writing on durable material in the language of Hebrew, Aramaic, Greek, and Latin and written by Jews, Christians, and traditional Greeks and Romans. Each inscription entry contains meta-data (image/photograph, transcription, translation, languages, dimensions, xml file, date, place found, current location, note/alternative transcription, figures, sources/bibliography). The project also yields interesting “stories”; the stories are interpretative narratives and highlights by author based on one or more inscriptions and relevant literature). Inscriptions are searchable through map or text.

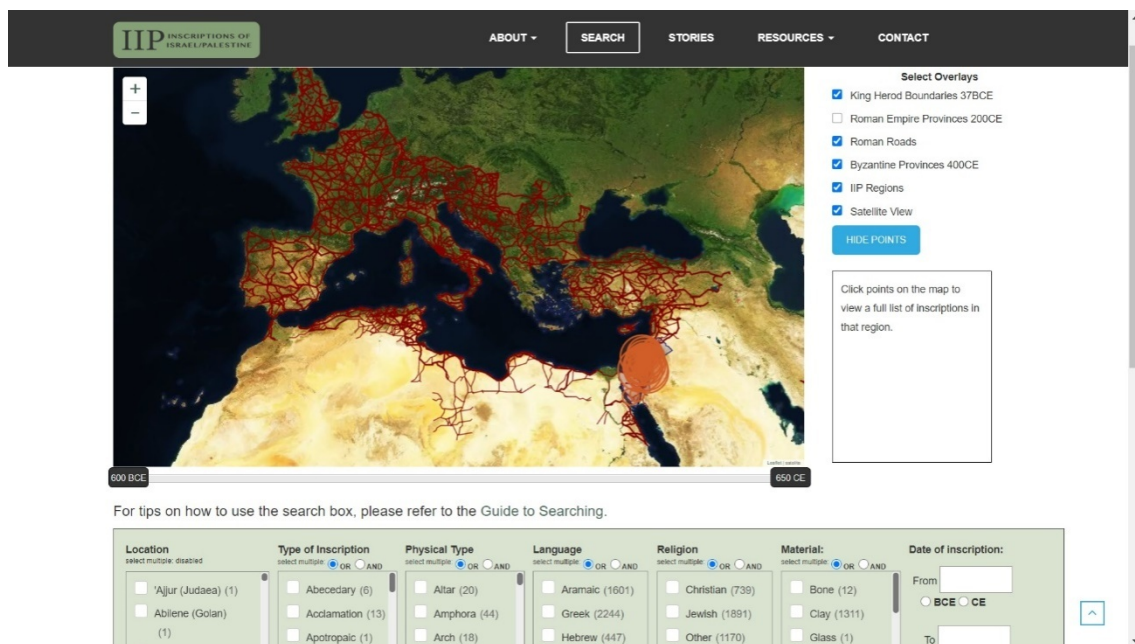


Figure 3.4: Inscriptions of Israel/Palestine (IIP)

Note: It is a very good collection of digital artefacts and digital humanities project. The literary interpretation from the artefacts is amazing, but in terms of mapping, mostly shows the location of origin in the map. The access/search to inscription is easy-navigable from map.

3.3.4 PLEIADES

Key data:

key person(s): Roger Bagnall, Richard Talbert, Tom Elliott, Lindsay Holman, Jeffrey Becker, Sarah Bond, Sean Gillies, Ryan Horne, Gabe Moss, Adam Rabinowitz, Elizabeth Robinson, Brian Turner, Stefano Costa, Arthur De Graauw, Stuart Dunn, Müge Durusu, Noah Kaye, Gabriel McKee, Charlotte Tupman, Scott Vanderbilt, Valeria Vitale [the credit list is actually very vast and elaborately provided on the credit page of the website]

Affiliated Institution(s): Ancient World Mapping Center, the Stoa Consortium, and the Institute for the Study of the Ancient World.

Time period of the project: 2009 - present

Time period covered: Ancient world

Relevant geographic location: extensive coverage for the Greek and Roman world, and is expanding into Ancient Near Eastern, Byzantine, Celtic, Early Islamic, and Early Medieval geography.

Website: <https://pleiades.stoa.org/>
<https://www.youtube.com/watch?v=MPv20lfPRuk>

Short description: The project PLEIADES(Bagnall et al., 2006) is a collection(gazetteer) of historical geographic information about the ancient world in digital form and worldwide community of scholars, students, and enthusiasts are free to use, create, and share content on this platform. The Greek and Roman world is represented here at the moment with a plan to expand into Ancient Near Eastern, Byzantine, Celtic, and Early Medieval geography.

Broadly, all the content and information are organized in combination of gazetteers and GIS datasets. To represent the multiplex magnitude of variation about ancient geography, the project Pleiades and the contents are organized under four banners- "Places", " locations", " names" and "connections". Places are basically any locus of human attention, material or intellectual that has spatial existence, according to the project website. In this definition, an archaeological site, a modern city having an ancient settlement underneath or even an ancient settlement described in a text can be a place. Therefore, Places can be tangible or intangible, abstract and conceptual. A name with ancient resource can be a place, similarly a site of archaeological significance without a name can be a place too. The spatial existence of places (geographic coordinates) is denoted by "locations" whereas modern and ancient relevant names are addressed as "names". Recording, documentation and expression of relationships among places are denoted by "connections" which can have the dimension of time, reference to historic evidence or scholarly argument.

Note: The database is searchable by keywords. Faceted indexes are currently under maintenance and therefore inaccessible for the time being. Each entry has metadata like location, tags, names, connections, place type, reference, small description, citation etc. and visually it shows a point location in a cartographic terrain (although the project description, specially the "connection", indicates that it has geometries like bounding boxes and convex hulls as mechanisms for creating spatial footprints for otherwise unlocatable places and for places with uncertain extents or unmappable boundaries). Regarding mapping interpretation – nothing was found.



Figure 3.5: PLEIADES is a gazetteer of historical geographic information about the ancient world in digital form

3.3.5 ORBIS

Key data:

key person(s): Walter Scheidel, Elijah Meeks

Affiliated Institution(s): Stanford University

Time period of the project: 2012 - present

Time period covered: Roman Era (27BC-1453AD)

Relevant geographic location: Roman Empire

Website: <https://digitalhumanities.stanford.edu/projects/orbis>
<https://orbis.stanford.edu/>

ORBIS(Scheidel & Meeks, n.d.) is an interactive scholarly work that allows readers to examine, approximate and estimate the movement of goods and people in the Roman World through the creation of a historical transportation network model using interactive maps and information visualization. It consists of a large-scale spatial database that utilizes robust pathfinding to give real-time route calculations to users, various user interfaces into database, and a scholar host explaining and demonstrating its use. Notable features of the interactive interface includes choices among sea, fluvial

and terrestrial routes, variation of vehicles and ships along with speed, season of travel and benefit of cost, time and distance that covers overall 632 roman sites-network stretching from London to Jerusalem on east-west and Glasgow to Qus(in Egypt) on north-south.

Note: The output of the interactive mapping exercise (of ORBIS) from this project is selection of routes from point A to point B out of 632 sites based on given parameters as well as calculating cost of transportation during Roman era. The background research and documentation is very robust with viable and logical limitation of the model depending on the calculation complexity and data availability. The model is universal as such and is believed to be dynamic to host any other era and location of the world once the model is fed with relevant data. ORBIS is a truly interpretative mapping project that host historical data of different format (map, text etc.), turn it into spatial data, make it available through an interactive interface and produce interpretations in terms of route and cost (also the cartograms of distances, expenses and time). In the scholarly world of Roman history this project deems to be of very high value.

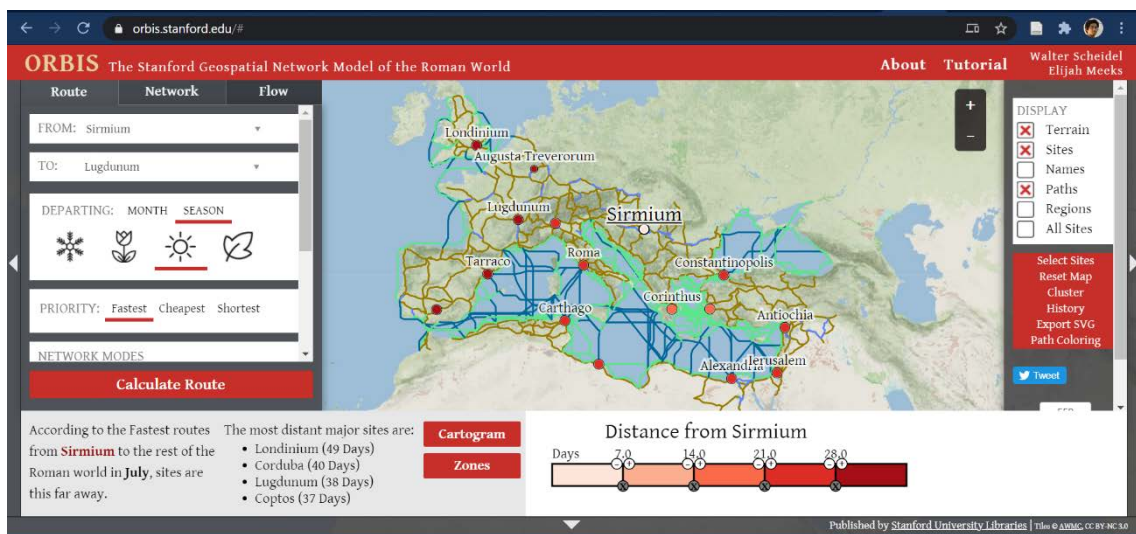


Figure 3.6: user interface to manipulate the parameters before obtaining output map (source: <https://orbis.stanford.edu/#>)

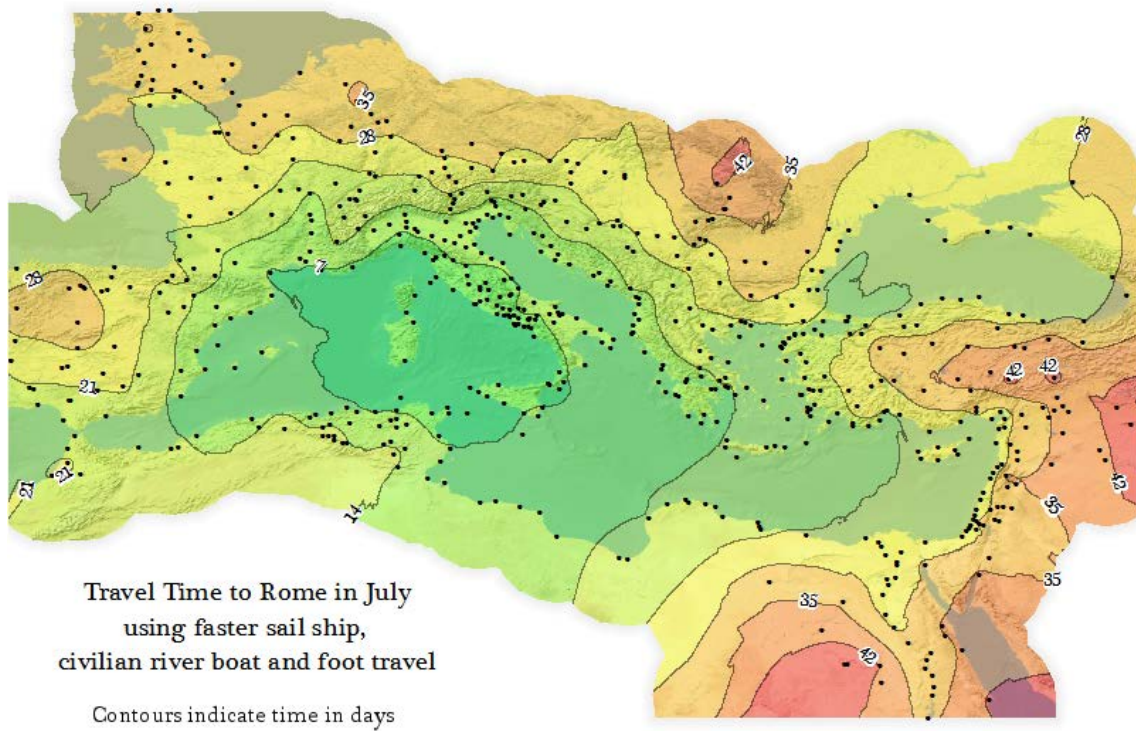


Figure 3.7: Isochrone Map of Travel Time to Rome in July (source: <https://orbis.stanford.edu/#>)

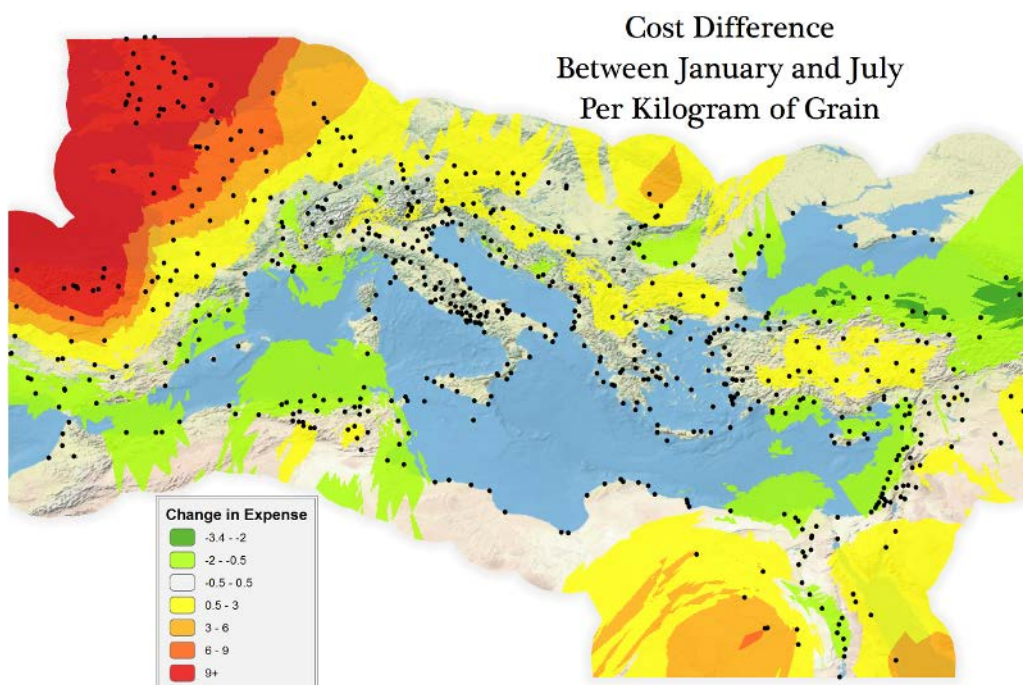


Figure 3.8: Difference in Expense Based on Month (source: <https://orbis.stanford.edu/#>)

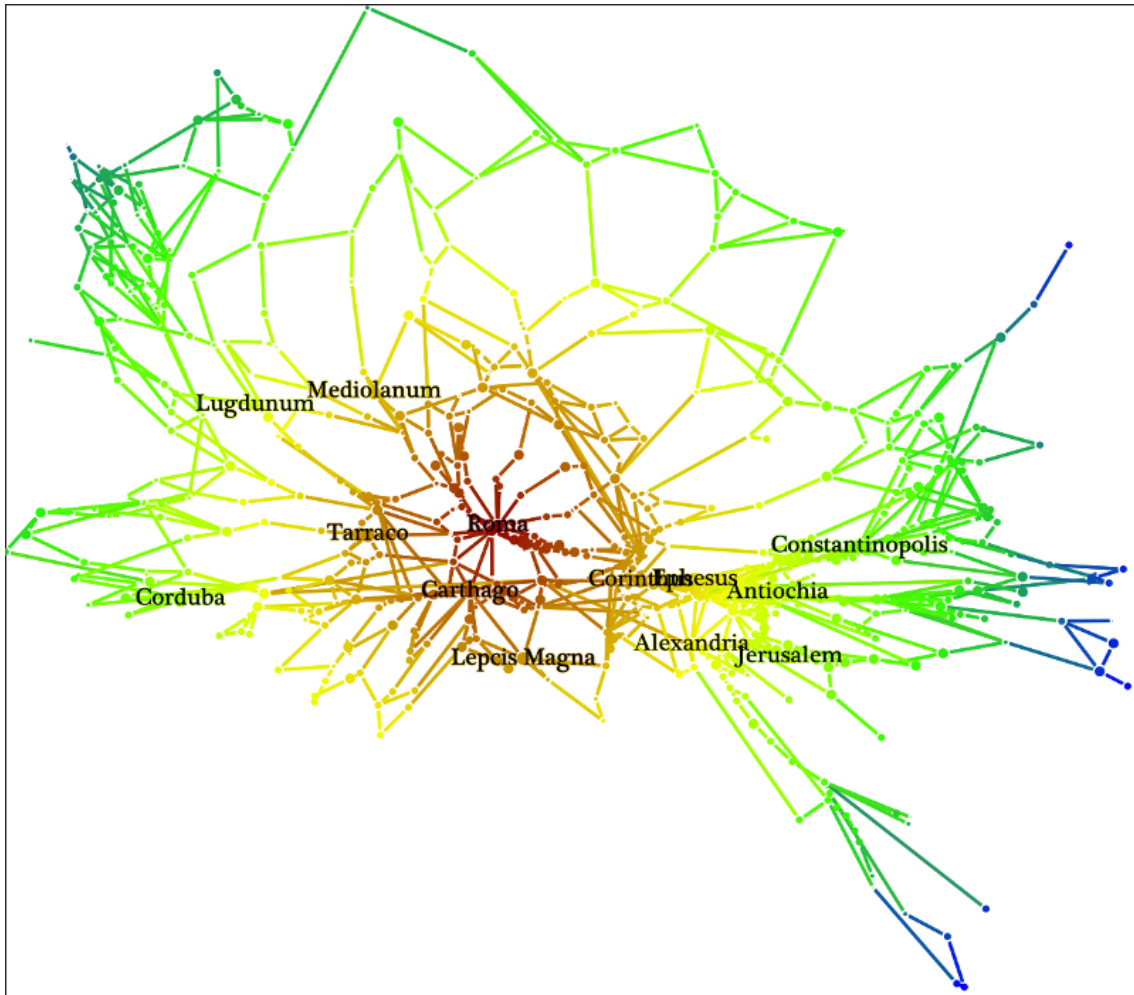


Figure 3.9: Duration-Based Distance Cartogram, All Modes (Source: <https://orbis.stanford.edu/#>)

3.3.6 Mapping Early American Elections

Key data:

key person(s): Sheila Brennan, Lincoln Mullen, Philip Lampi, Andrew Robertson

Affiliated Institution(s): Roy Rosenzweig Center for History and New Media, George Mason University; American Antiquarian Society; City University of New York, Graduate Center.

Time period of the project: 2019

Time period covered: 1787 - 1825

Relevant geographic location: USA

Website: <http://earlyamericanelections.org>

Mapping Early American Elections(2019) is a project of interactive maps and visualizations that feature congressional elections from 1787 to 1825, is an opportunity to look into American politics during its foundational phase. The electoral returns and spatial data that form the backbone of the visualizations and maps are made available to general public. There are also some essays available that complement the maps with contextual information and indications for interpretations. It is also possible to download the datasets and create different maps by any user.

Methodology (relevant to thesis): following is an extract from the project website regarding the methodology followed to produce visualization and maps.

*In the MEAE project, the **transcribed returns** from the NNV(New Nation Votes project) were **transformed into a dataset to be analyzed and mapped**. A dataset is very different from a transcription, in that it required us to make choices about how to **standardize the information from the transcribed returns** in a way which could be easily and reliably analyzed. The most important of these differences can be summarized as follows: (.....)First, we had to **regularize the information into a tabular structure** suitable for most data analysis software, from Excel to GIS (.....) Second, we had to **determine which variables were most useful** when mapped, and then we had to calculate those variables for different geographies. (political parties get more preference over candidates due to more consistency over time and geographic areas)(.....)Fourth, we have had to resolve many small decisions for intended purpose of the project. For calculating the percentage of votes for each party, in discrepancies, we have had to **weigh the evidence and make the best determination possible(.....)we have backfilled the county percentages that were unavailable from the district percentages that were available** depending on data availability(.....)Finally, but perhaps most significantly, we have made it possible to **associate these electoral returns with spatial datasets**, an essential step in allowing them to be mapped. By providing a **set of codes which allow the tables of voting data to be joined to spatial data,(.....)to map the elections data.***

Note: The interactive maps produced in the project and displayed by the website are truly valuable visualizations and interpretations of early American elections which include the social, political economic, demographic and other contexts of the period and geography covered by the project. While there are lot of technical and strategic issues and complexities to bring data into interpretation which were overcome, the final maps are predominantly in reference to the geographic boundary and cartographic maps. But the number of representatives and electors from each state is proportional to the number of respective population. If there were visualization available based on demographic data too (e.g. same percentage of vote cast in favour

of a certain party/candidate in different county/state may mean support from a very different number of population), that would be different (perhaps cartogram) from the produced one and much appreciated aspects for added interpretation.

19th Congress: Virginia 1825

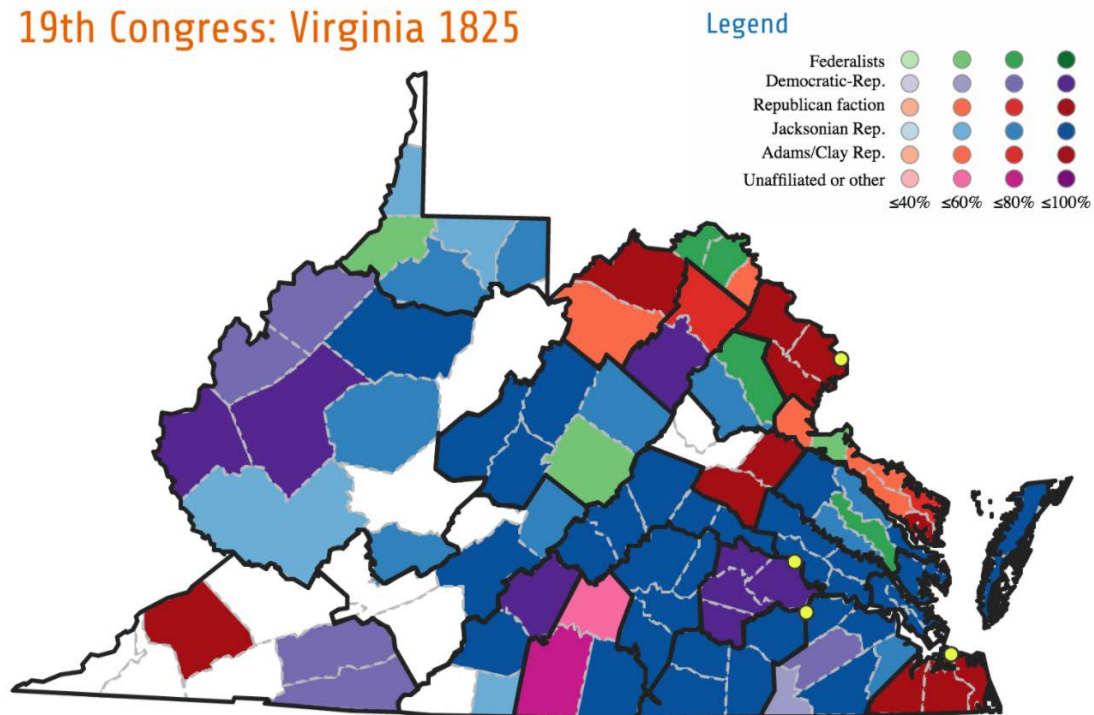


Figure 3.10: Map of 19th congress, Virginia on 1820 illustrates the fragmentation of the Federalist and Democratic-Republican parties, as well as candidates aligned with Jackson and Adams/Clay (source: <https://earlyamericanelections.org/blog/2018/11/06/mapping-the-first-party-system.html>)

3.3.7 MoEML (Map of Early Modern London)

Key data:

key person(s): Janelle Jenstad, Kim McLean-Fiander et al.

Affiliated Institution(s): Social Sciences and Humanities Research Council of Canada (SSHRC), University of Victoria, Canada

Time period of the project: 2006-present

Time period covered: 1561 - present

Relevant geographic location: UK

Website: <https://mapoflondon.uvic.ca/>

Description: The map of early modern London is a digital humanities project comprised of several projects that include tangible and intangible elements. Following is a list of literature that contributes to this project content(Jen stad, 2021).

A digital edition of the 1561 Agas woodcut map of London; an Encyclopaedia of London people, places, topics, and terms; a Library of marked-up texts rich in London

toponyms; an anthology of old-spelling and modern editions of all the Elizabethan, Jacobean, and Caroline mayoral shows (modern editions forthcoming); a versioned edition of John Stow's Survey of London (1598 is nearly complete; the early stages of 1633 are in draft); the London Parish project (by Christopher Highley; forthcoming); and Browsing the Bookstalls of St. Paul's project (by Erica Zimmer; forthcoming).

MoEML's six databases support all the following interoperable projects:

a Gazetteer of locations (e.g., streets, sites, playhouses, taverns, churches, wards, and topographical features); a Personography of early modern Londoners both historical and literary; an Orgography of organizations (e.g., livery companies and other corporations); a Bibliography of primary and secondary sources; a Mapography of early modern city maps; and a Glossary of terms relevant to early modern London.

All of the database files are functioning with a common tag set so that the users are able to work with primary and secondary texts simultaneously. The Map allows users to visualize, overlay, combine, and query the information in the MoEML databases.

Notes: The output of the interactive map is to be able to locate different places, buildings and activities on historic map accompanied with literature and databases that are linked. It is quite comprehensive to build a tangible and intangible narrative of the modern London. Mappings outputs contain simple geometry while it doesn't contain any significance on shapes chosen. However, the whole project brings many type of information together and nails them spatially through the historic map but there is not much interpretative result drawn.

3.3.8 The Forma Urbis Romae Project

Key data:

key person(s): Prof. Marc Levoy, Prof. Jennifer Trimble

Affiliated Institution: CESTA, Stanford University

Time period of the project: 2002-2016

Time period covered: Historic Rome towards modern Rome

Relevant geographic location: Roman Empire

Website: <http://formaurbis.stanford.edu/index.html> and
<http://web.stanford.edu/group/spatialhistory/cgi-bin/site/project.php?id=1063>

Short description:

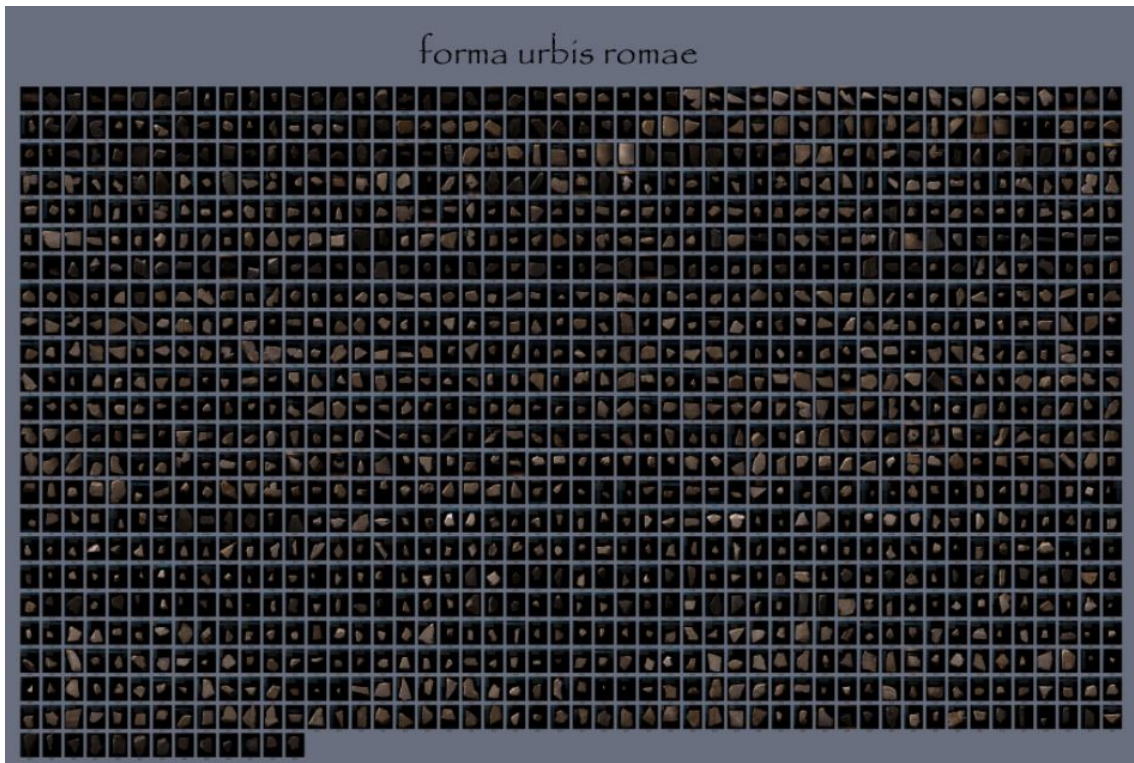


Figure: Collage showing 1,163 FUR fragments



Figure 3.11: Digital Map of The Slabs of The Forma Urbis Romae

3.4 Results and discussion

Proposed framework

The generic sequence of the safeguarding process is likely to follow, in general, Documentation → curation → formatting and arranging → Web Platform → Dissemination. There are actually two parts for sustainable safeguarding. Proper documentation and archiving is followed by recreation in natural setting. The projects and examples discussed in this article partially describe the best of each segment. The work of Alivizatou(2006) is noteworthy for its didactic and Interpretative framework because it acts on the area of living culture where recreation of ICH is proposed by collaboration with community and it is far beyond the simple documentation and disseminating. Works of some other researchers excelled in the detail digital process of recording ICH, e.g. 3D modeling for dance performance and it also reach beyond the image, video and text. All these approaches lead to a grand narrative. Setting these data into websites and mobile apps, dissemination can be facilitated by designers (cultural heritage professionals) and engineers (programmers, back-end developers). Detail design and coding of each topic would vary project to project as type, intention and output would be different but that is out of scope of this article. It is possible to arrive at the best practices regarding the components and functionality of a website, mobile app that can be interactive, regenerative and interpretative. It is good to practice these from the beginning of a project through conception, research, data collection and development so that all components remain functional. Following table records major components and their nature as well as functionality. An example or comment is also included.

Table 3.1: Proposed framework of a modern digital humanities project

Components	Functionality	example
Database	Analysis capability	Geodatabase can help with Spatial analysis for finding relationships and patterns; Database of text, image, audio and video.
Search ability	Faceted search	Can be adopted from ORBIS and MoEML project
meta-data	Faceted indexes, research	image/photograph, transcription, translation, languages, dimensions, xml file, date, place found, current location, note/alternative transcription, figures, sources/bibliography
Meta-data format	Universality of file format to become accessible to everyone	Meta-data format proposed in DIGICULT Project No: KA2-02-VET: 2019-1-BG01-KA202-062231 Can be adopted for recent projects as most

		details regarding image, audio, video etc. are defined with contemporary standard.
Interactivity	Pedagogy, Dissemination, Dynamic Analysis	Based on analysis and consulting database, the interface should be able to answer questions from user input
Variables	interactivity	Variables facilitate the functionality of Interactivity
Code / links	Interconnectivity	Links among meta-data (text, image, xml etc.) so that in the presentation/website an observer can relate to all type of data about a particular object and link their temporal, spatial and other contexts. It is important to present information from multiple perspective.

3.5 Challenges and Limitations

The standard for hardware, software, technology and trend of data storage and extraction, communication and website technology are constantly changing. It is a big challenge to set standard for basic file types and features as well as adoption of technology that remains valid and contemporary for long time. There is also an issue of redundancy. Once some cultural heritage assets are documented, digitized and safeguarded, there is little scope to consider it full and final. ICH keeps evolving, so is the technology. Same or evolved cultural heritage of the same origin demands a better preservation with time and emerging technology and eventually leads to increase of budget, manpower, training resources etc. For example, in a course of just ten to fifteen years photography and videography has changed in resolution, 360-degree, mixed reality and so on that are increasingly capable of preserving more information with higher accuracy. Heavy investment in adoption of technology and training can be sustainable solution which might be justified if the preserved resources are considered part of national curriculum.

Safeguarding living culture (by collaborating with community that holds it) in digital media might be another challenge due to its complex collaborative nature. Growing and retaining the interest of the community itself becomes a challenge sometimes, due to other interest (e.g. economic). Recent incidents of loss of UNESCO World Heritage status (UK, Oman and Germany) are examples of this nature. Innovation, advocacy, commercialization, adoption of and into the popular culture and preservation in layers might be some key strategy to face this challenge.

3.6 Conclusive Remarks

The cultural world is always very dynamic and ever changing. Considering the immense influence of cultural heritage on people's mind, especially young people, the necessity to safeguard ICH and disseminate in most efficient and accessible way is undeniable. The ever changing society and associated culture that transform continuously demand the safeguarding and pedagogy today even more in the context of fourth industrial revolution, the digital revolution. The revolution, like any other, is going to bring considerable change in the society including the economics, human rights, relationships, value and many more. Safeguarding and dissemination of ICH can play the role of a control mechanism, a check and balance strategy for the welfare of the society. Along with way of the revolution mentioned above, dealing with ICH must be digitally sound and acceptable to the contemporary as well as future generations. Otherwise if all documentations remain unattended, like in a remote bookshelf of the largest library with lot of dust due to non-use for example, the efforts of safeguarding ICH make no sense.

In that connection, the clue is to exploit digital format to the fullest. It is very important to preserve ICH in the most efficient digital format so that it can contain versatile, various, more information, close to its recreation in natural settings as much as possible. This article provides an account of the evolution of digitization of ICH by many researchers worldwide along with their conceptual advancement. It gives a great view towards present trend and future direction. The discussion is followed by examples with specification and technical features. Not all of these examples are necessarily on ICH directly, but the features and concept in the background and user interface are very contemporary and valuable learning for safeguarding and dissemination of ICH. Many features and web-technology can be adopted for current purposes. But through digitization the possibilities are beyond mere documentation and disseminating. The examples demonstrated how the proper documentation with specific methodology, feeding data of different types and clever coding to utilize them simultaneously can lead to many interesting results including interpretation, spatialization, simulation, new historic data etc. All these possibilities are new horizons for ICH and its safeguarding and dissemination. Afterwards challenges to apply the feasible concepts and methodology in the ICH sectors were discussed shortly along with probable direction for solution. The final section proposes a sequence for digitally preserving and disseminating ICH assets and tabulates certain underlying web-component, features with functionality of such project yet to be undertaken. This section reflects and makes a filtered adoption from contemporary standards, studies worldwide as well as projects discussed in "Present trends and cases" section.

No standard can be taken as granted and best for a longer time period because technology and knowledge is upgrading every single day. Despite the uncertainty of

time factor, the important clue is to stick to main principle of documentation towards safeguarding and pedagogy, enrich it by the updated methodology that makes the asset accessible to all, perhaps at fingertips. New technologies like speech recognition, artificial intelligence, augmented reality, virtual reality, immersion etc. are increasingly being available to be popular, feasible, economic, versatile and useful for average user. Let us continue with present standards keeping in mind that it would consider future demands and keep an eye of utilizing new technologies for more accurate and comprehensive narrative.

References

- Alivizatou, M. (2006). Museums and Intangible Heritage: The Dynamics of an 'Unconventional' Relationship. *Papers from the Institute of Archaeology*, 17(0), 47–57. <https://doi.org/10.5334/pia.268>
- Bagnall, R., Talbert, R. J. A., Bond, S., Becker, J., Elliott, T., Gillies, S., Horne, R., McCormick, M., Rabinowitz, A., Robinson, E., & Turner, B. (2006). *Pleiades: A community-built gazetteer and graph of ancient places* [Collection]. Institute for the Study of the Ancient World, New York University. <http://pleiades.stoa.org>
- Bala, S. (2012). Digital inventories of cultural memories and intangible cultural heritage: Case study of the Yadav community of Haryana, India. *ICOM International Committee for Documentation*, 2012, 11–19; illus.
- CRL, M. I. (n.d.). *MEMORIAMEDIA* [Collection]. MEMORIAMEDIA e-museo do Património Cultural Imaterial. Retrieved 26 September 2020, from <https://www.memoriamedia.net/index.php/memoriamedia-inicio/o-projecto>
- Doulamis, A., Voulodimos, A., Doulamis, N., Soile, S., & Lampropoulos, A. (2017). Transforming Intangible Folkloric Performing Arts into Tangible Choreographic Digital Objects: The Terpsichore Approach: *Proceedings of the 12th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*, 451–460. <https://doi.org/10.5220/0006347304510460>
- Ekaterinoslav. (n.d.). *The Imperia project*. Retrieved 25 September 2020, from <https://imperia.omeka.fas.harvard.edu/document/307>

- European Commission. (2021). *Digicult project*. Digital Presentation and Preservation of Intangible Cultural Heritage Project No: KA2-02-VET: 2019-1-BG01-KA202-062231 Digital Presentation and Preservation of Intangible Cultural Heritage Project No: KA2-02-VET: 2019-1-BG01-KA202-062231.
<https://digicultproject.eu/en/>
- Jenstad, J. (2021). *Map of Early Modern London*. Map of Early Modern London.
<https://mapoflondon.uvic.ca/>
- Mapping Early American Elections*. (2019). [Map]. Roy Rosenzweig Center for History and New Media, George Mason University. <https://doi.org/10.31835/meae>
- Michael L. Satlow, L. S., Mylonas, E., Lembi, G., & Montieth, L. (n.d.). *Inscriptions of Israel/Palestine*. Inscriptions of Israel Palestine. Retrieved 19 December 2020, from <https://library.brown.edu/iip/index/>
- O'Neill, K. (2020, September 25). *The Imperia Project*. The Imperia Project: Maps. Data. Questions. Notes. Insight. <https://imperia.omeka.fas.harvard.edu/>
- Robichaud, A., & Blevins, C. (2011). *The Spatial Turn* [Repository of essays]. Tooling Up for Digital Humanities. http://toolingup.stanford.edu/?page_id=1139
- Scheidel, W., & Meeks, E. (n.d.). *ORBIS: The Stanford Geospatial Network Model of the Roman World*. ORBIS the Stanford Geospatial Network Model of the Roman World. Retrieved 19 December 2020, from <https://orbis.stanford.edu/#>
- Veronnezzi, J. L., & Carvalho, C. P. (2015). Arteria – A Regional Cultural Mapping Project in Portugal. *Culture and Local Governance*, 5(1–2), 117–136.
<https://doi.org/10.18192/clg-cgl.v5i1-2.1467>

Chapter 4:

Lab 1: Mapping and Interpretation in KHALIFATABAD, Bangladesh

4.1 Background: 15th century Khalifatabad and present context

Ancient literary and epigraphic records make it abundantly clear that Bangladesh was heir to magnificent cultural patrimony in the shape of affluent cities. Fortified places, splendid temples and stupas, monumental gateways, mausolea, mosques and bridges, erected by various rulers in last two millennia of her chequered history (Dr. N. Ahmed 1979). Bangladesh is one of the largest deltas in the world, occupying 55,598 square miles of landmass. The topography and climate of the country, characterized by heavy rainfall, fast growth of vegetation, short-lived local building material, and rivers with their ever shifting beds are not very friendly for long lasting architecture. These factors, more than anything else, conditioned the development of the building arts in this land (N. Ahmed and Alam 1990). The country is crisscrossed by a network of rivers. There has been massive change in the landform of southern side of the country throughout millennia especially by the river Ganges and its tributaries. The Bhairab is one of the branches and used to be the mightiest east west running river of this area. Therefore, it connects to many rivers on its course to the East. While sharing flows with other sea-bound rivers, the Bhairab became weaker and narrower losing old glory (Mitra 1914).

4.1.1 Four Townships

According to literary heritage, reference to Prof. Satish Chandra Mitra, Dr. Nazimudin Ahmed and few others' works, many artefacts of four different townships/settlements by Khan Jahan are widely distributed along a route of 150 kilometres of the Bhairab river and branch routes. There is neither any existing map nor concrete visual or spatial evidence about it except the literature, text and memory. Artefacts of these townships are hidden in existing villages and urban areas.

Most promising heritage settlements by the Bhairab are mostly concentrated in two different places named as Khalifatabad (present Bagehat city, in Bagerhat district) and Barobazar (in Jessore district). Both of them are situated in Khulna division (fig: 4.1). Khalifatabad was the last and final township inhabited and developed by the ruler Khan Jahan while the second most matured one, with few surviving architectures with exact same style and large tanks, is Barobazar located in Jessore district, about 100km North-West from Khalifatabad. This old place contains vestiges not only from Muslim (Khan Jahan) period (late 13th to 15th century) but also from Hindu (12th and 13th century) and Buddhist period (7th to 12th century). The other two concentration spots (townships) that are barely traceable and live in literature.

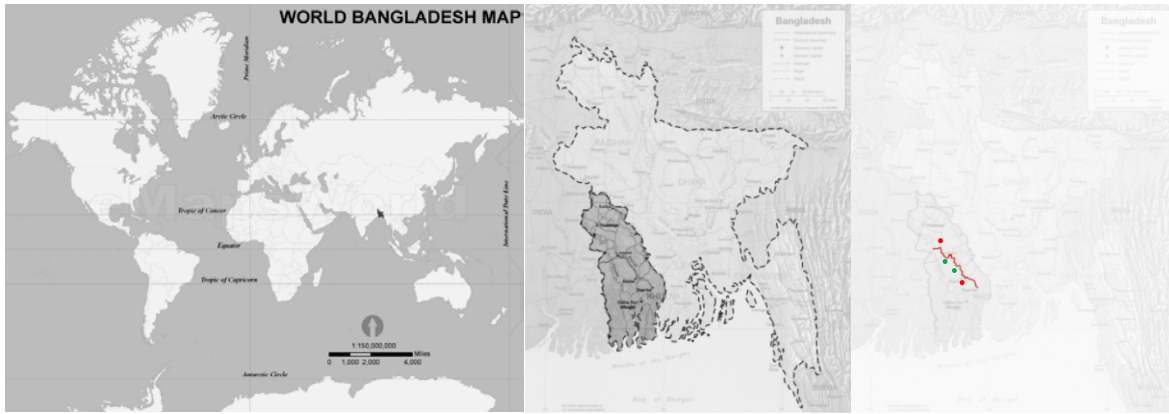
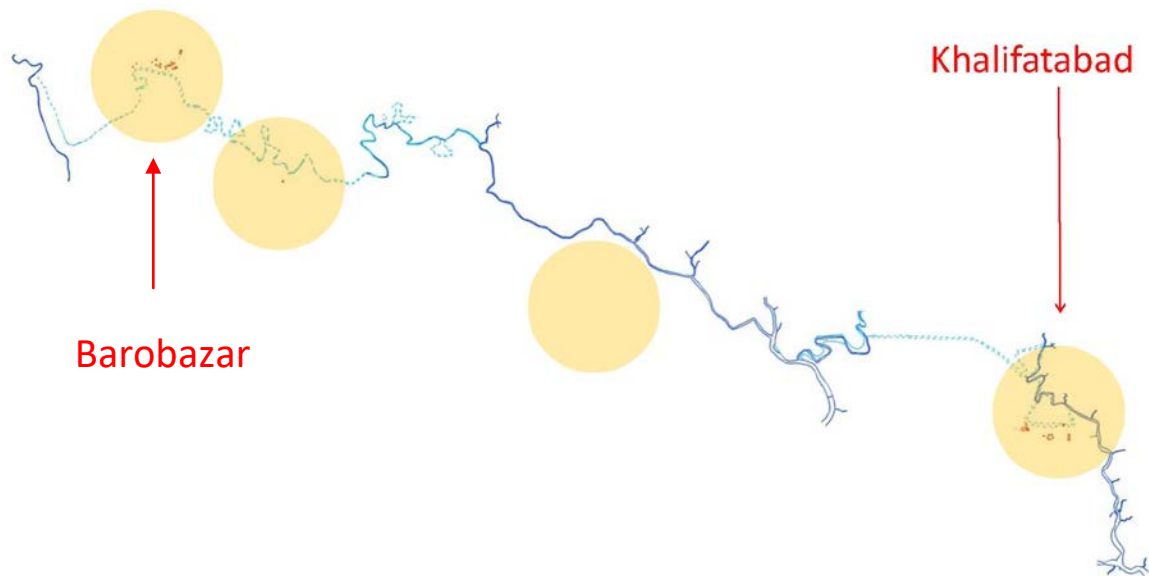


Figure 4.1: (a) Bangladesh in World map (b) Khulna Division in Bangladesh (c) Bhairab river course source: library of congress, USA (1996) and (eMapsWorld, 2010)



(d) Four settlements of Khan Jahan (Illustration: Author)

4.1.2 Khalifatabad

In the inhospitable mangrove forest of the Sundarbans (a vast marshy and impenetrable tract along the coastline of southern Bangladesh and a UNESCO world heritage now), the prosperous township of Khalifatabad was systematically laid out in mid-fifteenth century by an obscure warrior-saint, known from his inscription as Ulugh Khan Jahan (N. Ahmed and Alam 1990). According to the well-known mythology (based on the historical sources and stylistic architectural forms), he comes here to spread Islam and manages to achieve the

administrative control on behalf of the Delhi Sultanate. The location¹ of a series of existing building ruins and ancient water tanks along the Bhairab river bank strongly suggest that he followed a long overland route on his way to Khalifatabad, establishing settlements, excavating ponds (for water deprived locality) and constructing a network of highways linking extensive areas around using the manpower from his regular army, while he carried on his missionary activities.

The present town of Bagerhat is built upon the site of the historic township along the present course of river Bhairab. The town contains the historic medieval Muslim settlement of Khan Jahan named by contemporary historians as mint town of Khalifatabad. The city, characterized by unique “Khan Jahan architectural style”, had been glorified by many beautiful mosques (allegedly 360 in number), mausoleums, bridges, roads and especially large water bodies (local name- Dighi). The unique architectural style introduced by Khan Jahan is an uncommon blending of indigenous elements with the imperial style of Delhi. 15th century was the most intense period of development of the settlement(N. Ahmed 1989; M. Imran 2012; Unesco 2015). Beforehand, the area was part of mangrove forest Sunderbans, the settlement replaced the forest in this saline area but from next century the decline began and nature slowly started to grasp the urban elements. Building material (baked brick and terracotta) were also vulnerable and prone to quick decay in saline environment(Ong 2015; N. Ahmed 1989). Out of the claimed number of establishments, only handful few are still protected and repaired by Bangladesh department of Archeology,. Unlike buildings, large historic water tanks are long lasting, amazing example of cultural heritage, being useful to people of the locality at all times; and therefore, a steady witness of time since 15th century(Mitra 1914). The quality of the infrastructures, the supply and evacuation of water, the cisterns and reservoirs, the roads and bridges reveal a perfect mastery of techniques of planning and a will towards spatial organization(Unesco 2015). Therefore, it has been listed as UNESCO World Heritage site since 1985.

¹ Sixty Dome mosque represents the location of administrative center of the then territory which is marked by the coordinates 22.674475, 89.741801

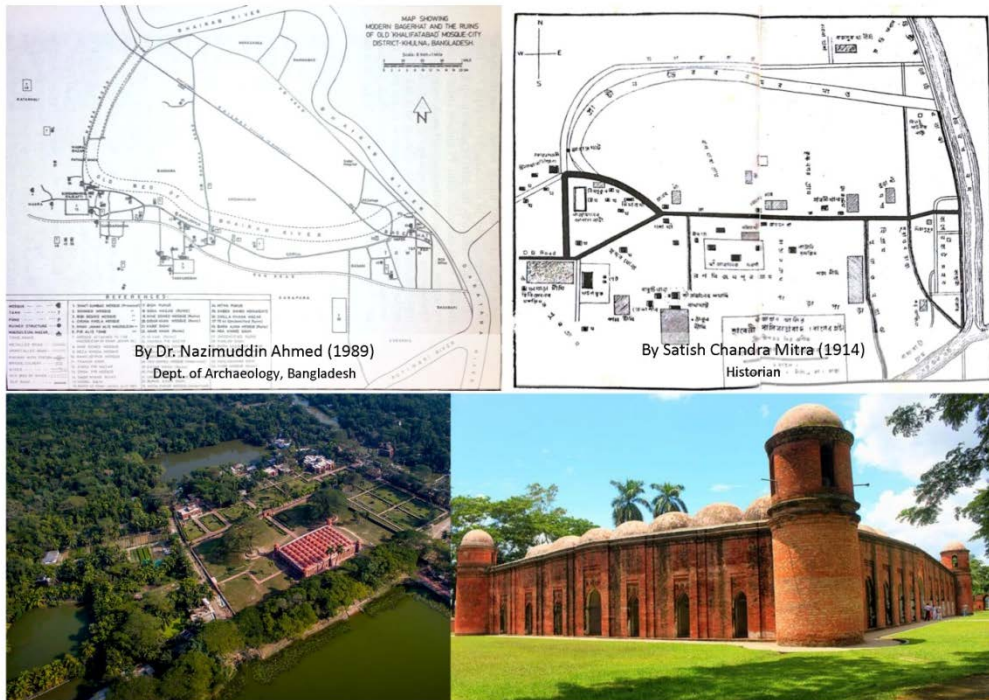


Figure 4.2: Khalifatabad (present City of Bagerhat, Bangladesh; UNESCO world heritage) Sixty dome mosque and surroundings along with historic water tank, Bagerhat. (a & b) maps of Khalifatabad found in literature and adopted by government. (c) The bird's eye view (photograph: Afzal Nazim) and (d) front elevation (photograph: author)

4.1.3 Tangible heritage of Khalifatabad

The township of Khalifatabad is poorly documented. Morphologically, culturally, geographically and socio-politically present Bagerhat had been built up on the footprint of the ancient township of Khalifatabad and inherited many tangible and intangible heritage from it. Among the tangible heritages, mostly architectural and archaeological heritage are still surviving. 11 mosques, 2 tombs, 6 large water tanks, 1 ancient highway, 1 residential site (under excavation), 3 other structures and 3 unexcavated mounds are most important examples. Out of these 27 artefacts only 13 are properly protected, the rests are either not protected or poorly restored or both. The highway is partially protected, but some fraction of the protected part is very inappropriately restored. All of them are mapped in Figure 3. Out of these structures, the most magnificent piece is sixty dome mosque (Figure 1), one of the largest in south Asia. Apart from being a mosque, it exhibits some extraordinary characteristics to claim it as an assembly hall for administrative activities, and contains elements of defence strategies.

Table 4.1: Tangible artefacts and their present status of Khalifatabad

Artefacts	Comments
Sixty Dome Mosque	Mosque (protected ²)
Ranbijoypur/Doria Khan Mosque	Mosque (protected)
Singra / Singar Mosque	Mosque (protected)
Nine Domed Mosque	Mosque (protected)
Dorgah Mosque*	Mosque (protected ?) (inappropriately restored)
Zinda Peer Mosque	Mosque (protected)
Chunakhola Mosque	Mosque (protected)
BibiBegni Mosque	Mosque (protected)
Rezakhoda mosque	Mosque (protected)
Ten domed mosque*	Mosque (protected ?) (inappropriately restored)
Tomb of Khan Zahan Ali*	Mausoleum (protected ?) (inappropriately restored)
Tomb of Zinda peer	Mausoleum (protected)
Tapghar	Prayer chamber (protected)
Boro Adina mosque*	Ruins (protected ?)
Dhibi 1	Unexcavated mounds(not protected)
Dhibi 2	Unexcavated mounds(not protected)
Dhibi 3	Unexcavated mounds(not protected)
Khan JahanBasatvita (residence)	Excavation going on (protected)
Khan Jahan road	Ruined, partially excavated, partially and poorly restored (partially protected)
Ghoradighi	Water tank (protected)
Khan JahanDighi*	Water tank (protected ?)
Pochadighi	Water tank (not protected)
KareDighi	Water tank (not protected)
Unknown Khan Jahan Dighi1(near pochadighi)	Water tank (not protected)
Unknown Khan Jahan Dighi2(in kara para)	Water tank (not protected)
Sluice Gate	Ancient Water control mechanism to protect Khalifatabad from flooding (poorly restored and protected)
Ghat*	Broad flight of steps to water tank to facilitate bathing. (inappropriately restored)

Sixty Dome Mosque and Adjacent Ghora dighi

²“Protected” means the artifact is declared protected by government and forbidden by legislation to perform any alteration, or destructive activity; the term may not reflect the actual preservation status or quality of the authorized department.

Sixty Dome mosque is the largest and most magnificent of the Sultanate mosques in Bangladesh and an important pre-Mughal monument of Indian subcontinent, built to be the Jame³ mosque of Khan al-Azam Ulugh Khan Jahan, general of Sultan Nasiruddin Mahmud Shah, probably in his reign during mid-fifteenth century. The mosque is located on the eastern bank of the *Ghoradighi*⁴, about three miles west of the present Bagerhat town of Khulna Division which was known as Khalifatabad during the Sultanate period (14th and 15th century). The mosque was thoroughly restored and repaired by Bangladesh Department of Archaeology and it is now a UNESCO World Heritage site (UNESCO 1995).

Based on its placement among other important monuments explored in Khalifatabad, the mosque held a prominent position in the then township. The residence⁵ of Khan Jahan was located on the bank of old Bhairab river, before it changed its course, and the mosque was positioned in its close proximity. It is the largest example of hypostyle mosque in this region, having a forest of columns.

The mosque has an oblong plan (Figure 4.3) of 148'6" x 101'4" externally and 123'3" x 76'2" internally. The structure is divided into eleven equal interior bays and seven rows, each grid is roofed over either a hemispherical dome or a *charchala* vault. The eastern façade has eleven arched entrances opening to a seventy-seven grid prayer chamber. The central nave, leading to the central mihrab, is covered with a series of seven *charchala* vaults while rest of the grids are domed. The mosque is the first extant structure in this region to employ the *charchala* shaped vaults.

The rectangular structure is buttressed by four corner circular towers, capped by domes. The massive two-storied corner towers rise above other domes of the mosque. Facades are topped by gentle curvilinear cornice of pre-Mogul style. Entrance arches are framed with rectangular shallow recesses while the central arch on east, north and south façades are larger. Both north and south facades have seven arched opening used as entrances. The mosque is enclosed with massive brick walls while the interior is supported by sixty sandstone columns. The slender stone columns are formed by two or three stone pieces tightly joined together by a system of plug-holes and iron-craps. The western wall has eleven *mihrabs* on the interior where ten are blind and the central one is projected on the exterior.

³ Unlike ordinary mosque, Jame mosque is the main mosque of an area which accomplishes congregation and special Friday noon prayer called Jumah.

⁴ Unlike buildings, large water bodies are long lasting, amazing example of cultural heritage, being useful to people of the locality at all times; and therefore, a steady witness of time since 15th century (Mitra 2000). Khalifatabad is enriched with these water bodies as seen in figure 4.2.

⁵ The coordinate of the location of residence is 22.678211, 89.743006. Excavation and research is still going on by the department of Archaeology, Govt. of Bangladesh

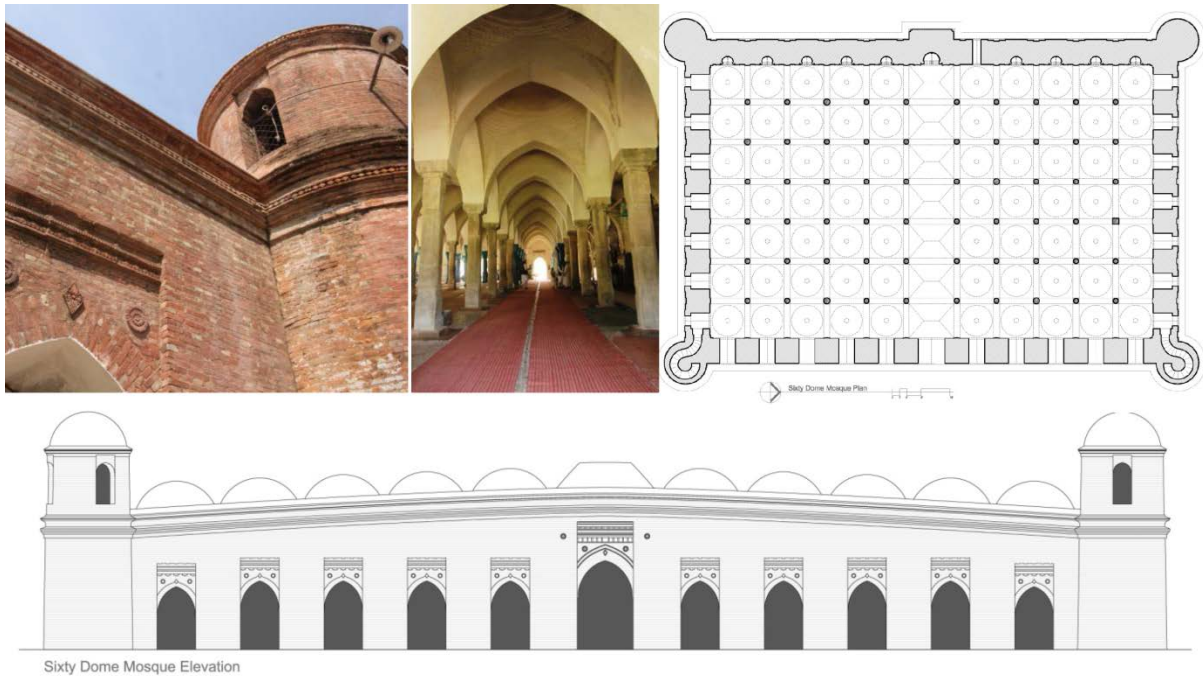


Figure 4.3: Pictures, Plan and Elevation of Sixty Dome mosque

Culturally and architecturally, *Khan Jahan Mausoleum* and adjacent *Thakur Dighi* is the most significant after the *Sixty Dome mosque*. Other structures are listed in table 4.1. Description, images and drawings of all these artefacts are available in the document (author’s work) accessible through the link here ([Archnet > Publication > Drawings from the Islamic Heritage of Bangladesh Collection](#)).

4.1.4 Intangible heritage of Khalifatabad

Among the intangible heritage, there are performing arts (3 type of songs with visual performances), worship (2 types), symbolic attire, placenames, 2 annual traditional ceremonies, weekly markets, various types of beliefs and rituals. But the most important and most popular among them are biological heritage (lineage of crocodile family) and communal heritage (lineage of Khadem family).

The rare marsh crocodiles, living in the largest water tank of Bagerhat (*Khan Jahan dighi* /*Thakur dighi*), have an interesting story starting from 15th century until now. Most of the beliefs and rituals had grown having the crocodiles and the water where they live in as well as the tomb of Khan Jahan, who was the founder of Khalifatabad and is believed to be the owner of the first pair of crocodiles. The tomb of Khan Jahan (and a small mosque architecturally identical to the tomb) is located on the bank of the above mentioned water tank.

“Khadem” is the local Bengali name referring to the group of people who take care of the complex/premises. The history and origin of the khadems are poorly documented and has little controversy. It is claimed⁶ that during the period of Khan Jahan, Mog⁷ pirates were active in this area and later some members of them started working as khadem; some of the present day khadems have anthropomorphic facial features similar to the tribe that now live in the state of Tripura, India. Toponymy of a *Mogra* village, *Mograr* market and a *Mograr* canal support the presence of Mog pirates. But the Mog are ethnically Arakanese/Burmese and religiously Buddhist (Tribal Research and Cultural Institute 2019). It is not known how they, instead of local Muslims, became caretaker of the mausoleum of a Muslim saint. However, after the death of Khan Jahan in 1459, it started with few khadems living around the mausoleum and work as caretakers. They started growing gradually. At present there are more than one hundred khadem families (around 400 people in total)⁸ who reside and work on the mausoleum premises.

Table 4.2: Intangible artefacts and their present status of Khalifatabad

Artefacts	Comments
Food Heritage	Seyaipitha
Performing art	(1) Pot Gan (Song with art pieces)(currently NGO – Rupantor reproduce) (2) GazirGan (Local mythological song) (3) Peer bondona song
Worship	(1) Bonbibir puja (worship of forest- Sunderbans) (2) Monsha puja (snake worship, some muslims participate too)
symbolic	Moulavi, cap and beard used in Bonbibi Puja
Place names	Piljong, ronbijoypur, mogra village, Barakpur, Kalabaria
Traditional Ceremony	(1) Annual Orosh – 11,12 December (2) Annual fair – 21 March
Weekly market	Tuesday and Friday hut every week, one of the oldest in Bangladesh
Beliefs	Manot of fish, chicken, goat- to free in Khan Jahandighi, often as sacred offer for the crocodiles.

⁶MdGolamFerdous (custodian, Bagerhat Museum), SubrataKumerMukerjee, Morshedur Rahman Sagor (local resource person and writer)

⁷ The Mog are the Arakanese descendants who live in the Indian state of Tripura as 6th populous tribe.

⁸ According to an interview with senior khadem Majnu (bagerhatinfo.com; 4 April 2014)

Rituals	<ul style="list-style-type: none"> (1) Prayer (2) Jiyarat (3) Donation (4) Feeding/offering crocodiles by oneself (5) Shower and oju in dighi (6) Carry water of dighi (considering holy and medicine) (7) Feed needy people on premises (8) Night stay at premises
Biological	Marsh Crocodiles-The history, cultural significance, life cycle and activities.
Communal	<ul style="list-style-type: none"> (1) Lineage of Khadem family (2) Kawali song and Gilaf change every year by Shia muslims from Khulna city



Figure 4.4: Few remaining structures of Khalifatabad - (a)Sixty Dome Mosque (b) Terracotta details of main entrance of the mosque (c) Ghat/harbor (d) Crocodile water tank of mausoleum (clockwise)

4.2 Claim, contestation, observation, conflict of interest

While Khalifatabad is taken as a case study for mapping exercise, in order to establish interpretative mapping as a strong methodology to construct the identity of historic settlement a deep insight of the site is essential. Through literature survey it was identified that there are several claims, contestation, observation and conflict of interests since the present Bagerhat city is built upon the ruins and traces of historic Khalifatabad. For the sake of articulation of the historic part the investigation and discussion about intangible vs.

tangible heritage, institutionalization and deinstitutionalization of heritage and separate mapping of various layers was very necessary. The discussion and theoretical framework build up a protocol and guideline why and how many tangible and intangible elements are mapped and how it contributes defining the morphological footprint of Khalifatabad. This is an important part of the methodology.

4.2.1 Tangible and intangible issues

For the purpose of mapping tangible and intangible cultural heritage in the site of Khalifatabad⁹, Bangladesh, an appropriate methodology is very necessary. Defining tangible and intangible heritage can be modified from the standard definitions by UNESCO. For data collection and plotting in this thesis, definitions, research procedure and tools have been partially adopted from “Pacific Intangible Cultural Heritage Mapping Toolkit”¹⁰.

Tangible cultural heritage refers to physical heritage such as buildings and historic places, monuments, books, documents and artefacts that are considered worthy of preservation for the future and are significant to the archaeology, architecture, science and technology of a specific culture(UNESCO n.d.).

Intangible cultural heritage refers to cultural expressions and practices that form a body of knowledge and provide for continuity, dynamism and meaning of social life to generations of people as individuals, social groups and communities. Intangible cultural heritage allows for identity and a sense of belonging for people as well as an accumulation of intellectual capital for current and future generations in the context of mutual respect for human, social and cultural rights(Blake 2001; UNESCO ICH 2011).

Intangible cultural heritage domains refer to UNESCO’s broad forms or grouping of different manifestations of intangible cultural heritage elements that exist in different cultures around the world.

The main domains include:

- (1) oral traditions and expressions;
- (2) performing arts;
- (3) social practices, rituals and festive events;
- (4) knowledge and practices concerning nature and the universe; and
- (5) traditional craftsmanship.

⁹ The case study of Khalifatabad provides an excellent opportunity of study since it contains all kinds of institutions and elements of all institutional status.

¹⁰ Pacific Intangible Cultural Heritage Mapping Toolkit developed by SipirianoNemani published in 2012 by Secretariat of Pacific Community (SPC), Suva, Fiji; It has been widely appreciated and adopted as a best practice approach in some Pacific Island countries since its inception in 2004. As a result, many of the examples in the toolkit are derived from Fiji, although they can be applied to other nations, once modified according to context.

Instances of intangible cultural heritage are not limited to a single manifestation and may include elements from multiple domains. While the domains referred above are broader groupings, elements on the other hand refer to detailed and specific manifestations of domains. For example, in the context of Khalifatabad, Bangladesh, the culture of mausoleum include the manifestations of daily visits of general people to the mausoleum and prayer, bath and collection of water from Khan Jahan water tank, feeding the crocodile, annual fair in the name of Khan Jahan etc. all of which has a spatial significance (useful to do interpretative mapping). These are the elements of local culture that represent heritage from Khan Jahan periods of the 15th century. When set in the context of UNESCO's domains, these elements would fit into domains 1 and 3 above.

4.2.2 Institutionalization of Heritage(s)

Institution, Institutionalization and deinstitutionalization:

Tangible and intangible heritage(s) of Khalifatabad is discussed in the thesis. In section 4.1.3 and 4.1.4 those are listed and assigned a status based on the official list by government as well as available literature and author's observation during field survey. The sites and artefacts taken care of by government (mostly depends on the state budget) belong to the official list which again corresponds to the official map of Khalifatabad. Author investigated, documented and mapped many artefacts and sites that does not belong to the official list (non-institutionalized or deinstitutionalized) and makes argument to attest them as integral part of historic Khalifatabad. Therefore, it is very important to discuss the institutionalization process in case of this historic site.

An institution is a large and important organization in a society or culture, sometimes firmly associated with a place or thing. A significant practice or a custom or tradition that has existed for a long time and is accepted as an important part of a particular society might be termed as institution too (Cambridge Academic Content Dictionary 2019; Merriam-Webster 2019). At the heart of institutional theory is the concept of institutions, established social structures widely accepted and approved which have achieved a "taken-for-grantedness" status as a result of the institutionalization process (Suddaby 2013). The status mentioned above referred to a paradigm shift of "institutionalization", from the studies of organizational sociologists of the 50's and 60's to the study of organizations that possess formal structure, institutional isomorphism and collective rationality. The focus gradually moved from notions of ceremonial adoption and legitimation to influencing institutional milieu and active engagement, as agencies were more and more accepted as institutions.

Among the most significant consequences that institutional theorists attribute to the institutionalization of an organizational activity is relative permanency; once organizational activities are institutionalized, they are assumed to become relatively stable, enduring, reproducible and sustainable over long periods of time without continuing justification(Oliver 1992).

Zucker(1987) elaborately discussed a fine choice of indicators (from a concise work of more than 25 scholars) to determine the institutionalization of any given entity. “isomorphism”, “resistance to change”, “allocative power” , “regulations”, “linguistic shorthand” are some of the indicators that fully comply with the proposed institutions discussed in this paper. Along with the brief discussion above, there are other institutional theories that provide a particular account of institutional construction and institutionalization of cultures, artefacts, cultural elements and practices. Dacin and Dacin(2008) demonstrate through a case study of Aggie Bonfire how that deinstitutionalization happen to cultural heritage due to social and political power while Peton and Blanc (2009) presented a case of asbestos and tried to establish de-institutionalization as a cumulative process.

In the following discussion, there are two institutions in discussion. One is more formal, legitimate and government institution- Bangladesh department of Archaeology (will be called DOA from now) initiated 150 years ago. The other one, the lineage of “Khadem” family or “Khadems”, is more of an agency with relative permanency of more than 500 years and holds a significant cultural and social impact; and thus an institution of informal nature. Both institutions possess many of the parameters described above except isomorphism between them although this is a common character of modern institutions.

4.2.3 No institutionalization led to de-institutionalization

The school of safeguarding tangible cultural heritage is quite grown-up and old compared to the counter part of intangibles¹¹. Cultural heritage scattered all over the world possess the status of all sort- from protected and managed to completely unprotected, sometimes even not recognized as heritage. The process of institutionalization follows the trend in parallel. In case of Khalifatabad, very little portion is specifically declared as protected heritage(MOCA 2015) and thus managed by responsible authority (DOA)¹². Others parts,

¹¹ The UNESCO convention for Safeguarding of the Intangible Cultural Heritage was initiated in 2003 whereas the Convention for the Protection of the World Cultural and Natural Heritage was initiated in 1972

¹²The law “Archaeological Law 2015” defines immovable(more than100 years old) and movable(more than 75 years old) tangible and intangible cultural heritage in Bangladesh and gives exclusive rights to the department of Archaeology(DOA), practically the executive director, to recognize, enlist, protect, preserve, conserve and restore any artifacts. In case of dispute there is an advisory committee consisting of 6 persons from all the departments of Ministry of cultural affairs and public university’s chairperson, department of archaeology would work to enforce the law.

valorised by local people as heritage but is either not officially recognized or not managed. Therefore some vestiges are partially institutionalized (enlisted and safeguarded) whereas some are not institutionalized at all. Other archaeological and cultural heritage sites in Bangladesh possess similar situation and status.



Figure 4.5: The site of Boro Adina Mosque is looted and the historic square shaped bricks are used for making pavement by immediate neighbouring houses ignoring the law and regulations (photo: author).

Valorisation by local people has various degrees but when it comes to personal interest, especially in terms of property, a portion of general people or certain group responds against conserving and safeguarding heritage even put the valorisation in question¹³. It is found in the case study and interview that a large portion of general people from the locality have a very limited perception of heritage and valorisation, although they show interest and pride in having the heritage locally. Therefore, heritage conservation and protection, which officially comes after the heritage institutionalization process, becomes a huge task for an institution itself, often to the level of burden when the institution does not get support from the general people.

¹³ The inhabitants of the neighbouring houses have ancestral claim on the land of Boro Adina Mosque(Figure 2) and they deliberately provide leadership in looting and utilizing heritage architectural elements, as evident in photograph. They refuse to comply with the institutional claim of safeguarding of heritage. The actual reason behind this is, very high value of land, which demoralizes people to save heritage against personal and direct economic gain.

In this connection, mapping is very important to signify the spatial dimension of institutionalization. The following map (Figure 4.6) is a comprehensive account to include all the vestiges of both categories. The green demarcations are related with place-names such as Piljong, Fatehpur, Magra, Kalabaria etc. They represent geo-locations of non-institutionalized vestiges and artefacts but are supported by literary geography (Piatti et al. 2009). As long as those are included in the map, immediately the extent and footprint of the Khalifatabad become nearly fourfold than previously perceived.

Among the non-institutionalized and semi-institutionalized artefacts, the highway built by Khan Jahan is very important. It runs beside the moribund Bhairab river and is shown with red solid line and red dotted line. Only the portion with thick solid line is officially identified and protected by the government agency (DOA). But the rest with red dotted line, which crosses the river too, bears evidence (Figure 4) of being part of the same highway. In recent times another metaled road is constructed over the ancient one and is treated as a regular city road and therefore not institutionalized as heritage.

It was mentioned before that the concept of safeguarding intangible cultural heritage in the world is relatively new. In Bangladesh the scenario is not very different, preservation of tangibles draw much attention compared to the counterpart. The Government of Bangladesh has adopted the policies in accordance with the constitution of the country to identify, protect, preserve and present the cultural traditions and heritage of the people, in other words Intangible Heritage. There are 13 different organizations including DOA that belong to the Ministry of Cultural Affairs that are supposed to be responsible for the safeguarding of Intangibles (Akter 2008). Namely Bangladesh Shilpakala Academy, Bangla Academy, National Museum, Nazrul Institute, Folk Arts and Crafts Foundation among them have some contribution to the said purpose but none actually paid attention to the institutionalization of intangible cultural heritage of Bagerhat/Khalifatabad so far.



Figure 4.6: Mapping of Khalifatabad; includes both institutionalized and non-institutionalized vestiges.



Figure 4.7: (a) officially discovered and preserved the road or highway of Khan Jahan. (b) metaled road constructed by LGED¹⁴ over ancient Khan Jahan road (c) bricks found under the metaled road, possess features similar to that of protected structures.

4.2.4 Mapping Heritage(s)

Mapping is a type of storytelling, expressed mostly in visual media and sometimes perhaps multimedia and backed up by scientific methods. There is still a scope of argument on the

¹⁴ Local Government Engineering Department, Bangladesh

usability of mapping as research tool because it is a composite construct of subjective and objective method. It might follow the sequence of subjective, then objective and then again subjective approach. The mapper makes a hypothesis and defines a question. To answer the question, he considers the ground and parameters (object, time, elements etc.) in a subjective manner. Then standard mapping techniques, developed by the discipline of cartography, planning etc., are followed as a purely objective method. Then interpretation of the outcome map is perceived differently by different user and therefore this step has a tends to be subjective. Despite of having the possibility of subjective affection(Deleuze and Guattari 1987) in every discipline like history, philosophy, and science etc., theories and knowledge are established and accepted to society when they are led by parameters and evidence that are objective.

Regarding Interpretative mapping, however more scientific methods are followed in every step, the more authentic and non-biased the interpretation would be. The examples and exercises presented in this paper are quite objective in nature. For instance, in example 3, Mascarenhas and Barata (1997) investigated the historic landscape of Évora, Portugal to map the land organization during the Roman period. Mapping, assessing and reconstructing the landscape of antiquity and ancient urbanism hidden within present day landscape was revealed in a non-invasive way by modern survey techniques followed by interpretative mapping (Vermeulen and Barata 2009). Therefore claims of historian, transformation of indicators, past and present (perhaps future sometimes too) facts regarding cultural heritage may objectively define the necessity of interpretative mapping. There is an explicit recognition that maps are a product of power at work and that they are powerful tools in struggle of domination and resistance(Dodge, Kitchin, and Perkins 2011). It is up to the mapper to adopt a scientific method of mapping that may successfully bring intended outcome.

Therefore, interpretative mapping is a very important tool in the context of heritage, might work more like a logical deduction. Until now it has mostly been used in the field of urbanism, urban planning, design issues and landscape urbanism studies. Heritage professionals and historians depended more on other methods like anthropological and archeological evidence, tangible and intangible heritage, relevant published literature etc. But through the exercises in this thesis it is proposed that interpretative mapping is a powerful and inexpensive tool for research in Heritage and history. It has the capability to combine chronological information of history, landscape, monuments and cultures of a historic site, exhibit change indicators, provide evidence for hypothesis, authenticate claims of historians and manifest facts that can aid actions of Cultural Heritage agencies.

Under the theoretical framework explained above methods of interpretative mapping are applied in the site of Khalifatabad. The details of it as well as the results are documented in following sections.

4.2.5 Issues and research questions for this site

Every moment becomes history when the next moment arrives, in architecture, city, culture or even landscape. But no particular moment is lost forever; rather the imprints of moments remain in layers deposited one onto another, perhaps waiting to be decoded. Where do the imprints live? How we can find them? The imprints are cast both in tangible and intangible forms such as landscape, architecture, toponym, history, story, memory, folklore and other literatures- in one word “narratives”.

A historic site, landscape or city, merged in layers underneath a currently live urban settlement is a very interesting subject to explore, especially when the only available input is literature and the practical site itself. The case study of Khalifatabad offer a fascinating opportunity to proceed with a literary cartographic approach to identify the artefacts, some very precisely and some within the scope of imprecise geography. According to literary heritage, reference to Prof. Satish Chandra Mitra, Dr. Nazimudin Ahmed and few others’ works, the artefacts are widely distributed along a route of 150 kilometres and branch routes. There is neither any existing map nor concrete visual or spatial evidence about it except the literature, text and memory. Artefacts of these townships are hidden in existing villages and urban areas.

Khalifatabad is often glorified to be the mint city of 15th century enriched with 360 said mosques and other structures but as of present, only few architectural structures, ruins, mounds and few lakes are identified in the official government documentation (figure 4.2a) which results in the map, prepared about 30 years ago. The map in figure 4.2b is a schematic. The actual extent of the city of Khalifatabad should be much larger because there are more items to be included from other locations.

While conducting the research, during fieldwork, at least 10 working mosques and fewer numbers of tombs, residence, meditation chamber, Ghat and legendary lakes or cultural landscapes are found among the tangible architectural heritage. There are quite a few unidentified mounds and sites. Among the intangibles, there are performing arts, worships, rituals and beliefs, weekly bazzars as well as biological and communal heritage. Some are institutionalized, protected and preserved while others are not¹⁵. Elements from above that have geo-reference, were considered for mapping.

During mapping, a robust theoretical framework and methodology through digital humanities protocol, has been followed, which was discussed in the chapter 1 and 2 as the general methodology. The author has come across the keywords through the entire process: Text Corpus, Narratives, Distant reading, Mapping Spaces, Spatial, Fiction, GIS, Geography, Cultural Heritage, Deep Mapping, object, site, Evidence, Digital, Hypothetical, Restoration, Close reading, Single text etc. The research follows the path¹⁶, leaning away from most

¹⁵ See table 4.1 and 4.2

¹⁶ See last figure in chapter 2

literary cartography projects towards virtual archaeology to explore spatially oriented historical questions, while literature remains the prime source of information. The primary aim of this investigation seeks to find information about the morphological footprint of the historic settlement of Khalifatabad along with the efficacy of the methodology followed.

Therefore, following are the **site specific research questions**-

- **How to bring the all the phenomena and information both tangible and intangible in one platform so that inference can be accomplished?**
- **How to obtain spatial data from various sources including conversion from text, interview etc. and organize them in layers?**
- **How to conclude to a possibility of a morphological footprint of the historic settlement of Khalifatabd?**

4.3 Site Specific Methods

4.3.1 Guide for Analysis

In the light of the above theoretical framework, this chapter intends to explore the interconnections between geography, cartography and literary studies using a GIS and CAD platform. Following diagram explains the sequence of each individual steps but in this section (site specific methods) the steps are elaborated in a slightly different order.

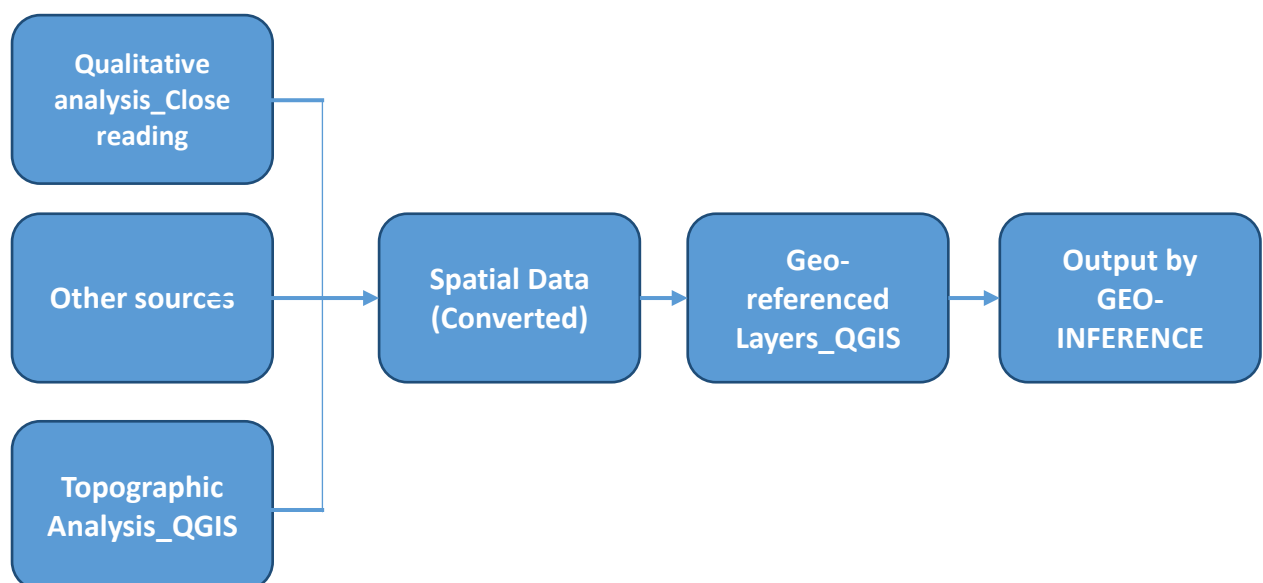


Figure 4.8: The sequence and steps of methodology

The sources for the study includes literature, satellite image, online maps, maps published by Bangladesh government, photograph, field visit and empirical case study work and walking interview of local resource persons. GPS coordinate of all the important heritage structures and landscape elements and other vestiges were recorded by author during field visit.

Along with several techniques and methods described from section 4.3.2 to 4.3.6, a series of mapping exercises are accomplished in order to articulate some specific mapping decisions for the site against some historic claims by other researchers and lack of spatial documentation in some cases. These small exercises (4.3.7) are done on CAD platform before handling all kind of data in GIS platform (4.3.8 to 4.3.10)

4.3.2 Organization in geo-referenced layers:

The interdisciplinary method, under the hood of digital humanities, to perform the research combines very different sources such as satellite imagery analysis, visiting the places and documenting, interviewing resource persons, consulting literary heritage and turning them into spatial data and finally data mapping with GIS application- in short superimposing and Geo-Inferencing all the layers in spatial format. The expected output is visual illustrations in the form of interpretative(Hossain and Barata 2019) maps with an aim to understand the historic township’s spatial morphology. Following is a key diagram and graphical abstract of this project that represent key concept.

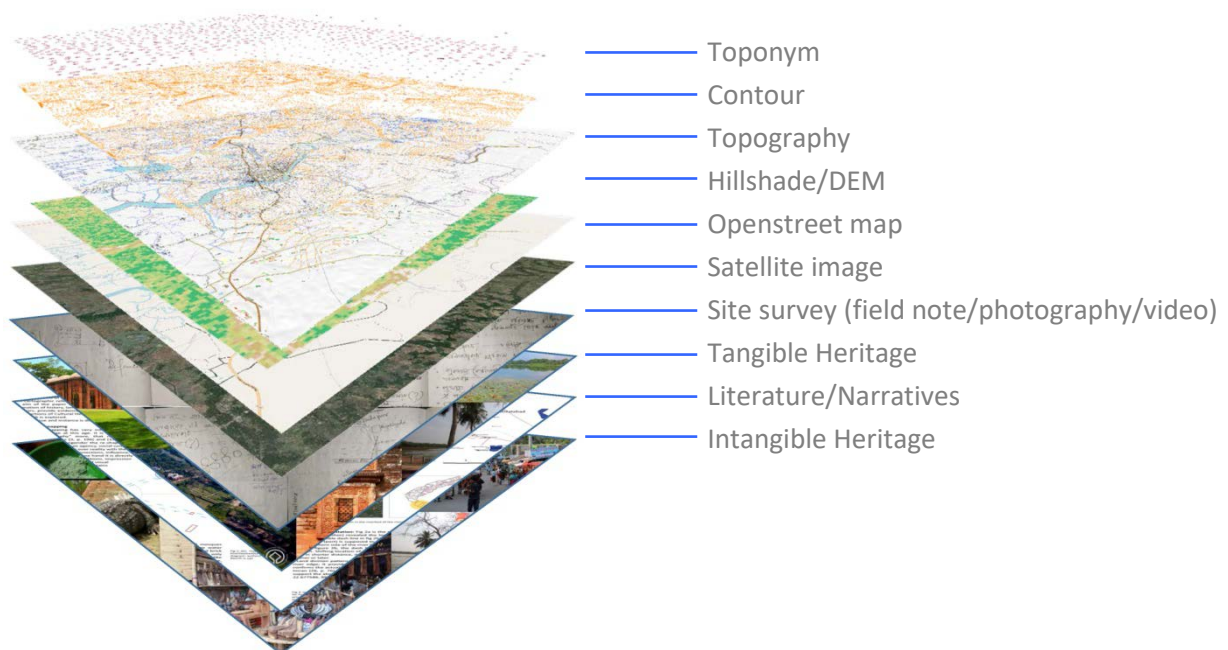


Figure 4.9: Key Concept Diagram

4.3.3 Qualitative analysis with Close reading:

Narrative itself is a form of mapping and a fundamental way in which humans make sense of, or give form to, the world(Tally 2008); but it is accomplished in a cognitive mode. Franco Moretti favored “distant reading”(Schulz 2011)while dealing with large data, as the most efficient and usual approach for literary cartography and in advantage to research in social sciences and literary studies. But the purpose of qualitative analysis in the current research is very different from linguistic approach and therefore Moretti’s method is not very suitable here. Moreover, Alves and Queiroz(2015) argues that distant reading and dealing with large volume of textual data has its own limitation of biasness as well as technical and epistemological concerns. They combined close reading along with distant reading for their project LITESCAPE.PT for combining both qualitative and quantitative methods while came across 350 Portuguese literary works.

In this chapter nearly 60 pieces of literary works (combination of journal articles and books, database and map collections) have been consulted. With the purpose of finding information about a particular township and geo-reference for specific artefacts, in contrast to finding concept or pattern or comparing themes over a period that appear in text, there is little or no necessity of relational database. Moreover, many of the consulted literary works are printed material, in different languages(to the disadvantage of automated computational reading), some of them rare books in pdfs made from scanned images, therefore are not time-worthy to convert them into searchable text and run through algorithm for automated text mining. For the sake of thorough analysis of small set of literary works (figure 4.10 has a glimpse) and as long as lean away from linguistic approach, the close and traditional reading method is adopted in this project.

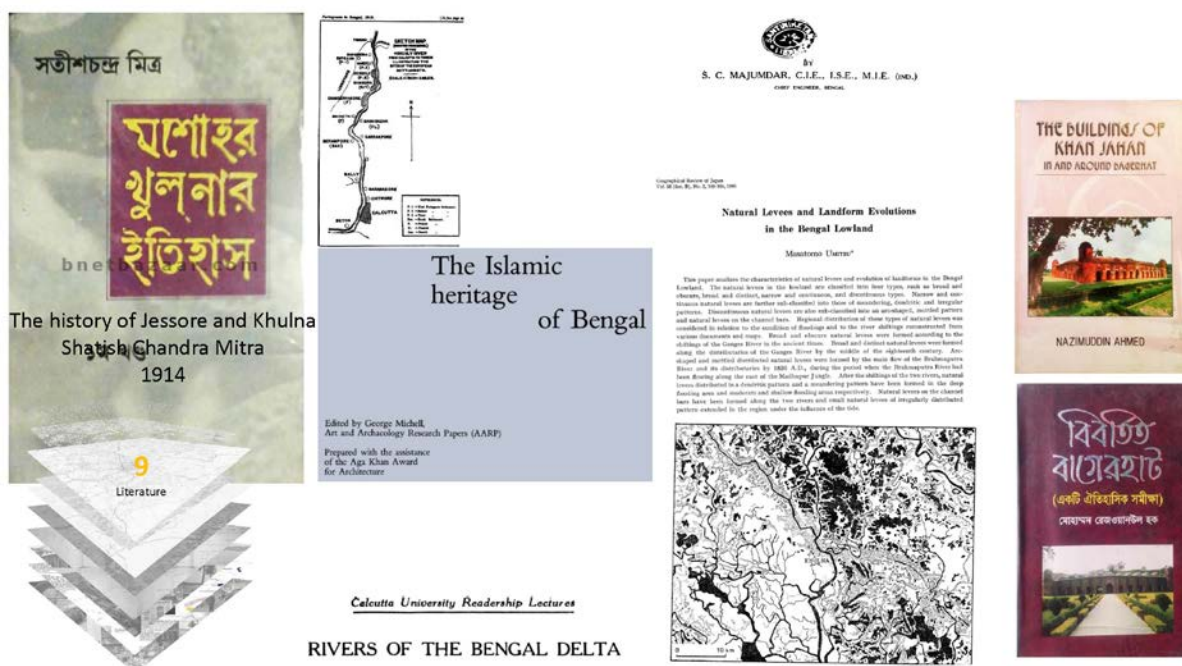


Figure 4.10: part of the literature consulted in this chapter

4.3.4 Text to spatial data conversion:

There are several categories of information in the process of text to spatial data conversion.

(a) For tangible existing elements like architecture, lake, river bends, ruins etc. a list was prepared from literary works and location with GPS coordinate was recorded and confirmed by field survey and photographic survey.

(b) For tangible and intangible elements again from the list out of literary works that existed before historic highway, spot of annual festival etc. (but now missing for some reason as e.g. new urban development), were spotted with coordinates by field survey along with interview of local resource persons and witness.

(c) The third category includes changes in landscape (e.g. identification of dried historic river) by geographic marker (e.g. still existing train station, bridge mentioned in the text) and traced out of satellite imagery and online maps.

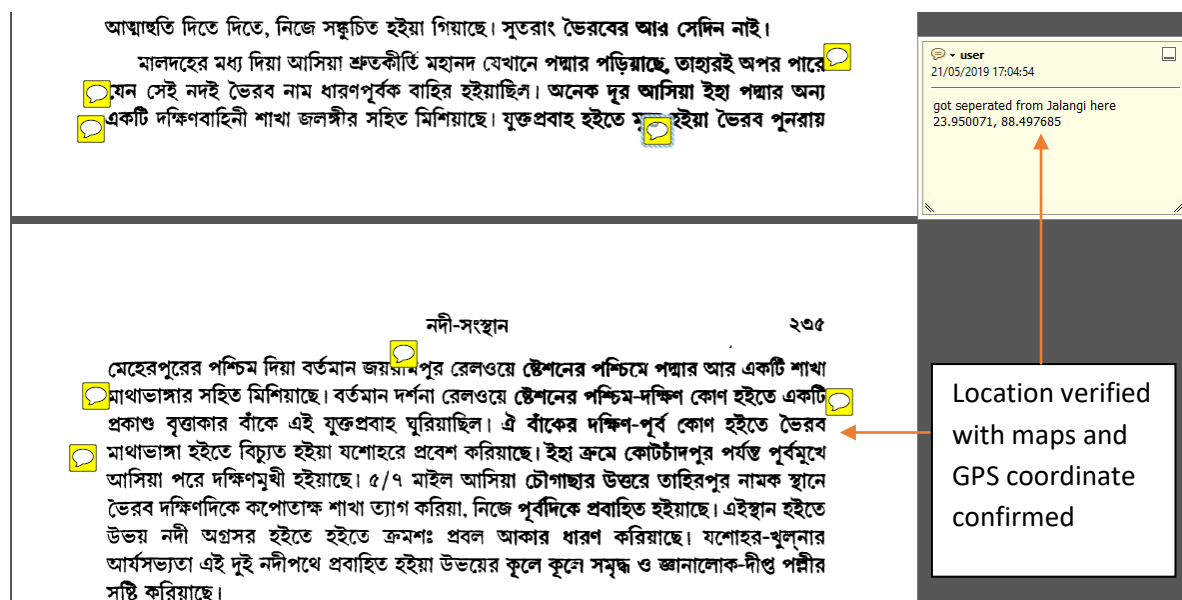


Figure 4.11: Production of Spatial data from Literature¹⁷

(d) In the fourth and final category, the placename(of interest) database file¹⁸ “BGD_Gazettier/BGD.dbf” offers 33739 entries along with latitude, longitude and associated administrative levels. The database file is edited to convert into csv(comma separated value) in excel. Since the intension is to use the dbf file into QGIS in order to obtain point vector layer of specific administrative district, all other data except the placenames and coordinates are sorted and removed. This reduced the number of entries to 198 which

¹⁷ Translation of the Bangla text :It merged with Jalangi, another branch from the main river Padma. The merged course flew a bit until the Bhairab got separated from it, flew on the west of Meherpur and reached at the west of present Joyrampur railway station where it merged again with Mathavanga, another branch of the Padma. This joint flow produced a big circular shaped bend on the south-west of another railway station named Dorshona. Etc.

¹⁸ available at DIVA-GIS portal (<http://www.diva-gis.org/Data>)

belongs to Bagerhat district(case study area with larger administrative boundary). The csv file is imported in QGIS by “Delimited Text” import option while indicating the correct attributes[X,Y coordinates, CRS:EPSG4326-WGS84, CSV] and the points are showed in coordination with other geospatial layers (figure 6).

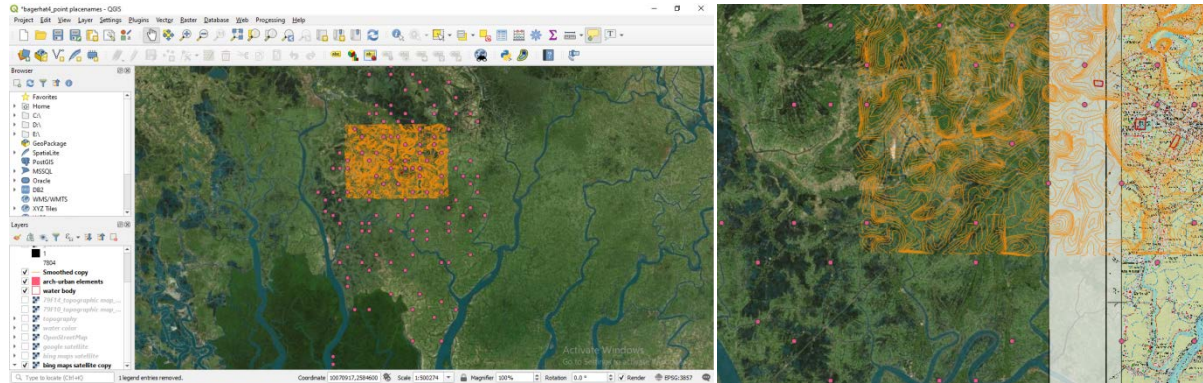


Figure 4.12: Placename database file shown as dots over satellite image in QGIS

4.3.5 Site Survey and Walking Interview

Site survey and field work was designed to collect data regarding tangible and intangible heritage which still exist on site. The aim was twofold- one: to record and note the tangible and intangible heritage elements including those that are not yet identified in existing literature and two- to verify spatial references for all of those elements so that they can be mapped with high accuracy. Following are the protocols and procedures followed during fieldwork.

Table 4.3: Rules, Procedures and tools for fieldwork

Ethical rules	fieldwork procedure	Documentation tools
<p>→ Develop consent forms and collect signature/consent from informant/interviewee.</p> <p>→ Ascertain proper government and local channels with declaration from thesis supervisor, to collect map and data from.</p> <p>→ keep note of resource/person to give proper credit during publication.</p>	<p>→Collect formal publication and documents from central institutions in the capital Dhaka as well as from relevant local government offices.</p> <p>→Prepare a list of questions but not to issue any questionnaire and survey form.</p> <p>→Participate in and observe local rituals (like visit and prayer in mausoleum and mosque, yearly festivals and fair etc.)</p> <p>→Take into account with</p>	<p>→Electronic equipment: Digital camera for both still picture and video, Audio recorder, handheld GPS.</p> <p>→ Altimeter to measure land elevation for particular artefact/vestigis (elevation for landscape to get from topographical map from SOB)</p> <p>→Standard tools: pre-printed guide map, graph paper,</p>

	stories and information of local resource persons, access other resource/people directed from them.	notebook, forms of consent and questions.
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Identifying elements to map and selecting/defining questions based on the elements and thematic area of choice was very important because beyond the “set criteria” of about cultural heritage by UNESCO, there could be some more elements/perspectives, unique and important to the local community. Therefore it was very useful to pre-categorize the possible cultural elements, as useful guide for the field survey. Questions for semi structured interview and walking interview also followed the themes. Following is a table illustrating the themes.

Table 4.4: Cultural Heritage Category and specific elements

Themes	Tangible Elements	Intangible Elements	Comments
Anthropological		Traditional ceremonies, rituals , practices and beliefs; traditional food preparations and culinary methods(public) in mausoleum, Annual festivals and fair	
Sociological / Religious		Public visit and prayer in mausoleum and mosque	
Archaeological / Architectural	old architecture, bridges, roads, earth mounds, old structure adopted for new use, burial grounds, vestiges and water tanks		
Aesthetical	Historic engraving, art and designs, patterns found in the existing historic architecture, statues and vestiges found underground and preserved in museums.		
Genealogical		Traditional hierarchical system of mausoleum (e.g. Chief and sub-ordinate families of Khadem, murid)	
Ethical		Mannerisms; taboos; sharing of knowledge and ideas (like things to do and not to do regarding activities in mausoleum)	
Linguistic		idioms; stories; legends; names (of people, places and sites) that have cultural significance	Toponymy is very important as evidence

			to trace back historic settlements.
Topographic	Land arrangements, heritage sites, sacred areas, historic landscape and change in landscape due to natural phenomena like river system of delta and annual flood		
Symbolic		Traditional or religious beliefs systems, symbols used in architecture or elsewhere that represent the historic period (for example patterns in different façades of architecture)	
Botanical	Botanical evidence that represent the historic period		
Maritime	Vestiges regarding the port (local name Jahajghata) of historic period	Ancient stories and terminology regarding trade, transportation and communication using river system and the port	
Economic	To be determined	To be determined	
Musicological / equivalent	To be determined	To be determined	Pot gan(song with pictures)
Administrative	Spatial significance of the administration system	Mosque and mausoleum centric administration system	
Defense	Spatial significance of the defense system	Defense strategy of the settlement regarding natural hazard as well as invasion of other nations	

The semi-structured interview questions, list of people interviewed, Participants of walking interview, list of maps collected from the responsible organization “Survey of Bangladesh (SOB)”, field notes and drawings, list of collected resources from Archives and libraries are provided in the Appendix section.



• Doratana River from the bridge



• Riverside embankment / road_Bhairab river



Bhairab_walk through ancient Bhairab river



Local resource person_witness

Figure 4.13: Walking interview during fieldwork, videography and photography

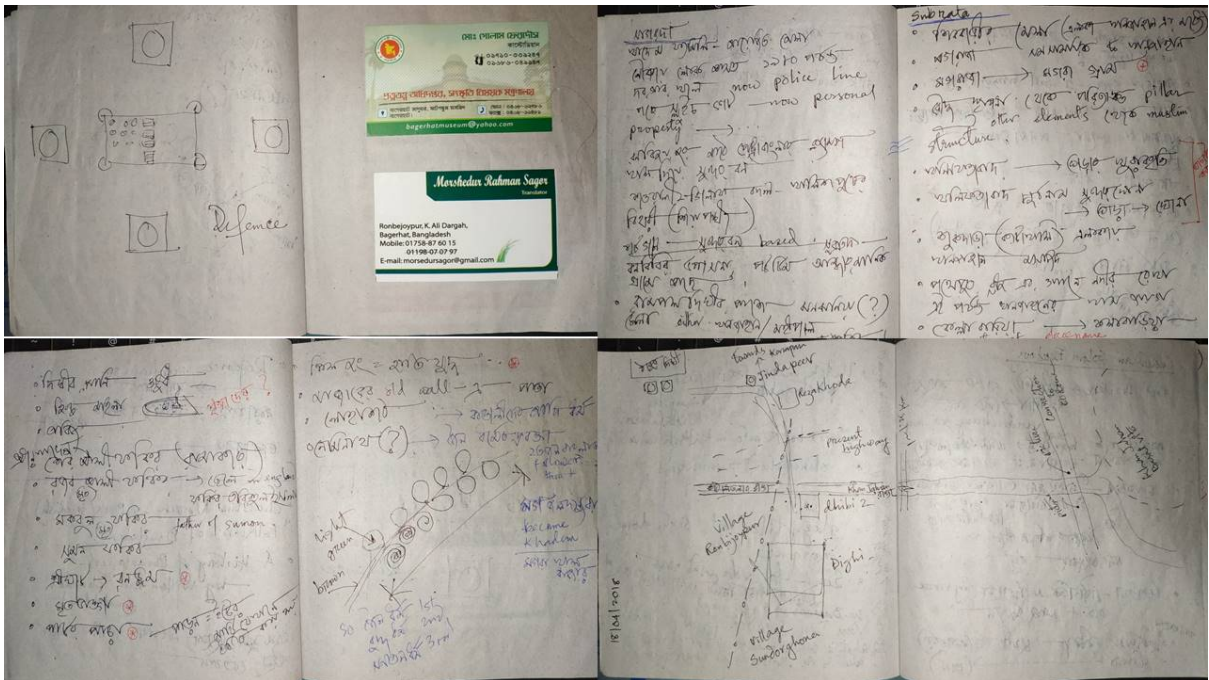


Figure 4.14: Field notes and drawings on site during field work

4.3.6 Spatial data from various sources:

From field survey some other form of narratives, namely folklore, were found which contribute to the mapping and hypothesis of Khalifatabad. For example: there is evidence of historic highway made of brick with very unusual size, identical to the bricks used in preserved architecture of that period. But it is evident in the photograph that it is now hidden under a newly constructed road (figure 7). So the coordinates were recorded and the entire length was drawn in GIS application.

Historic Highway _
original bricks unidentified
beneath a metaled road

Location: [22.670704, 89.754105](#)



Figure 4.15: Geo-reference of phenomena, memory, story and history 1

There is a very interesting story of battle on elephants between the troops of Khan Jahn and troops of Mog King Kornwali, a very well-known folklore (figure 4.16) among local people for hundreds of years as well as described in this book (Haque 2014) and is very well known among local people for hundreds of years. The winning in this battle marked the start of the reign of Khan Jahan and the northern extent of his territory. From then the name of the place was Piljanga (where Pil means elephant and janga means battle). At present there are dispersed settlements, some historic temples, fields and schools.



Piljanga_toponym _ battle with elephant Pil = elephant ; Janga = battle

Location: [22.735031](#), [89.659843](#)



At Piljanga : a pair of shiv temple, the field and Piljanga High school (Photo credit: sazzadur rasheed, haron rashid)

Figure 4.16: Geo-reference of phenomena, memory, story and history 2

According to eminent historian Mitra, the Buddhist statue (figure 9) was found by Khan Jahan while excavating the crocodile's water tank (Mitra 1914) (is actually Thakur dighi now). He thought it belonged to the Hindu community and returned to them, while allocating separate land for them, at the location of the temple that can be seen in photograph, just immediate outside of Khalifatabad in the 15th century. Therefore it perhaps marks the southernmost extent of the historic settlement of Khalifatabad. The statue, interestingly possess elements of both Buddhists and Hindus symbolism. If the trident and the snake are motifs from Hindu religion, the person in the statue is Buddha. Therefore it complies with the well-established history of successive practice of Buddhism and Hinduism in this locality.

Shivpur temple _ history _ budhist statue with Hindu motif

Location: [22.621728](#), [89.838588](#)



Figure 4.17: Geo-reference of phenomena, memory, story and history 3

4.3.7 Mapping exercises

The interpretative maps, as described in mapping exercises 1 to 4, are line drawings to represent some specific and selected geographic features that exist at present and are necessary to establish a hypothesis or to prove or negate certain historical claims. The line drawings were produced in AutoCAD 2016 by drawing over live Microsoft® Bing™ Map available through Autodesk A360 online service. Kalianpur1937.india-llb was used as the GIS coordinate system. The output was vector graphics which was converted to image to use in the article. Fig 4.18b, 4.18c, 4.21c, 4.21d, 4.23c, 4.23d, 4.23e were produced in the above-mentioned method.

For figure 4.23b, a couple of programs were used in sequence. A rectangular area covered between latitude 23.240001 to 23.356001 and longitude 88.998001 to 89.205001 was selected and continuous parallel lines through path tool in Google Earth were drawn and saved as *kml* file to record the coordinates of 1476 small cells. It was converted into CSV excel file with a free and open-source program TCX Converter (v 2.0.32, 2014). The program also added altitude data to the CSV file from server. Finally, with another open-source program QuickGrid (v 5.3, 2007), the data has been used to produce the colorful contour map with output in *dxf* and *jpeg* format.

Exercise 1: Contestation

Issue

Imran(2014), researching on the spatial patterns with a statistical model of Khalifatabad, deduced the location of town centre at 3 different places in 3 different phases. He found (Fig 4a, dashed line) the moribund river of Bhairab to pass through two structures such as Chunakhola mosque and BibiBegni mosque leaving 4 structures (Gondhorajdighi, patharghata/jahajghata, Chunakhola mosque and Tapoghar) on the northern side of the river. This identification contradicts with geo-reference, satellite image and planning argument. The counter argument is also supported by evidence from mapping culturally significant agricultural practice in exercise 1.

Mapping

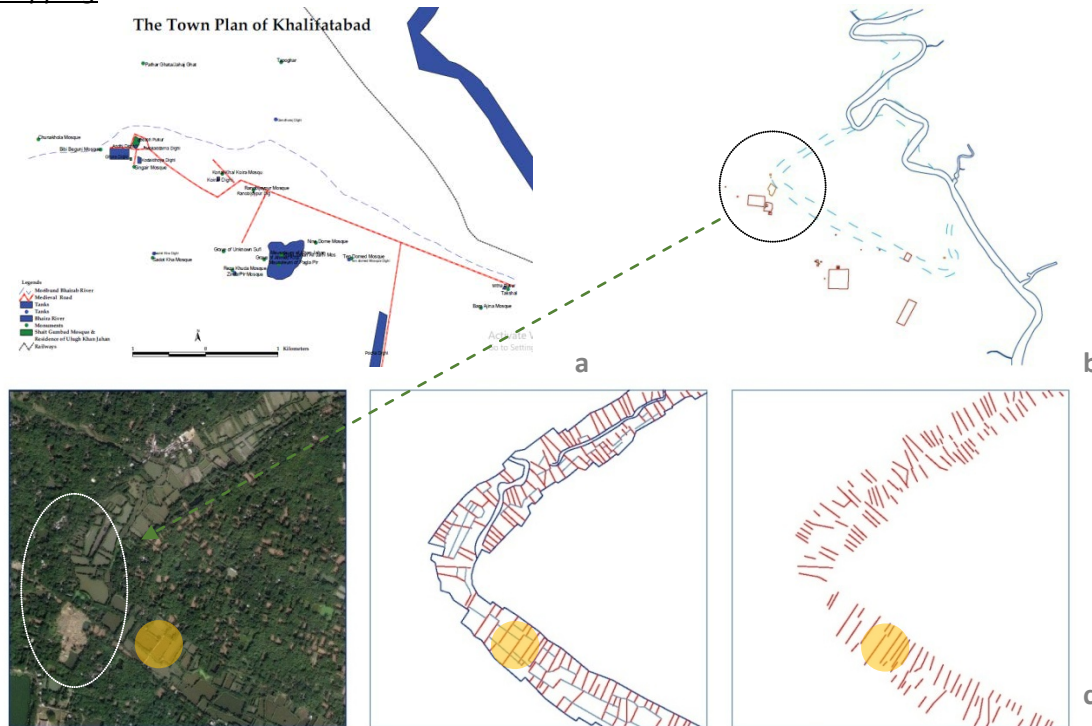


Figure 4.18: (a) predictive model of Khalifatabad(M. Imran 2012); (b): mapping of Khalifatabad[by author];(c): Diagram of land division in the riverbed of the moribund river of Bhairab. [source : image: Microsoft® Bing™ Maps; diagram: author] (North is up)

Fig 4.18a is the predictive model produced by Imran(2014) which is in contestation with reality. Mapping (by author) revealed the location of all the vestiges on south side of the river along with other structures (river with double dash line in Fig 4.18b) supported by following arguments along with visual evidence.

- Jahajghata(port) is supposed to support transportation and trade of Khalifatabad town, therefore is not practical to be on northern side of the river leaving the town and trade centres on the southern side of the river.

- In the Figure 4.18b, the dash blue line denotes the moribund river of Bhairab and solid blue line denotes present location. Shifting location of rivers in delta is a very common phenomena, which usually has a predictable direction of shift in shorter distance, it is not

logical to build structures on the land that is going to be in the river at some time sooner or later.

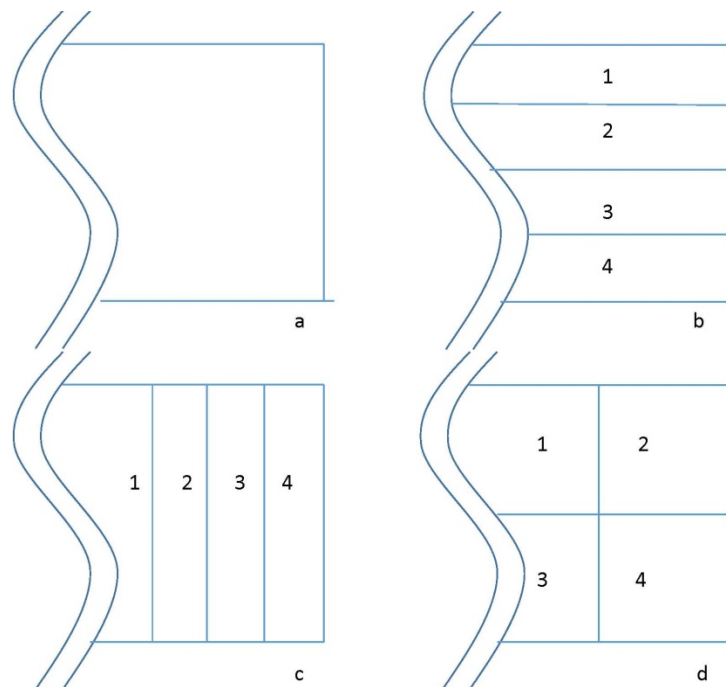


Figure 4.19: Land division pattern along river side

- Land division pattern on riverbed for agriculture and fishery, as mapped in the diagram (Fig 4.18c) is perpendicular to river edge; It provides evidence of the century old practice to ensure access to water for everyone. Therefore it confirms the actual geo-reference for the moribund river and bend direction, as opposed to the diagram produced by Imran(2014). Empirical evidence such as photograph, video footage and interview of local resource persons supports the argument provided by this thesis(online supplementary material). Photographs at figure 4.20 were taken at the spot with coordinates 22.677586, 89.746522, also indicated by orange circle in Fig 4.18c.



Figure 4.20: (d) land division (shown as lines in Fig 4.18c) for fishery and agriculture, the low land is actually part of the ancient riverbed; (e)At present fishery is losing popularity due to low export rate, tendency to use the land for agriculture is growing

Exercise 2: Contestation

Issue

The heritage town of Khalifatabad has been mapped so far by Mitra (Mitra 1922; N. Ahmed 1989). Mitra's map is out of scope of discussion due to lack cartographic quality in terms of geo-reference and scale. Ahmed's map (is officially used in government publications) is very informative, scaled and with proper geo-reference. But the contestation arises regarding the flow path of Bhairab's old course, especially the spot where it meets its current course. The argument to find an answer (in exercise 2) is the similar mapping principle of previous issue.

Mapping

The old course bends north, as mapped in Fig 5c and 5d, inside the present town at a point where old Rupsha-Bagerhat road meets the railway line and therefore the moribund river meets its current flow about 2 kilometer upstream than it is shown in Ahmed's map. The diagram is also produced in similar principle of previous exercise.

The contestation is also supported by empirical evidence in photograph (Fig 4.22 e,f,g,h). They were taken on a spot (GPS coordinate 22.664341, 89.785184) where there is a road and bridge built on the ancient course of river Bhairab. The spot is marked with an orange dot and circle on diagram 4.21a, 4.21b, 4.21c and 4.21d. The present use of the riverbed is housing, local pathway, paddy field etc.

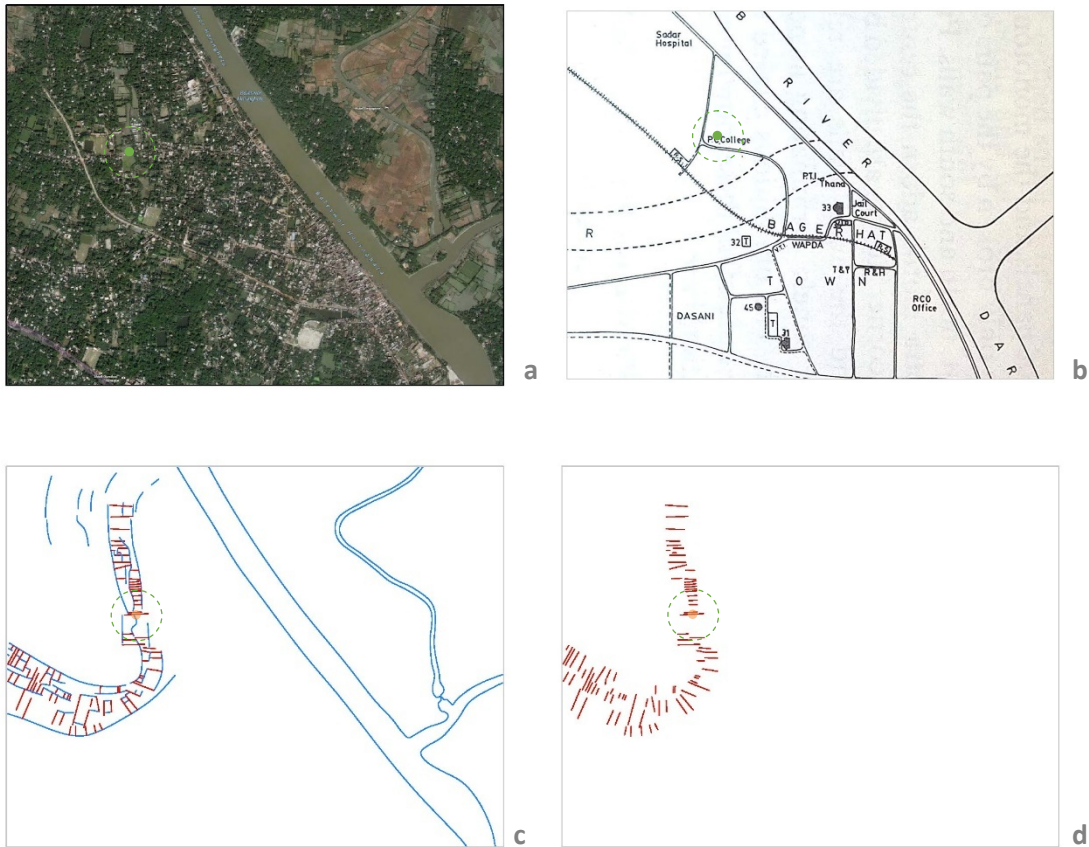


Figure 4.21: (a) the location of meeting point of old and existing course of Bhairab in Satellite image (Microsoft® Bing™ Maps 2017) [29]; (b) Diagram in Ahmed (1989) [20]; (c & d) mapping land division pattern inside present Bagerhat city (by author)



Figure 4.22: (e) bridge on still existing thin flow of ancient river (f) low land of ancient river bed is inundated during high tide; semi-permanent housing in the background (g) land division on riverbed works as local pathway/access to semi-permanent housing (h) Paddy field on riverbed; matured trees and landscape in the background are on highland at the edge of the riverbed.

Exercise 3: Conformity

Issue

Barobazar, about 100km North-West from Khalifatabad, is evidently rich with cultural heritage from Khan Jahan era. Many historians (Mitra 1914; Haque 2014; Alam 2015), explained very elaborately, with literary argument, why and how it was inhabited by people from Buddhist, Hindu and Muslim period; and also was an important centre of “Samatata” – ancient kingdom during the Classical period on the Indian subcontinent. But except the literary assumption, there is almost no indication of geo-reference for vestiges except relatively recent ones from Khan Jahan period. To respond to the issue, satellite image, land elevation, old and existing river course, vegetative growth pattern are analysed in layers in exercise 3.

Mapping

Mapping the ancient river course along the lowland which is seasonally flooded, “Baor” (part of river that still contain water and fish), contours of the locality and location of the Jahajghata (port), leaves out the elevated land (18 meter difference from lowest point) as the possible geo-location for ancient vestiges of Hindu and Buddhist period in deduction method, as the ones from Muslim period are already mapped (figure 4.23).

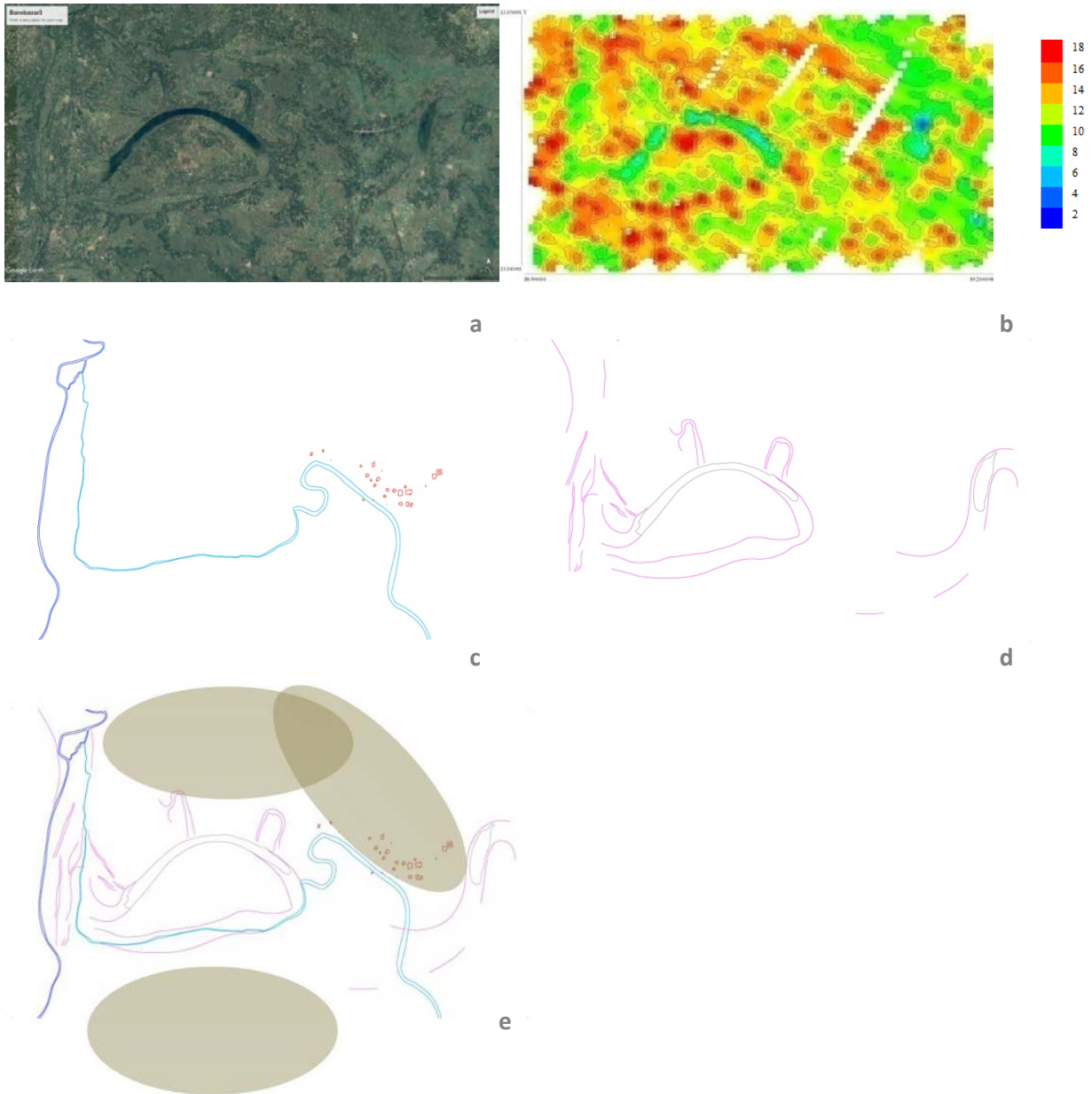


Figure 4.23: (a)Satellite image of Barobazar area; (b) Contour map of Barobazar area (height given in meter); (c) Active kabadakriver(dark blue), Moribund Bhairab river(light blue) and vestiges of Brobazar(red); (d) Trace of ancient riverbeds and present "Baor"; (e) Considering contour, evident transformation of ancient river flow to present ones, shaded areas are suggested as possible location of historic settlement (hindu,budha and muslim period over a stretch of two thousand years)

Exercise 4: Construction

This exercise is different from the previous ones. It is about constructing a diagram that denotes the course of river Bhairab. At present some part of this river is flowing while some others are moribund, even some are quite lost to trace. Scholars (Mitra 1914; Rob 2014;

Shuvo 2013; Umitsu 1985) pointed out the previous mightiness of the Bhairab and the spots and places where it ran through, sometimes with names of present railway station, district board road, small administrative units or a certain geographical feature. Sometimes it is defined and marked by a famous heritage, architecture or place name that still exist. There is also the history of cutting short a khal (canal) in critical bends of the river (political history associated), resulting on the death of the remaining part of the bend (such as at Jatrapur bazar near Bagerhat-Fakirhat highway road, 22.72N, 89.76E). Along with literature, satellite image (google earth, bing maps, crowd sourced photograph¹⁹ etc.) provides evidence of currently flowing river, dry beds of rivers, Baor(oxbow lake in the course of a moribund river, fig. 10a) in old course of rivers. Despite of these fragmented information, there is lack of visualization or concrete information of the actual course of Ancient Bhairab river in official cartographic maps (both printed and GIS maps) of responsible institutions in Bangladesh. Following interpretative map of the river Bhairab (fig.11) was prepared, using those fragmented information and by justifying history, place names, geometry, imaging, geography and climate, nature of landscape and cultivation pattern, altitude, archaeological evidence and other factors. Three cut-short-canals are also identified and shown here in the map with horizontal arrow. The satellite image is not shown here for better legibility (in this very large scale) and to avoid chaotic presentation of the diagram.

¹⁹ Panaromio on Google Earth

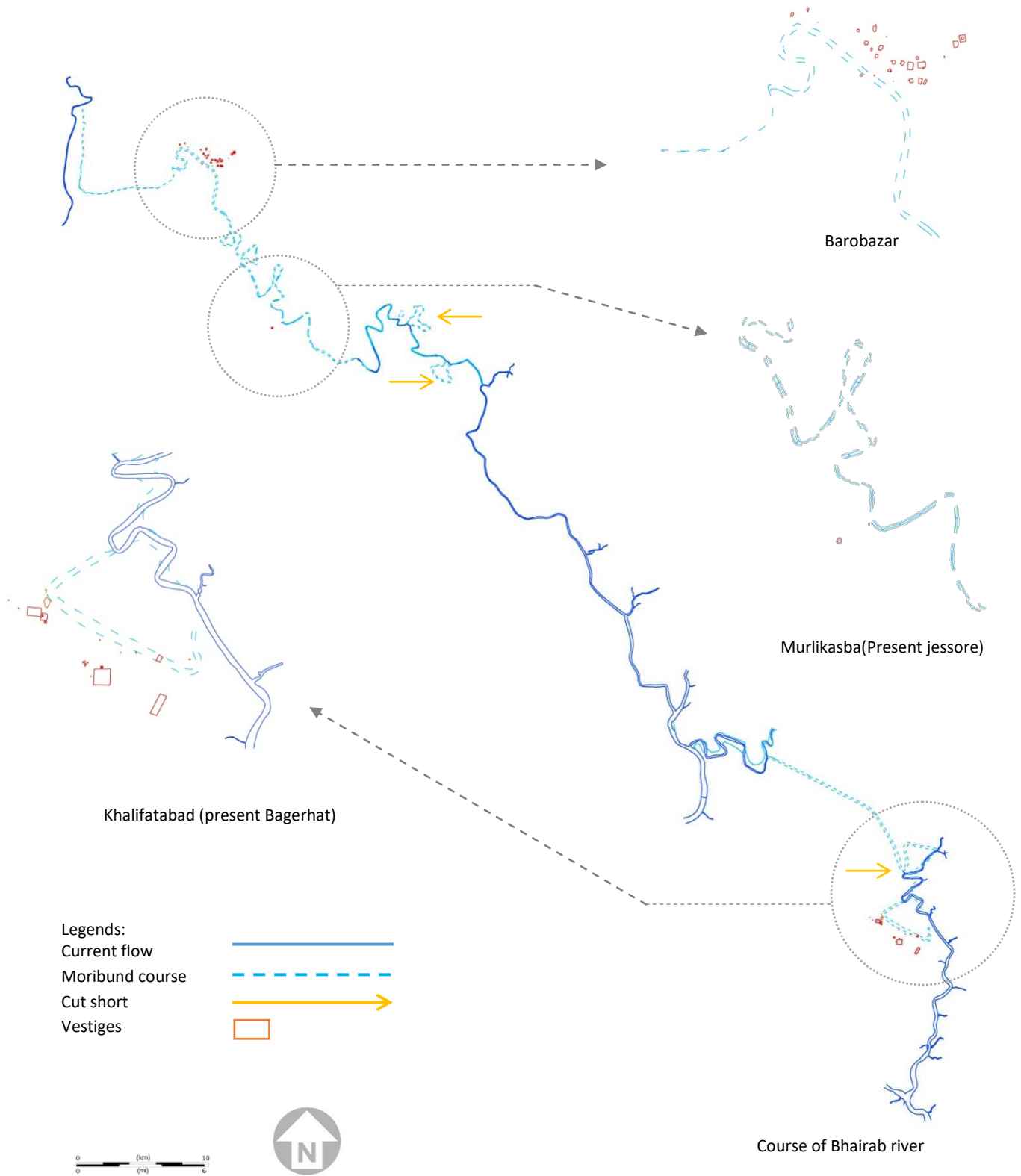


Figure 4.24: mapping Bhairab River (only half of the length that is associated with Khan Jahan settlement; moribund and present course combined); location of vestiges in Barobazar, Jessore (MurliKasba) and Khalifatabad (Bagerhat) shown. (Source: Author)

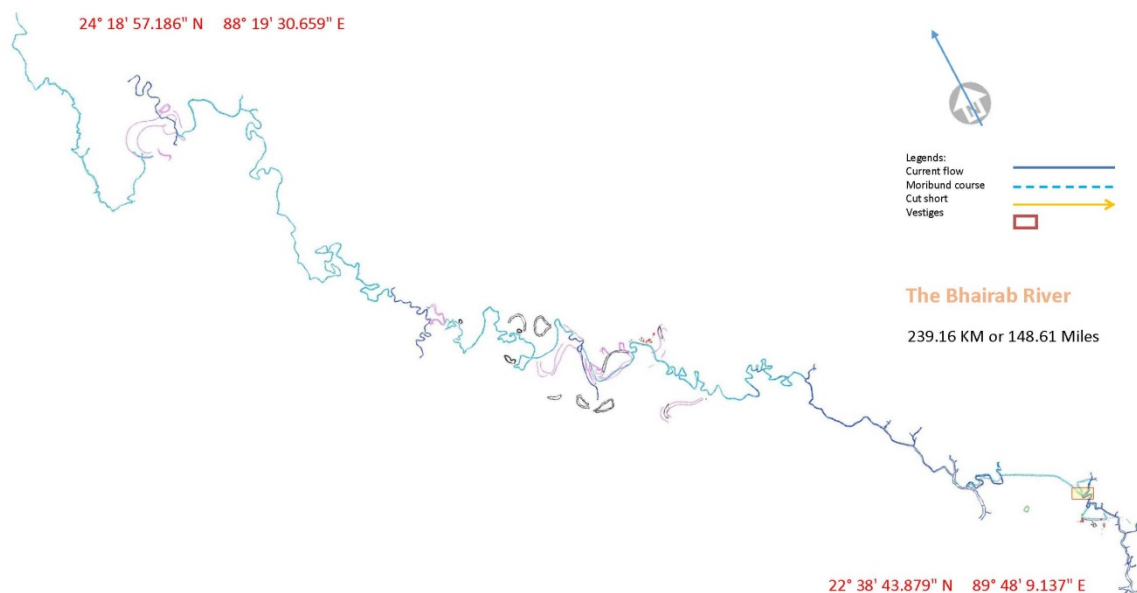


Figure 4.25: The entire length of the Bhairab river, from origin to end, a total of 239.16 km (source: author)

4.3.8 Topographic analysis by QGIS:

QGIS is an open-source cross platform desktop GIS application that allows creating, editing, analysing and viewing geo-spatial data. Besides the excellent spatial analysis capacity, the software has features to store attributes and database for which it is a very useful choice for digital humanities project. For topographic analysis and geo-Inference QGIS 3.4 madeira LTR was used in this project.

Several online maps and satellite images were placed as background maps in the working file. Following table lists some primary layers. All other spatial data were placed in reference to these layers.

Table 4.5: Primary layers in QGIS as background maps for reference

Layer name	Purpose	source
OpenStreetMap	Background map	https://a.tile.openstreetmap.org/{z}/{x}/{y}.png
Water color	Background map	http://c.tile.stamen.com/watercolor/{z}/{x}/{y}.jpg
Topography	Topographic map	https://a.tile.opentopomap.org/{z}/{x}/{y}.png

Google satellite	Background satellite imagery	https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}
Bing Aerial Image	Background satellite imagery	http://ecn.t3.tiles.virtualearth.net/tiles/a{q}.jpeg?g=1

Adding Background Map:

In QGIS to add a background map, the plug-in “XYZ Tiles” was installed. Adding any map through this plug-in [right click/new connection/connection name/URL] brings a background map in working project of QGIS (version 3.4.13-Madeira). There are certain online raster tile servers based on OpenStreetMap data (available at https://wiki.openstreetmap.org/wiki/Tile_servers). Some of them require commercial license and some of them are free and open source. The list provides a brief description, tile URL, tile example and source code. The tiles/background maps used in this manuscript are free and open source and listed in Table xx. The URL provided here needs to be used in "New connection" command of the "XYZ Tiles" plug in where the "\$" sign must be removed before using. For example: use <https://a.tile.openstreetmap.org/{z}/{x}/{y}.png> instead of [https://a.tile.openstreetmap.org/{z}/\\$x/\\$y.png](https://a.tile.openstreetmap.org/{z}/$x/$y.png) for open street map layer.

Adding CAD drawing to QGIS:

To add previously done vector drawings (e.g. cad drawings) to QGIS project it is first necessary to convert dwg files into dxf file because dxf is only supported by QGIS. It can be done from AutoCAD by “save as dxf”. In QGIS dxf can be added by “layer/addlayer/add vector layer”, the command gives option to import 3 different items: points, lines and polygons. Everything from dxf files is shown/adapted in QGIS in those basic 3 items. Therefore it is necessary to perform simplification in cad/dwg file before saving it into dxf and later improve/develop in QGIS according to need.

Adding and geo-referencing scanned paper maps in QGIS:

Scanned paper maps can be added in QGIS by “layer/addlayer/add raster layer” command. Raster scans of paper maps and some satellite images are in pixel coordinates, they lack location information (no Longitude and Latitude values). In this case, QGIS will assume a single pixel is 1 metre square and it will place the Scanned map at 0o North, 0o West in the Atlantic Ocean south of Ghana(give reference:<https://ieggis.wordpress.com/2014/05/22/how-to-georeference-a-map-in-qgis/>). Detail procedure of geo-referencing scanned maps can be found here (https://www.qgistutorials.com/en/docs/3/georeferencing_basics.html by Ujaval Gandhi) for QGIS 3.4.13 . This procedure is for scanned maps or image which has coordinates information available on the map image itself (i.e. grids with labels). But for other kind of images or maps which does not have such

information available, tutorial can be found here (https://www.ggistutorials.com/en/docs/3/advanced_georeferencing.html by UjavalGandhi).

Maps that has coordinates information can be added through Raster/Geo-referencer. In the Geo-referencer window “open raster” command opens a raster file(wide variety of formats) in upper window and by selecting points(by “add point” command) which has coordinates information creates an attribute table in the bottom window. 5 or 6 points for a particular map should be enough to make it geo-referenced. Finally “start geo-referencing” button finish the process. In the end, the relevant layer appears in Layers panel and from there it is necessary to assign a CRS(coordinate reference system). In the case of Bagerhat here, “everest:1830 definition_EPSG:4042” was most relevant CRS and produced accurately geo-referenced raster.

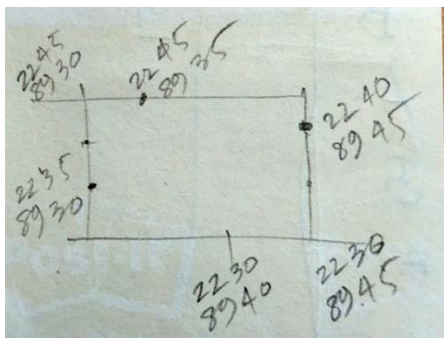
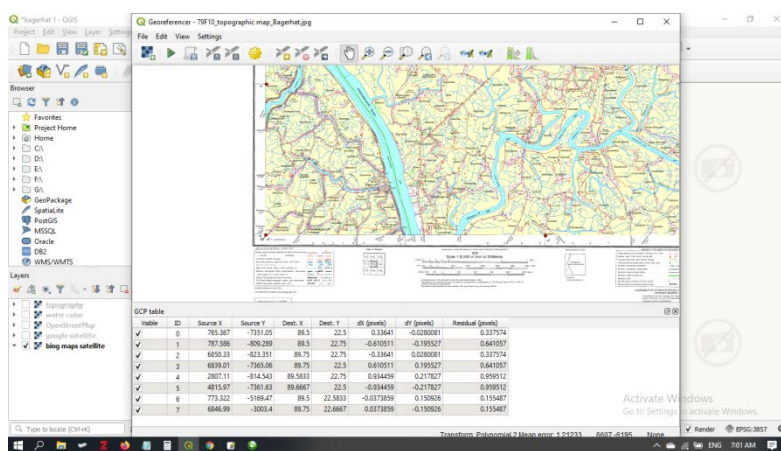


Figure 4.26: Geo-referencing topographic scanned maps in QGIS by fixing 6 points of any scanned map with coordinates for geo-referencing

4.3.9 Contour Data extraction:

Another important layer would be contour map of Khalifatabad. Survey of Bangladesh(SOB), the government organization for survey and map making in Bangladesh, refuses to provide land elevation data to any individual for security reasons. Fortunately, satellite imagery of Google Earth has embedded contour information, but it is a bit tricky to extract that

information and turn the data into a usable contour map in QGIS. It involves multiple software tools (Google Earth, GPS visualizer etc.). For that procedure it is important to draw/add path in a dense manner in Google Earth that looks like a mesh (Figure 9a), covering the desired area and it will be usable in GPS Visualizer when saved in kmz format. GPS visualizer(Figure 9b) can help adding DEM elevation data from NED1, NED2, ODP1, SRTM1, ASTER, SRTM3 database (best one depending on the location on earth) through “look up elevation” function. Having the input of kmz files it gives away gpx file as output. This gpx file is further to be processed in QGIS with multiple plug-ins. The plug-in “GPS Tools” create a “waypoints from a track” conversion of the gpx file into a vector layer of geo-referenced points visible in QGIS over other layers. These points have elevation data embedded in them. Another plug-in named “Contour Plugin” turn this point layer (data value: 1.2 elevation; contouring method: N quantiles; number: 14) into contour lines as a separate layer in QGIS. It is also possible to have filled contours instead of lines only. The lines can be edited (symbology) for clearer or more legible visual presentation. Sometimes the contour lines have sharp/abrupt bends due to manual placement of the points while making the track initially in making the kmz file in Google earth. It can be corrected or smoothed by another tool in QGIS (processing toolbox/vector geometry/smooth; iteration:4).

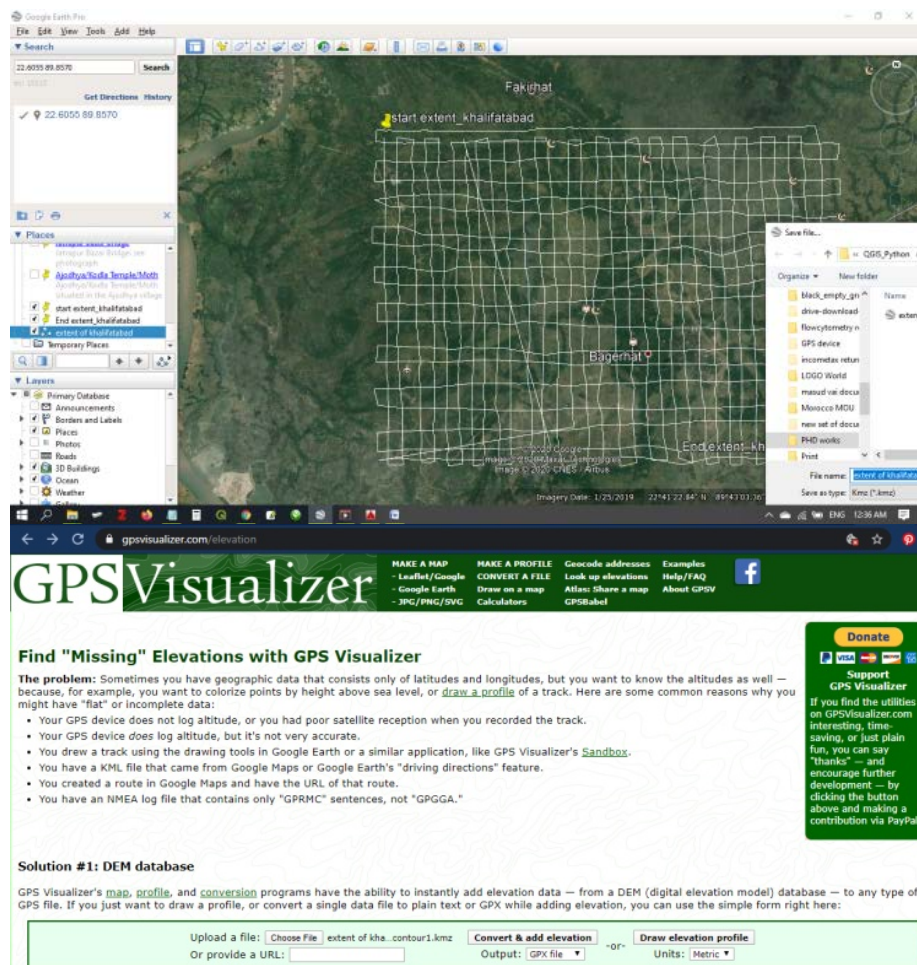


Figure 4.27: (a) Mesh like path to cover the area which needs the contour map for, export the data in kmz format. (b) Elevation Data is added to kmz file and converted to GPX file using “GPS Visualizer”.

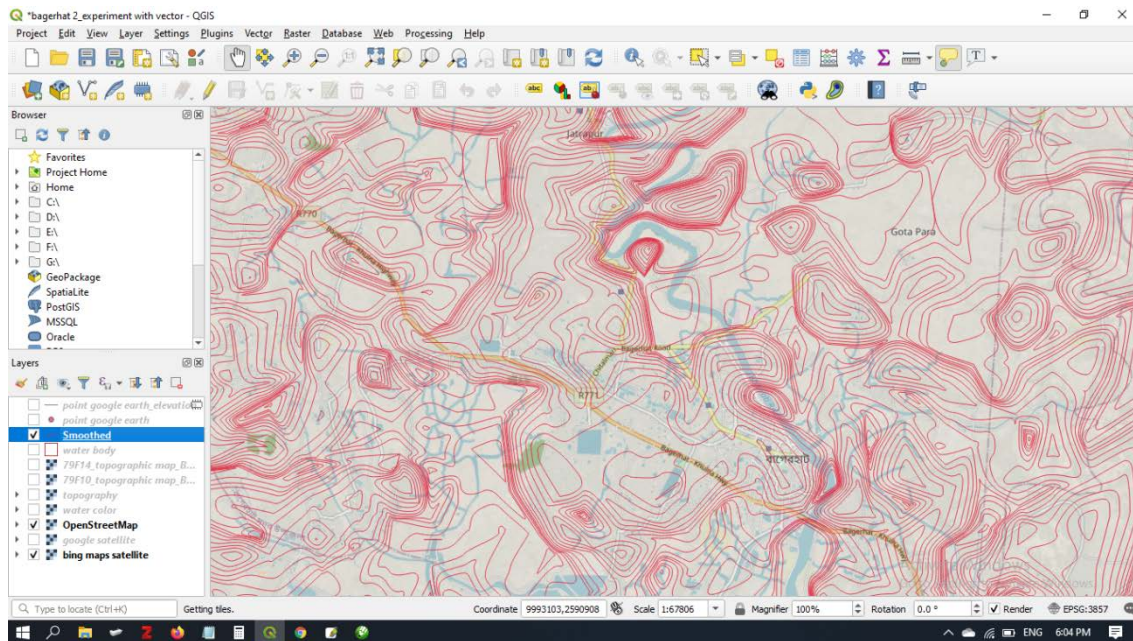


Figure 4.28: Contour map covering the extent of the then Khalifatabad.

4.3.10 Hillshade from Google Earth Engine:

Hillshade and DEM(digital elevation model) data were extracted from Google earth engine. To do so it is necessary to write a bit of code and send to Google Earth server so that it returns the spatial data. The code used to have elevation data for Khalifatabad and create a 3D map view in QGIS, can be obtained here (also added in Annex):

[https://code.earthengine.google.com/?scriptPath=users%2Fsshajjad%2FKhalifatabad_mapping%3Ahillshade%20of%20Khalifatabad%20ex]

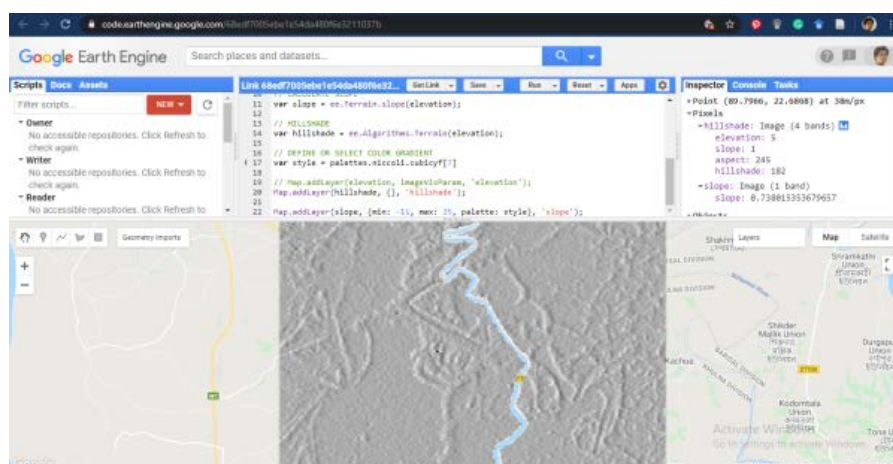


Figure 4.29: Hillshade and DEM(digital elevation model) data of Khalifatabad extracted from Google Earth Engine.

4.4 Result and discussion

From the discussion in previous sections and subsections, different types of data converted into spatial data were coordinated in GIS platform. Which data to be processed and which not, was decided upon verification by different methods (e.g., interview, site survey, cross-checking literature and maps, folklore and toponym etc.). Finally, the act (or process) of reaching a conclusion about morphological footprint of the settlement were made by inference, or “Geo-inference” to be more precise.

4.4.1 Geo-Inference 1

While the research progressed, many unrecognized, un-institutionalized elements are recorded along the existing recognized ones; and spatial data were produced as described in section 4.3.3, 4.3.4, 4.3.5 and 4.3.6 , new map of historic Khalifatabad was produced that includes all the spatial data found through mapping process and Geo-Inference.

In the **first step** the artefacts, that are institutionalized only in government documentation, mostly tangible elements (architectural heritage and cultural landscape), are mapped (refer to section 4.3.2). It mostly resembles Dr. Ahmed’s map(1989) as seen in figure 4.2 but now with correct scale, proportion and properly geo-referenced in digital format(figure 4.30, green small square).

In the **second step** plotting of the uninstitutionalized heritage is accomplished. As long as the uninstitutionalized artefacts are counted found from various sources (refer to section 4.3.2) and mapped with proper geo-reference, actual extent of the city of Khalifatabad immediately becomes much larger(figure 4.30, yellow dashed rectangle) because there are more items to be included from other locations. Now it is stretched to north-west and south-east more than double than previous covering at least 22.59803626 to 22.75072779 latitude and 89.63367729 to 89.85615044 longitude. Total area became nearly four-fold, north-west and south-east elongated, developed along the river Bhairab and situated between the river and the Sundarbans. This understanding may be called the “anticipated extent of Khalifatabad”.

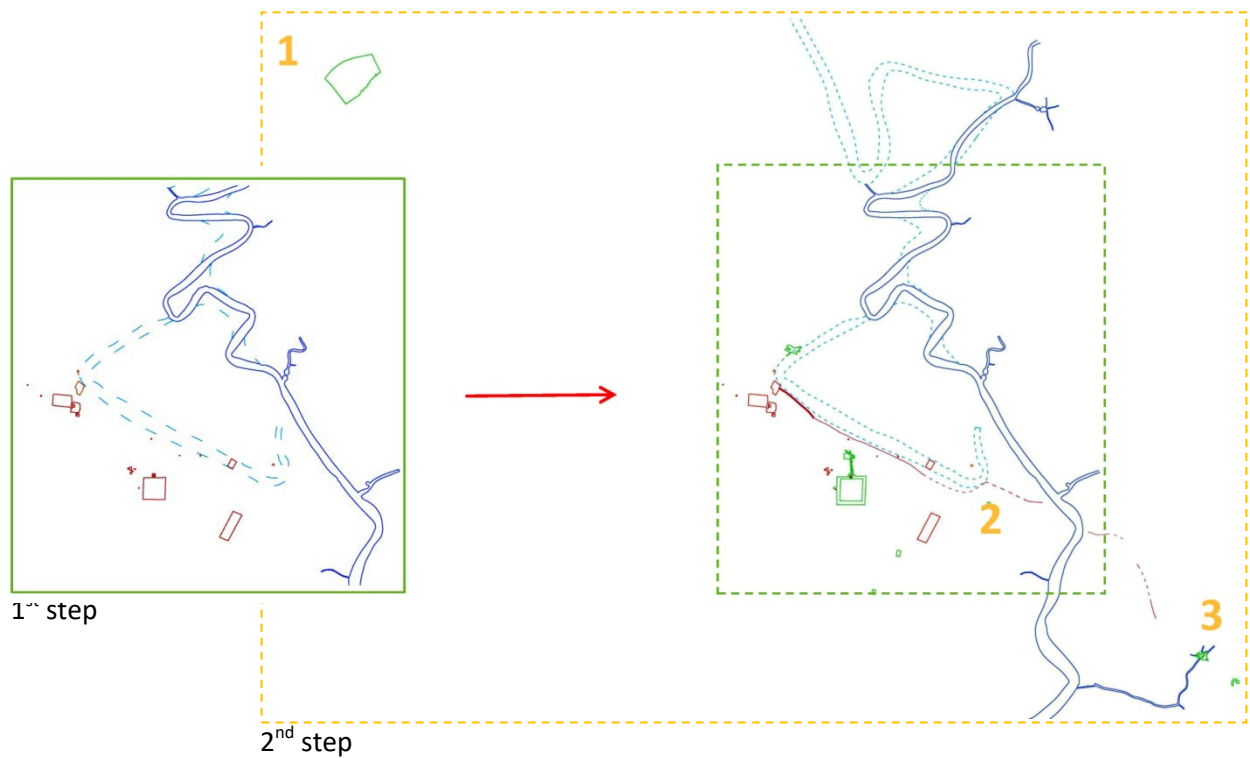


Figure 4.30: 1st step and 2nd step

4.4.2 Geo-Inference 2

The previous sub-section defines an extent, some sort of boundary, of the township. There are land characteristics within this boundary similar to those where the current vestiges and mounds are located. These parts are possible location for others lost vestiges and artefacts (360 in total as found in literature compared to 12 presently found) and identified as well as illustrated with the method of “imprecise geography” as described in subsection 2.6.2. This has been verified and accomplished in a series of arguments as described below-



low land covered by seasonal crops

high land with permanent structures and tall trees

Figure 4.31: Temporary and permanent vegetation and land-use in low-land and high-land

Google earth engine’s satellite imagery for last 35 years (satellite images for this area for that duration has been made publicly available, thanks to Google Earth) were extracted with

coding and topography analysis is accomplished in QGIS. From the collection of imagery of the same place for many years shows evidence and strong difference between high and low area. The high area with big trees and permanent structures remains green all the year round. The low area, fed by canal network (figure 4.31) connected to the main Bhairab river, becomes full of vegetation and appear green in rainy season and becomes brown in dry season. For the 2nd Geo-inference the canal network(figure 4.32) was superimposed with satellite image maintaining same coordinate reference system (CRS) and it was found that the low land (agricultural land) perfectly coincides with canal network (figure 4.33).

IAT SADAR
ERHAT

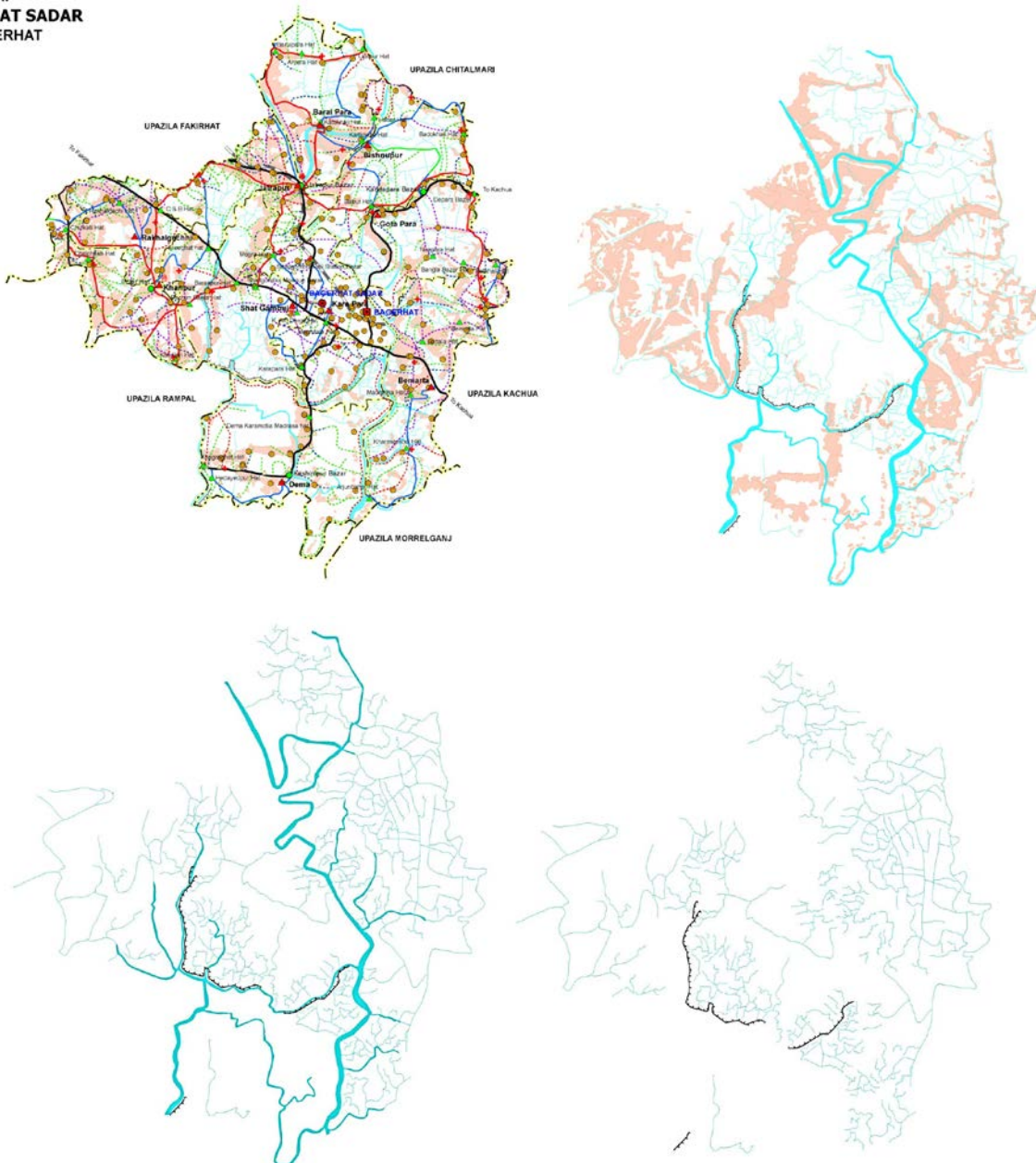


Figure 4.32: Upazila map of Bagerhat Sadar [source: GIS unit, LGED]. Only the layer of canal network is extracted to match with satellite image



Figure 4.33: Agricultural low land coincides with canal network

The satellite image is superimposed with the contour map of figure 10, it was found that the low agricultural land has a height difference of 10 meters with high land and the concentrating contour lines interprets a well-defined edge condition.

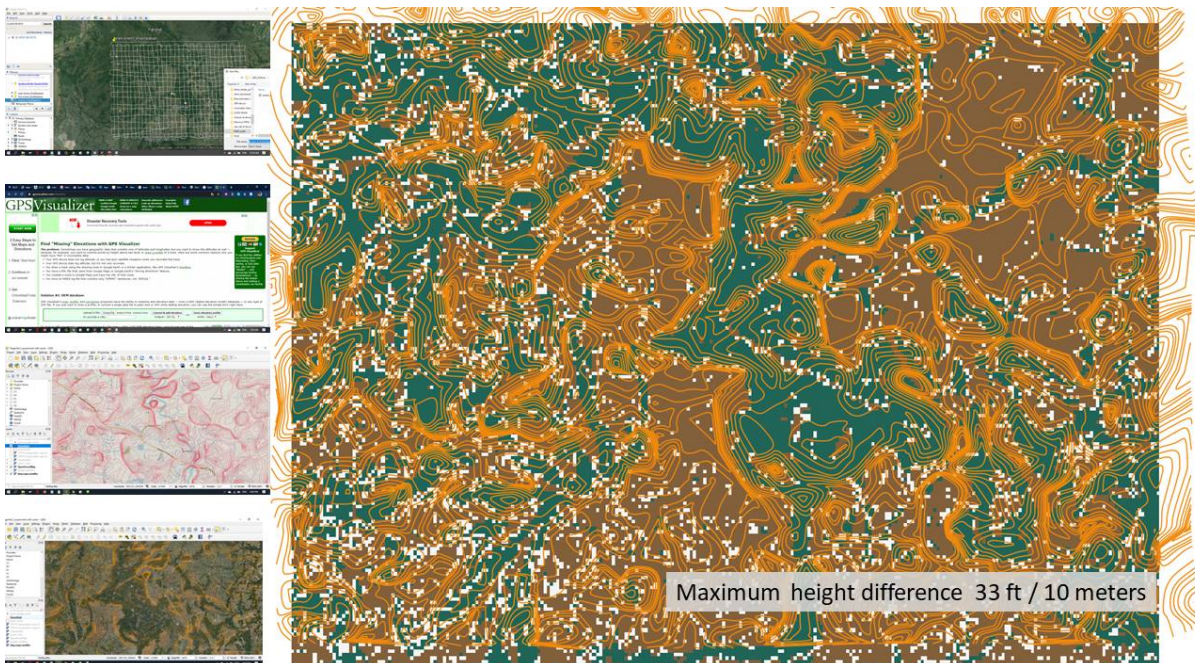


Figure 4.34: edge condition between low and high land

Examining the edge condition between these two types of lands is very important. There are series of interventions (Such as kmz format file, DEM elevation data from STRM database, Gpx file) to extract spatial data from satellite imagery and produce a usable contour map in QGIS. It is now evident from the figure 4.34 that the edge is quite defined by concentrating contour lines, low areas are brown and high areas are greenish. Maximum height difference is 10 meters.

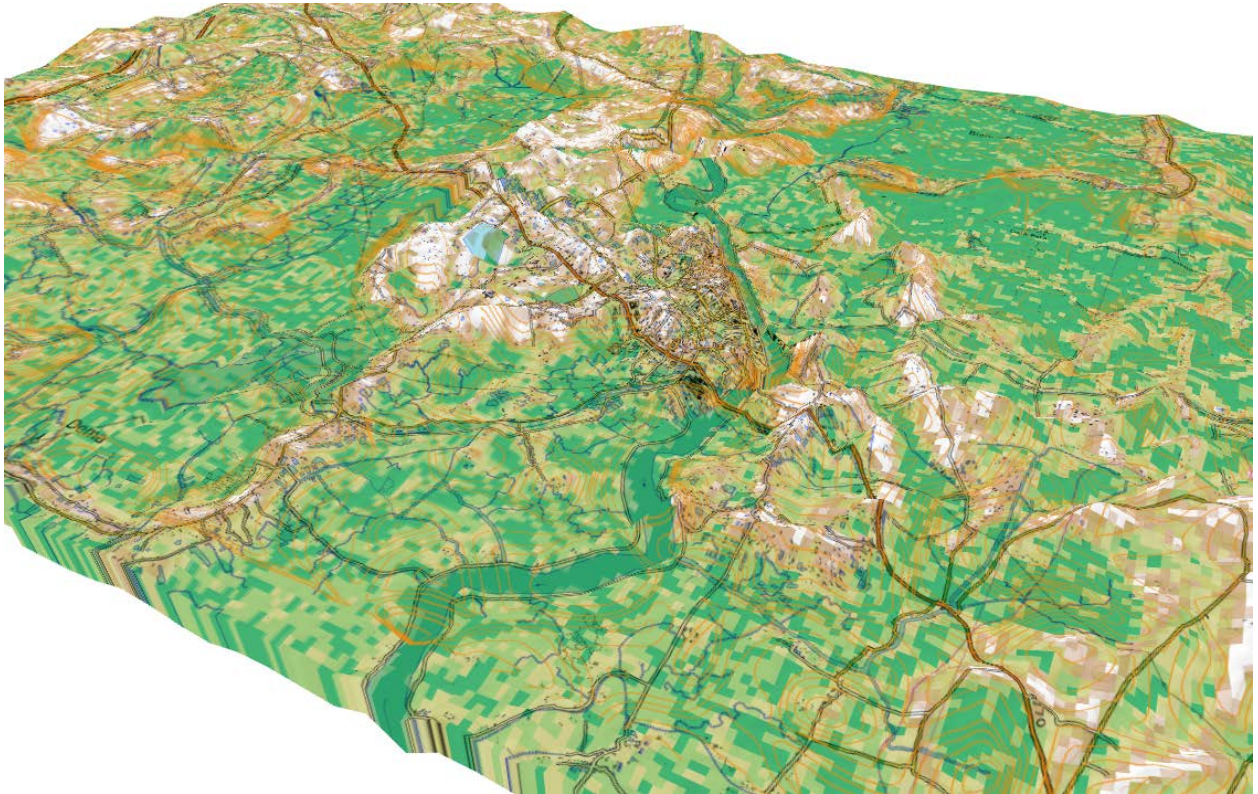


Figure 4.35: 3D map view using the hillshade elevation data produced in QGIS

Bird's eye view is also another option for better perception. It has been created in QGIS with 3D map view using the hillshade elevation data from sub-section 4.3.15. Just beside the urban area next to the river, the high land is the site of Khalifatabad (figure 4.35).

There is another layer of filtration. The placename database file available at DIVA-GIS portal offers nearly 34000 entries along with coordinates and associated administrative levels for the whole country. The database file is converted into csv format and sorted and filtered for case study area which brought down the number of entries to 198. They are placed in a separate layer in QGIS.

Now, only the placenames with close vicinity to the heritage site and having relevance with reference to literature are considered and mapped to understand the geographic extent of the historic Khalifatabad city (figure 4.36).

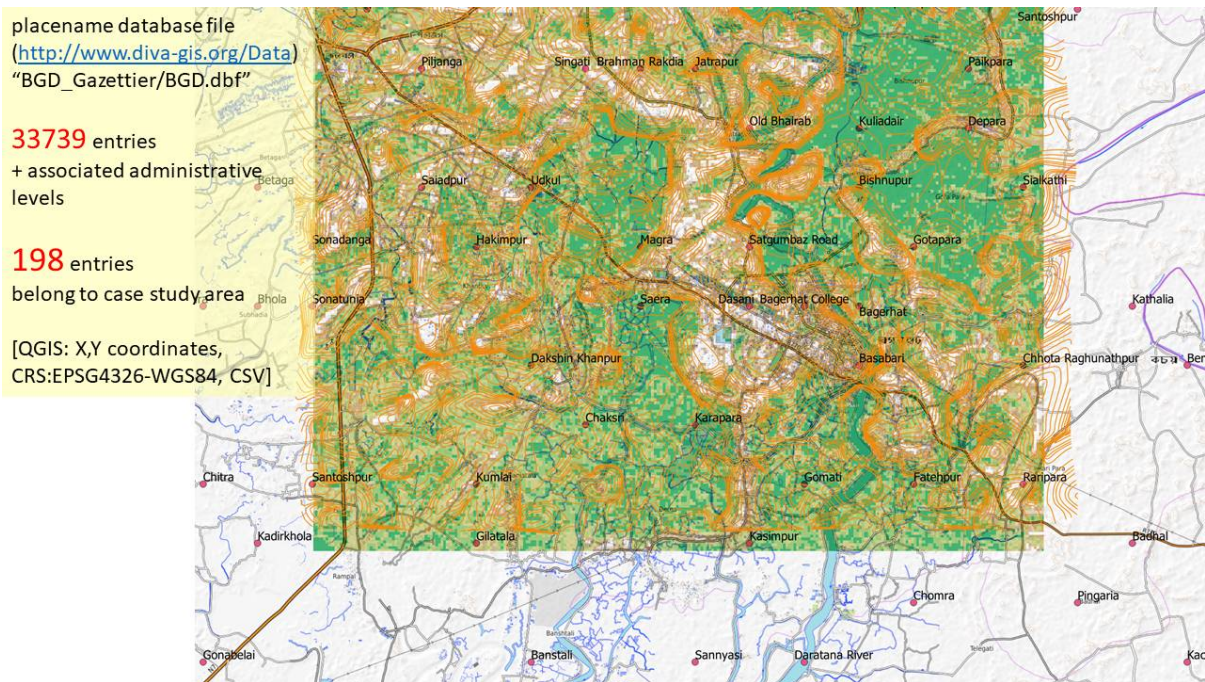


Figure 4.36: Placename layer is laid on top of other layers

All of the above arguments and progression by mapping in different layers results in the following statement. The areas identified cannot be defined by exact shape and described by the principle of cartography. Therefore they are presented by hatch-illustration with no fixed boundary, rather a concentration of dots following a convex-hull method.

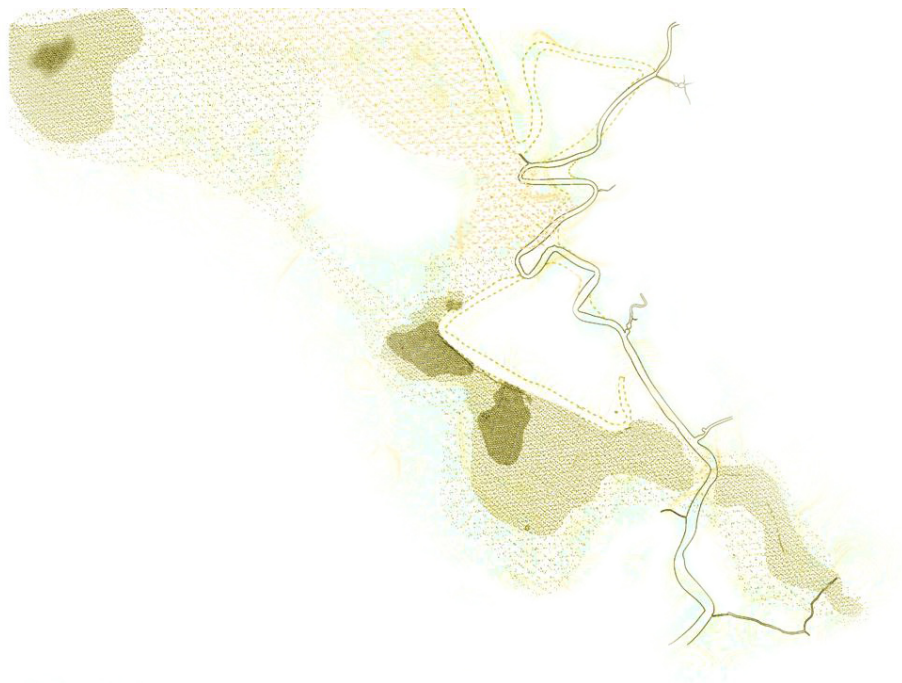


Figure 4.37: summary of Geo-Inference 2: the footprint of Imprecise geography

4.4.3 Final Synthesis

Perhaps it is possible to extract more information from landscape that help to build-up a comprehensive picture of the morphological footprint of historic city of Khalifatabad even if that remains in the domain of imprecise geography. Since the geography is predominantly a part of delta and close to the sea, therefore the land is subject to tidal transformation. It is customary that lowlands that are inundated periodically are not suitable for urban activities; rather local people use to do occasional/seasonal agriculture here. Therefore, excluding the same as well as filtering with relevant placenames from the anticipated “extent of Khalifatabad” can be one viable procedure towards defining the morphological footprint of the township.

So the geo-references of tangible and intangible heritages, Geological features and landscape, century old cultural and agricultural practice, evidence from artefact, non-fiction literature, folklore, photography, local witness and historians, satellite imagery and topographic analysis and finally location of relevant placenames (refer to sections of 3.2, 3.3 and 3.5), all placed in different layers, superimposing each one on top of another, here is a comprehensive understanding of morphological footprint of the historic settlement of Khalifatabad.

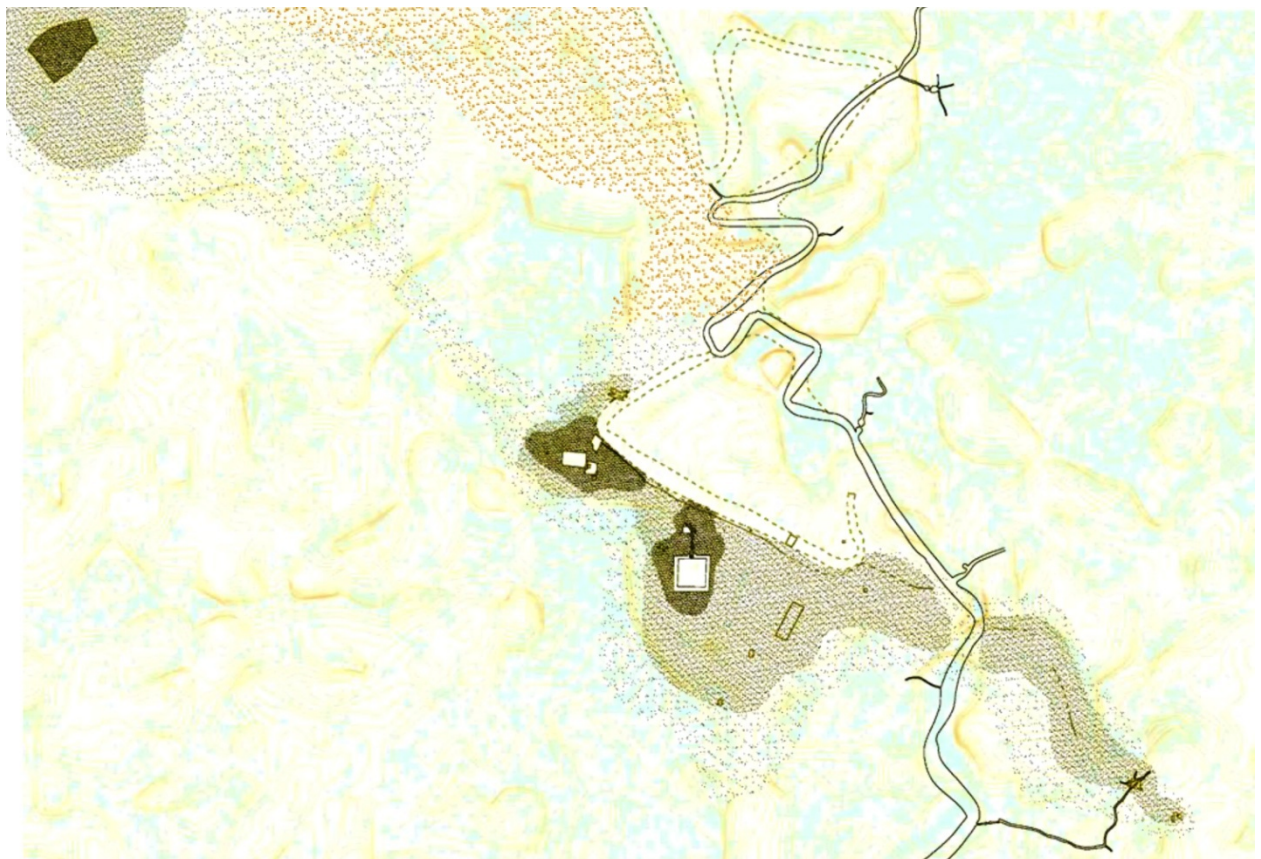


Figure 4.38: comprehensive understanding of morphological footprint of Khalifatabad

4.5 Limitations and justifications

4.5.1 Methodological

The elements of narrative include some sources (e.g. folklore, placenames etc.) that have limitation in terms of authenticity and interpretation. The proposed methodology relies on such sources to some extent. Therefore the result of investigation was prone to subjectivity. To tackle and minimize this problem, deconstructive approach²⁰ was adopted at the core of the methodology, Geo-referenced data sources (authentic maps, history, geographic description, satellite image etc.) were used as much as possible and finally all layers were put together with same Coordinate Reference System in QGIS in order to cross-check data layers with each other.

4.5.2 Fieldwork

The site is in the southern part of Bangladesh and location is to some extent remote. It is not very easy to stay long term for case study. There are illegal occupations on historic sites by local people who are often afraid of government survey on the site (in anticipation of future eviction). Since getting interview of general people was not very easy, walking interview was accomplished with limited number of resource persons (access by reference)

The site has a certain character in winter and different character in rainy season. The field work was accomplished in winter (dry season). Therefore, for pictures, some data and experience of rainy season only secondary data was at disposal of author.

4.6 Conclusive Remarks

There are thousands of years of history simply written in words and sometimes illustrated. Most of reader or general people that go through those texts are spatially concerned about the spaces described in the texts in a cognitive manner even though those spaces are real in many cases. Historians, architects, archaeologists, detectives, lawyers, teachers, engineers, surveyors, geologists (and who not) deal with space and spatial affairs. Researches in different disciplines follow various protocols and scientific methods to connect to the history and historical evolution but analysis of literature through literary geography is an amazing tool and alternative method to bridge the gap where required. The narratives (fictions, history books, travelogues, government Reports, poster, advertisements, paintings, folklore, songs and music, anthropological evidences) involved in this process were considered for mapping through digital humanities protocol, but with a deviation from the standard linguistic approach. This deviation is elaborately described in the sections of “Theoretical framework” and “Methodology”.

This digital humanities project performs beyond textual. To the advantage of analytical acuity and clarity, the making of effective arguments, the rigorous use of evidence, and

²⁰ Divide and plot data in geo-referenced layers

communicative expressivity and efficacy, following definitions and knowledge-engagements (Burdick et al. 2012) are achieved about the historic township of Khalifatabad.

There are various approaches and motives to “mapping literature” as discussed in the introduction. Undoubtedly this is a multidisciplinary and interdisciplinary work. Therefore depending on the proportion of disciplinary share the digital humanities project can be claimed to belong to certain domain. In this era of digital humanities, especially post-covid19 world, the use of digital tools is likely to be used many more times, wherever and whenever possible. It is inevitable that the digital tools appear as an intermediate research assistant so that researchers can cover larger extent; work with bigger data in shorter time. Therefore now, topics, facts, phenomena and evidence seemingly less related or unrelated, appears to have more potential to be compared, contrasted and synthesized to bring a output that was never seen before or was not possible to define precisely. This is exactly what was attempted in this article.

The result of this chapter is exhibited as a cartographic representation of historic settlement, has some deviations from a regular and traditional cartographic map though. This is just one possibility of graphic representation where there are elements that are tangible with precise locations, there are others with imprecise geography. Archaeological excavation and random discovery by general people are still going on, for which, in near future there is more scope to enhance and enrich this map. Apart from the map itself, the methodology is far more important than the result. Because many different sources have been consulted through digital humanities protocol and selected data were converted to spatial and mappable data, potted in layers and then superimposing all the layers brought out the result, which is highly in contrast to “survey and mapping” practices. In this chapter the methodology is demonstrated to ultimately find out the morphological footprint of a historic settlement, but the methodology is universal. Mapping from literature with creative choice can contribute to bring out interesting output in the interdisciplinary socio-political, socio-economic, geo-political and many other fields. This approach, having a very good potential for future, is still an exploratory conception which takes help of GIS platform for geo-referencing and organization; and to be developed further into interdisciplinary research and knowledge creation for greater good of humanity.

Reference

- Ahmed, Dr. Nazimuddin. 1979. *Bangladeesh Archaeology 1979*. Vol. 1. 1. Dhaka: The Department of archaeology and Museum.
- Ahmed, Nazimuddin. 1989. *The Buildings of Khan Jahan in and Around Bagerhat*. Dhaka: UPL Limited.
- Ahmed, Nazimuddin, and AKM Shamsul Alam. 1990. ‘Architectural Conservation of Paharpur and Bagerhat’. In *Architectural & Urban Conservation in the Islamic World: A Collection of Papers Based on a Workshop ... Held in Dhaka, Bangladesh, April 1989*, edited by Abu H. Imamuddin. Papers in Progress 1. Geneva.

- Akter, S.M Shamim. 2008. 'COUNTRY REPORT: BANGLADESH Governmental Mechanism for Safeguarding of Intangible Cultural Heritage'. International Partnership Programme for Safeguarding of Intangible Cultural Heritage "Training Course for Safeguarding of Intangible Cultural Heritage". Tokyo, Osaka and Kyoto, JAPAN: Asia/Pacific Cultural Centre for UNESCO (ACCU).
https://www.accu.or.jp/ich/en/training/country_report_pdf/country_report_bangladesh_02.pdf.
- Alam, Shamsul. 2015. 'Barobazar'. In *Banglapedia*. Dhaka.
<https://en.banglapedia.org/index.php?title=Barobazar>.
- Alves, Daniel, and Ana Isabel Queiroz. 2015. 'Exploring Literary Landscapes: From Texts to Spatiotemporal Analysis through Collaborative Work and GIS'. *International Journal of Humanities and Arts Computing* 9 (1): 57–73.
<https://doi.org/10.3366/ijhac.2015.0138>.
- Barata, Filipe Themudo, and José Manuel Mascarenhas. 1997. 'The Eborá Territory and the organization and management of the surrounding landscape'. In *Paisagens arqueológicas a oeste de Évora*, edited by Panagiotis Sarantopoulos and Carlos J. Pinto Gomes. Évora: Câmara Municipal de Évora.
- Blake, Janet. 2001. 'Preliminary Study into the Advisability of Developing a New Standard-Setting Instrument for the Safeguarding of Intangible Cultural Heritage („Traditional Culture and Folklore“)''. Italy.
- Burdick, Anne, Johanna Drucker, Peter Lunenfeld, Todd Presner, and Jeffrey Schnapp, eds. 2012. *Digital Humanities*. Cambridge, MA: MIT Press.
- Cambridge Academic Content Dictionary. 2019. 'INSTITUTION'. In *Cambridge Dictionary*. Cambridge University Press.
<https://dictionary.cambridge.org/dictionary/english/institution>.
- Dacin, M. Tina, and Peter A. Dacin. 2008. 'Traditions as Institutionalized Practice: Implications for Deinstitutionalization'. In *The SAGE Handbook of Organizational Institutionalism*, edited by Royston Greenwood, Christine Oliver, Roy Suddaby, and Sahlin Kerstin, 326–51. 1 Oliver's Yard, 55 City Road, London EC1Y 1SP United Kingdom: SAGE Publications Ltd. <https://doi.org/10.4135/9781849200387.n13>.
- Deleuze, Gilles, and Félix Guattari. 1987. *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press.
- Dodge, Martin, Rob Kitchin, and C. R. Perkins, eds. 2011. *The Map Reader: Theories of Mapping Practice and Cartographic Representation*. Chichester, West Sussex [England] ; Hoboken, NJ: Wiley-Blackwell.
- Haque, Mohamad Rezwanul. 2014. *Bibortito Bagerhat*. 2nd ed. Dhaka: Gatidhara.
- Hossain, Shajjad, and Filipe Themudo Barata. 2019. 'Interpretative Mapping in Cultural Heritage Context: Looking at the Historic Settlement of Khan Jahan in Bangladesh'. *Journal of Cultural Heritage* 39 (September): 297–304.
<https://doi.org/10.1016/j.culher.2018.09.011>.

- Imran, Masood. 2012. *Patterns in the Medieval Urban Space of Khalifatabad, Bangladesh Spatial Analyses of Archaeological Records with a Proposed Surveying Model*. Saarbrücken: LAP LAMBERT Academic Publishing. <http://nbn-resolving.de/urn:nbn:de:101:1-201209261819>.
- Imran, Md. Masood. 2014. 'Quantifying the Spatial Pattern of Medieval Urban Space of Khalifatabad, Bangladesh'. *Pratna Samiksha*, New Series, , no. 5: 87–95.
- Merriam-Webster. 2019. 'INSTITUTION'. In *Merriam-Webster Dictionary*. Merriam-Webster, Incorporated. <https://www.merriam-webster.com/dictionary/institution>.
- Mitra, Satish Chandra. 1914. *Jessore-Khulnar Itihas (a history of jessore and Khulna district in Bengali)*. 1st ed. Vol. 1. 2 vols. Kolkata: Parul Prakashani.
- . 1922. *Jessore-Khulnar Itihas (a history of jessore and Khulna district in Bengali)*. 1st ed. Vol. 2. 2 vols. Kolkata: Gurudash Chatarjee and sons.
- MOCA. 2015. 'Archaeological Law 2015'. Ministry of Cultural Affairs, Bangladesh. https://moca.portal.gov.bd/sites/default/files/files/moca.portal.gov.bd/page/033f8cde_ea98_463d_bc35_dd2a59161438/Law%20of%20Archology.pdf.
- Oliver, Christine. 1992. 'The Antecedents of Deinstitutionalization'. *Organization Studies* 13 (4): 563–88. <https://doi.org/10.1177/017084069201300403>.
- Ong, Sor Fern. 2015. 'Unesco World Heritage Sites in Asia and South-East Asia'. *The Straits Times*, 20 May 2015. <https://www.straitstimes.com/asia/unesco-world-heritage-sites-in-asia-and-south-east-asia>.
- Peton, Hélène, and Antoine Blanc. 2009. 'Deinstitutionalization as a Cumulative Process : The Role of Successive Struggles in the Case of a "Magic Mineral"'. In . Barcelona: EGOS. <https://halshs.archives-ouvertes.fr/halshs-00672416/document>.
- Piatti, Barbara, Hans Rudolf Bär, Anne-Kathrin Reuschel, Lorenz Hurni, and William Cartwright. 2009. 'Mapping Literature: Towards a Geography of Fiction'. In *Cartography and Art*, 1–16. Berlin, Heidelberg: Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-540-68569-2_15.
- Rob, Abdur. 2014. 'Ganges-Padma River System - Banglapedia'. In *Banglapedia*. https://en.banglapedia.org/index.php?title=Ganges-Padma_River_System.
- Schulz, Kathryn. 2011. 'What Is Distant Reading?' *The New York Times*, 24 June 2011, sec. Books. <https://www.nytimes.com/2011/06/26/books/review/the-mechanic-muse-what-is-distant-reading.html>.
- Shuvo, Mokammel. 2013. 'Bhairab River in Jessore Now a Narrow Stream | The Daily Star'. *The Daily Star*, 1 April 2013. <https://www.thedailystar.net/news/bhairab-river-in-jessore-now-a-narrow-stream>.
- Suddaby, Roy. 2013. 'Institutional Theory'. In *Encyclopedia of Management Theory*, edited by Eric H. Kessler, 379–84. Thousand Oaks, California: SAGE Publications, Inc. https://www.researchgate.net/profile/Yasir_Jamal2/publication/323445090_encyclopedia_of_managements_theory_encyclopedia_by_eric_hKessler_ed/links/5a9647880f7e9ba42972e52d/encyclopedia-of-managements-theory-encyclopedia-by-eric-hKessler-ed.pdf.

- Tally, Robert T. 2008. 'Literary Cartography: Space, Representation, and Narrative'. In *International Society for the Study of Narrative Conference, 2008, Austin, Texas, United States*. <https://digital.library.txstate.edu/handle/10877/3932>.
- Tribal Research and Cultural Institute. 2019. 'Tribal Population & Statistics'. Government. Tribal Research and Cultural Institute. 2019. https://trci.tripura.gov.in/tribal_population.
- Umitsu, Mosatamo. 1985. 'Natural Levees and Evolution of Landforms in the Bengal Lowland'. *Geographical Review of Japan* 58 (2): 149–64.
- Unesco. 2015. *The World's Heritage: The Bestselling Guide to the Most Extraordinary Places*. Glasgow: HarperCollins.
- UNESCO. n.d. 'Tangible Cultural Heritage'. UNESCO OFFICE IN CAIRO. Accessed 19 June 2019. <http://www.unesco.org/new/en/cairo/culture/tangible-cultural-heritage/>.
- UNESCO ICH. 2011. 'What Is Intangible Cultural Heritage?' UNESCO Intangible Cultural Heritage. 2011. <https://ich.unesco.org/en/what-is-intangible-heritage-00003>.
- Vermeulen, Frank, and Filipe Themudo Barata. 2009. 'Hidden Landscapes and Ancient Landmarks: Some Theoretical and Methodological Issues of Studying Early Historical Landscapes in SW - Iberia'. In *From Present to Past through Landscape*, edited by Almudena Orejas Saco del Valle, David Mattingly, Monique Clavel-Lévêque, European Cooperation in the Field of Scientific and Technical Research (Organization), and Consejo Superior de Investigaciones Científicas (Spain). Madrid: Consejo Superior de Investigaciones Científicas.
- Zucker, Lynne G. 1987. 'Institutional Theories of Organization'. *Annual Review of Sociology* 13: 443–64.

Chapter 5:

Lab 2 _Mapping Heritage(s) of Évora: Heritage urbanism in object and experience

5.1 Background: Évora from Roman period and present context

Historical, Political, Architectural and Cultural affairs

The city of Évora is an excellent example of historic Portuguese territory rich in artistic, cultural and socio-political history. It possesses visible repercussions from foreign forces, perhaps starting from Celtic times¹ and in many cases mostly concerned with military needs. The following two thousand years were a combination of Roman, Muslim, Christian period as well as the territory passed medieval and monarchy, fascist and modern regime. This resulted turning this place into a “Gem of Heritage”. Layers of history and cultural heritage are deposited for years in the architecture, urbanism, urban morphology, cultural geography and many other fronts of the city.

The inhibition in Évora started in 2nd Century as evident and it was under Roman domination until 5th century. One of the most famous identity of Évora in the past was found as one of the most notable Roman cities in Lusitania - Eborá Liberalitas Julia - of which there are numerous remains, especially the Roman Temple (Templo Romano Évora)(MINISTÉRIO DOS NEGÓCIOS ESTRANGEIROS, n.d.). There are archaeological evidence like ruins and remains of Roman bath, fraction of city wall and toponymy-evidence like Praça do Sertório (named after Roman General Quintu Sertorius). Since then it has become a great urban centre and attracted several powers, kingdom and monarchs. After the Romans, the territory saw a Visigoth and Moorish occupation. During the Visigoth period, starting around 473AD, the Christian power (first christian occupation) occupied an area equivalent to the Roman occupation and refined the city wall that remained for nearly 200 years.



Figure 5.1: Évora, UNESCO World Heritage Site in Portugal (image source: Viaje al Patrimonio)

¹ Even pre-historic, as attested by the remains in the city surroundings.

The Muslim occupation started in 711 AD under Tariq ibn Ziyad, the Muslim ruler of Tangier. The main power base was in present Spain but the Moors had profound influence (RAMSEY, 2021) in some of the actual major Portuguese cities like Coimbra, Beja, Santarém, and Silves². Évora had also its fair share which is evident at the viewpoint of Casa Cordovil (16th century) at Largo de Moura. It is a significant example of the enduring Islamic influence on Évora's architecture. Under Moorish domination the footprint of the city was same as before, just further improvements were made to the original defensive system as shown by a fortified gate and the remains of the ancient Kasbah (UNESCO, 1986). Incidentally, it should be noted that Évora is perhaps one of the regions of the country where, at this time, the brick and the Moorish window and arch were used in a more evident way until the 16th century (J. C. V. da Silva, 1989). Bairro da Mouraria located at the north of original wall and around a street with same name (Rua do Mouraria) is also the urban infrastructure of this period. It still contains an almost medieval character, with narrow streets and simple houses. The same is true for the area named Judiaria (west of Praça do Giraldo). Due to their medieval character of narrow streets, they are identified by many interviewees (mapping interview) having issues of accessibility and comments on liveability. At present less than 1% of population are Muslim but it is believed that this occupation left at least one third of Portuguese population having Muslim or Jewish ancestry.

Évora was conquered for the Christians (2nd Christian occupation) by folklore hero Geraldo Sem-Pavor, in 1165, in a surprise attack. A place-name tribute is paid to him by naming the heart of the city under his name (Praça do Giraldo). He was working on behalf of first Portuguese king Afonso Henriques (Afonso I). Afonso retrieved all major cities and territories from the Moors and had built a stable and independent monarchy (Britannica, n.d.). Although the city started to outgrow gradually beyond the fortification, until this time the urban core was confined to the interior of the walls (figure 5.6) with many vestiges representing the primitive urban settlement of the Romans, Arabs and the first Christian occupations. Altitude wise, it is the highest point of the city, where the most characteristic buildings can be found, such as the Roman temple and the Cathedral of Roman-Gothic style with a fortified appearance featuring two sturdy unequal towers. Its construction began in the 12th century and finished in the 13th century. Another famous piece of architecture nearby is the Lóios complex with Gothic-Manueline or Late-Gothic construction is now acting as a luxury hotel at the centre of the city. These architectural characteristics dominate the urban landscape at the city centre.

² They belong to the same political territory



Figure 5.2: Historic pictures of Évora (the oldest one is 150 years old) (source: Viver Évora)

Through centuries the city went through much political turmoil. As the city grew beyond the primary wall having the Mouraria, Judiaria and similar neighborhoods beyond the primary fortification wall, in the fourteenth century it became necessary to surround the city again with a fence, much more extensive and higher than before. It was accomplished in the reign of D. Fernando, badly damaged again during a Spanish attack in the 17th century and was rebuilt with bastions. We see today the combination of all the efforts in the second city wall. Now, the urban growth between these primary and final city walls was quite rapid, with a certain pattern and order different from centre. During 15th century Portuguese kings started living here more frequently and the golden days of Évora began. The city always distinguished itself under the artistic and cultural aspect over time. The religious life was always linked to cultural life; 22 religious structures and existence of a university established in the 16th century most profoundly marked Évora's cultural activity (Figure 5.3). St Claire Convent, the royal church and convent of São Francisco and Os Lóios Convent with the São João Evangelista Church etc. are remarkable examples of architecture at that time. They are characterized by the Late-Gothic or Manueline style.

The 16th century saw major manoeuvring of matured urban movement with religious influence. Many patrician houses (Cordovil house, the house of Garcia de Resende etc.) aided a homogeneous and organized urban growth during 16th to 18th centuries which appeared between primary and final fortification walls. The radial organization of primary roads and parallel connections between them are noteworthy (figure 5.23). The land parcels in figure 5.16 represent myriad low whitewashed houses, decorated with azulejo tiles and wrought-iron balconies and covered with tile roofs. The characteristics in features and material bring the homogeneity of urban fabric and respond to the local climate perfectly.

During this period the establishment of University of Évora aided this city to become one of the most important cities in the country. Jesuits taught from 1553 to 1759 until minister Marquis of Pombal expelled them that caused closure of the university and certain decay of the city, to be recovered later. The university only reopened in 1973. During the great earthquake Évora remained undamaged mostly which is why the combination of excellent milieu of architecture and urbanism as well as their profound influence on Portuguese architecture in Brazil earned the city of Évora a UNESCO World Heritage status.



Figure 5.3: Remarkable Historic buildings of Évora (source: author and Google street view)

In the 19th Century Évora went through several urban transformations, not all of them were appreciated scholarly. Some changes were politically driven and at the cost of sacrifice of heritage and cultural value. The Municipal authority was transferred from a Gothic style Palace(demolished and replaced by the building of Banco de Portugal) at praça do Giraldo and established in the 18th century Palace of Sortelha at Praça do Sertório(H. V. da Silva, n.d.). The site of present municipal market replaced the demolished convent and royal palace of St. Francis. The convent of St. Domingos was demolished too and in its place the theatre of Garcia de Resende was erected(Rodrigues & Matos, 2007)³. However, ultimately with such a rich political and cultural journey through centuries, Évora now possesses quite a variety of architectural styles (Romanesque, Gothic, Manueline, Renaissance, and Baroque) and

³ In a similar manner, many monuments were also restored, such as the church of the demolished convent of San Francisco or the Roman Temple, and many architectural elements of the demolished buildings, such as columns, arches and portals, were saved and reintegrated into other buildings, such as the new public garden of the city, the entrance to the cemetery or private houses.

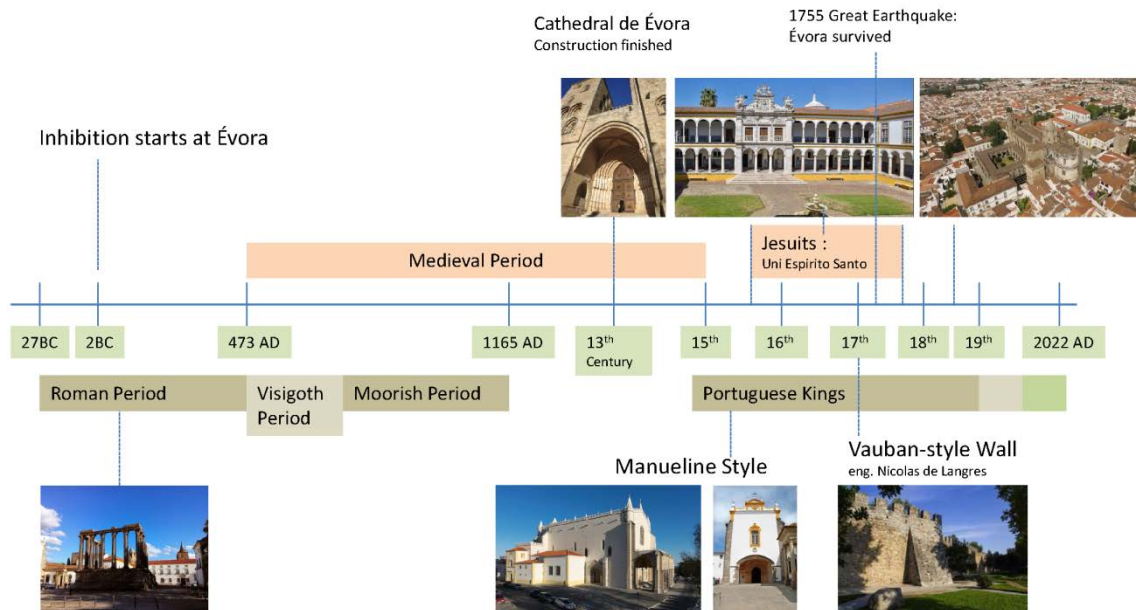


Figure 5.5: Timeline of Évora



Figure 5.6: Évora during Roman, Visigoth and Muslim Period

The management and monitoring of the historic centre is mostly done by Câmara municipal (City Council) of Évora which has its annual budget to do so. There are additional financial and other sources of support from the Regional Directorate for Culture of the Alentejo and the Directorate General for Cultural Heritage (DGPC).

Traditional practices and Heritages of Évora

The political chronology and associated urban morphology and architectural structures stated in previous section made host for many traditional practices, products and heritages. They actually belong to the whole Alentejo region but as a regional capital the city of Évora is an ideal representative of all. They are well documented and monitored by Câmara municipal de Évora (Câmara Municipal, 2021). Following is a brief account of them.

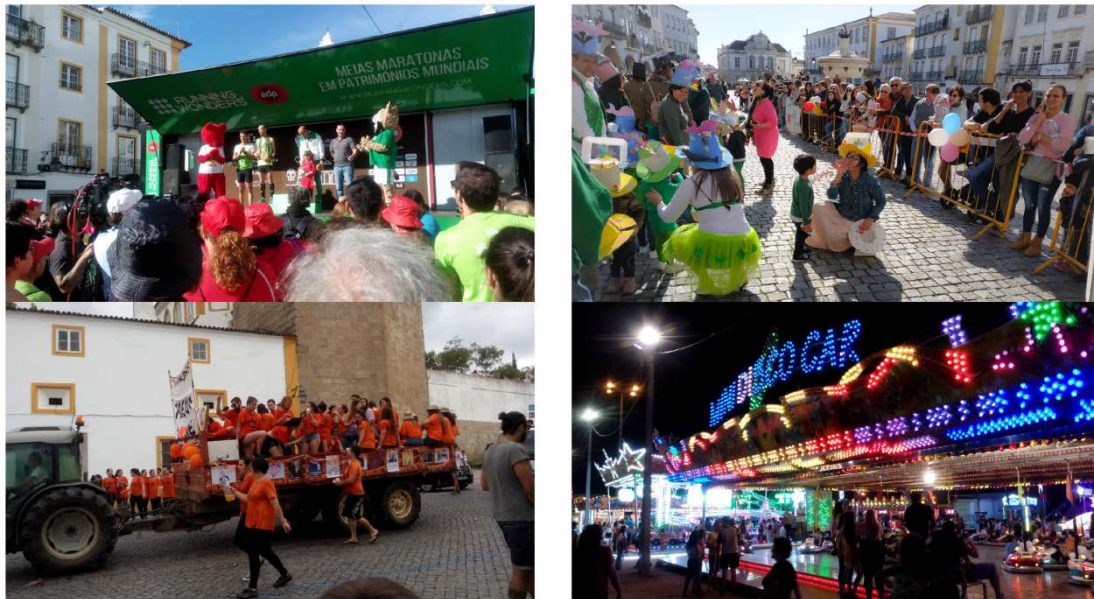


Figure 5.7: Cultural activities in Évora

The Resource Centre for the Oral Tradition and Intangible Heritage of the Municipality of Évora is a municipal project created in 2014, resulting from the dynamics of the European Project “Oralities” , with the mission of collecting the different traditions and customs, still present in the memories of the inhabitants of the Municipality, with a view to building and preserving memory, sharing and identity. The activities under this project includes Roaming exhibition “Illustration of Traditional Tales”, Project “Analytical Bibliography of Alentejo Ethnography”, The inventory of the Carnival Games of Évora and the respective inscription in the National Inventory of Intangible Cultural Heritage, Atlas of Popular Culture and Oral Tradition, AGERE Project for several rituals, songs and games.

Cante Alentejano is traditional song and singing of Alentejo region that was classified by UNESCO as Intangible Cultural Heritage of Humanity in 2014.

The highlights of **Traditional Cuisine** includes the Alentejo açorda, the Évora-style bacon sargalheta, the dogfish soup, the tame rabbit in the style of the Santa Clara convent, the migas with pork, the pork feet with coriander. Typical desserts, most of them ancient conventual recipes, include the Joana do Convento de Santa Clara cake,

the Rolão cake, the queijadas, the encharcada do Convento de Santa Clara, the sericaia, the royal tower of Évora, the bread and other sweets made with eggs, almonds and chila. Évora cheese is ripened cheese, with a hard or semi-hard paste classified under the common designation of “Protected Designation of Origin” and Alentejo wines are classified under the common designation “Denomination of Controlled Origin”.

Cochos or vase, made from cork, is a typical utilitarian object used by the Alentejo shepherd and one of the most genuine artisanal objects of Alentejo pastoral art. **Alentejo furniture** is typical wooden furniture of the region with characteristic design and paint. The **Tarro** is a cylindrical liquid container with lid and handle made of cork and it was used in the countryside to transport milk and food due to cork's insulating properties. The **Alentejo capote** is a coat used in the coldest months of the year, usually made of **burel** with sheep or fox fur appliqué on the collar. There are other types of mufflers characteristic of the region: **pelica** and **samarra** (a popular short or long sheepskin coat) and safons (to wear over trousers) in sheepskin.

5.2 Theoretical framework

5.2.1 Évora during Pre-World Heritage Status

The city of Évora, during and after having the World Heritage status, transformed the historic centre and the surrounding to keep the development as par with heritage sensitivity and towards valorisation and branding of the city of Évora. There were seventeen illegal small settlement around the historic centre during the 80's and there were elaborate urban planning process to demolish some, construct some and integrate all those settlements with centre keeping intermediate spaces in between for future development. In these processes many plots of the then successful urban agriculture were given up and transformed(F. T. Barata, personal communication, 25 May 2022). The development process under restrictions is still going on but there have been many conflicts of interest. The developments were targeted to economic activities and revenue generations based on cultural tourism, like many other parts of the world but it made the liveability expensive for the residents and local users, which resulted in many empty houses and empty business establishments inside the historic centre. Many people moved out (accommodation and business) for affordability and convenience. Given the development and transformations are one sided and partial devoid of interests of many stake holders, there is scope now to evaluate the existing heritage infrastructure, urbanism and other determinants as stated above to view the city in the lens of Historic Urban Landscape (HUL) as well as the concept of Heritage Urbanism. HUL is mainly focusing on application in local context while the later considers heritage as a dynamic cultural asset for contemporary need of human settlement.

5.2.2 World Heritage site:

The city of Évora, with long and diversified political and cultural history, was declared a World Heritage Site by UNESCO in November 1986. The status was given based on two criteria [Criterion (ii and iv)] for exhibiting significant cultural development over a span of time reflected in architecture, monumental art and town planning as well as being a significant influencer in terms of architecture and urbanism illustrating significant stages in human settlement in another continent⁴ (Haw, 2013). The world heritage status is about the historic centre which is about one square kilometre. It is located at inner Portugal, at river basin, 140 km east of Lisbon and is built on a hill that sees over to the characterized Alentejo plain. This area inside walls has quite high density with about 4200 persons per square kilometre (compared to 43 persons/Km² in the whole city). This part is very well preserved as seen in the following UNESCO account.

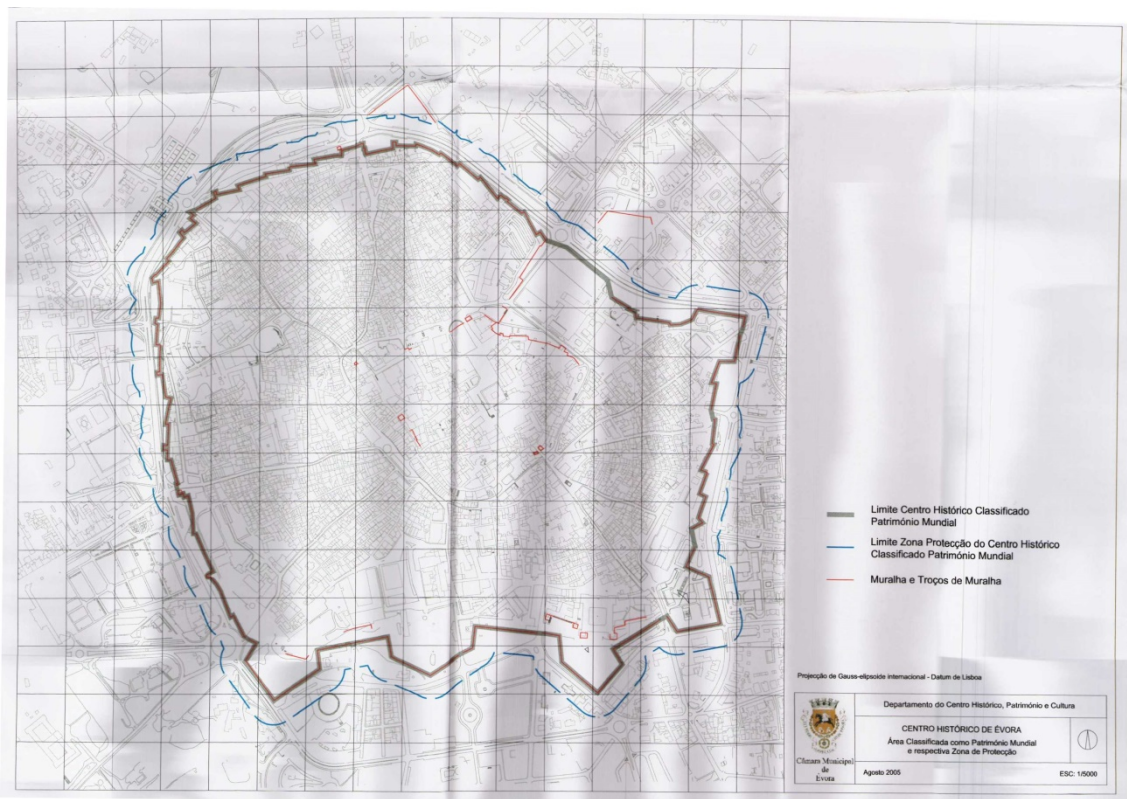


Figure 5.8: The drawing of territory to be included as World Heritage site submitted to UNESCO showing the wall and fraction of wall (Muralha and Troços de Muralha) as well as buffer area [Source: Camara Municipal de Évora, August 2005]

UNESCO has some notes on the city regarding Integrity and authenticity(UNESCO, 1986)

⁴ In Brazil

Évora has been inhabited since the 2nd century B.C. During the Middle Ages, it was the royal residence for long periods.....notwithstanding the significant urban changes that occurred through the centuries, Évora still bears testimony to different aesthetic styles.....The Historic Centre of Évora has retained its characteristics within the Vauban-style wall built in the 17th century. The road network that was built around the city walls in the 20th century has contributed to its preservation. Évora's overall integrity has been preserved in terms of both its individual monuments and its townscape. The rural landscape to the north has remained largely unchanged.

Ever since the city walls were classified in 1920 under national law, conservation measures were implemented in accordance with internationally recognised principles. Despite the transformations the city went through in the 20th century, most of its buildings have preserved their structural authenticity and the morphology of the city block has been preserved. Adaptation to modern times has not jeopardized the authenticity of the urban setting.

In this world Heritage Site the cultural assets are protected and enhanced by law, namely the Decree no. 140 of 15 June 2009 under the Law no. 107 of 8 September 2001. Any work including civil construction is only allowed with prior assessment and monitoring so that there is no loss of physical features, authenticity or any other form of distortion to cultural assets. Qualified staff and state of the art technologies, proper methodologies and resources are engaged to ensure the above. Existing law also protects a buffer zone around the designated historic centre with similar restriction. The responsibility of evaluation and monitoring of integrity and authenticity of the city and surrounding is taken by Câmara Municipal de Évora in cooperation with national authority.

5.2.3 Historic Urban Landscape:

Therefore under present condition and status of UNESCO World Heritage, the city is evaluated and maintained as per laws and practices to conserve physical features. But as the city grows from homogeneous past to heterogeneous narrative, there are issues to raise question about e.g. place making, environmental sustainability, economic sustainability, social agendas of urbanism like scarcity, accessibility, affordability, safety, equity etc. These are the things that make a city liveable for people from all social and economic strata. A heritage city is a museum with all intact urban morphology from ancient times, the exact old houses and the historic ambience, all protected under law (in other words "Heritage Infrastructure") but for sustainability it is necessary to see, examine and perceive the city against the issues too as stated above. The soft and intangible features of the city life that supports those issues are very important because those remain functional within the Heritage Infrastructure. There is more ambition on international level regarding the upgradation of human settlement of every kind. With 2030 agenda of Sustainable Development - Goal 11

(SDG 11), countries have pledged to “make cities and human settlements inclusive, safe, resilient and sustainable” (Obad Šćitaroci & Bojanić Obad Šćitaroci, 2019b; UIS, 2016). Within this goal, Target 11.4 aims to “strengthen efforts to protect and safeguard the world’s cultural and natural heritage”.

The historic cities worldwide deserves to be treated under World Heritage Convention as they represent the common heritage of mankind but there is always a threat from the globalizing process of urban development that the authenticity, identity and character of historic cities and urban areas might be deteriorated, decayed and eventually be lost. Conventional preservation methods and initiatives displayed success in different parts of the world but only in isolation without any incorporation with the surrounding urban, social, environmental and landscape context in many cases. In case of Évora, such isolation to a certain extent has been evident in the interview described in section 5.2.1. Therefore the isolation causes lack of relationship with local host and population as well as it devalues the cultural identity. To address this critical position of cultural assets and heritages UNESCO came up 10 years ago, and still developing, with an integrated approach to manage heritage sites and objects called Historic Urban Landscape (HUL) Approach. It is a set of holistic, interdisciplinary and inclusive recommendations by UNESCO to be adopted and enhanced over World Heritage Convention aiming at guided change to historic cities, but mostly in a context where ‘development’ and ‘urban heritage conservation’ are seen as conflicting rather than cooperative processes. It is based on the recognition and identification of a layering and interconnection of natural and cultural, tangible and intangible, international and local values present in any city (WHITRAP, 2013). The official HUL guidebook by UNESCO identifies the core to the HUL approach as a new understanding of the historic environment and gives a short definition to this approach as follows-

*“The **historic urban landscape** is the urban area understood as the result of a historic **layering** of cultural and natural values and attributes, extending beyond the notion of ‘historic centre’ or ‘ensemble’ to include the broader urban context and its geographical setting. This **wider context** includes notably the **site’s topography, geomorphology, hydrology and natural features, its built environment, both historic and contemporary, its infrastructures above and below ground, its open spaces and gardens, its land use patterns and spatial organization, perceptions and visual relationships, as well as all other elements of the urban structure. It also includes social and cultural practices and values, economic processes and the intangible dimensions of heritage as related to diversity and identity.**” (UNESCO, 2011)*

Understanding our cities in this way provides us with important knowledge to guide planning decisions and manage change.

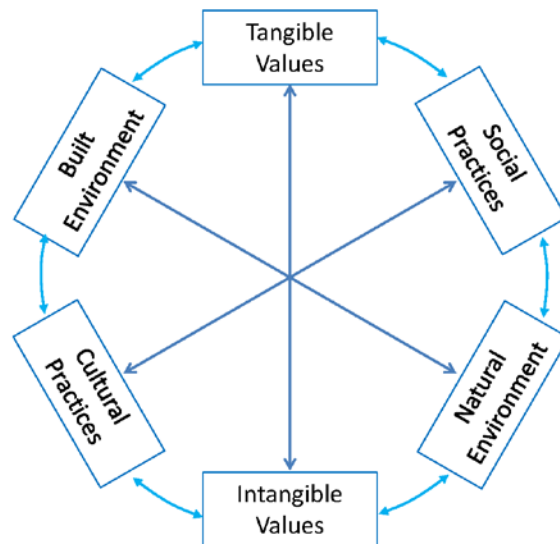


Figure 5.9: Layering of interconnections within a city as key pillars towards sustainable urban heritage management and development of the city (HUL- Historic Urban Landscape approach)

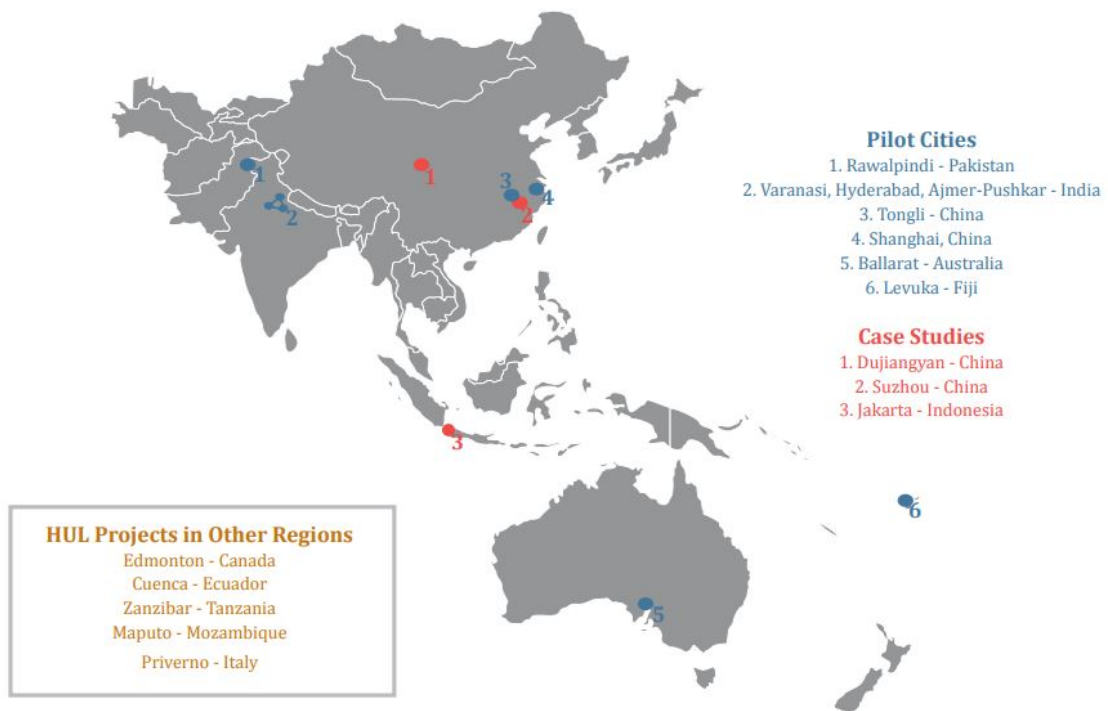


Figure 5.10: HUL projects around the world (image source: HUL brochure by UNESCO)

5.2.4 Heritage Urbanism:

Urbanism refers to the lifestyle and characteristics (Merriam-Webster, 2022b) people possess in urban dwelling which includes the time scale to accommodate changes, transformations and stimulations. As a disciplinary field urbanism examines and evaluates contemporary discourses and theories to address the basic uncertainty of traditional planning (Leuven, 2015) and in answer offer new disciplinary approach within that inherent condition of contemporary urbanization. It includes study of multidisciplinary factors and exploits strategic urban designs as a tool of intervention.

The factors considered can be many, heritage is a potential one. Societies and settlements that contain natural and cultural Heritage evolve continually and are the embodiment of the inextricability of tangible and intangible heritage (Brabec et al., 2015). Landscapes constitute a living heritage, reflecting the mutual influences of diverse groups of people and the equally varied places they inhabit. Landscapes are a critical subject in contemporary heritage studies. However, in urban and landscape context, heritage urbanism considers the revitalization and enhancement of cultural heritage in spatial, social, political, economic and environmental milieu.

According to Obad and Bojanić (2019b) the term Heritage Urbanism first received public acquaintance at an international conference under the title Cultural Heritage in Zagreb in 2015 and the discourse was developed gradually in following years. The approach and method of heritage urbanism were presented in two books published by Springer: *Quality of Life in Urban Landscapes* (2018) and *Cultural Urban Heritage* (2019). The concept acknowledges the basic theory and practice of urbanism and includes heritages as an active agent for urbanism. This includes multidisciplinary agenda of field like tourism, financial policy, housing, urban and regional planning, spatial perception and design, infrastructure and transportation. To conserve, work with and utilize heritage for urbanism it is necessary to do valorisation of heritage with contemporary definitions. The definition views heritage as a non-isolated and active object that acts for the integrity in society and settlement as well as possess the quality of inclusiveness. There are different models of revitalization, enhancement of cultural heritage and sustainability through heritage urbanism approach; 17 models were discussed in the book *Cultural Urban Heritage* in search of an universal model that has the following hypotheses (Obad Šćitaroci & Bojanić Obad Šćitaroci, 2019a):

“Heritage is not a burden but a potential for development and a strategic national resource; it is not sufficient to protect and conserve heritage, it must also be renewed and interpreted in a sustainable manner that will provide it with new life; heritage is a current challenge which can be resolved through its inclusion into the contemporary and future life of towns, settlements and communities; heritage is not to be perceived as a static object, but as a creative subject.”

Since the Heritage Urbanism approach (despite seeing heritage as an active agent and actor) is an urbanism at its core, the social agendas of urbanism such as equity, isolation, scarcity, accessibility, affordability, safety, equity, justice etc. deserve being considered as very important qualities. Therefore, in this chapter the “heritage city of Évora” as a UNESCO World Heritage site would be critically reviewed from active urbanism and social perspectives as well.

5.3 Issues and research questions for this site

When the authenticity is in question, cultural heritage can be considered as a non-renewable resource prone to decay, lacking the focus of society and so on. In addition to the traditional methods of conservation, introduction of new spatial, environmental, political and social context can be the source of revitalization of heritage. In such case, it is necessary that the heritage infrastructure, as defined in section 5.2.3, can host and provide contemporary needs, scopes and opportunities to the community who inherit and retain it. Therefore this chapter investigates whether the existing heritage infrastructure can do justice to the current society in terms of sustainability, especially from the landscape approach which is more recently adopted by UNESCO and many heritage settlements in the world⁵. It is also examined from the perspective of social urbanism to get an insight of liveability of this historic settlement. Therefore the research questions for this chapter go like following-

Q1. Where is the position of Évora in terms of Historic Urban Landscape (HUL), considering that it is the next step over UNESCO world Heritage status allowing the wellbeing of citizen life within the scope of Heritage Urbanism?

Q2. Besides being a heritage city, Évora is also a fully functional city of modern time. How the city is considering the social agendas of urbanism e.g. Place making, scarcity, accessibility, affordability, safety, equity etc.?

5.4 Site specific methods

5.4.1 The Key Strategy:

The research problem and specific research question is identified in the previous section. The problem is tackled by a series of activities and evaluating Évora against some key terms/terminologies obtained from the theoretical framework (HUL, Heritage urbanism and Social urbanism). The terms are following- topography, geomorphology, land use patterns, spatial organization, space perceptions, open spaces and visual relationship, (in)equity, spatial isolation, scarcity, safety, affordability, (in)justice, accessibility etc. These indicators are indicative and since this section of site specific methods is a smaller part compare to the total context of the thesis (where the primary focus is on developing a methodology for settlement), selective indicators will be assessed considering limited scope and time of the PhD.

Since the narrative of history and culture is deposited in layers and it is becoming increasingly heterogeneous, the problem is approached by mapping of those different layers individually either by researcher or by interviewee. Individual maps are of course snippets of the narratives. The key strategy is looking at two or more

⁵ Ballarat, Australia in 2013; Shanghai, China from 2006 till now; Wujiang District, Suzhou, China in 2015-2016; Cuenca, Ecuador from 2014 till now, are few examples settlements where HUL is implemented. (Source: The HUL Guidebook by UNESCCO)

snippets/maps at a time side by side or juxtaposing and only then the comparison can reveal some meaningful interpretation, because otherwise in real life as well as in information source, when many factors are perceived together, the result can be an absolute chaos. The procedure is called here “interpretative mapping”, briefly defined in writing as well as illustrated in a diagram below. It is also broadly defined in chapter 2.

Now, an understanding on how the city is functioning (connectivity, legibility, services and amenities, education, health) can be an important cultural knowledge to construct the narrative. Mapping on different tangible (places, buildings, gardens etc.) and intangible (urban connections, accessibility, cultural identity etc.) indicators reflect upon **spatial justice and inclusion**. The methods followed include “mapping interviews” of the residents and commuters of different age, gender and profession. The data is further analysed and synthesized by Interpretative Mapping to gain the insight on what strategies the heritage city and heritage urbanism relates to object and process; how the present society fits in the heritage infrastructure of the “centro historico de Évora”.

5.4.2 Definitions:

Traditional Cartography:

The discourse of cartography includes the conception, production, practice and use of charts and maps while the discourse is very closely related to the discipline of geography (Nag, 2018) while the extended meaning of cartography includes utilizing the aesthetic sense combined with scientific knowledge to model a reality for practical purpose. The purpose can be the communication of information, especially spatial information for the use of navigation and other endeavours. Therefore, regardless of the purpose, the science and art of making maps are cartography. In traditional approach, basically the three dimensional world is illustrated on a surface which is obviously two dimensional and the outcome usually be in scale. It includes geographic and made features like roads, lakes, buildings and names of the places. Overall traditional cartography is always associated with hard-core reality and within a scale and is not much associated or utilized for spatial analysis. However, traditional cartography is discussed in detail in section 2.2.1

Cognitive mapping:

Cognitive map is a output of human cognition expressed in illustrative and visual format. Downs & Stea (2011) define it as a process that an individual experience psychologically in terms of acquiring, coding, storing, recalling and decoding information about the relative locations and attributes of phenomena in his everyday spatial environment and can deliver in visuals to communicate with other people. In

the investigation where it is very necessary to obtain public opinion and survey regarding spatial information and perception, cognitive mapping is a extremely useful tool. People store information about their environment and use that information to make spatial decisions, with cognitive mapping helping to explain and lead more developed understanding of spatial behaviour. That is why people see the world in a certain way and behave on the basis of cognitive maps one builds, whatever flaws and imperfections it possesses. Now this perception and associated behaviour is very necessary to work in urbanism and other associated fields because there is possibility to give importance to cognitive process over disciplinary activities and can play important role in public policies (e.g. influencing future urban planning decisions and rectifying present ones). However, Cognitive mapping is discussed in detail in section 2.2.2.

Interpretative mapping:

Interpretative mapping is defined and described in section 2.3 and practiced in other parts of the thesis. This chapter (Lab 2) also utilizes the power of Interpretative mapping. It is already described that interpretative mapping, as a process, would combine the excerpts of cartographic mapping and cognitive mapping, there are some guidance followed in this lab. The cartographic mapping is presented here as a deliberate choice of elements from existing industry standard maps available and redrawn as primary mapping by author. cognitive maps comes from the section of mapping interview from the respondents but in a guided form as they were provided a key map of the site and were at disposal to answer questions in term of mapping and drawing. They were provided an outline drawing of the city/place, which helped with geo-reference and orientation and then allowed to draw/write/illustrate on the same in a cognitive process to yield a superior insight. This revealed people's perception which may be subjective, although a significant number of interviews may indicate strong public opinion to be accepted no matter how subjective it is.

However, for investigation of objective nature, interpretative mapping is accomplished which is author's interpretation (combining both the cognitive share from interview, and primary mapping by author) along with geographic reference and drawn with a skillset with reference to cartographic maps. In the field of cultural heritage, urbanism and human settlement, the process is believed to bring reliable, credible, attention worthy and practical multidisciplinary insights.

Mapping interview:

Mapping interview is an essential part of this chapter and a semi-structured interview. It is important to know the opinions of the users of the city how they feel, perceive and think about the city. They are the largest stakeholders and primary actors of socio-

cultural, economic and political activities. Therefore the interview was designed to collect information, especially spatial information from the interviewee. The respondents were due to answer those question by illustrating on a given map, include legend, write short comment to enhance the mapping as well as include comments on intangible aspect that applies to whole city, not an exact location to pinpoint on map.

5.4.3 Why “mapping interview” is important and unique?

Mapping interview is unique and important because every person has unique perspective to perceive a place and construct spaces and therefore it is subjective. For a researcher it is difficult to define places and spaces by himself and that would be too subjective. Yet if it is done so, the interviewee may not match their answers with mapping questions and results can be biased. Rather, an empty map in hand may intrigue spatial thinking and recalling memories more intensely and interviewee have freedom to define geometry, space, place, features, experiences and ideas. Taking the inputs from interviews, researcher may define spaces and places that suit most common interest of the interviewees, and this technique would help analysing and visualising data in a more meaningful way.

The above fact is later confirmed by some of the interviewee who stated that they were very intrigued to think about the city spatially when they were handed over the piece of paper having Key map of Évora (almost empty but with few reference lines of the city). They found out that it, being a semi-structured interview, is a fun exercise to virtually roam around the city and note down several positive and negative vibes and their thoughts that would not be possible otherwise (i.e. just writing and speaking or answering questions in Likert scales). Other methods have their perks but thinking and drawing on a key map as well as having short comments are a reflection of interviewee’s spatial mind. The method can be compared to exploring one space from all dimensions including a drone view instead of just exploring horizontally which has been evident from comments of several respondents as they realized for the first time that they never explored some parts of this one square-kilometer-city despite living and working here for many years and they actually don’t know much of those areas. They could think of certain tangible and intangible elements of the city while encountering ordinary interview questions but attending mapping interview was a holistic approach for them and they could think about the city more comprehensively.

5.4.4 Design of “mapping themes by researcher and interviewee”

The contestation, observation and theoretical framework identified in section 5.2 leads to the keywords of world heritage, heritage site, cultural value, heritage infrastructure, transportation, urban landscape, open spaces and gardens, its land use patterns, as well as spatial organization, perceptions, visual relationships, history, economy, tourism, scarcity, accessibility, affordability, safety, equity etc. The research

questions are also looking into Évora's historic centre through the lenses of these terms. Hence initial mapping by researcher has been broken down into fundamental elements as listed below in “primary mapping by researcher”. Some of the intangible aspects (i.e. safety, equity) has individual and collective feedback and therefore they are designed to be addressed by respondents through mapping interview and the questions are listed below. Having these two kinds of mapping in hand, they are compared, juxtaposed, analysed, synthesized which are also listed below.

Primary Mapping by researcher

Mapping for-

- (P1) Layers of historic periods (2~3 maps of historic evolution)
 - (P2) Toponym layers
 - (P3) Public places(e.g. Praças, jardins, fonte, fields , feiras, ecopista etc.)
 - (P4) Ecological network (landscape, trees, green cover, urban agriculture, small ponds, water pockets, fountains...accessible to birds/fauna etc.)
 - (P5) Transportation (road network, one-way road systems inside centro historico)
 - (P6) Public transport coverage (Trevo coverage)
 - (P7) Pedestrian network (street of pedestrian only, existence of footpath with considerable width at vehicular roads)
 - (P8) Built vs. Unbuilt
 - (P9) Places accessible to public (all places except private property)
 - (P10) Alojamento Local (AL), Restaurants, common attractions (Most common tourist footprint)
 - (P11) Historic structures (museums, church and cathedral of tourist interest and palaces and similar)
 - (P12) Parking (paid and non-paid)
 - (P13) places identified for cultural events
 - (P14) walking distance and time given the public transport, for services
 - (P15) population increase decrease data in centre and out of centre + tourist number map over the years
 - (P16) density map in plan and section
- More educational , grocery, admin/Govt., banking,

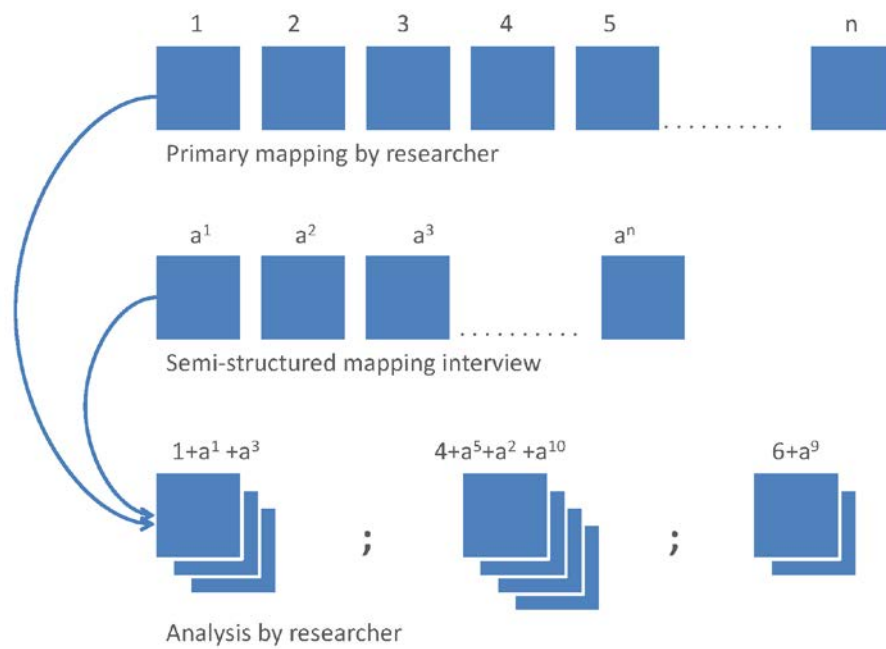


Figure 5.11: Mapping at different stages (each blue square is a representation of a map/impression)

Mapping by Invited interviewees

What to map?

- Map who you are. + where you are.
- Map the invisible + Map the obvious + Map your memories

(+)

Most joyful place/which spots do you like most?

Which spots/places are you proud of?

Which are the most touristic/popular places?

Which are the most historic/heritage places?

What are the most accessible parts of the historic centre? (you can answer for all modes of transport e.g. pedestrian, bicycle, car, public transport)

Which part of the historic centre do you consider suitable for living (for yourself, even if you live elsewhere)?

Which part of the city do you consider affordable?

Which part of the city do you consider most ecological/environment friendly?

Which part of the city do you consider suitable as a workplace?

Which part of the city do you consider easy for navigation?

(-)

Most wired / which spots do you dislike most?

What are the most inaccessible parts of the historic centre? (you can answer for all modes of transport e.g. pedestrian, bicycle, car, public transport)

Which part of the city do you consider very expensive?

Which part of the city do you consider fearful (walk at night, alone, unfriendly to women, etc.)?

Which part of the city do you consider ecologically/environmentally unfriendly?

Which part of the city do you consider difficult for navigation?

Please map accordingly if you feel/observe lack of equality and equity in terms of social, political, urban, environmental, historical, economic, and safeguarding of heritage aspects.

Interviewees are asked to accordingly if they feel/observe lack of equality and equity in terms of social, political, urban, environmental, historical, economic, and safeguarding of heritage aspects.

Analysing and superimposing Maps by researcher

(A1) Transportation combining buildings and one-way road network, pedestrian connections etc. to remark on How well the one-way driving system serves the city (private car, bus, construction vehicle, cleaning vehicles and delivery vans)? Ease of access!

(A2) Green in Heritage city (compare green to built ratio with other ecologically sound cities) and remarks on sustainability, link to city's past of urban agriculture...heat island effect?

(A3) Combining praças with shortest pedestrian connections and combine praças with nearest school, crèches, groceries, municipality, post office and other public amenities)

(A4) Mapping the Distributions of restaurants, accommodations and tourist attractions

(A5) Comparison map of population decrease and increase of tourists and hotels

(A6) Complementary establishment e.g. CTT 2 branches, Santander same, fuel station just outside the walls,

5.4.5 Mapping protocols

How to map?

A key map of Évora is produced by the researcher which basically is a simplified map of Historic centre of Évora and contains the remarkable city wall outlining the area of interest, the central Praça do Giraldo, remarkable aqueduct going from inside of city towards outside and the famous Roman temple. Few major roads that mark the entry to and exit from the walled historic centre, are also drawn in the key-map. Some elements (i.e. aqueduct and Roman temple) are drawn in 3D for easy recognition. All very well-known elements are put in this key-map so that even the persons that are not spatially skilled, can orient themselves while drawing on the map.

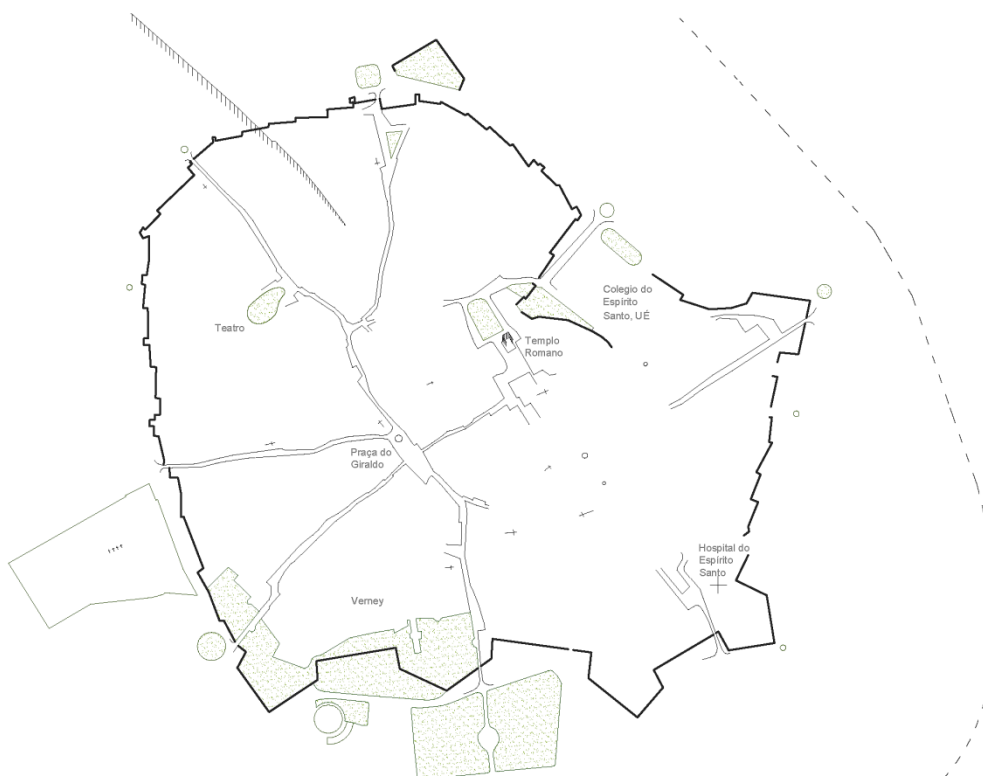


Figure 5.12: Key map of Évora provided to the Interviewee

This key-map is provided by email along with a brief discussion and instruction and requested to print on a A4 or A3 paper and draw over it. In many cases author met the interviewee personally to provide a printed copy, discuss briefly the purpose and methods to follow and collected the hand-drawn papers. It was also allowed to do the similar in any software (Msword, Corel, Illustrator, Paint, Photoshop etc.). To answer the questions listed above for respondents, one could use separate markers, color/transparent filled area limited by geometric shapes or convex/concave hulls etc. For separate topics one could map more than one paper as well.

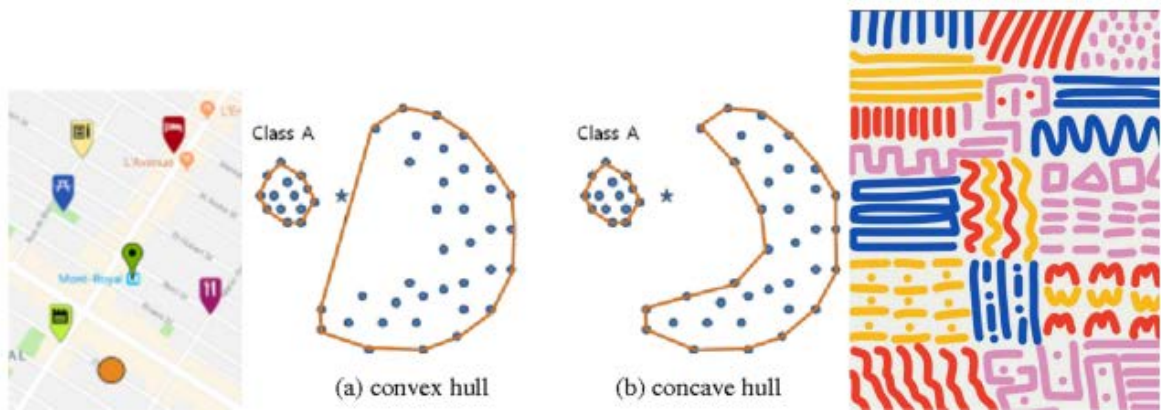


Figure 5.13: Examples of Map markers, Dots, Convex hull and Concave hull, Lines/colors

What to write?

It was requested to write a few words or a sentence inside or beside the map in support of one's mapping and understanding. It was also allowed to write a paragraph on the same page and be very brief. If not collected by hand, the copies were requested to be returned as scanned copy with high resolution by email.

Reference literature

A pdf copy of a book was provided in the mapping toolkit package for reference and exploring examples. It was some selected pages of a book that contains public mapping of New York and some examples of mapping interview done by author previously with students of BRAC University, Bangladesh. One could use the concept, technique and thoughts people used in the examples; or his own technique and thoughts. The pdf book and package is also provided in the annex.

5.4.6 Other survey methods to support mapping

Other type of surveys were conducted to accomplish and support the primary mapping by researcher namely photographic surveys, walking survey, cycling survey and driving survey. The information of driving route and direction was available from city map, Google maps and road markings. The car used for driving survey was Ford Focus 2000 model hatchback which represent, dimension-wise, majority of the cars used in the historic centre. It has been driven multiple times during day and night and through all the streets available. It was fairly easy (not very comfortable for the first timers) to navigate through them but at some points on Rua dos mercadores (entry point from Praça de Giraldo), some streets of Mouraria and Judaiaria and Rua do Cano (where it meets Rua de Aviz) are really difficult and few of them impossible to pass through by car. It is only passable for smaller vehicle. Therefore such places raise concern about access of emergency vehicle. In a similar manner, the walking, cycling surveys are accomplished. For cycling, both a normal and electric cycle is used to understand the manoeuvrability and cycling experience with the modest altitude change of 30m

throughout the historic centre. Walking survey was accomplished to understand the explicit experience due to surface condition and material, present and absence of footpath and walking difficulty due to car circulation where the footpath is non-existent. Photographs were taken of the elements mentioned above as well as of physical structures and cultural activities found in the historic centre. Photographs were at disposal to see while doing mapping in computer program.

5.4.7 Mapping interview

The mapping toolkit comprised of “The Key map, a reference book (pdf) of mapping and instruction written both in Portuguese and English” was sent by email to select respondents. The set of respondents were a mix of different gender, age and profession but all of them were related to Évora, either by residency or work.

Many respondents were willing and able to participate online. They could explore the attached literature in email, follow instructions and produce maps and send a scan copy. Some respondents wished and agreed to meet at a previously selected meeting point, have brief discussion on the purpose, method of research and provided a lot of information to respond to the interview questions including mapping (the oral conversation was recorded and later noted down as additional information in the response).

5.4.8 Sampling method

The interviewees are a subset of the inhabitants of Évora who live either inside of historic centre and outside as well as those who commutes regularly or occasionally to Évora for work or business. People, who lived once in Évora for some time to study or work, were also included in the sampling. There is some disadvantage in random sampling provided that many day users (i.e. tourists) in public spaces stay for short time in the historic centre and such a short exposure is not sufficient for a spatially oriented mapping interview. The nature of the interview seeks deep insight instead of just information or review, therefore is targeted to people who have long explicit exposure (residential and/or work) to the city. Furthermore, to do mapping it requires some thinking, concentrating, a smooth surface (i.e. table) to draw on the map. Therefore, it is necessary to avoid the full and partial inclusion of temporary day users in the interview and hence the random sampling method.

To approach a specific target group that fulfill a certain criteria (Long exposure to the historic centre and the city of Évora, in this case) “Snowball sampling method” (Parker et al., 2020) is a useful, popular and acceptable method especially for qualitative research that functions with referrals. It has its own advantages and disadvantages and since it is one form of convenience sampling, it is wise to utilize the convenience to the benefit of the research. Given the selection criteria of the sample this method is

chosen. This method has the advantages of reduced cost and increased efficiency(Johnson, 2014) which was evident during this research. Then again major criticism behind this popular selection method is selection bias. The research starts with seeds (small number of initial social contacts) and then the contacts lead to other known contacts that fit the requirement. But the referrals tend to go to known respondents with similar profession, age, gender and so on. Therefore this bias may cause lack of diversity and potential margin of error.

To overcome and minimize this possibility of error, the author chose to start with seeds from different affiliation. The affiliations attempted and finally results obtained includes the academic field(University of Évora, multiple disciplines), medical professionals, Industry workers, retired people, young graduating students, education professionals, local business owners, government employees, IT professionals etc. The seeds were selected from various social contact subsets and the snowball method progressed thereafter. The main mass invitation was sent through the general email service of the University of Évora so that the invitation reaches to all the students, academics and others who work here. It brought quite diverse and exiting results. Invitation from other affiliations was also sent at the same time. The target sample size was 30 responses which represent one third of mapping activities that are dealt in this chapter. The whole process went on for several months after which the target was achieved. Some of the responses were scanned and returned by email. Some respondent took time before handing over the physical map, while some did the mapping in front of the author while explain their thoughts and experiences. Everyone signed and returned their consent in the form of declaration of Rights for drawings and mapping to be used for this thesis and subsequent publication. All the maps and declarations are attached in the annex of the thesis. There has been variety of respondents in terms of age, gender, background and profession. Following is a chart to illustrate the profile of the respondents (names are omitted for privacy, a code number is given instead)

Code number of interviewee	Age(years)	Profession /affiliation	Gender	Ratio
1	58	School teacher	F	Male 55%
2	62	Retired dancer	F	
3	40	Architect	M	
4	30	Academic	F	
5	25	Archaeologist	M	
6	55	Academic	M	
7	43	Librarian	M	
8	43	School teacher	F	
9	31	Doctor	F	
10	36	Business	M	
11	44	Academic(IT)	M	

12	43	Landscape architect	M	Female 45% Below 30 (years) = 13% 30 – 40 (years) = 40% 40 – 50(years) = 27% 50+(years) = 20%
13	43	Landscape architect	F	
14	30	student	M	
15	30	IT professional	F	
16	65	Administration of municipality	M	
17	37	Student	M	
18	26	Recycling Factory Worker	M	
19	42	IT professional	M	
20	48	Academic	M	
21	30	Landscape architect	F	
22	39	Physicist	M	
23	38	Researcher	F	
24	37	Receptionist	F	
25	15	Intern nurse	M	
26	35	veterinary surgeon	M	
27	16	Intern nurse	F	
28	55	Recycling Factory Worker	F	
29	31	student	F	
30	72	Retired professor	M	
31	48	Heritage Professional	F	
32	52	School teacher	F	
33	25	Gym Instructor	F	

Table 5.1: Profile of respondents and the ratio of variation.

5.4.9 Digitization in GIS program

As the responses were requested to be handed over as physical drawing/map or scanned copy in high resolution (300 dpi), it was accomplished and archived. For analysis and juxtaposing it was necessary to have all the information in one place, properly geo-referenced and manoeuvrable. The open-source GIS program “QGIS 3.22” is used to do all kind of mapping activities by author as well as digitizing the interview responses. In the program the illustration principle or protocol was very simple. All statements from the mapping interview that has spatial implication were expressed by geometric elements and different symbology. The geometric elements include point, lines and shapes and symbology includes color, pattern, hatch, styles, transparency and effects. Non-spatial responses are noted in section 5.5.2 and discussed separately.

There are two reasons for converting the spatial responses of interview into geometric elements: comparability and geo-referencing. On the given key map, the marking/drawings made by interviewees were different and the statements were

made with different words and been subjective. Therefore an approximation was made by the author to bring them down to geometry of point, line and shape and to do that the author drew new versions of them in the GIS program. In this way, when the respondents pointed and marked places and made comment about, it was properly geo-referenced in the map (in the following diagram, one can see the use of bottom layers of satellite image and online maps for geo-reference which is turned off for view).

Another aspect of the mapping interview is worth mentioning. Many respondents produced very beautiful maps that include beautiful paintings, drawings and clever use of techniques as well as innovative concepts. Simplifying all responses into geometry for analysis purpose does not do justice for those outputs. They are listed in the Annex and saved for later publication.

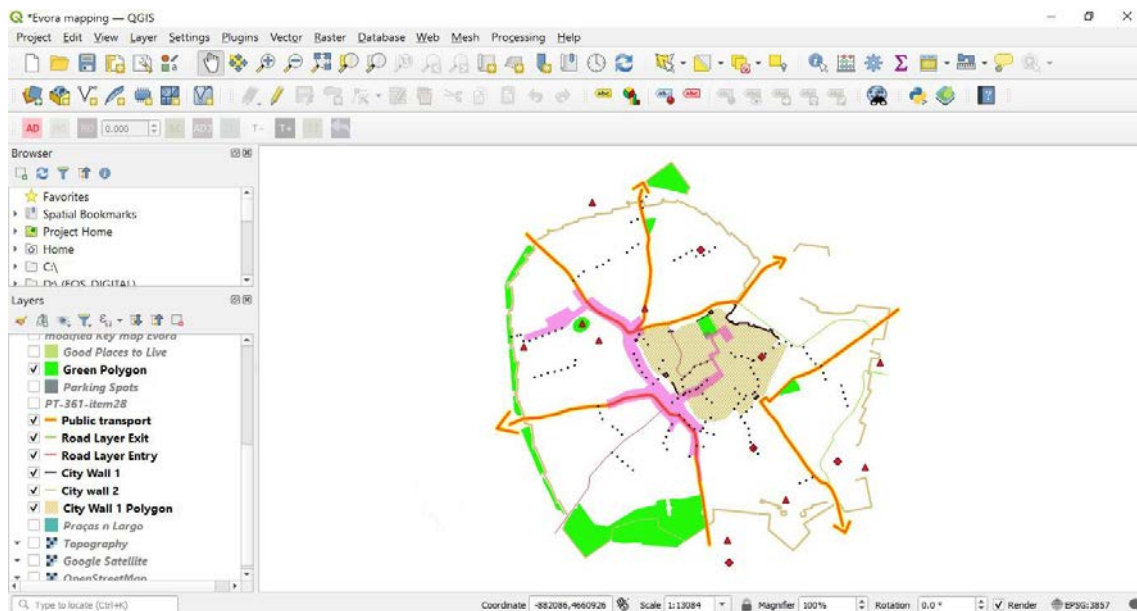


Figure 5.14: Mapping activities in QGIS 3.22

5.4.10 Analysis

Analysis was made for the spatial elements of mapping by the researcher as well as the responses from interviewees by having all the elements in one place in QGIS. There are multiple layers accumulated in the program. These layers are reflection of the theoretical framework mentioned in section 5.2. The layers represent single elements; For example- there are layers for tangible elements like road network, parking spaces, public space (like squares, gardens), most touristic historic structures as well as intangible elements like pedestrian short connection, public transport routes etc. The interview also brings in elements/layers like most accessible and/or inaccessible places and so on.

For analysis, only relevant layers were compared with each other and examined spatially as well as against the comments made by the respondents. As an example, to have an insight about accessibility, the layers of road network, pedestrian connection and public transport routes were analysed together to understand how some parts of the city are very isolated from access and some parts of the city are very conveniently served in terms of access.

5.4.11 Data visualization and public communication through web

It is important to communicate research results to other researchers and responsible bodies as well as to general public. As this is an overall research about methodology, it is also important to communicate the research process. If there is possibility to have an easy public access to the data (converted from raw data into geometric approximation for easy comparison) that will be much appreciated. To be more specific, a web map is produced and made available online by the author for public communication through web. The process that was explained in previous section can be replicated by any other researcher and the comparison of different layers can be viewed by anyone who has access to internet. In the web map, there are proper buttons to switch on/off layers and view the results. One can switch on/off all or any number of layers necessary and view the results instantly. Since the result of interpretative mapping – “interpretation” is subjective, giving the opportunity to general public to interpret by themselves should approve the “interpretative mapping” method more credibility and acceptance.

The web map can be viewed here ([Link](#)).

5.5 Results and discussion

5.5.1 Primary Mapping by researchers

There are many primary mappings done by author (e.g. Layers of historic periods, Public places, Pedestrian network, Tourist occupation etc.) which makes the basics of analysis. Examples are displayed in Figures below.



Figure 5.15: Historic development of the historic centre of Évora



Figure 5.16: Urban growth between primary and final fortification wall. The radial organization of primary roads and parallel connections between them are noteworthy.

5.5.2 Analysing by researcher

Primary maps accomplished by researcher were further manipulated with data for the purpose of analysis and analytical maps and visualizations were produced. Some examples are given below-

Praças and Largos are strategic points to connect and change of direction of traffic as well as host alternatively parking, outdoor part of eateries, small urban garden, fountain, roundabout, sculpture, historic ruins and tourist attractions etc. These points might have spatial significance for tourism, cultural, historical and morphological phenomena.

Figure 5.18: Route map of public transport (bus service – Trevo). [Source: (TRE, 2018)] The service in the historic centre has only 2 strategic points to embark or disembark, unfortunately both of them are along the praça do Giraldo. The route has more minor stops but not sufficient at all to reach every corner of the city.

5.5.3 Maps from Interviewee

A total of 33 respondents participated resulting slightly increased number of maps because some of the participants provided separate maps for positive and negative questions/vibes. These maps are attached in the annex. They are also available to view on the internet along with the web map mentioned earlier. Following are some highlights of the maps –

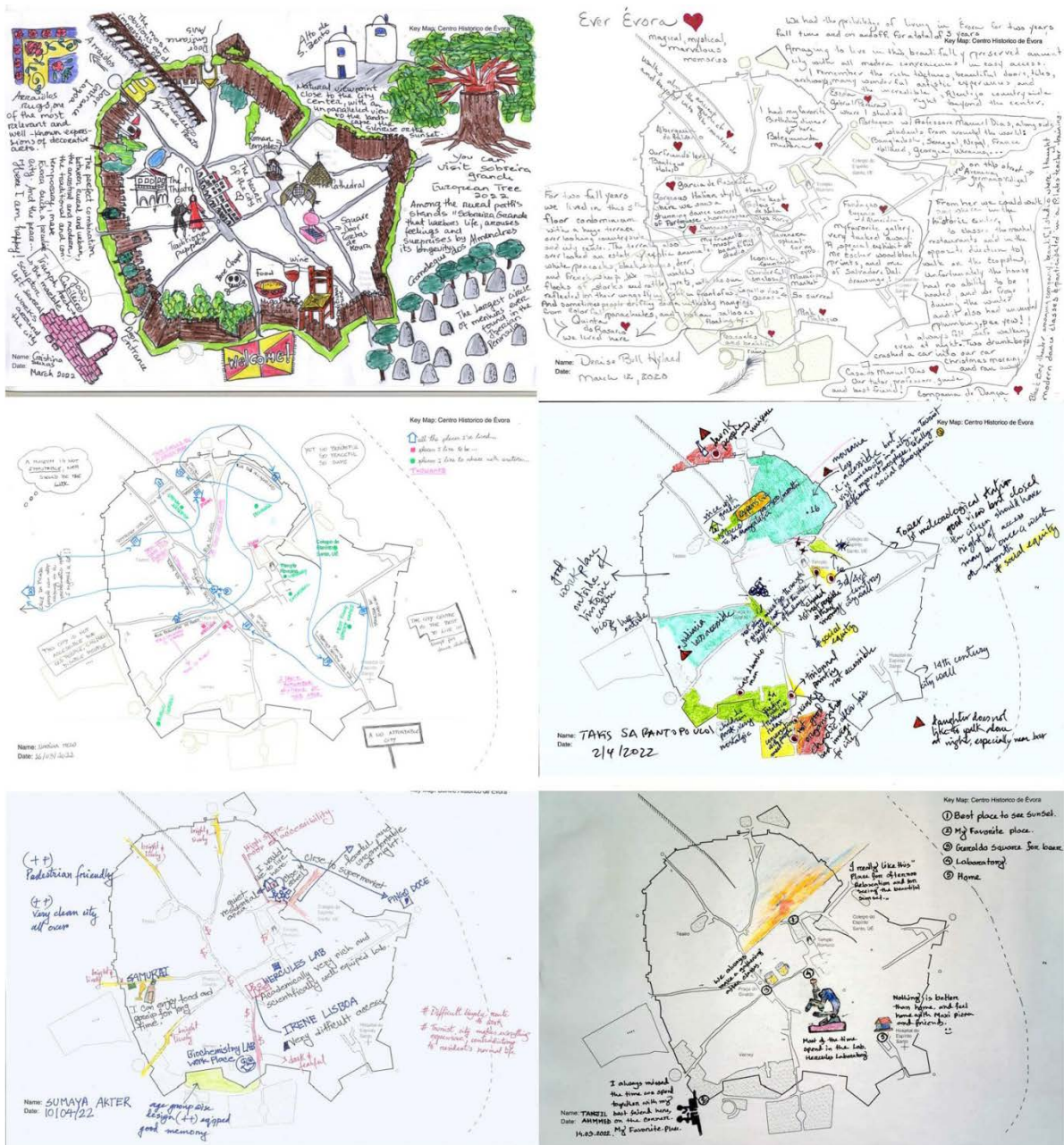


Figure 5.19: Output from Mapping Interview (6 examples out of 33 shown here)

The responses in the maps from respondents are noted below and organized in a similar manner. Again, the names are omitted; the number at the beginning of each response is the code number (Code number. Gender/age/profession). Some comments are more general, about the whole historic centre and without any spatial implication about a certain spot - those comments are marked as "Geral" in the following list of comments. All the comments are divided into three categories : (+) Positive vibes, (-) Negative vibes and (±) Thoughts and concerns.

1. (Female/58/School Teacher)

- (+) Praça do Giraldo is the heart of the city
- (+) The most notable event (for me) from the Theatre is The Traditional Puppets.
- (+) The most obvious and impressive monument is "Aqueducto Agua de Prata"
- (+) "Porta de Avis" is the only historic gateway preserved. Other important entrances to the city are Porta Velha de Lagoa, Porta de Raimundo and most used entrance along the Rossio.
- (+) Important historico-turistico artefacts includes Triumph Arch, Bone Chapel, Portas de Moura, Cathedral of Évora, Roman Temple.
- (+) I also like the traditional food and drink as well as traditional furniture in the restaurants along Rua da Republica.
- (+) For me, Évora is the perfect combination between rural and urban, the ancestral and modern, the traditional and contemporary; This is why living in Évora brings me peace. (Geral)

2. (Female/62/Retired Dancer)

- (+) We had the privilege of living in Évora for two years full time and on and off for total 3 years. Amazing to live in the beautifully preserved ancient city with all modern conveniences in easy access. I remember the rich textures, beautiful doors, tiles, archways, many wonderful artistic experiences and the incredible Alentejo countryside right beyond the centre. (Geral)
- (+)Magical, mystical, marvellous memories (Geral)
- (+)Walks along the ancient aqueduct and beyond, into the countryside
- (+)Our friend's lovely boutique hotel Albergaria do Calvário (38.574794, -7.913923)
- (+)For full two years we lived in the 5th floor of condominium, Quinta do Rosario, with a huge terrace overlooking countryside and city centre. The terrace also overlooked an estate with exotic animals, white peacocks, black swans, deer and French sheep. We could watch flocks of storks and cattle, with the sun reflected on their wings flying right in front of us. And sometimes people drifting down in the sky hanging from colourful parachutes and hot air balloon floating by.

- (+) Garcia de Resende, gorgeous Italian style theatre where we saw a stunning dance concert of Portuguese choreographer Olga Roriz.
- (+) Compass Studio- my friend's most beautiful studio.
- (+) Iconic fountain at Praça do Giraldo
- (+) Wonderful enclosed municipal market.
- (+) Capela dos Ossos – so surreal.
- (+) Pink Palace (Palácio Barahona)
- (+) Peacocks are beautiful **[Geral]**
- (+) I had my birthday dinner at Botequim da Mouraria

3. (Male/40/Architect)

(+) Joyful places for me include theatre, Praça do Setor, Roman temple and garden, praça do Giraldo, SHE, Rua 5 October, Largo do Alvaro Velho, Igreja do Sao Vicente, public garden.

(+) I like the view from the garden of Roman temple

(+) I am proud of Palace and Patio de Sao Miguel, Porta de Moura and Main Axis (flat, continuous pedestrian axis through praça do Giraldo).

(+) Good for living area: Area between Rua de Mechede and Hospital (East part), Mouraria

(-) Expensive parts: Tourist spots (include main Axis, Rua 5 October), Pousada dos Loios

(-) Fearful/Doubtful parts: Av. Sao Joao de Deus, Rossio, Av. Salazar and parking

(-) Inaccessible Parts: Rua da Freiria de Cima, Mouraria, Travessa das Peras

(-) Dislike spots: Rua do Muro, Hospital Espirito Santo, Av. Sao Joao de Deus, Rossio

4. (Female/30/academic)

(+) Like the places: Home (12 spots), Garden of Roman temple for view, SHE (Sociedade Harmonia Eborense), Oficina (bar)

(+) Places I like to share with visitors: Mouraria, Aqueduct, Roman Temple, Library, Cathedral, Colegio do Espirito Santo, East Part (for most funny street names), Public Garden

(+) The historic centre is best place to live in. (except the drunk students) **[Geral]**

(±) It is a concern that there are so many closed shops in Rua de Aviz.

(±) Av. Salazar and associated parking lot should be a green park

(±) The oval park in front of theatre requires intervention to make it alive.

(±) The city and its museums should not be immutable. **[Geral]**

(-) The city is not accessible for Old people, children and disable people. **[Geral]**

(-) The city is not affordable. The historic centre is worst in terms of expense. (renting and buying property) (Geral)

(-) Rua de Santa Marta is a sad street.

5. (Male/25/student)

(+) I really like the garden of Roman temple for afternoon relaxation and enjoy beautiful sunset.

(+) We always make a friend's gathering at praça do Giraldo after classes and have some beer.

(+) I spend most of the time in Hercules laboratory, the place I like very much.

(+) Nothing is better than home. I feel home at Porta de Mouro (my residence location) with friends and pizza from "maxi pizza shop"

(+) A specific corner of Public garden (shown in map, overlooking towards IBIS hotel and Av. Dinis Miranda) is one of my favourite places. I miss meeting friends here.

6. (Male/55/Academic)

(+) Praça do Giraldo and Theatre is the places of culture and full of lives.

(+) There is good night life at Rua dos Mercadores.

(+) Mouraria is calm site to live.

(-) Évora is an expensive city

7. (Male/43/Librarian)

(+) Proud of Roman Temple

(+) Suitable for living (38.574443, -7.914027)

(+) Workplace UÉvora

(+) Memories at Rua Mercadores (street of Merchants)

8. (Female/43/School Teacher)

(+) I never feared walking alone because there was always police vigilance in or outside the walls.

(+) Proud of Roman Temple

(+) Public Library » special for me and my son's academic and cultural awareness.

(+) Town Hall » feels like you are in Lisboa

(+) Praça do Giraldo » Meeting point + Gathering spot + Joyfull concerts + Social key moments

(+) Public Garden » I played many times as a Child

(+) Suitable for Living (38.574113, -7.913957)

(+) Best workplace [(38.573057, -7.902301) Serviços de Ação Social da Universidade de Évora]

(-) Affordable area » mostly out of the walls (Geral)

9. (Female/30/Doctor)

- (+)Évora is a pedestrian friendly city, footpath is available for use wherever possible and car drivers are respectable to pedestrians. **(Geral)**
- (+)The Centro Historico is very clean and maintained, especially in relation to spitting and cleaning of dog-poo. **(Geral)**
- (+)The Jardim Infantil retains good memories. I also appreciate the design of this place as different zones are organized for different age groups with fruitful transformation from one to another.
- (+)I love the only buffet Japanese cuisine in Centro Historico "Samurai" because I can enjoy food and gossip with friends for a long time while being close to city centre.
- (+)I like the zone of Verney campus, especially biochemistry lab as good workplace.
- (+)I am proud of the Hercules Lab in Palacio Vimioso as it is academically very rich and scientifically well equipped.
- (+)For living in Centro historico, I like the area Mouraria, especially behind academic services building of UÉvora because this is a quite residential area away from hustle and bustle of city centre and tourists as well as close to school and supermarket(Pingo Doce)
- (+)I appreciate several entry and exit point of Centro Historico because they are well lit and full of activities during night time along with shops and restaurants. They include the end part of each stree: Rua do Raimundo, Rua de Serpa Pinto, Rua Cândido dos Reis and Rua de Aviz.
- (-)I am a bit careful about several entry and exit point of Centro Historico because they are dark and fearful, lacking people and activities; e.g. Rua da República and Rua José Estevão Cordovil.
- (-)I used to take my child to the school(creche) Centro Infantil Irene Lisboa but the access is so difficult. There is construction work in adjacent site which closed the access road for over a year, public transport drop off was far away and infrequent.
- (-)Throughout the Centro Historico bicycling is difficult due to street material(cobble stone), one way system and slope. **(Geral)**
- (-)I consider adjacent areas along a route quite expensive and less-affordable for general people. The route starts at the entry point of Rua da República, continues through the Praça do Giraldo and Largo Luiz de Camões and finishes with the Rua José Elias Garcia.
- (-)Although it is a geographic feature but I find the high slope of Largo Dr. Evaristo Cutileiro less accessible and uncomfortable for me.

10. (Male/36/business)

- (+) I like the praça do Giraldo as this is the heart of the city. It is very lively and charming, good for a workplace and I feel proud for it.

(+) South-east part (area between Rua da republica and Hospital) is good place for living because it has much green and open space, it is close to train station for easy communication and close to Verney campus.

(+) Public garden is a very good place for hangout.

(+) Roman temple has the most eye catching view.

(+) I did not feel any part of the city as fearful or uncomfortable. (Geral)

(+) Summer evening and nights are very enjoyable in the city. (Geral)

(+) There is good facility for biking outside the wall. (Geral)

(+) Surrounding points and sceneries are beautiful. (Geral)

(-) I am not a big fan of theatre.

(-) For me two parts of the city seems less accessible, one is the Historic core (city footprint during roman period) and the other is west part (the area between Rua Serpa Pinto and Rua Candido dos Reis)

(-) Roads are not very conducive for walking and biking in the centre. (Geral)

(-) The city does not have enough job/business opportunity. (Geral)

(-) Public transport is not frequent. (Geral)

(-) City centre is difficult for elderly people to visit because it is at the top of the hill.

(Geral)

11. (Male/44/Academic)

(+)City is peaceful. (Geral)

(+)City is safe to walk around. (Geral)

(+) Public garden and children garden are wonderful places.

(+)City is very legible and easily navigable. (Geral)

(-)Some streets are not disabled friendly. (Geral)

(-)In many internal streets , there is almost no footpath and difficult to walk by elderly and disabled people (Geral) for example, Rua da Raimundo.

(-)In many internal streets, vehicles are given priorities over pedestrian. E.g. Rua Romao Ramalho, very difficult to walk due to no footpath and frequent vehicles in narrow street.

(-)Narrow streets have poor accessibility, especially for emergency vehicle(ambulance), Rua joao de Deus.

(-)Many residential and institutional buildings have poor accessibility, especially for disabled people. (Geral)

12. (Male/43/Landscape architect)

(+) Verney was a military quarter during my childhood but later I spent many hours for study in this campus of UÉvora

(+) Escola de Santa Clara was my childhood school

- (+) Juadiaria was this place (located on map), no particular characteristics, rather the toponymy is important.
- (+) All the roads point to Praça do Giraldo. (If you are lost in the city, don't worry, walk along until you arrive at praça do Giraldo, then you find out your way).
- (+) The theatre brings back lovely memory of music and typical puppet (Marioneta).
- (+) Aqueducto is an important water structure for the city.
- (+) Porta da Aviz is my favourite entry point of the city.
- (+) Mouraria is this place (located in map), toponymy important.
- (+) Colegio Espirito Santo is the place that contains the first tiles (Ajulejos) from the time of Jesuits.
- (+) The building beside the Court building at Largo de Moura was the first building for municipal administrative work e.g. Citizen ID cards etc. (conservatorio).
- (+) Roman Temple marks the site and bears the legacy of Roman Empire.

13. (Female/43/Landscape architect)

- (+) It is lovely to see that there are house doors situated in the arcs of aqueduct at Rua De Cano.
- (+) Roman Temple is must visit for tourists.
- (+) Colegio Espirito Santo is a wonderful ancient building with patios to witness numerous academic celebrations.
- (+) Hospital ES is the place where I and my daughter were born.
- (+) Children park is place full of valuable memories. Since my parent's house was nearby I used to spend a lot of time here. I learnt to ride bicycle at this place.
- (+) I studied 6 years in Verney campus and made friends.
- (+) The theatre is a unique building and place for a famous town character who is alive [everyone calls him "Bioto Salu"(Luis) meaning protector of the city].
- (+) Praça do Giraldo is a love spot for meeting friends, book fair, concert etc.
- (±)One usual practice is that if you stay outside of the wall and when you would go inside the historic centre, you would always say "I am going to the city". At present time, inside and outside of historic centre – everywhere is urban area but conceptually the ancient setting stayed in people's memory. **(Geral)**
- (-) The historic core (area of Roman occupation) is very less accessible. Architects need to find solution but not harming the conservation of history and heritage of the historic centre.

14. (male/30/student)

- (+) Praça do Giraldo is a good meeting point for friends
- (+) Verney campus is my most favourite and my dream is based on this place; I spend my entire education life in Portugal here.

- (+) I like to spend time in public garden.
- (+) I like to roam with friends and family in Rossio.
- (+) It is very comfortable to walk and ride bicycle in the landscape adjacent to wall/muralha on East side.
- (+) Roman temple is the pride of Évora.
- (+) Colegio Espirito Santo is a memorable place from student life.
- (+) Mouraria is suitable place to live.
- (±) Theatre is very neutral for me, I neither like nor dislike this place; eventually it has no appeal for me.
- (-) Rua serpa pinto is not an welcoming entry to the historic centre.
- (-) Rua do Raimundo is very difficult to ride bicycle or to walk to enter the historic centre.
- (-) Hospital is a nightmare for me.
- (-) Two other places seem to me scary to a certain extent; one is cemetery and another one is Largo da Misericórdia and surrounding places.

15. (Female/30/IT professional)

- (+) Verney campus is suitable workplace.
- (+) I enjoy praça do Giraldo a lot since there is cultural events organized here on every occasion.
- (+) Once I lived opposite to pull and Bear shop and it was a lovely stay since rent was not so high and everything was nearby.
- (-) Shops are very costly along the main axis.
- (-) I live outside the historic centre now and it has become costly and without ease to visit Verney, Roman temple and Hospital. **(Geral)**
- (-) My son is a student at CILL; I have a bit of concern as they lack field/big playground being in the historic centre. **(Geral)**

16. (M/65/Administration of Municipality)

- (+) Praça do Giraldo, like the place for many reasons; whenever I come to the city by bicycle or on foot, I must go through the praça, no stop but pass through, see the activities, perceive the atmosphere and feel the vibe. It is different in the morning, day time and night.
- (+) I lived at Tv. da Mangalaça 18 for many years (8 years ago) and then I started living outside the centro historico. I liked very much living here because everything is nearby, easy to go and catch in minutes. It was expensive back in 2012 (700~800 euro for T2) with bad house condition but it was lovely to live here in the cosy house with garden. **(Geral)**
- (+) Jardim Infantil (children garden) is very nostalgic, I cherish my memories when I used to take my son and daughter here to play, now I visit the adjacent public garden and look upon the children garden sometimes.

(+) Jardim Pablico(public garden) is one of my favourite place where I come for relaxing, taking fresh air and meeting people.

(+) As a workplace most part of the centro historico is good for me as I ride an electric bicycle. But I actually live outside and my office is also outside at present. [Geral]

(+) I am an archaeologist and I love the walkway in Jardim dos Colegiais because I can see the high wall that was built in 3rd century. (the present outside wall was built in 14th century)

(+) I use to drive an electric bicycle therefore accessibility is not a big issue for me.

[Geral]

(+) Mixed feeling: There are two places in the centro historico that has very high density and less accessibility especially for emergency vehicle. One is Judaria (bounded by Rua do Raimundo and Rua de Serpa Pinto) and the other is Mouraria (bounded by Rua das Alcaçarias and Rua de Aviz). But the neighbourhood atmosphere, social integration, social cohesion is very unique, good and praise worthy. These areas are not over infested by tourists. Especially the mouraria possesses a bit of moor atmosphere and seems to be a micro city within a city.

(-) I am careful about the parking area adjacent to the Nova Porta de Aviz because this area at night is popular with street food but sometimes nuisance is created by drunk people.

(-) At present my daughter doesn't live here, but when she did she did not like to walk at night alone around the bar area. She did not feel comfortable. [Geral]

(-) Rossio is a less organized place that affects the city's image badly. Especially after each the monthly fair it is left with dirt and plastics thrown everywhere.

(-) The public toilet for men in the jardim public is always dirty, the municipality should take care of it.

(-) Social Equity: The tribunal building/Barahona Palace opposite to the main gate of Jardim public has valuable/important paintings but it is not accessible for general people to view.

(-)Social Equity: One or two very beautiful and important church/cathedral(name specified....) has high value entry ticket and therefore very less accessible for general people but it is the citizen's right to have affordable access.

(-)Social Equity: There is a tower located east of biblioteca geral that had the country's first meteorological station (Torre de Sertório). View from the top of the tower is way spectacular than any other opportunity but people has no access. It is the citizen's right to have affordable access.

17. (Male/37/Student)

(+) Praça do Giraldo in the historic centre is a lovely place to meet friends.

(+) Affordable housing in the historic core (area of Roman occupation)

- (+) I am proud of the Colegio Espirito Santo.
- (+) Verney campus is my suitable workplace.
- (±) I have both good and bad memories regarding the hospital. It was the most visited place while my son was sick.

18. (Male/26/ Recycling Factory worker)

- (+) I will be proud to show my visitors the Roman temple and surrounding area.
- (+) Praça do Giraldo is a wonderful place. I met all my foreign friends at this spot. It was good memories.
- (+) I liked living in the west part (the area between Rua Serpa Pinto and Rua Candido dos Reis), I had some neighbour with good heart.
- (-) I have bad experience in the hospital.

19. (Male/42/IT professional)

- (+) Suitable place to live: Mouraria
- (-) Not suitable place to live: All area west side of and around Praça do Giraldo because it is too noisy. **(Geral)**
- (-) I am a bit disappointed about the historic core (Roman occupation) because there is no vegan restaurant (I am a vegetarian).
- (-) I am disappointed too about Verney Campus area as well as Mouraria because there is no ATM/Multibanco in that area.
- (-) I do not have good experience about hospital emergency department.

20. (Male/48/Academic)

In my opinion, a city is a living organism, where the human population plays the role of making the vital energy that composes it flow. I tried to have a different perspective on Évora. I was trying to find important and essential places of Évora and put an effort if they can be connected through Fibonacci golden spiral. I consider these places very important for the city and therefore bears positive connotation.

- (+) CHAKRA 1- CROWN: Spiritual Centre – Communion (Sé Cathedral)
- (+) CHAKRA 2- FRONT: Political Centre (Roman Forum)
- (+) CHAKRA 3 – LARYNGEO: Knowledge Centre – Communication (Espirito Santo College)
- (+) CHAKRA 4 - HEART: Healing Centre — Healing (Hospital do Espírito Santo)
- (+) CHAKRA 5 – SOLAR PLEXUS : Military Centre — Strength (Dragon Barracks)
- (+) CHAKRA 6 — SACRED: Centre of Genesis — Creation (Public Garden)
- (+) CHAKRA 7 — ROOT: Rooting Centre — Bond (Cemetery)
- (+) CHAKRA 8 — FOUNDATION: Support Centre — Realization (Aqueduto da Água de Prata)

(+) CHAKRA 9 — SETTLEMENT: Expansion Centre — Potential (No Defined Location)

(Geral)

(Author provided in Portuguese below)

(+) CHAKRA 1- COROA : Centro Spiritual – Comunhão (Sé Cathedral)

(+) CHAKRA 2- FRONTAL : Centro Politico (Fórum Romano)

(+) CHAKRA 3 – LARÍNGEO : Centro de Conhecimento – Comunicação (Colégio Espírito Santo)

(+) CHAKRA 4 - CARDÍACO : Centro de Cura — Sanação (Hospital do Espírito Santo)

(+) CHAKRA 5 – PLEXO SOLAR : Centro Militar— Força (Quartel dos Dragões)

(+) CHAKRA 6 — SACRO : Centro de Génese — Criação (Jardim Público)

(+) CHAKRA 7 — RAIZ : Centro de Enraizamento — Vínculo (Cemitério)

(+) CHAKRA 8 — FUNDAÇÃO : Centro de Suporte — Realização (Aqueduto da Água de Prata)

(+) CHAKRA 9 — ASSENTAMENTO : Centro de Expansão — Potencial (Sem Local Definido) **(Geral)**

21. (female/30/Landscape architect)

(+) The Map of Évora I will always carry with me, is the one emerging from surrounding rolling hills of Alentejo; of the friendships, experiences and memories of my life there; of clear skies, of warmth colors and peacefulness, of life slowing down. **(Geral)**

(+) Praça do Giraldo is a good gathering spot as well as tourist spot.

(+) Rua 5 October has my favourite bookstore and collection of mementoes.

(+) Jardim dos Colegiais is my favourite short-cut through morning mist of the trees.

(+) I like to watch the silhouette of the Cathedral while listening to the church bells ringing.

(+) Like places: Vimioso Palace, Colegio Espirito Santo, Iconic façade/Elevation through main Axis, Roman Temple , Catuxa convent, Landscape/Park in front of the Theatre.

(+) I like the Alentejo songs (Cante- Alentejano) **(Geral)**

(+)Largo do Alvaro Velho has my favourite café and spot to watch people.

(+) I appreciate the cork harvesting of Évora as an important cultural and economic activity. **(Geral)**

(-) Rua Cândido dos Reis is quite noisy.

22. (Male/39/IT professional)

(+) I like very much the old library and old paintings in the Colegio do Espirito Santo

(+) Café Arcada and Alehop are my favourite shops in the main axis.

(+) Joyful places: Verney Campus, Coffee shop in public garden and basketball court in children park

(+) I have good experience at Hospital ES.

(+) Suitable living places: The block between Rua da Aviz and Rua Candido dos Reis

(-) Expensive places : praça do Giraldo, Rua 5 October and Rua do Raimundo

(-) Inaccessible by bicycle and public transport: Patio do Salema and surrounding areas.

23. (Female/38/Researcher)

(+) Pride in Cultural Heritage: Roman Temple

(+) Pride in Theatre: because it is an old and very beautiful theatre. I have fond memories of the plays and shows I attended.

(+) Proud of my University: Colegio Espirito Santo

(+) Happy place: Praça do Giraldo

(+) Good area to work: Verney Campus, CES

(+) Good areas to live in: Judairia, South-East part and West Part.

(+) Accessible area: Judairia(towards the hotel Hotel M'Ar de Ar Muralhas), West part, Mouraria (behind the academic service only and not northern part)

(-) Less accessible area: Mouraria, Historic core and northern part where the Aqueduct remains in historic centre.

(-) The area I like the least is hospital because it brings back less pleasant memories of ill family members.

24. (Female /37/receptionist)

(+) Beautiful Theatre building

(+) Praça do Giraldo is place to meet friends.

(+) I am proud to show Roman temple to others.

(-) Bad service at Hospital ES.

25. (Female /15/intern nurse)

(+) The hospital is the most important place.

(+) I am proud of Roman temple and associated area; the area is very well conserved.

26. (Male/35/veterinary surgeon)

(+) The theatre is very nice.

(+) Praça do Giraldo is a very beautiful place and good for meeting friends and family.

(+) Roman temple and garden is a beautiful monument and landscape to enjoy by day and by night.

(-) Hospital ES is a place with bad service and very long waiting time.

27. (Female/16/intern nurse)

(+) I consider Hospital ES to be a very important place to take care of our health.

(+) I am very curious about Roman temple to keep in my memory of Évora's history.

28. (Female /55/ Cleaning at recycling factory)

(+) The theatre Garcia de Resende is marvellous.

(+) Praça do Giraldo is a good meeting place with beautiful fountain.

(+) Roman temple is a beautiful historical monument.

(-) Access to Hospital ES is very limited.

29. (Male/31/student)

(+) The area of Roman temple is a place of historical attraction hosting the temple, the cathedral and the museums. The garden of Roman temple has a spot with very high altitude to have good view towards the north-west part of the town.

(+) Verney is a less crowded place and here you can find students from all over the world, a public garden and a bar.

(+) Praça do Giraldo is a central place where you can meet people, find many restaurants, heritages, tourists, shops and bank services. There is free wifi too.

30. (Male/72/Retired Professor)

(+) The Praça do Giraldo is a center of all activities and urban life of the city. It has many dimensions in collective memory of the people.

(+) The Public Garden which used to be notorious and inactive place in the past, has become a beautiful public place now that is integrated in the city life.

(-) The housing on the Rua do Raimundo and nearby neighborhoods has lost its previous glory of integrating green space, urban agriculture and water features.

5.5.4 Analysis 1: Array of Memories and Concerns

Now given the comments and drawings/illustrations, it can be deduced that interviewees identified many spots in the key map for which they have certain feelings, memories, thoughts, concerns and statement. These spots have specific geo-reference, they are not big area rather small places inside the historic centre, sometimes it's a building, sometimes it's a square/prça, sometimes a segment of a street and sometimes a garden. Those places are listed and tabulated for frequency of mention by the total number of respondents. They are marked as positive (+), negative (-) and concern (\pm) as well along with number of mentions. The table is stated below-

No#	Places			List of Interviewee (code number)																								
		(+)	(-)	(±)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	Praça do Giraldo	13		2																								
2	Theatre	4		3																								
3	Aqueducto	4																										
4	Rua Do Muro		1																									
5	Porta de Avis	2																										
6	Porta Velha de Lagoa	2		1																								
7	Porta de Raimundo	1																										
8	Entry point of Rua Da Republica	1	1																									
9	Porta Rua Serpa Pinto	1	1																									
10	Portas de Moura	2																										
11	Rua do Raimundo			3																								
12	Rua 5 October	2		2																								
13	Triumph Arch	1																										
14	SHE	2																										
15	Largo do Alvaro Velho	2	1																									
16	Igreja do Sao Vicente	1																										
17	Oficina Bar	1																										
18	Bone Chapel	2																										
19	Palace/Patio de Sao Miguel	1																										
20	Rua de Aviz			1																								
21	Cathedral of Évora	4																										
22	Roman Temple	10																										
23	Garden of Roman Temple	3																										
24	Barahona Palace	1																										
25	Main Axis	4		3																								
26	Public Garden	11																										
27	Children Garden	5																										
28	Hospital ES	2	4																									
29	Jardim dos Colegiais	2																										
30	Public Library Évora	2																										
31	Cemetery	1	1																									
32	Pousada dos Loios			1																								
33	Town Hall/CM	1																										
34	Mouraria	9	1	3																								
35	Judairia	2		2																								
36	South East Part (area between Rua d	2																										

Table 5.2: Summary of Mapping Interview (Full table is available in Annex)

5.5.5 Analysis 2: Accessibility

The area of historic centre is only 1 sq. Km with a population of nearly five thousand. But the total Évora city that extended outside the wall occupies 1300 sq. Km with population 56 thousand people. The density is drastically high, almost 100 times in the centre compared to the part outside of wall. But there is an eye opening statistics when comparing the population size of municipality and historic centre. Over the years, the population of municipality of Évora increased from 50095(in 1960) to 56596 (in 2011) but the population of historic centre decreased from 15096 (in 1960) to 4738 (in 2011). This happened due to the lack of ease, service and facilities that belongs to administrative, technical and business regime(Barata, 2021; F. T. Barata, personal communication, 25 May 2022).

Municipality Territory		Historic Centre	
Years	Population	Years	Population
1960	50095	1960	15096
1970	46900	1970	12696
1981	51575	1981	10687
2011	56596	2011	4738

Table 5.3: Population of Évora (Source: Camara Minicupal de Évora)

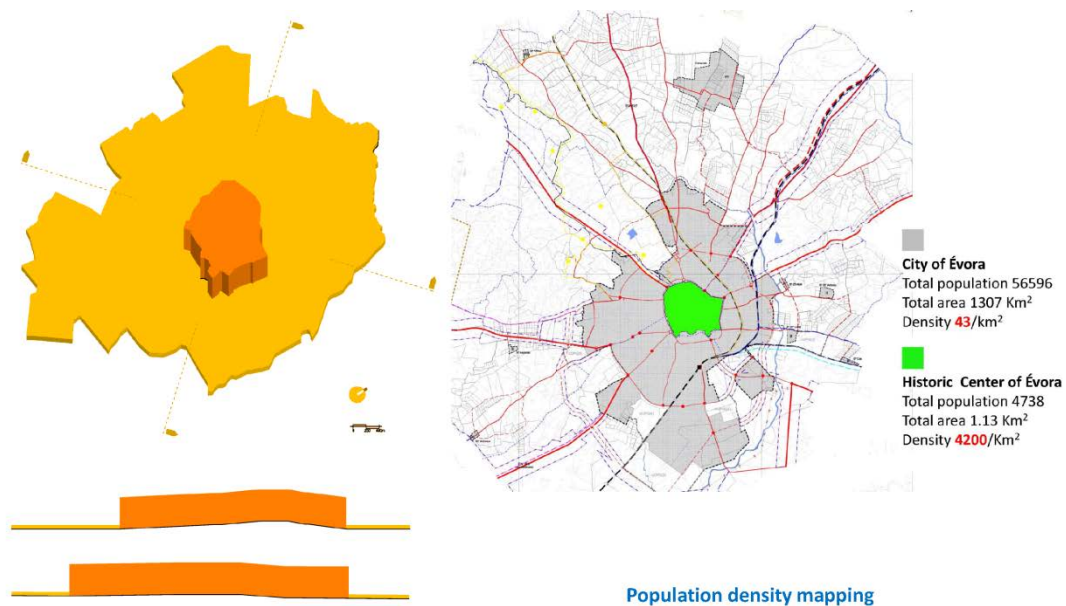


Figure 5.20: Population density in the historic centre vs. the total municipality of Évora [source: Instituto Nacional de Estatística (INE)]

While the city of Évora has grown bigger, the population density drastically differs inside and outside of historic centre. Municipality, banking, finance and other important offices, many businesses including legal, tourism, craft, restaurant and hotels are operating inside the historic centre. Therefore the issue of and need for

mobility, accessibility and transport whether it is by public transport, car, bicycle or walking are very important.



Figure 5.21: Major tourist accommodation and access

Let's see the tourist part of the population first. The purple parcels are the major accommodation, hotels in historic centre that are located near wider streets shown in blue. Most of them have one way traffic.



Figure 5.22: Tourist attractions

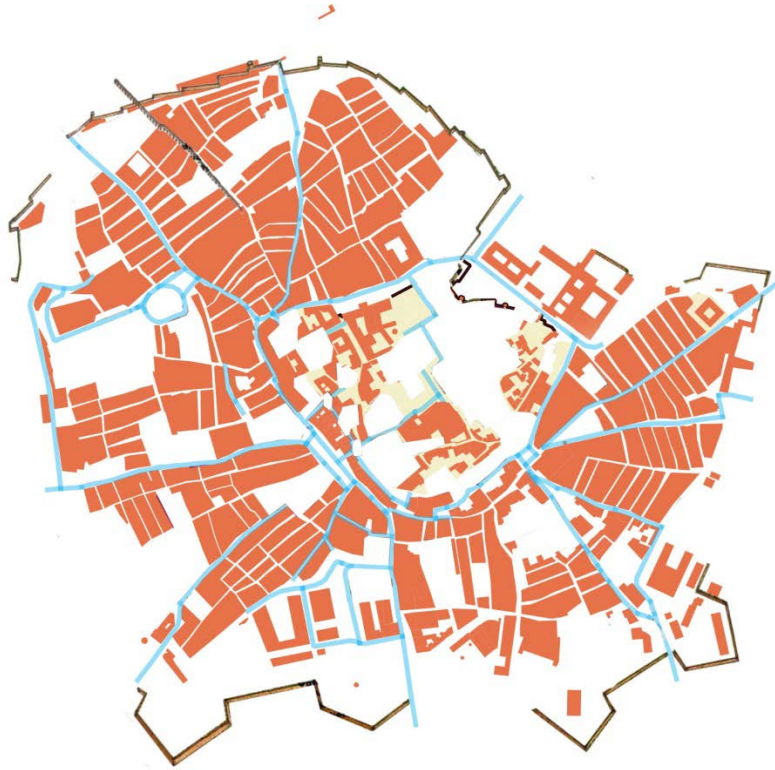


Figure 5.23: Spaces occupied by regular residents and non-tourism activities

And these are the tourist attractions, non-residential historic buildings with tons of interest. The restaurants to serve them are also located conveniently in very short distances. Remaining white spaces are occupied mostly by regular and long term residents. That are represented in the figure 5.23 above. Please note the numerous narrow streets in white serving the residents at every corner, even the most remote one.

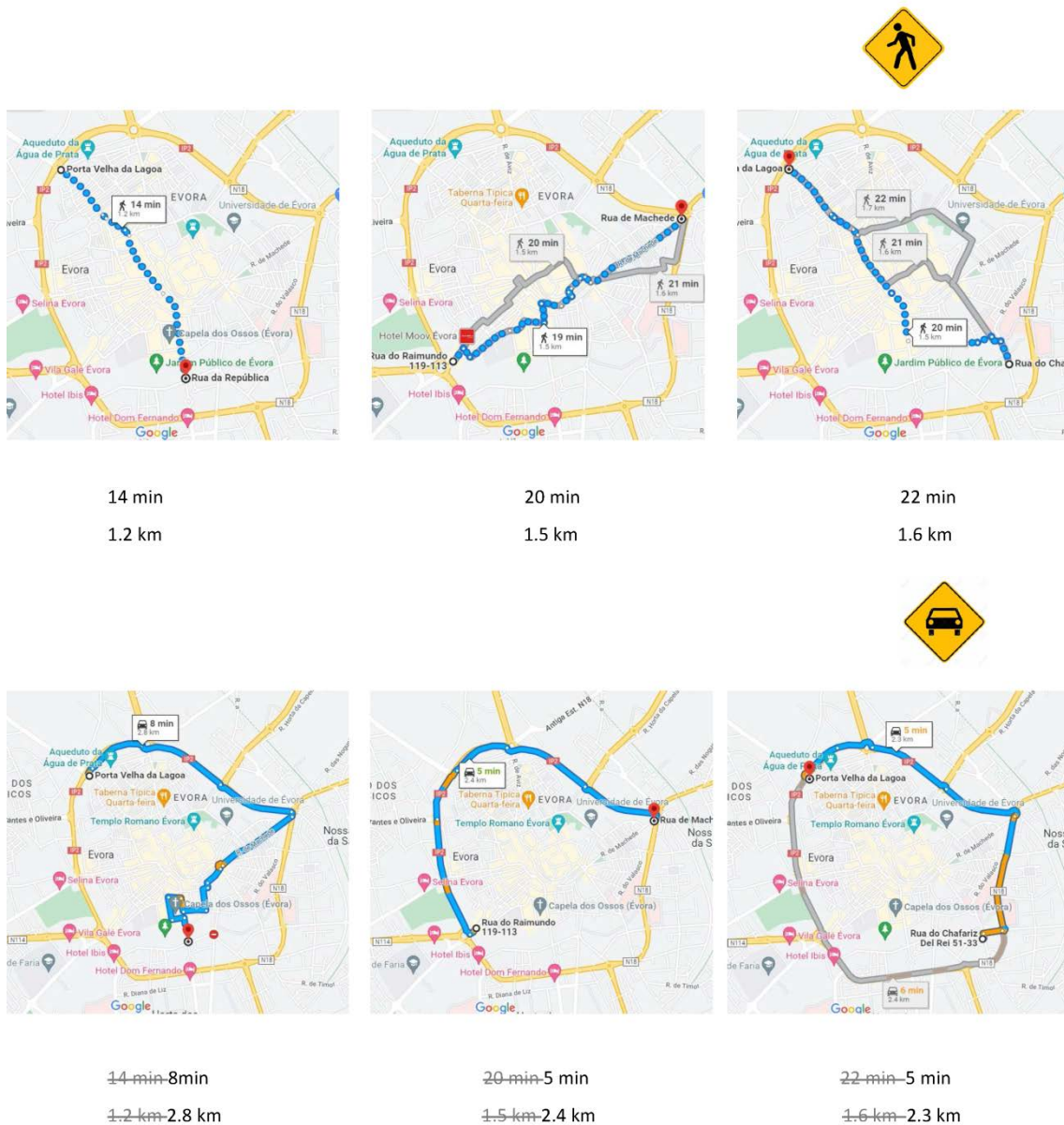


Figure 5.24: Distance and time from point A to point B by walk and by Car

For straight line distance, the maximum walking distance across is 20 minutes for 1.5 kilometres but will probably take a bit more as it is 35 meter climbing towards the geographic centre from the edge. The exact same journey from previous slide changes by reduced time and increased distance when accomplished by car. But the driving is a bit tricky in the historic centre due to the one way traffic system and the parking facility is extremely scarce due to lack of space.

The dynamics of walking vs. driving occurs due to maintaining most streets as a one-way drive. Therefore utilizing shortcut and numerous squares (praças) that connect streets and areas are very handy to save time by walking. The walking becomes very efficient for small trips like 200 – 300 meters as opposed to car trips.

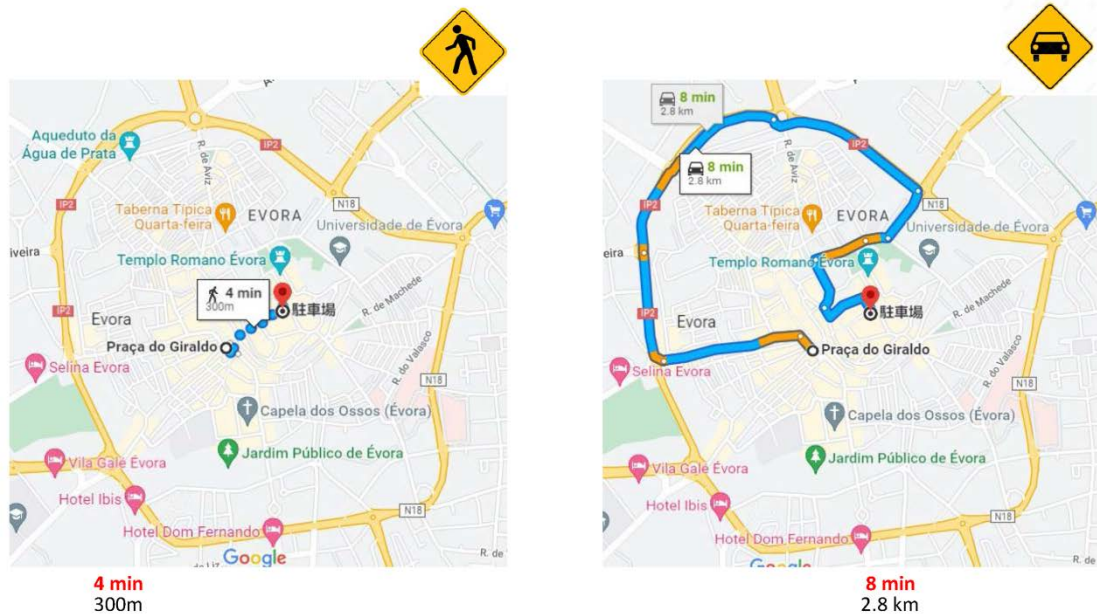


Figure 5.25: Time and distance between same spots when approached by walking as well as by car.

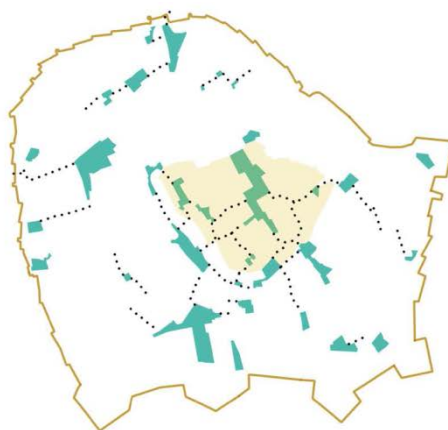


Figure 5.26: Short cut pedestrian connections through praças and largos

The urban morphology was developed in such a way that the historic centre has many small urban plazas and squares that are connected by a lot of short-cuts. That is the beauty of dense historic settlement.



25% walkable street
(either has footpath or vehicle not allowed)

Figure 5.27: Ratio of length between walkable streets and drivable streets

Road and street Network inside the Historic centre is quite like a web. Total length of streets that allow cars is approximately 36 km and total length of streets that has either designated footpath or dedicated to pedestrian is approximately 9 km. That means comfortably walkable streets represent only 25% of total street network.



Figure 5.28: Surface material and street condition

The material and surface condition combined with slope, which is authentically representing the past, is not the most comfortable for pedestrian, especially for children and old – evident from interview.

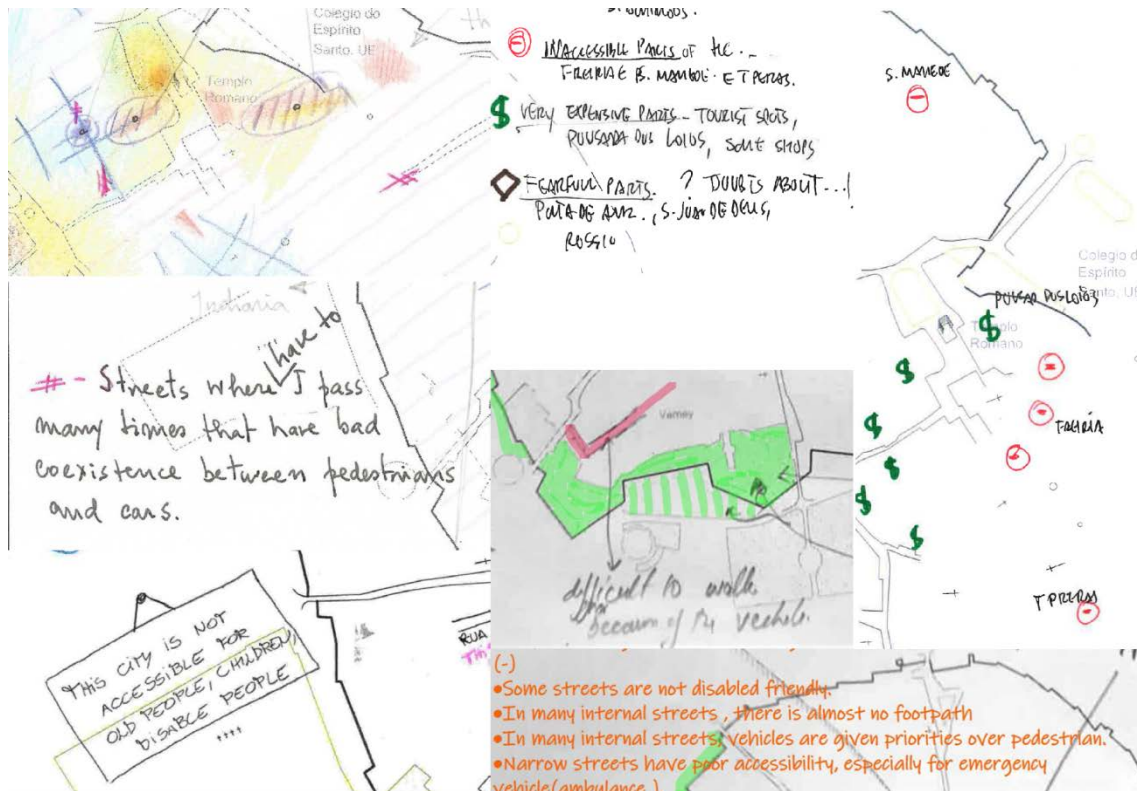


Figure 5.29: Accessibility issues addressed in the mapping interview

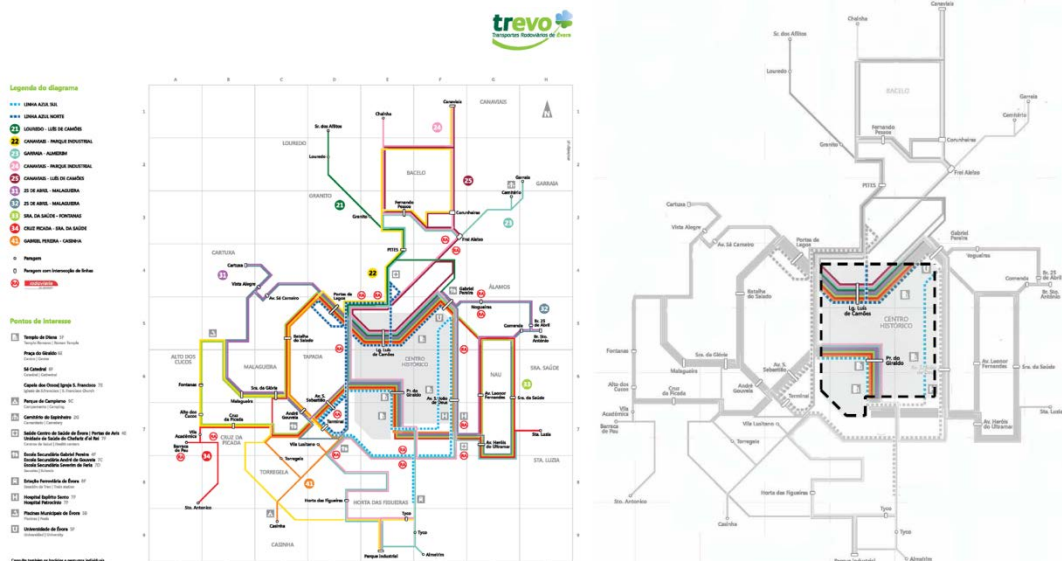


Figure 5.30: Public bus routes and very small share to the historic centre

Let us take a look at the public transport. There is only public bus service available and fortunately all of them pass through the centre of the centre -Praça do Giraldo. This diagram from Transport Company is not to scale. The historic centre appears here is much smaller.



Figure 5.31: only few bus stops are meant to serve a lot of residents.

In the centre there are 2 main stops from the opposite direction. The public transport actually serves very few spots of the centre. From the small circles representing bus stops on one side of the orange lines, you would understand that the right-hand drives buses run one way. Travelling by bus from one spot to another in here is painstakingly frustrating for its waiting time and travel time. The public transport is only useful from historic centre to outside and vice-versa. It is an arguable question how the 3000 plus houses are served as well as how accessible they are for day-to-day activities, especially when there is the need for emergency vehicles!

5.5.6 Analysis 3: contestation between local habitation and tourism

The revenue earning factor of tourism and local habitation has a mixed relationship resulting in gentrification and one kind of inflation. There have been many examples in the world where new urban development or revenue increasing factors gentrify existing local businesses as well as local housing market. The New York Highline (converted post-modern park from a derelict above ground historic railway line) is a great example of that. Feeney (2011) notes some evidence how the success of High Line accelerated gentrification in the surrounding neighborhood. The land mark public space became more and more touristic and became the victim of its own success, so is the community whom the High Line belongs to.

Similar can be expected to any tourist destination in the world and Évora is no exception especially when it possesses the status of UNESCO World Heritage. The international recognition has led to the development of tourism, services, hospitality, catering and the like, craft and gourmet shops on one hand, declining other traditional functions of the old city small carpentry, locksmith, car repair and bicycle workshops, alongside artisanal activities such as tailors, corrections and shoemakers etc. Tourist

functions of the old city small carpentry, locksmith, car repair and bicycle workshops, alongside artisanal activities such as tailors, corrections and shoemakers etc. Tourist arrival (chart 5.1) and activity is increasing all over Portugal over time and Évora has its fair share. There is consistent population decrease at the same time in the historic centre which is reciprocal to the trend of tourism growth.

(in millions)

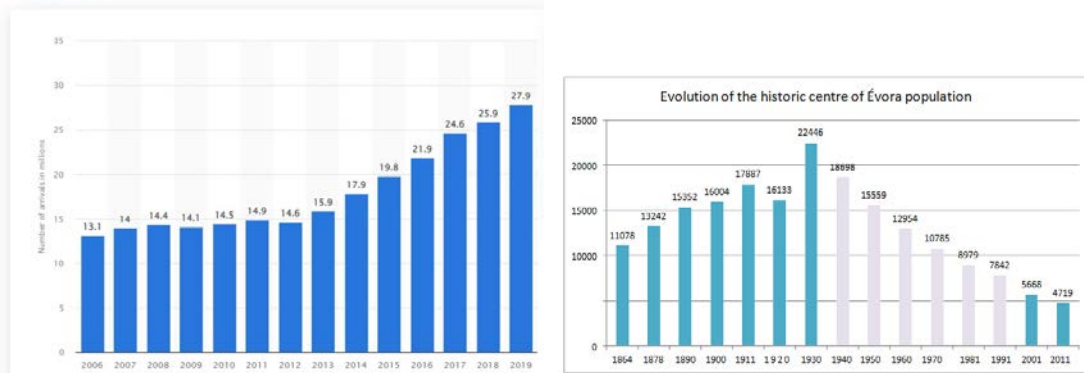


Chart 5.1: (a) Number of arrivals in tourist accommodation in Portugal from 2006 to 2019(source: statista) vs. (b) population decrease in the historic center of Évora(source: CMÉ archive 2020)

The decrease of population in the centre is not same with the rest of the municipality, rater opposite. The overall population in Évora is increasing but the decline happens only in the center as evident from the following chart.

Municipality Territory		Historic Centre	
Years	Population	Years	Population
1960	50095	1960	15096
1970	46900	1970	12696
1981	51575	1981	10687
2011	56596	2011	4738

Table 5.4: Population dynamics in the municipal territory vs. Historic Centre (source: CMÉ archive and (Barata, 2021)) (upward blue arrow means population in municipal territory in increasing with time while red down arrow indicated population in historic centre is decreasing with time)

Therefore it is clear that there are factors responsible for repelling people from living or maintaining a lifestyle in the centre which is partially related to tourists because the tourist attractions and activities as well as some major accommodations are inside the World Heritage centre (figure 5.21 and 5.22). The gentrification and inflation caused from the result of tourism are also evident from mapping interviews (figure 32) [note the comments from respondent 16, how increased rent forced him to live outside the city despite preference for inside].



Figure 5.32: Different interviewees mapping parts of the city to talk about the housing and retail expense increase due to tourism

There are other concerns in addition to the expenses of daily life. There are expenses for repairing and remodelling of the houses. While preparing to submit the candidacy of world heritage site to UNESCO, the designated areas and ways of conservation of houses and walls were determined that is still maintained. It was decided to preserve not only the façade of the buildings but also the main structure of the houses inside CH. This resulted in bureaucratic hurdles (figure 5.36) for permission and lack of flexibility to repair and remodel the houses. The lack of flexibility includes choices of design and material as it was directed to use only certain kind of material to comply with the heritage status. As a consequence many people left the CH to live outside as the price of recovery of the houses became too high.

The services provided by the city hall are also important for the inhabitants. If the city Hall (CMÉ) does not provide services inside the CH, people don't necessarily need to live inside the CH. Several regional services of the Public Administration occupied important properties, such as the Directorate of Finance, IPJ, INE, IEPF and the Alentejo Culture Delegation. Banking, insurance and office services grew in the 1980s and 1990s, as did liberal professionals, doctors' offices and clinics (CMÉ, 2017). But during many years after the 90's, the municipal archive and services were provided from outside, near the present industrial area (F. T. Barata, personal communication, 25 May 2022) and it was very inconvenient for the people of CH to access there every now and then for approvals to do expensive remodelling of the houses along with availing other services. The City hall has been shifted recently to the centre again (now located at Praça do Sertório) which brings back hope.

However, the maintenance of buildings and houses are neither cheap nor straightforward in the centre. The regulation of delimitation under the scheme RJRU puts restrictions on all old buildings that are more than 30 years old which comprises of 75% of total buildings in the historic centre (table 5.5). In the CH, more than 90% of buildings are over 40 years of age. Among the available accommodations, 2424 correspond to habitual residence (56%), 739 secondary residence (17%) and 1163 are vacant (26.8%).

Before 1919	1919 - 1945	1946 - 1970	1971 - 1990	1991 - 2011
520	1326	929	215	148
16.6%	42.3%	29.6%	6.8%	4.7%

Table 5.5: Age of construction of the building in the current urban structure of the CHÉ (source: CMÉ archive 2020)

According to a census of 2011 and 2015 by the Urban Planning and Rehabilitation Division (DORU), roughly 1/3 of the buildings (1026 buildings) had dilapidated condition to different extents and needed restoration (following table 5.6 and map at figure 5.35). While this one third is in poor condition, most of them are vacant, 26% of the total buildings to be precise. Some of them are without water and sewer connections. Photographs (figure 5.33 and 5.34) show the external appearance of such dilapidated buildings below.

1/3 buildings needed restoration (1026 buildings)				
Good condition	Reasonable condition	Bad condition	Ruin	In Construction
76	604	173	56	17
7.4%	58.9%	16.9%	5.5%	1.7%

Table 5.6: Status of dilapidated houses

The situation continues to exist due to some threats identified as (1) Excessive bureaucratic burden in licensing processes by force of the asset constraint (see figure 5.36). (2) Weak rental market and (3) Very low average income value. (4) High cost of rehabilitation works. The desertification of human population in the historic centre is alarming and it could potentially leave the centre out of functions. The recent trend shows sharp decreasing in population along with sharp ageing.

Therefore the concentration, incentive and efforts towards a commercial and revenue generation attitude (e.g. tourism) may affect the source itself (e.g. tangible and intangible cultural assets). For a sustainable urbanism it is important that the source is lived and maintained sound through generations and the true spirit of Heritage exists. Fortunately there are very recent intervention schemes from CMÉ and other national authorities to address the issues of poor condition of buildings, most of them are mainly financially oriented though. Perhaps it is necessary to address the above crisis and problems socially and environmentally as well for enduring long and be truly sustainable. These issues will be discussed more in the conclusion section.



Figure 5.33: Dilapidated and abandoned Houses in Évora (source: author)



Window

Door

House

Figure 5.34: Openings of dilapidated houses are closed while they are either abandoned or not being renovated (source: author)

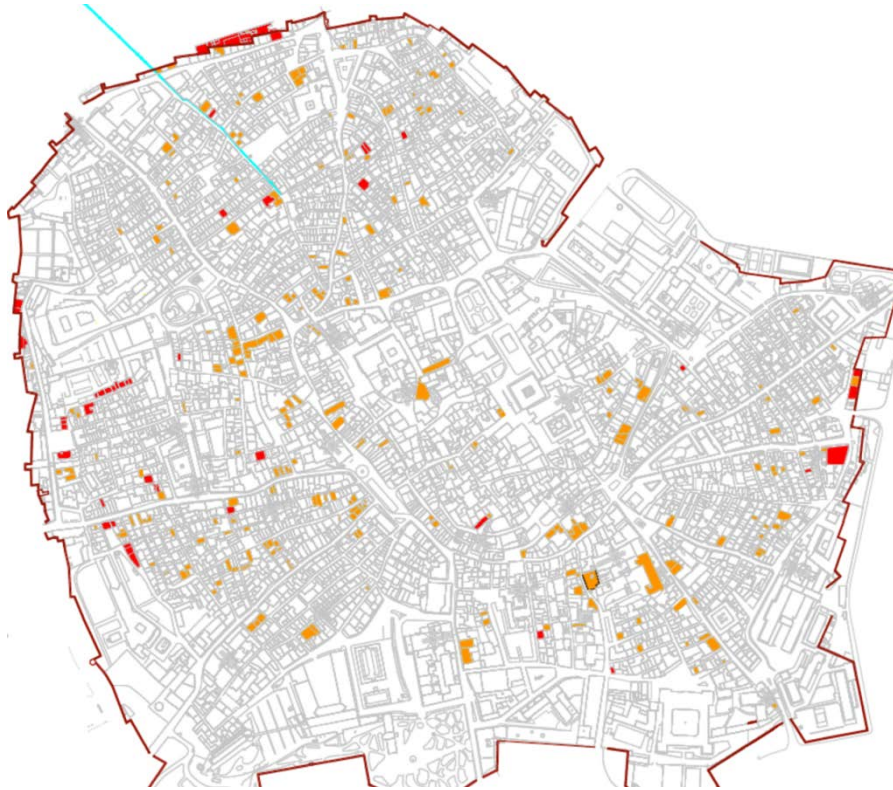


Figure 5.35: Survey of the State of Conservation of Buildings in Ruins and In Bad State of Conservation in the Historic Centre of Évora (Source: CMÉ archive)

The wall is actually a threshold after which everything changes. There is sharp contrast between inside and outside of wall in terms of density, road network, surface material, landscape, age of the buildings, administrative regulations and many more. Since most of the negative spaces relate to the threshold of wall and the boundary of the historic centre, it is important to look at the matter how well integrated the historic centre is to the rest of the city outside.



Figure 5.37: Places of concern and negative connotation from mapping interview

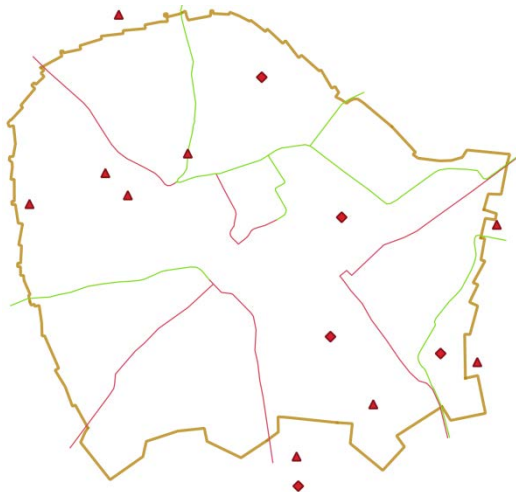


Figure 5.38: Places of concern and negative connotation mapped and synthesized

Regarding the integration the answer is not straightforward rather it lives inside the history how the historic centre and the surrounding neighbourhood became united under the regulation of Câmara Municipal de Évora. The peripheral areas around the CH have reached its present state step by step. Before the master plan of Évora, in 1976 there were 14 unauthorised neighbourhoods (informal, built without

permission)(Barata, 2021; F. T. Barata, personal communication, 25 May 2022). The first objective was to do an integration of these neighbourhoods with the historic centre. The primary urban development plan considered two – three things on the first line. It intended to avoid cars coming inside the CH. So it was planned to make a circular road network around the city so that it could avoid thoroughfare effectively. This circular road became itself a kind of border, frontier which was not foreseen by the responsible architect/urban designer back then.

The movement of integration of CH with outside neighbourhoods destroyed a lot of functionalities around Évora. During the master planning it was perceived that agriculture was not a good idea in urban spaces, rather it should be done outside. So in the beginning of execution of the plan all the agricultural infrastructure around the city were destroyed. Inside the CH there was small fields and small scale agricultural practice too. There is toponymic evidence to testify. “Chafariz de El Rei” was a place for Fountain of the king, “(Bairro do Poço) Entre Vinhas” was the place for grapes, “(Bairro de) Bacelo” was also for grapes- Bacelo is the name of grapes when young. The lands just along the circular around CH were considered to be developed for industries and office buildings in anticipation of a crowded and busy city. The anticipation was not realized as expected. Few of them were developed with housing and few with commercial buildings but rest of it failed to attract investment and it left a lot of empty spaces. Rossio, the car park in front of SEF, as well as at Porta de aviz are that kind of spaces. Since they are unoccupied, people started putting cars there. They are not designed as parking. There is no parking signs there and the surface material is just dirt. So the noble idea of integrating the other neighbourhoods with CH was kind of alien, imposed and ignoring the local existing elements which resulted in questionable success of the process.



Figure 5.39: Empty ground of Rossio (a) Past activities [image source: [ViverÉvora](#)] (b) Present annual fair [image source: [odigital](#)] (c) informal parking all the year round [image source: [Maria Eugenia Delgado Casale](#)]

Besides of the top-down urban planning process there was bottom-up input included. There was no decision without the opinion of the community. It was a successful process inside the CH. The proposed plan was sent to Junta de Freguesia and through there the community sent back their opinion and a revised plan and then the municipality was obliged to discuss with the community. As the outside

neighbourhoods were illegal, there was no political organization to communicate this process. Even with the effort of communication people were only concerned about their own houses and not the integration. They were not politically organized at all, they were centred by a church here, a small industry there, etc. They were consulted but there were no elected people to effectively communicate and participate. Inside the CH it was much more clear and organised. There were rigorous discussions and voting about decisions (for example, the one way traffic). But outside of CH, the people of different neighbourhoods did not know each other and could not organize to do a similar process. So there was almost no community engagement regarding the integration of CH with outside neighbourhoods. This resulted in producing a lot of empty spaces outside the CH⁷.

The empty spaces, product of a lack of vision and political process, were left without definitions and not in the focus of planning and development. They were kind of void and emptiness in collective memory. Nobody knows what to do there or what it is good for. People started put their cars in the empty space and it has now been a common practice. This is a kind of appropriation people chose to make naturally. They are not designated parking because there is no parking sign and the surface material is just dirt. While nobody (the authority) claims the space for any particular function, it is general public who reclaims it for everyday parking. Regular visit of people (for parking purpose) attracted several other functions like evening food cart. There are other occasional functions which appropriate the space of Rossio which include monthly informal market (mostly run by gypsies) and an annual fair “Feira de São João”. However, the spaces still remain as a confused, definition-less and negative spaces in people’s mind as evident from interviews. There are other places of concerns like this which still has some occasional functions but perhaps might be anticipated to be empty in future. Bull fight arena opposite to children park and corn warehouse beside the academic service building of UÉ belongs to this category.

There is an observation from the negative perception of spaces while it is related with the threshold (the Wall, as mentioned in an early paragraph of this section). In the following mapping exercise, one can observe that some of the spaces of similar configuration along the threshold (marked as parking in grey colour) are identified as positive and some as negative. Positives are mostly on the west side along the wall while the negatives are on the North, South and east side. The fortified wall is quite high, originally designed to keep away potential aggressors/attackers and therefore is not in a very welcoming scale to human. Non-productive functions (like parking lot) directly beside the wall, proves to be fearful, disliked and negative spaces. Similar places but when the wall is integrated and mediated by gardens and landscape, the

⁷ The total procedure happened during a significant time period, is documented and testified by people closely involved in the process in administration and other roles (Barata, 2021; F. T. Barata, personal communication, 25 May 2022; Barata & Sá, 2020)

scale become enjoyable by humans, are more welcomed by users and thus give a positive connotation.



Figure 5.40: Comparison maps to show how eastern side and western side of Historic centre produce negative and positive connotation in people's memory in relation to landscaping decision

Évora need gardens and green spaces as such amenities are seriously lacking especially between the historic centre and the neighbourhoods outside. The contemporary trend of landscape based approach and linking neighbourhoods with green spaces could be a very effective linking element throughout the city. There are different parts of the city (wealthy, mediocre, poor, functionally under transformation, under gentrification etc.) that could potentially be linked too with green spaces⁸.

5.6 Limitations and justifications

5.6.1 Methodological

There are possibilities of methodological limitations. Some of the data can be biased. For example, there is no happy memory regarding the hospital and the place is marked negatively in the mapping by the respondents. Analysing detail experience shared by interviewee it is found that the experience is only personal and very specific to medical concern. It is not directly related to place making in the city (but of course there is indirect connection).

Mapping and interpretation of by author possess subjectivity because this is a person's choice. With the provided data anybody can follow the research track and arrive at different interpretation and thus the subjectivity might be addressed. This has been discussed in details in the third section of conclusion.

⁸ It refers to elements like the landscaped path between the wall and the road, which accompanies the former and is used by the population for hiking, as well as the cycle path that follows the old railway line on the outskirts of the town.

5.6.2 Fieldwork

Regarding mapping interview there is question about selection method and sample size. The method of selection (snowball method) and reason is explained in section 5.4.7. Considering the time limit of field work and volume of inputs for the relevant chapter the sample size was determined. Perhaps for more realistic results a very large sample size is required but that is under scope of a dedicated research project higher than a doctoral level.

5.6.3 Limited social indicators for evaluation

The terms representing indicators of urbanism, especially social agendas includes the following- topography, geomorphology, land use patterns, spatial organization, space perceptions, open spaces and visual relationship, (in)equity, spatial isolation, scarcity, safety, affordability, (in)justice, accessibility etc. These indicators are illustrative and since this section of site specific methods is a smaller part compare to the total context of the thesis (where the primary focus is on developing a methodology for settlement), selective indicators were assessed considering limited scope and time of the PhD.

5.7 conclusive remarks

Urbanism of contemporary time

Is UNESCO World Heritage Status an asset for Évora or a burden? The discourse of heritage urbanism tries to find an answer whether to take a capitalist approach of preserving and conserving the cultural heritage for the sake of conservation with an aim of cultural tourism and revenue generation from that; or keep a balance between all the factors involved because the tree cannot live healthy if the root is in poor condition. Every part of human settlement has a set of systems. Urban areas are not any exception; it runs as long as the urban ecosystem works well. A city must provide all that is needed by a citizen. All the humans need basics like food and shelter, transportation, supplies of goods, health facilities, water and sanitation and the like. Depending on age and gender, people additionally need educational institution, social and cultural space as well as activities, gardens and landscape for health and wellbeing, cultural assets to be proud of and feel to be rooted to and many other similar elements in both tangible and intangible arena. An adult person might look for a bar/restaurant to go to for meeting people at certain time of the week, a child might look for a playground, a young family may look for a food delivery convenience for dinner, an old person may look for a way to walk his dog – a city would be self-sufficient as a healthy habitat when it can fulfil most minute detail needs of its citizens along with providing the basics; and for that purpose all support systems are required to work well individually. When there is a special asset attached to a city, e.g. Heritage, then a Heritage Urbanism becomes integrated with the city-systems. It is a burning

question whether Évora (historic centre to be more specific) might keep along the principles of Historic Urban Landscape approach and comply with the wider context⁹ and adopt contemporary approaches to heritage urbanism¹⁰. It is quite clear from the analysis sections that the heritage infrastructure and administrative mechanism Évora possess at the moment requires to be updated by including social and strategic endeavours to proceed towards the future, adopt the approaches proposed in both approach and be vigilant with the results to be ready to customize according to need. There is one detail, retrieved from the concept of Heritage Urbanism, very relevant in this regards- the urban interventions for exploiting the existing heritage assets needs to be accomplished in detailed thematic layers: urbanscape, naturescape, heritagescape, walkscape, soundscape, mindscape, ambiencescape, touristscape, waterscape, archaeologicalscape, publicscape, etc. (Obad Šćitaroci & Bojanić Obad Šćitaroci, 2019b)

To answer the question asked in previous paragraph and add more information to the heritage urbanism concept, a little history regarding the past landscape of historic centre might suffice. The city was built in a different way than seen today. Take the case of Rua de Raimundo, the ancient Roman road which had the first neighbourhood in the 14th -15th century. People from now hardly has any memory left of that. In the beginning, the houses were built with their doors to the street and some other houses with their door to a parallel street "Rua dos Mercadores". Both group of houses had common land at their back side dedicated to agriculture; and there was provision of water (fountains). Between houses there were small spaces to keep animals and there water sources were there to provide water to animals as well as to people. But the marvellous layout and morphology of the city with urban agriculture included, has been abandoned gradually at the beginning of 20th century(F. T. Barata, personal communication, 25 May 2022). Therefore when the specific details, knowledge, heritage in the city are forgotten and value not given, the link to the history – the way the city was built as well as natural and cultural features, are lost. New plans and new developments did not solve the existing problems that people abandon the city, with time the collective state of the population grows to older and poorer. Same problem exists like 40-50 years ago. It is not all "lost story" though. The "Teatro Garcia de Resende" in the 80's and 90's was a very beautiful and animated place; it was the centre of culture. Now it is little bit depending on the political guidance of the people that run the theatre. The Praça do Giraldo is a gem of all spaces. The people of the city perceive this place as the centre. There is a column(of a building) in the praça has a notice board that announces the recent deaths inside the city. In the morning people visit it because it is the place of the news. Such beautiful things still exist there in Évora that can carry legacy.

⁹ Reference from section 5.2.3

¹⁰ Reference from section 5.2.4

In the summary, it is perhaps logical to say that at present the historic centre of Évora has a matrix of interesting and sad places, historic spots and contemporary interventions, proud historic buildings and ruins, new wave of people as well as old and declining residents along with many more possibilities. It is of utmost importance to take care of the treasure that are not lost yet and carry forward carefully with sensible heritage urbanism.

Évora's challenges and achievement

The mapping interview brings out the visible parts of the challenges Évora is facing. Population degradation, cultural assets degradation, bureaucratic hurdles and some more lies in the core of the problem. Évora perhaps never went backward since it started to organize itself in the 80's starting from UNESCO's WH list and a total master plan of the city which did not exist before. Programs like PROCOM, REHABITA etc. to revitalize areas in accordance with heritage urbanism were successful due to the community's attachment to historical heritage and the traditional urban image. It is a shame that landscape and attention to local details were ignored in the planning process but it is always better late than never. Fortunately these days there are quite a lot of administrative efforts to address these challenges. Following is a list of 8 projects to revive the historic centre operated by national authority as well as CMÉ.

- Fundo Jessica;
- IFRRU 2020;
- Programa "Reabilitar para Arrendar";
- Fundo Nacional para a Reabilitação do Edificado;
- Programa Casa Eficiente;
- Estatuto dos benefícios fiscais;
- Taxas e Licenças Municipais
- Imposto Municipal Sobre Imóveis (IMI)
- Imposto Municipal sobre Transmissões Onerosas de Imóveis (IMT)

Figure 5.41: Public Support Framework for execution operated by national authority as well as CMÉ

In Évora Strategic Plan (2020), Évora identifies itself as a competitive municipality with identity, as described by CMÉ. In detail strategic plan (Axis 3) emphasis was put into creating conditions that enhance entrepreneurship and innovation; promote the image and potential of the region, reinforcing its identity factors and positioning the municipality as a tourist destination; promote business density and the capacity for association and cooperation between companies. Full rehabilitation of buildings, aged 30 years or older, or, in the case of underage age, demonstrating a conservation level of

2 or less (DL.º 266-B/2012 of 31 December) is proposed. These objectives are mainly having financial proposals in mind, mostly- for example, the National Fund for the Rehabilitation of the Building (FNRE) is intended to review the form of a special real estate investment fund oriented to the development and implementation of real estate rehabilitation projects and the promotion of leasing, with a view to urban regeneration and repopulation. In addition to that, the "Rehabilitate to Rent" Program is managed by the Institute of Housing and Urban Rehabilitation (IHRU) and aims to finance rehabilitation operations of buildings aged 30 years or older, which after rehabilitation should be intended predominantly for housing purposes. The resulting fractions are intended for rental under a conditional income regime. This financing line has a fixed interest rate of 2.9% for 15-year loans. The loans could reach 90% of the total value of the rehabilitation works that the owner is willing to do, having to obtain funding for the remaining 10%. It should be noted that the allocation allocated to this programme of around EUR 700 million through the 2017 State Budget.

But it is hard to achieve an objective if the problem is only addressed financially which is a limitation of current approach. There needs to be an landscape integration approach as well as flexibility, like providing a framework and allow choices of functions to fit in accompanied by supply of services like accessibility, safety and security, administrative and financial assistance etc. There are some limitations too in the recovery program ORU (urban rehabilitation program) that aims to stop the degradation of houses that are already in poor condition and attract new inhabitants in decent conditions. This objective alone would not be achieved if the desirable number of permanent inhabitants reaches above approximately 7500, as anticipated by CMÉ. For a sustainable existence of enough population and local business safeguarding is necessary against the after effect of tourism activities, should there be any adverse effects (like Gentrification etc.)

Public participation and Data visualization

Public opinion for an urban process is very necessary for its success but public participation can be tricky at times when it is affected by lack of knowledge, training as well as personal interest. But guided participation can be a very effective input from general people in the planning process. For that purpose effective communication is essential. Scientists and researchers are used to handle data, work with it and bring outcomes. For general people data visualization can really engage people in the process effectively. Instead of providing public with reports and verbal decisions, opinions- info graphics and mapping exercises can be really helpful. In the post-pandemic world visualizations shared by web-technology might be very fruitful. Because the urban planning process, as part of the urbanism, needs neither to be a top-down nor bottom-up approach. It need to be an integrated approach where

personal and organizational interest has least priority rather the core cultural life of a settlement and its sustainable survival is of utmost importance.

In this research the author produced a communicable web interface for data visualization and public participation. Anybody with the web link can visit the website and see maps. The maps are a combination of author produced maps and public opinion that came through mapping interview; they all were put in different layers. One can visit the site and select as many layers as one likes to see the customized combination. Therefore it is possible for other researchers, people from municipality as anyone who has a link, to navigate through these maps. The text of mapping interview that has tabulated data (text) are also communicated through these maps. Another intention behind building this web-interface of the maps and sharing with other people is to reduce subjectivity of interpretation because when analysis is done by author (using these data and maps) they are the views of the author. If other researchers or responsible authority take interest to start somewhere in the middle and utilize the data and visualization, it is perfectly possible through this web interface to arrive at different interpretation, thus making the process more democratic, open to public and reduce the scopes of subjectivity.

Following is a link to the web interface of the mapping: [HUI - Webmap \(google.com\)](http://HUI - Webmap (google.com)) . It is already developed to a certain extent and is subject to regular update.

Summary

Overall, There are quite some positive points and features in existing urbanism of Évora, for example, Services,(admin, banking, etc.), child support, educational institution, efficient pedestrian network (compromised though), places for cultural events etc. The negative features include overall accessibility, lack of environmental sustainability and poor economic mechanism etc. At this point of time, insight and analysis, it is found that there is a **conflict and balance situation** by equipping the city with modern facilities, make it more environment friendly and made the residence and business more economically viable while retaining the cultural identity and Heritage infrastructure. It is evident from the mapping as well as interviews. It now really depends on the mind-set of stake holders (city dwellers, administration, commuters and tourists) where the **compromise** can begin and what **alternatives** are at our disposal. Compromise can be organised on any part of the heritage infrastructure whether it is truly necessary to retain the original physical historic material, structure for the sake of authenticity of heritage or to trade for modern facilities. Just to **elaborate** a bit- in Évora most houses yet retains the original structure as well as original façade and renovating attempts goes through very tough verification so not to put the authenticity in question. But the income generating activity of tourism perhaps interests only on the façade for most typical houses. Now the compromise and

alternative may arrive at the proposal of liberating the structural change for typical houses, preserving and showcasing the authentic structural features digitally and physically retaining the façade characters. This solution can perhaps increase economic viability of house owners to renovate and live in their houses (or rent) which may result in reduced empty house numbers in the historic centre. This is just one case of already functional heritage city towards the UNESCO proposed HUL approach and it can be altered, modified and adopted for other areas of conflict e.g. accessibility, commercialization of cultural activity, business opportunity, urban agriculture etc.

Reference

- Barata, F. T. (2021). Managing Old and New Urban Environments in the City of Évora: Difficulties in Fixing Long-term Cosmopolitan Public Policies. In J. Schröder, M. Carta, F. Scaffidi, & A. Contato (Eds.), *Cosmopolitan habitat: World, citizens, living space: A research agenda for urban resilience*. jovis Verlag GmbH.
- Barata, F. T. (2022, May 25). *Urban planning process of Évora* [Personal communication].
- Barata, F. T., & Sá, J. (Directors). (2020, May 13). *ART IN | ARQUITECTURA- Malagueira e Arquitectura | Universidade Saudável* [Documentary; Youtube].
<https://www.youtube.com/watch?v=ngBaqymg8jU>
- Brabec, E., Carr, E., Chilton, E. S., Taylor, E., Clouse, C., & Hill, M. (2015). *Cultural Landscapes and Heritage Values*.
- Briney, A. (2019). *How Did Map-Making Begin?* ThoughtCo. <https://www.thoughtco.com/the-history-of-cartography-1435696>
- Britannica. (2022). *Cartography Definition & Meaning | Britannica Dictionary*.
<https://www.britannica.com/dictionary/cartography>
- Britannica, T. E. of E. (n.d.). Afonso I | king of Portugal. In *Encyclopaedia Britannica*. Retrieved 1 May 2022, from <https://www.britannica.com/biography/Afonso-I-king-of-Portugal>
- Câmara Municipal, É. (2021). *Património*. Câmara Municipal de Évora Official Website.
<https://www.cm-evora.pt/municepe/patrimonio/>

- CMÉ. (2017). *Operação de Reabilitação Urbana do Centro de Histórico de Évora*. Camara Municipal de Évora; CMÉ archive. https://www.cm-evora.pt/wp-content/uploads/2021/03/2017_00_00_ORU-CHE-2017.pdf
- Downs, R. M., & Stea, D. (2011). Cognitive Maps and Spatial Behaviour: Process and Products. In M. Dodge, R. Kitchin, & C. Perkins (Eds.), *The Map Reader* (pp. 312–317). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9780470979587.ch41>
- Feeney, S. A. (2011, September 28). Hard times under the High Line for small businesses. *The New York Times*. <https://www.newsday.com/news/new-york/hard-times-under-the-high-line-for-small-businesses-g36365>
- Haw, J. (2013, June 10). The UNESCO World Heritage Site Selection Process. *Scientific American Blog Network*. <https://blogs.scientificamerican.com/expeditions/the-unesco-world-heritage-site-selection-process/>
- Johnson, T. P. (2014). Snowball Sampling: Introduction. In N. Balakrishnan, T. Colton, B. Everitt, W. Piegorisch, F. Ruggeri, & J. L. Teugels (Eds.), *Wiley StatsRef: Statistics Reference Online* (1st ed.). Wiley. <https://doi.org/10.1002/9781118445112.stat05720>
- Leuven, K. (2015). *Landscape Urbanism—KU Leuven*. https://onderwijsaanbod.kuleuven.be/2015/syllabi/e/H02Q2AE.htm#activetab=doelstellingen_idm12549936
- Melon, L. (n.d.). *Modern History*. Portugal Live. Retrieved 6 May 2022, from <https://www.portugal-live.net/en/portugal/facts/modern-history.html>
- Merriam-Webster. (2022a). *Definition of CARTOGRAPHY*. <https://www.merriam-webster.com/dictionary/cartography>
- Merriam-Webster. (2022b). *Definition of URBANISM*. <https://www.merriam-webster.com/dictionary/urbanism>
- MINISTÉRIO DOS NEGÓCIOS ESTRANGEIROS. (n.d.). *Centro Histórico de Évora*. Comissão Nacional da UNESCO. Retrieved 23 April 2022, from

- <https://unescoportugal.mne.gov.pt/pt/temas/proteger-o-nosso-patrimonio-e-promover-a-criatividade/patrimonio-mundial-em-portugal/centro-historico-de-evora>
- Nag, O. S. (2018, August 17). *What Is Cartography?* WorldAtlas.
<https://www.worldatlas.com/what-is-cartography.html>
- Obad Šćitaroci, M., & Bojanić Obad Šćitaroci, B. (2019a). Models of Revitalisation and Enhancement of Cultural Heritage and Sustainable Use. In A. Mrđa (Ed.), *Cultural Urban Heritage* (pp. 457–475). Springer International Publishing.
https://doi.org/10.1007/978-3-030-10612-6_29
- Obad Šćitaroci, M., & Bojanić Obad Šćitaroci, B. (2019b). Heritage Urbanism. *Sustainability*, 11(9), 26–69. <https://doi.org/10.3390/su11092669>
- Parker, C., Scott, S., & Geddes, A. (2020). *Snowball Sampling*. SAGE Publications Ltd.
https://eprints.glos.ac.uk/6781/1/6781%20Parker%20and%20Scott%20%282019%29%20Snowball%20Sampling_Peer%20reviewed%20pre-copy%20edited%20version.pdf
- RAMSEY, A. C. (2021, October 6). The Moors in Portugal: A Brief History. *Portugal Our Way*.
<https://portugalourway.com/moors-in-portugal/>
- Rodrigues, P. S., & Matos, A. C. de. (2007). Restaurar para renovar na Évora do século XIX. In *DOSSIÊ: CENTRO HISTÓRICO DE ÉVORA* (pp. 134–143). DGEM.
<http://hdl.handle.net/10174/6517>
- Silva, H. V. da. (n.d.). *Centro Histórico de Évora | e-cultura*. Retrieved 5 May 2022, from <http://www.e-cultura.pt/artigo/20250>
- Silva, J. C. V. da. (1989). *O tardo-gótico em Portugal: A arquitectura no Alentejo*. Livros Horizonte.
- TRE, T. R. de É. (2018). *TREVO - Transportes Rodoviários de Évora*.
<http://www.trevo.com.pt/pt/default.html>
- UIS, U. I. of S. (2016, November 18). *Sustainable Development Goal 11.4*. UNESCO Institute of Statistics. <http://uis.unesco.org/en/topic/sustainable-development-goal-11-4>

UNESCO, W. H. C. (1986). *Historic Centre of Évora*. UNESCO World Heritage Centre.

<https://whc.unesco.org/en/list/361/>

Viver Évora: Mapa de Évora. (2014, terça-feira, de abril de). *Viver Évora*.

<https://viverevora.blogspot.com/2014/04/mapa-de-evora.html>

WHITRAP. (2013). *THE HISTORIC URBAN LANDSCAPE (HUL)*.

<http://www.historicurbanlandscape.com/themes/196/userfiles/download/2015/1/5/0rlneczs0ltzg72.pdf>

Wilde, R. (2019, July 14). *Key Renaissance Events in Art, Philosophy, Politics, Religion, and*

Science. ThoughtCo. <https://www.thoughtco.com/renaissance-timeline-4158077>

Chapter 6:

Labs in Collaboration

6.1 Introduction

The idea of labs in collaboration was initiated from testing the mapping methodology with different context, different scholar and different academic field whether it works or partially works or invalid. That could truly evaluate to what extent the methodology would be universal. The more universal it would be the more applicability it would gain. Testing universality was one of the research objectives as described in the introduction chapter of the thesis.

Now the scope of collaboration came with during the pandemic while fellow doctoral candidates were preparing either to give classes or preparing for organizing conferences in near future. Since all the facilitators were tutor/lecturer in some university, the link established for collaboration between academic institutions and naturally most participants were then from academic field. The common ground where everyone agreed upon was a methodological exercise. It was mixed method to suit the need of different academic arena but the target was to bring out some political, social, anthropological, spatial and strategic findings out of a chosen site/event/context. Broadly speaking, the expected outcome was layered narrative of a particular context using the methodology briefed and trained. The facilitators and participants continued all the activities on volunteering basis.

The collaboration was accomplished in three workshops. Following two subsections notes the application of interpretative mapping in anthropology research co-conducted by author in German and African academic context. Another subsection follows which take notes of another workshop conducted in Bangladesh in the urban study and research method domain. All subsections include the texts and images that were used in the briefs and poster so that reader can follow the way the workshops were conducted and co-conducted. The outcomes of the workshops were outstanding and they are briefly included here too. The last workshop in Dhaka was conducted solely by author and it works as a pilot project for Mapping interview (in Évora). All the outputs of this workshop are included in Appendix.

6.2 Workshop: Tracing Afterlives: Methodological Exercise

Event: Workshop

Title: Tracing Afterlives: Methodological Exercise

Time: 20 May and 8 June, 2020

Participants: 15

Facilitator: Yonatan N Gez, Nevena Tatovic, Shajjad Hossain, and Manya Kagan

Host Institution: University of Freiburg, Germany

The workshop was co-facilitated by author. The participants were students of master course on “Development Studies” in University of Freiburg, Germany and they have a background of anthropology. One aim of the workshop was to test the universality (e.g. in the discipline of development studies) of the methodology of “Interpretative mapping” proposed by author in the thesis. Following are some details of the workshop highlighting rationale, scope, aim, proposed methods, key questions and outputs. The workshop was conducted online in the middle of Covid19 pandemic.

At the heart of the workshop is an exercise, which you are invited to develop with a place of your choice. This could be a specific location (e.g. industrial ruins, a street, etc.) or an area (e.g. repurposed urban neighborhood), as long as it is a place that fits a description of a palimpsest¹ and possesses the potential of having **multiple narratives**. This means it could be reused/repurposed/re-appropriated, while still showing visible traces of the past. It could also be a place you are personally related to or interested about.

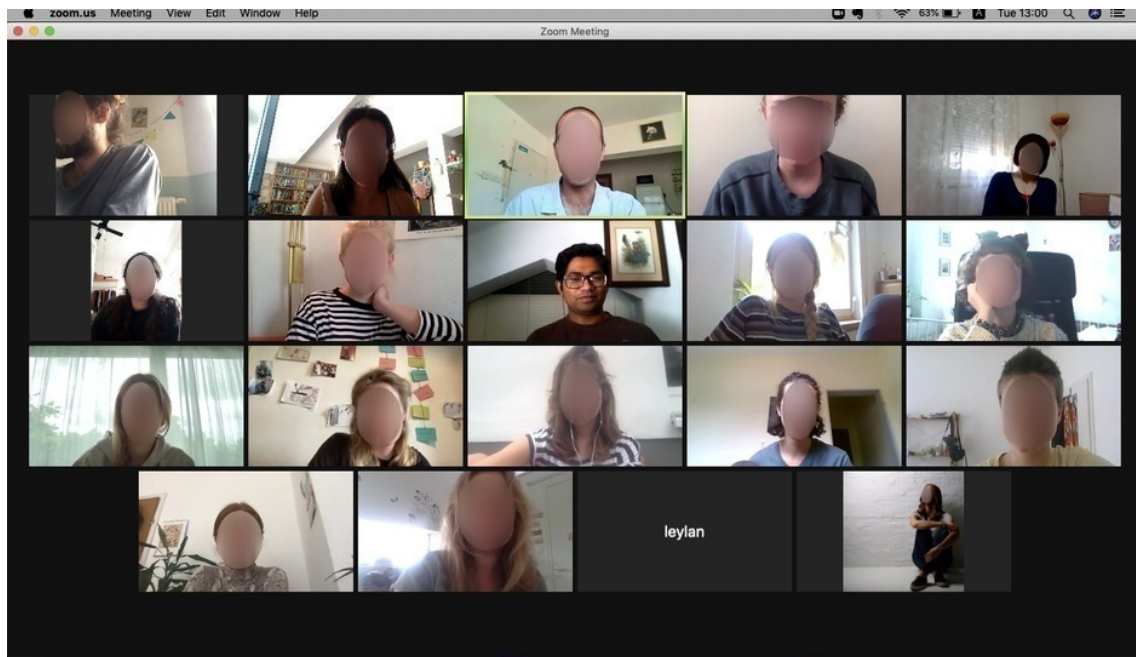


Figure 6.1: Participants of the Workshop 1

¹ Namely, an abandoned site or building that adopted an alternative use. Such buildings and places are interesting because they are often adapted for alternative uses, sometimes becoming the characteristic places of those at the margins of contemporary society, as squats for example, or places for play, or where drugs are taken and alcohol consumed. (Harrison, Rodney, and John Schofield. “Field Methods.” *After Modernity: Archaeological Approaches to the Contemporary Past*, Oxford University Press, 2010.)

The aim of the assignment is building a **layered narrative** of understanding places which might (though not necessarily) include all or some of the aspects listed below:

- (1) Hegemony (influence on the developer agency, economic, political etc.)
- (2) Phenomenology (experience, consciences, observation etc.)
- (3) Materiality (present physical state of the artifact, alterations, transformations, planning etc.)
- (4) Ethnography (people, culture, habit, user dynamics, in relation to “development agency’s aim vs. future of the project”)
- (5) Documentation (visual/graphic) of political and social intervention

QUESTIONS ON THE ASSIGNMENT

Perspectives: Whose perspectives does your output represent? Does the assignment cross between multiple perspectives, and if so, how does it try to bridge differences between them?

Narratives: Who tells the hegemonic narrative(s) with regard to the studied site and which tensions have you noted, if any, between such hegemonic narratives and actual practice? What do these narratives teach us about society and about dynamics of power more broadly?

Methods and content: Why have you used these methods and not others? To what extent was your choice of methods appropriate for your case study and reflective of its content? Have you used multiple methods, and if so, how well did you manage to synthesize them? Do you think choosing other methods would have led you to a different set of conclusions? To what extent were your methods participatory, and why?

Practical implications: What practical implications, if any, might your research have (e.g., with regard to greater inclusion)?

Further research: How would you develop this line of research further, and which additional avenues of inquiry would you envision? Are there other groups of stakeholders related to the making of this site and its legacies that you think should be brought in for any follow-up research? How would you approach methods in the context of a follow-up project?

Lessons learned: In your assessment, what have you learned from this exercise?

Development of the exercise

Relying on the topics addressed in the presentations and in the provided references, you are invited to develop your assignment combining the following three field methods:

Mapping towards narratives (Shajjad)

Places (as well as sites and objects) that go through alterations in terms of form, function and perception may have traceable layers of history. At a certain time, an observer may observe the afterlife(s) of such a place and opt for querying the other-lives that it went through, by a number of methods. Mapping (more of Interpretative mapping and in contrast with traditional cartographic mapping) can be a very useful method for this purpose. The primary notion of this method is to draw/illustrate on one issue/aspect of the place and ignore other issues, at a time and hence focus on that objectively and thus deconstructing various layers of lives. The exercise of deconstructing and reconstructing the map layers leads to achieve a bigger narrative of the place. Maps are our first mental language, not our latest; mapping is a documented form of impression on something; while having cartographic reference, it is more interpretation rather utility; it is a schematic representation of a place onto which memories are superimposed.

- In order to engage in mapping a place, it is necessary to have information, knowledge, impression and interpretation,
- You are asked to know the place (text, images, videos etc.),
- Visit the site (if physically not possible, virtually) to gain impressions,
- Gather knowledge about the history and dynamics,
- Have the map (plan/site plan, if it is a building, architectural complex or ruins, repurposed archaeological site) available,
- Draw over the map (it is up to individuals whether to use a tracing paper and draw over a printed map/plan or directly draw on a printed map (simplified and light, of course) or digitally illustrate, e.g. using Google Maps or satellite images),
- The end product is usually an illustration or drawing, that are created by the author but still contain (can be overlapping) lines/points/color from the cartographic origin in order to perceive geographic context: it is often accompanied by a title representing author's statement,
- There may be multiple statements and maps, and if the author intends to draw a conclusive/analytical statement, a selection of his/her maps can be superimposed to produce a new result.

Visualizing experiences (Manya)

My work on displacement, migration and experiences of integration among children in Uganda was based on ethnographic fieldwork. I will give an overview of the different research methods I used and try to explain the research logic, ethics, and participation of the research community of each one. Refugee children were asked to relate their own migratory narrative and their everyday integrational and educational experiences in their schools and neighborhoods, and more broadly in Kampala, Uganda and on where and what they imagine in their own futures relating to their country of origin and Uganda. As verbal interviewing is not always the most appropriate method to engage with children and therefore in addition, locally appropriate child-centered visual-based and story-telling participatory methods were employed in the research to address the issues of voice, marginalization and representation (Due et al. 2014; Cahill 2007; Fargas-Malet et al. 2010). I will focus on the 'step-by-step' process use of each one and show some examples from my work, focusing specifically on the refugee children I interviewed. I used visual methods to understand experiences and emotions such as belonging which cannot always be articulated. Visual materials allow us to 'resonate' with the experiences of others. Showing some examples from my research I would like to open a discussion to try to look at what can these 'artifacts'/ artworks teach us about my research questions and concepts of integration, belonging, home and outsider/ insider perspectives. Participatory research allows us to hear other voices, to open up discussions and ask questions we couldn't have before.

I will then present two additional case studies that use photography and art to learn about sites and experiences of places: Sharon Gig's which follows a window from Hotel Palace construction in 1929 to her living room in 2021 (following an object's transformation) and Dr Catlin Nunn's work on participatory arts-based research with people of refugee background, including video, multi-media and collage examples. As we shall see, there are numerous ways and goals for using arts and photography, both as part of the research process, as part of the analysis and reflection processes both by researcher and researcher participants. Visual methods can be used independently or can be used to give us an extra layer of meaning to a place. However, working with visual materials can be challenging as there is a lot of room for interpretation and each one sees the objects differently. It also requires us to think differently than we would with text. Finally, visual data is a much more involved process and questions of ownership, anonymity are critical.

In this step, the goal is to think about a place that you have an emotional attachment too. If it is possible, I would like to ask you to go there and for a while focus on the place from a visual perspective. Try to focus on the colors, objects and textures around you. Focus on the movements, light and sounds of people, vehicles, businesses around you. At the same time, try to focus on your emotional responses to the place and try to think what are the particularities of the place that create this effect on you? If the feeling is due to a past event/ encounter there, how would you visualize it?

Playing with photos/ drawings/ collages/ videos – try to make a visual product that in some way reflects your feelings and experiences of this place. You are encouraged to supplement it with a short text – a poem/ a story/ an explanation about the illustrations focusing on the place that you chose.

A drawing walk (Nevena)

Grounded in the phenomenological perspective, this presentation reflects how sensorial, experiential forms of enquiry, such as drawing and walking, allow for better understanding of the complex realities of the afterlives of development. With a particular focus on drawing, it is based on a premise that such artistic practices help us delve into the intrinsic relationship that humans develop with the environments in which they are situated, through their bodies and senses, as well as their emotions and individual and collective memories. Such ideas intend to stimulate students into thinking how they experience the tangibles (the physical environment) of such places, which particular elements of those places they are mostly drawn to, and why. At the same time, such ideas envisage to encourage students' thinking about the ways in which they grasp the intangible aspects of these places.

In this step, the goal is to ponder the chosen place through subjective, experiential scale. You are asked to deliberate this place confronting official and personal perspective, and in doing so, to pay attention to self-awareness, as well as imagination, as you shift in your role of a researcher, between observing critically and experiencing subjectively.

To achieve this, a suggested approach could be taking a solitary (or accompanied) walk through the place, drifting and drawing, observing and making journal notes (personal thoughts and reflections inspired by this place, your senses, emotions evoked by its experience, etc.). Disregarding the level of your artistic skills, you are encouraged to embrace drawing by reflecting on your own perception, experience and imagination of the story of the selected place.

The expected result of this part of the exercise is a short story of the walk, told via combination of drawings/sketches and journal notes. While doing so, you could find support in the materials and examples provided in the workshop's references, which deal with the experiential context of place and space- such as psychogeography, drawing as an ethnographic method, walking and sensorial methodologies, and participatory art projects.

Assignment outputs

It was required to produce an output (visual, textual, etc.) based on a combination of the three suggested methods. The results of each of these three steps could be seen as layers building up into **one comprehensive narrative** of the place selected for the

exercise. A 5-minute presentation reflecting on output was presented in the second session of the workshop which took place on 8 June.

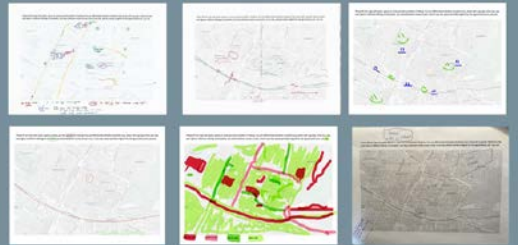
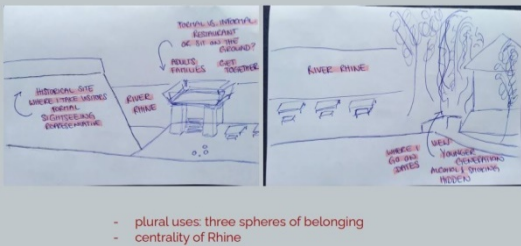
Following are some snapshots of the workshop output (credit: Behring, Charlotte, Alba, Lynn, Ayla, Insa, Elsa and Mina)

they are convinced of the superiority of their dancing bodies
over my well-worn tables and chairs.
They have already rolled over me,
rubbing their clothed skin on me.
To be frank, I find such behaviour
a little alarming.
My whole life I have been a respectable hotel dining hall,
and now, Lord, it seems I've gone to the dogs.

These most recent visitors,
they are convinced they're bringing a bright future.
Dance and song and serene stillness, they say.
We're coming with three young, and more on the way, they say.
I do not reply,
but I am sceptical of those
who would rip off my soft skin
for their own ends.

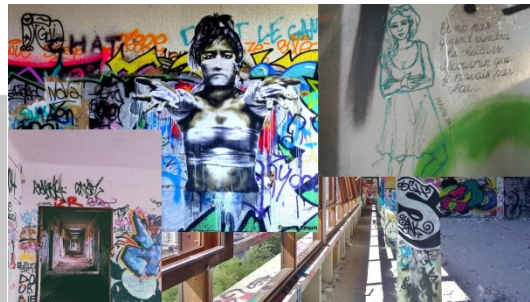


Output



Layered narrative

- Hegemony
- Who decides when something is 'lived'?
 - Are buildings/sites/ruins only alive when they are owned/institutionalized?



Observation:
Friday, 04.06.21
15.30-16.30

Red squares: people staying for more than 10 minutes

Arrows: indicate amount of people passing through Grether without staying

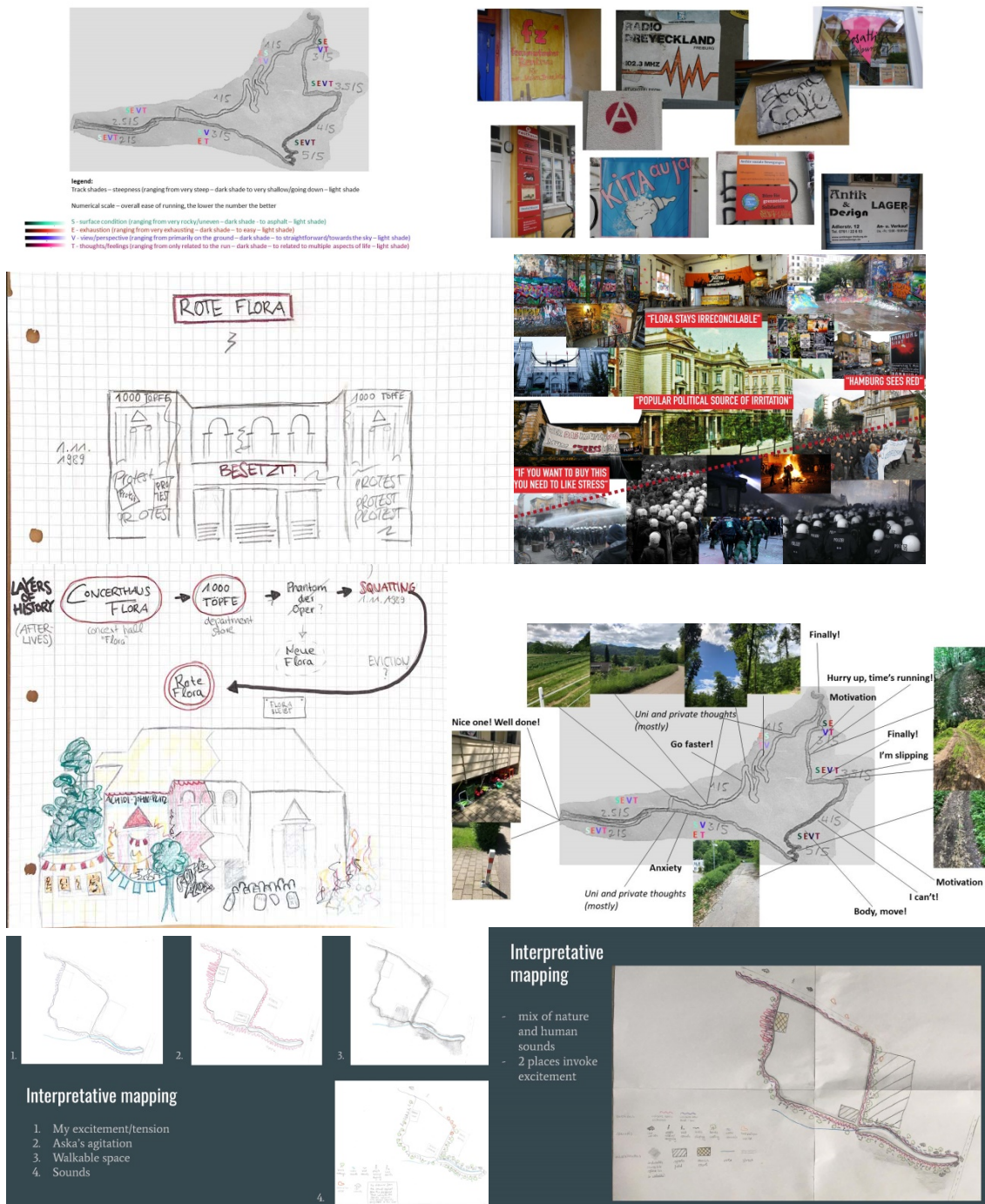


Figure 6.2: snapshots of the workshop output 1

6.3 Methodological Workshop: Afterlives of International Development

Event: Workshop

Title: The Afterlives of International Development : A 2 part Methodological Workshop

Time: 26 August, 9 September 2021

Participants: 20

Facilitator: Yonatan N Gez, Manuel João Ramos , Shajjad Hossain, and Manya Kagan

Host Institution: ISCTE-University Institute of Lisbon, Moi University Kenya, Eduardo Mondlane University Mozambique, St. Augustine University of Tanzania

The following workshop was co-facilitated by author. The participants were students and several teachers from different universities of Tanzania, Kenya and Mozambique. They have a background of anthropology. The details of the workshop (e.g. rationale, scope, aim, proposed methods, key questions and outputs) are similar to the previous workshop and therefore only selected portion is noted below followed by outputs. The workshop was conducted online too in the middle of Covid19 pandemic.

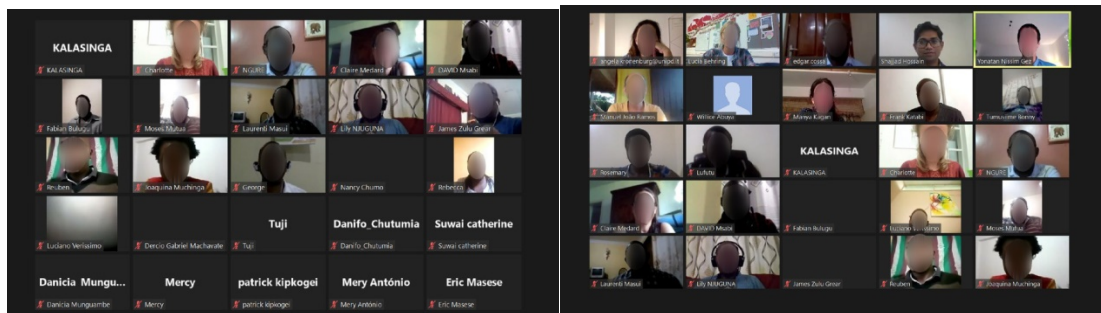


Figure 6.3: Participants of the workshop 2

It was key issue to define how the afterlives of development would be studied. It was defined on the terms - (a) Recognizing the limitations of purely quantitative approach and indicators that largely dominate development studies. (b) Embracing perspectives from multiple categories of actors and stakeholders, with divergent views and interests. (c) 'Bracketing' formal development narratives while exploring local knowledge and (c) Going beyond the limits of oral discourse and to study the deep connection between development spaces and the people who occupy these spaces today(Gez, 2021).

Methodology/Development of the exercise: Relying on the topics addressed in the presentations and in the provided readings, you are invited to develop your assignment combining the following three methods.

(1) Visualizing experiences (Manya Kagan): My work on displacement, migration and experiences of integration among children in Uganda was based on ethnographic fieldwork. I will give an overview of the different research methods I used and try to explain the research logic, ethics, and participation of the research community of each one. Refugee children were asked to relate their own migratory narrative and their everyday integrational and educational experiences in their schools and neighborhoods, and more broadly in Kampala, Uganda and on where and what they imagine in their own futures relating to their country of origin and Uganda. As verbal interviewing is not always the most appropriate method to engage with children and therefore in addition, locally appropriate child-centered visual-based and story-telling participatory methods were employed in the research to address the issues of voice, marginalization and representation (Due et al. 2014; Cahill 2007; Fargas-Malet et al. 2010). I will focus on the 'step-by-step' process use of each one and show some

examples from my work, focusing specifically on the refugee children I interviewed. I used visual methods to understand experiences and emotions such as belonging which cannot always be articulated. Visual materials allow us to 'resonate' with the experiences of others. Showing some examples from my research I would like to open a discussion to try to look at what can these 'artifacts'/ artworks teach us about my research questions and concepts of integration, belonging, home and outsider/ insider perspectives. Participatory research allows us to hear other voices, to open up discussions and ask questions we couldn't have before.

I will then present two additional case studies that use photography and art to learn about sites and experiences of places: Sharon Gig's which follows a window from Hotel Palace construction in 1929 to her living room in 2021 (following an object's transformation) and Dr Catlin Nunn's work on participatory arts- based research with people of refugee background, including video, multi-media and collage examples. As we shall see, there are numerous ways and goals for using arts and photography, both as part of the research process, as part of the analysis and reflection processes both by researcher and researcher participants. Visual methods can be used independently or can be used to give us an extra layer of meaning to a place. However, working with visual materials can be challenging as there is a lot of room for interpretation and each one sees the objects differently. It also requires us to think differently than we would with text. Finally, visual data is a much more involved process and questions of ownership, anonymity are critical.

In this step, the goal is to think about a place that you have an emotional attachment too. If it is possible, I would like to ask you to go there and for a while focus on the place from a visual perspective. Try to focus on the colors, objects and textures around you. Focus on the movements, light and sounds of people, vehicles, businesses around you. At the same time, try to focus on your emotional responses to the place and try to think what are the particularities of the place that create this effect on you? If the feeling is due to a past event/ encounter there, how would you visualize it? Playing with photos/ drawings/ collages/ videos – try to make a visual product that in some way reflects your feelings and experiences of this place. You are encouraged to supplement it with a short text – a poem/ a story/ an explanation about the illustrations focusing on the place that you chose.

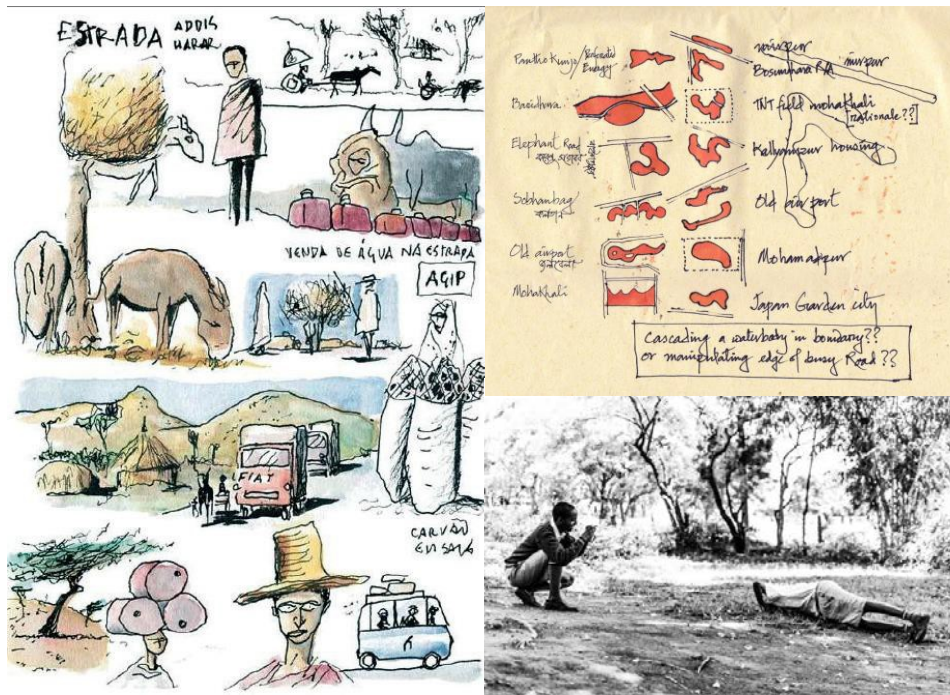


Figure 6.4: Sketching and Drawing (Manuel João Ramos), Collaborative Mapping (Shajjad Hossain), Participatory photography (Manya Kagan)

(2) Mapping towards narratives (Shajjad Hossain): Places (as well as sites and objects) that go through alterations in terms of form, function and perception may have traceable layers of history. At a certain time, an observer may observe the afterlife(s) of such a place and opt for querying the other-lives that it went through, by a number of methods. Mapping (more of Interpretative mapping and in contrast with traditional cartographic mapping) can be a very useful method for this purpose. The primary notion of this method is to draw/illustrate on one issue/aspect of the place and ignore other issues, at a time and hence focus on that objectively and thus deconstructing various layers of lives. The exercise of deconstructing and reconstructing the map layers leads to achieve a bigger narrative of the place. Maps are our first mental language, not our latest; mapping is a documented form of impression on something; while having cartographic reference, it is more interpretation rather utility; it is a schematic representation of a place onto which memories are superimposed.

- In order to engage in mapping a place, it is necessary to have information, knowledge, impression and interpretation,
- You are asked to know the place (text, images, videos etc.),
- Visit the site (if physically not possible, virtually) to gain impressions,
- Gather knowledge about the history and dynamics,
- Have the map (plan/site plan, if it is a building, architectural complex or ruins, repurposed archaeological site) available,

- Draw over the map (it is up to individuals whether to use a tracing paper and draw over a printed map/plan or directly draw on a printed map (simplified and light, of course) or digitally illustrate, e.g. using Google Maps or satellite images),
- The end product is usually an illustration or drawing, that are created by the author but still contain (can be overlapping) lines/points/color from the cartographic origin in order to perceive geographic context: it is often accompanied by a title representing author's statement,
- There may be multiple statements and maps, and if the author intends to draw a conclusive/analytical statement, a selection of his/her maps can be superimposed to produce a new result.

(3) Sketching and Drawing (Manuel João Ramos): Participatory visual methods are becoming the new hype in anthropology. Researchers tend to present participatory visual methods as attractive approaches to not only promote innovative research that engages informants in original and collaborative ways but to engage students eager to find bridges between the academic world and a world progressively addicted to visual consumerism. But while still and moving image-capturing devices are being democratized as anthropological tools thanks to their recent wide availability and ease of use, some view the practice of drawing (participatory or not) as a more serendipitous niche activity. Unlike photographing and filming, doodling, sketching, drawing – participatory or not – is more about linear image mental processing and communicating (and thus somewhat akin to handwriting, lack of linguistic encoding and propositionality notwithstanding) than an “objective” visual method. Drawing thus elicits a completely different kind of comprehension of the “field”, as well as new forms of social interaction, such as the “public and open spectacle of recording” that anthropologist-draftswoman Carol Hendrickson describes (2008: 119). (...) We propose to tackle some of the features of the drawing practice, hoping that its much-misunderstood potential as a knowledge tool helps us reconsider what anthropological understanding is (Azevedo & Ramos, 2016).

Because we are so fascinated with this game (orality + writing), we forget that a large chunk of the knowledge acquired “in the field” is actually non-verbal, i.e. it is not the result of linguistic processing. Worse, we usually fail to value and use these non-verbal cognitive capacities. Worse still, we become entrapped by the very verbal categories we use to “translate” orality into writing, and a language that is foreign to us into our own and into what is acceptable in the academic jargon → we end up believing that the semantic limitations of our categories are an advantage and not a constraint.

As a research tool, it's the production aspect that is paramount, as a form of acquisition of information, as an integrative and dialogical process, working in tandem with writing, talking, mapping, photographing, filming etc. It's also helpful for eliciting information, interpretation, etc, from the “informants” - this is the so-called participatory or collaborative sketching. It can, of course, be a means for communication if the researcher is confident enough to share his or her research.

Key questions to answer in the exercise :

- What questions about this place stand out for you in particular, and why? For example, in relation to modernization, marginalization, inequality, sustaining the narratives of the lost/forgotten past (if so, in which way), etc.?
- What kind of relationships can you identify in this place?
- What narratives and which alternative afterlives dominate your chosen case study? What, if anything, brings all these narratives together?

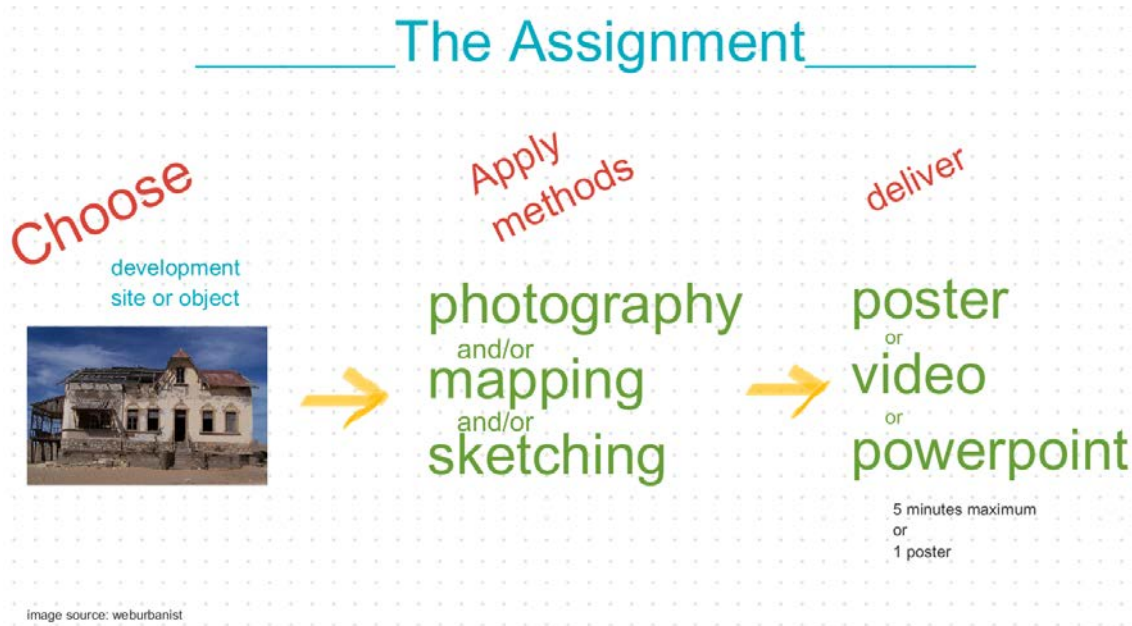


Figure 6.5: Expected output and work-progress path

The Afterlives of International Development



1. What do we mean when we talk about (international) development?



Figure 6.6: Collaborative text mapping (word mapping) on workshop topic “International Development”

Assignment outputs

It was required to produce an output (visual, textual, etc.) based on a combination of the three suggested methods. The results of each of these three steps could be seen as layers building up into **one comprehensive narrative** of the **Afterlives of Development** selected for the exercise. A 5-minute presentation reflecting on output was presented in the second session of the workshop which took place on 9 September 2021.

Following are some snapshots of the workshop output (credit: Mercy & Rebecca, Patrick Kipkogei Cheruiyot, Ngure Francis Kung’u and Moses Mutua Mutiso, Claire Médard, Joaquina Muchinga)



Pipes meant for a massive, incomplete sewage project in Wajir.



Negotiating local development in a male dominated yet matrilineal society in Moma, Nampula - Mozambique



Findings-use and appropriation of space



Lady who placed stones around her house as a way of marking her space.
 During the conversation with the lady she said that the space belongs to her. It is she who does the cleaning, no car can pass because it is the continuity of her house. In the same scenes we can observe the use of the tyre as a way to mark the space. We can also observe children playing in the same space.

ART DRAWING OF THE THIKA HIGHWAY



A palimpseste of interventions over the years

1985

2021



Figure 6.7: snapshots of the workshop output 2

THE AFTERLIVES OF INTERNATIONAL DEVELOPMENT

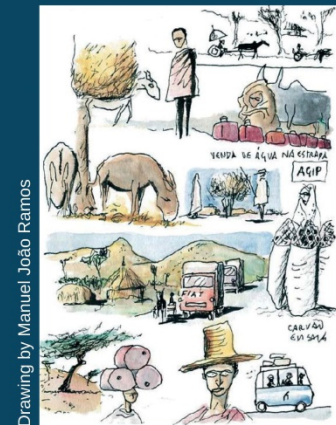
A TWO-PART METHODOLOGICAL WORKSHOP (ONLINE)

26 August & 9 September 2021, 4-8pm (Mozambique); 5-9pm (Kenya, Tanzania)

International development involves a range of approaches and programs set to bring about positive change to marginalized communities. Many such schemes fail to deliver their intended objectives, and even those that succeed may affect their target populations in ways that have not been foreseen by their planners.



Photo by Yonatan N. Gez



Drawing by Manuel João Ramos

In this workshop we will discuss the so-called 'afterlives of development' and acquire methodological tools for engaging with development's long-term legacies. We will draw on various examples of development interventions—such as schools and clinics, infrastructure projects, and agricultural projects—and reflect on the many ways in which interventions continue to 'haunt' places well beyond their formal life cycle. We will thus discuss nostalgia, unintended consequences, material ruinations and ecological effects. In particular, we will emphasize local communities' agency in retelling and reappropriating bygone projects and their remains. Drawing on phenomenological ideas, which highlight deep connections between people and their environment, we will discuss ethnographic methods including collaborative mapping, participatory photography, walking interviews, and sketching.

The workshop is aimed at graduate students from Eastern Africa, with focus on the social sciences. Between the two sessions, students will undertake a small research assignment.

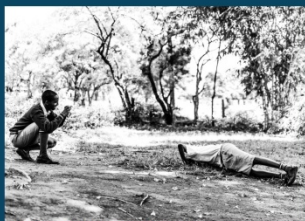
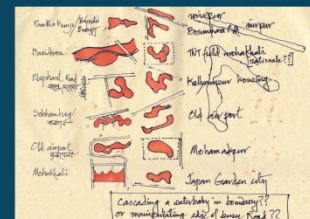


Photo by Manya Kagan

SIGN UP VIA EMAIL:
afterlives2021@gmail.com



Drawing by Shajjad Hossain

Figure 6.8: Poster for the workshop

6.4 Workshop: Mapping Vibes in the Megacity Dhaka

Event: Workshop

Title: Mapping Urban Vibes of Dhaka

Time: 5 – 10 January 2022

Participants: 22

Facilitator: Shajjad Hossain

Host Institution: BRAC University, Dhaka, Bangladesh

According to Oxford dictionary a Vibe is “a person's emotional state or the atmosphere of a place as communicated to and felt by others”. Every (urban) space creates and exerts different vibes by its space configuration, weather, time of the day, presence and profile of fellow citizens and other factors. Vibes can be positive as well as negative. It can be neutral /characterless too. Both long term and short term use of a space can generate vibes to the user. It can also be explained as impression or interpretation of ambiance/atmosphere of a space. In architecture it is important as it is an integral intangible part of space quality. This assignment is an attempt to map vibes of a particular city (Dhaka, Bangladesh). This is a mapping interview of the city users. Considerable number of interview maps about a particular place are capable to create an authentic interpretation and impression about the place or city.

What to map?

During mapping, Please attend at least 3 from the list (below) of positive vibes and 3 from the negative vibes. Of course you are most welcome to attend all of the questions. Mark your house and workplace/university on the map !!!!

(+) Positive Vibes

Most joyful place/which spots do you like most?

Which spots/places are you proud of?

Which are the most touristic/popular places?

Which are the most historic/heritage places?

What are the most accessible parts of the city? (you can answer for all modes of transport e.g. pedestrian, bicycle, car, public transport)

Which part of the historic center do you consider suitable for living (for yourself, even if

you live elsewhere)?

Which part of the city do you consider affordable?

Which part of the city do you consider most ecological/environment friendly?

Which part of the city do you consider suitable as a workplace?

Which part of the city do you consider easy for navigation?

Please do mapping accordingly where you feel positive vibe in the city.

(-) Negative Vibes

Most wired / which spots do you dislike most?

What are the most inaccessible parts of the city in your opinion? (you can answer for all

modes of transport e.g. pedestrian, bicycle, car, public transport)

Which part of the city do you consider very expensive?

Which part of the city do you consider fearful (walk at night, alone, unfriendly to women, etc.)?

Which part of the city do you consider ecologically/environmentally unfriendly?

Which part of the city do you consider difficult for navigation?

Please map accordingly if you feel/observe lack of equality and equity in terms of social, political, urban, environmental, historical, economic, and safeguarding of heritage aspects.

How to map?

You are provided with the digital copy of a simplified map of Dhaka city. The simplified version is basically outlines of the city and some important features. You are requested to print on an A4 page and draw on the map. If you wish, you may do similar in any software (msword, corel, illustrator, paint, photoshop etc.). To answer the above questions, you can use separate Map markers, color/transparent color filled area limited by geometric shapes or convex/concave hulls etc. You can map separate vibes in separate A4 page maps or in the same page map (it is recommended not to do too many vibes in the same map so that it becomes chaotic)

Please write a/few words or a sentence inside/beside the map in support of your mapping and understanding. If you wish to write a paragraph, please do so on the same page and be very brief.

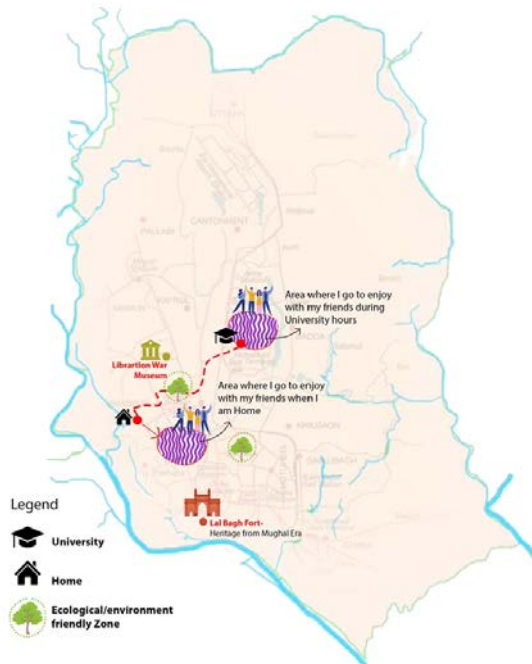


Name: Date:

Figure 6.9: Key map of Dhaka that was provided to participants for mapping

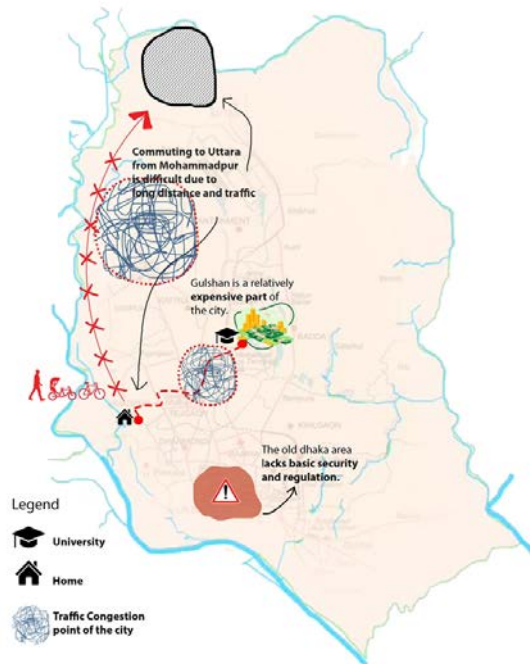
The output from the participants was quite vibrant thanks to the “participant observation” skill of the participants. Following are some snapshots of the outcomes. (All/full outputs can be found in the appendix)

Mapping Positive Vibes

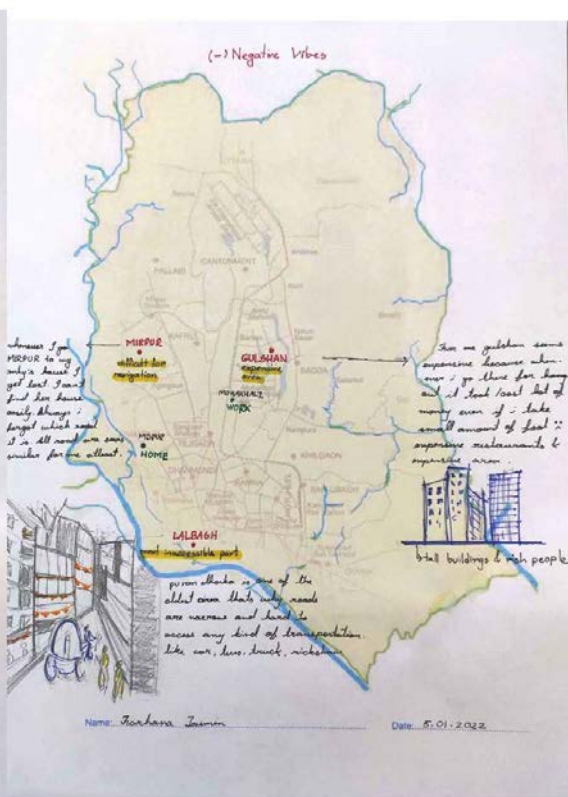
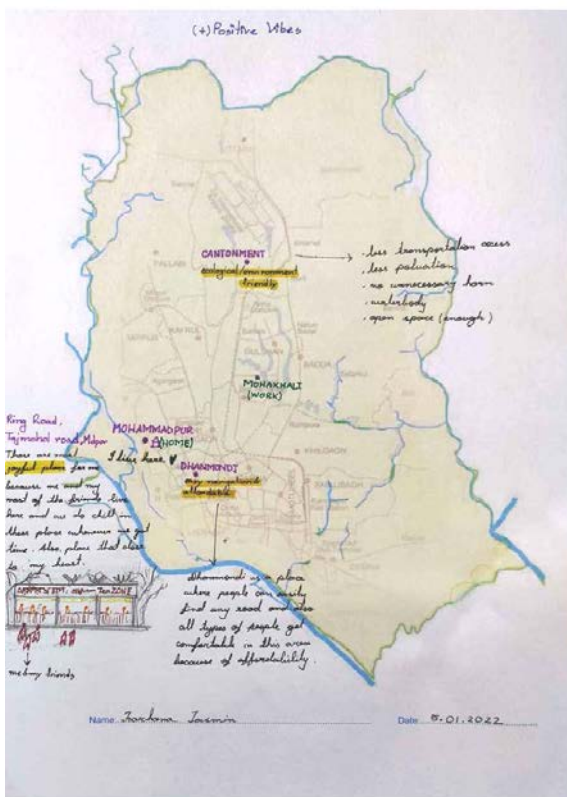
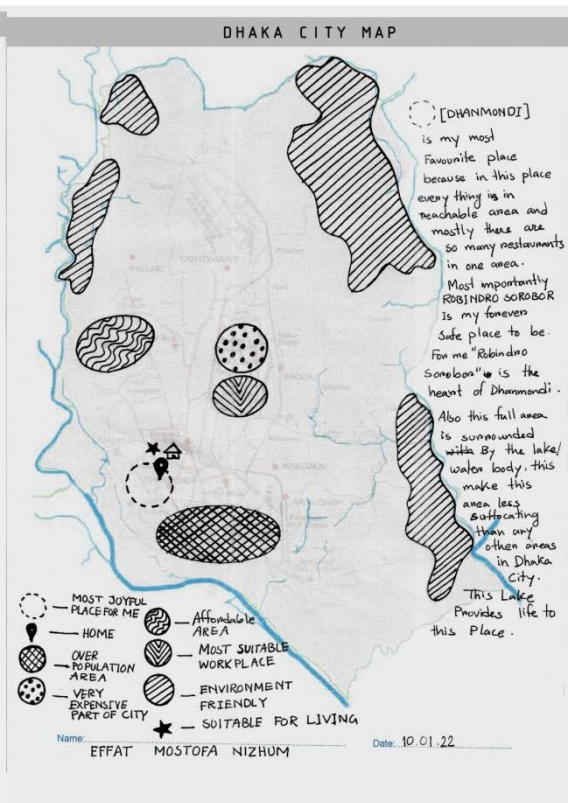
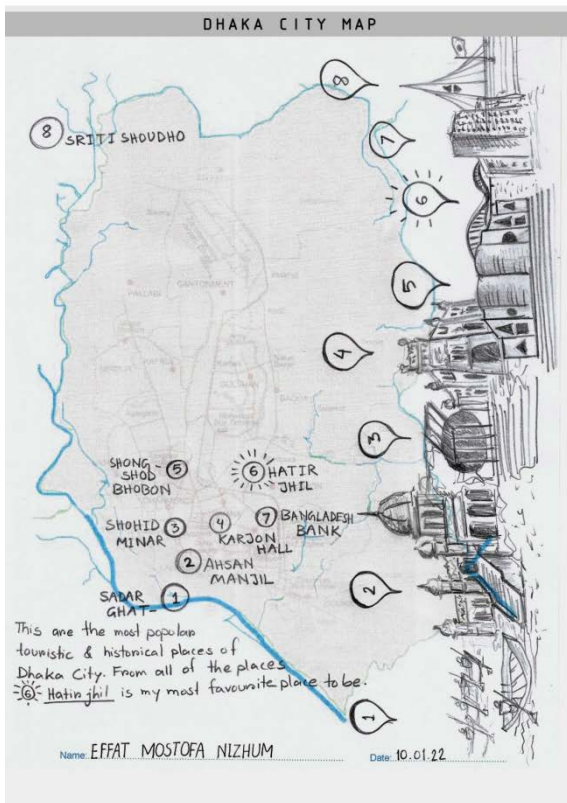


Name: Tahsin Tanvir (18108018) Date: 10 January 2022

Mapping Negative Vibes



Name: Tahsin Tanvir (18108018) Date: 10 January 2022



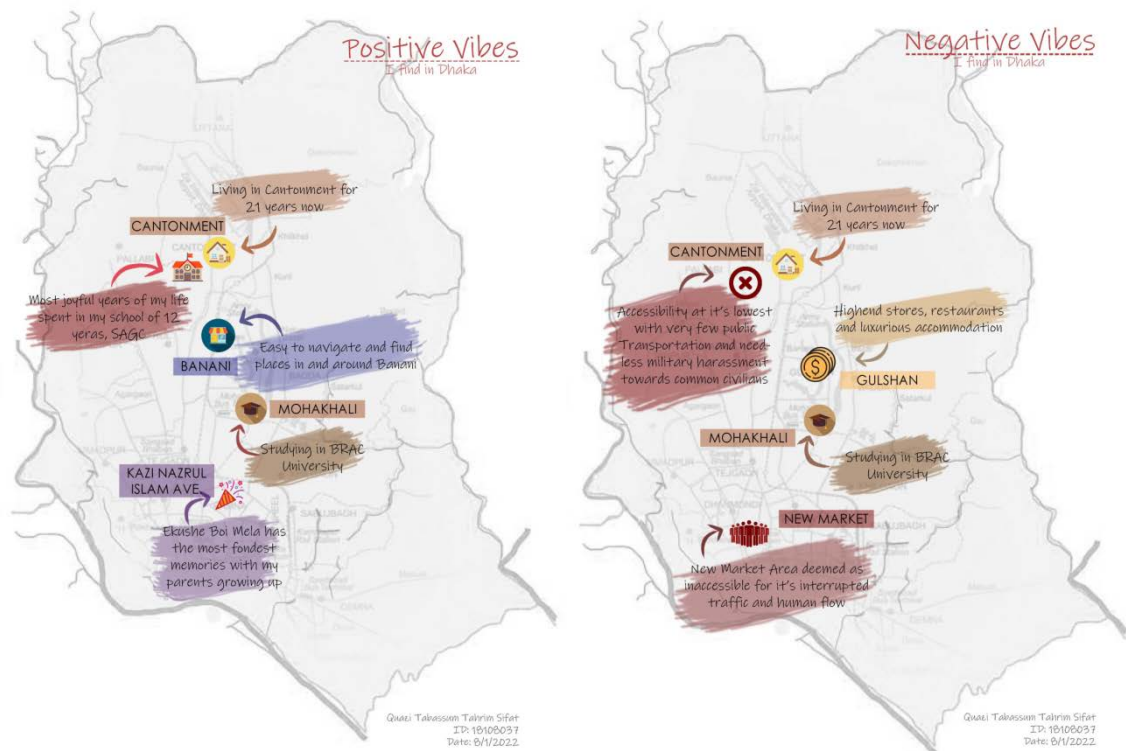


Figure 6.10: snapshots of the workshop output 3

6.5 Conclusive Remarks

The workshops were accomplished between 2020 and 2022 amid nationwide lockdown during the pandemic. Hence all of them were online. It did not differ much from offline workshops because the concept, methods and other elements were well communicated with the participant and for exercise they were free to choose a site from their acquaintance or nearby location so that they could conduct a physical study and documentation (e.g. photography, videography). All of the workshops were of at least 2 days (2 meetings) with at least a week in between. This intermediate time was dedicated to site study and consultation with facilitator.

Since all of the participants were as well as facilitators were from academic field, the workshops were conducted at high intellectual level by disseminating theoretical context and conceptual basis. The exercises were also did belong to social, anthropological, architectural and urban domain. Therefore the practices and learning were suitable and beneficial mostly as research methodology with a potential to be applied to any practical project.

There are both advantages and disadvantages working with diversified context and participants from different disciplinary background. It brings knowledge gaps as well as academic skill gaps. However, during the workshop the anticipated gaps were addressed and individual consultation was given in the intermediate week(s) and that helped a lot to overcome the problem. The training given were different in different geographic context and it was quite beneficial to utilize discussion on local examples. On the advantageous side, disciplinary and geographic variety brought about a marvelous variety in assignment outputs which was contextually rich and culturally vibrant and thematically understandable.

The lessons learned upon conducting the workshops are priceless. It was quite evident that mapping methodology came out to be a strong one itself that help people think spatially and strategically. It brings greater output when combined with other methods as used in these workshops. However, here the methodology was used mostly academically and conceptually on research domain but it can also be perceived as segment (research and method) of a path towards a practical problem solving, designing and planning process.

Acknowledgement: For the first two workshops, the text developed for the brief, have contribution from all facilitators. Each facilitator provided their own “theoretical framework”. Special thanks to Yonatan N. Gez for his top contribution as convener and facilitator.

References

Gez, Y. N. (2021, August 26). *Development and its Afterlives*.

Mapping Manhattan: A Love (and Sometimes Hate) Story in Maps by 75 New Yorkers by Becky Cooper [many mapping examples given here are close to what is expected from the workshop]

J. Corner, "The Agency of mapping," in *Mappings*, London, Reaktion Books Ltd., 1999, pp. 213-252. Also available at (http://n.fonty.free.fr/PhD/Corner-The%20Agency%20of%20Mapping_ch12.pdf) [To understand the detailed concept of mapping and difference from traditional cartographic map]

Hossain, Shajjad, and Filipe Themudo Barata. 'Interpretative Mapping in Cultural Heritage Context: Looking at the Historic Settlement of Khan Jahan in Bangladesh'. *Journal of Cultural Heritage* 39 (September 2019): 297–304. <https://doi.org/10.1016/j.culher.2018.09.011> [to understand the concept of Interpretative mapping+ example + application]

Hossain, Shajjad, and Filipe Themudo Barata. "Mapping the Literature through Digital Humanities Protocol: Decoding the Morphology of a Historic Settlement." In: H. Griffin (ed.), *AMPS Proceedings Series 20.1. Connections: Exploring Heritage, Architecture, Cities, Art, Media*. University of Kent, UK. 29 – 30 June (2020). pp.[187-200] [the pdf will be provided, or find here <http://architecturemp.com/proceedings/>; Dealing with multiple narrative and expression through mapping is important, methodology described here is out of scope of this workshop]

Antwerp North: Re-visiting the Modernist city (MaHS-MaUSP-EMU studio project, KULeuven)
[the pdf is provided, Reading (by mapping) of abandoned industrial site in conjunction to
nearest community is important, proposed urban design is not in scope of this workshop; the
site is close to the concept of development afterlife]

Examples engaging walking methodologies to build narrative that I mentioned in the
presentation: Secrets of the City with Iain Sinclair

https://www.youtube.com/watch?v=CHyizbQ6Tmc&ab_channel=JohnRogers

Iain Sinclair - Living with Buildings walking with ghosts

https://www.youtube.com/watch?v=w-9O4xDsJ2U&ab_channel=JohnRogers

Walking Keiller's 'London' – the first walk

<https://thelostbyway.com/2018/12/walking-keillers-london-first-walk.html>

<https://www.deveron-projects.com/the-walking-institute/temp/reference/london/>

Title:

Conclusion

Reflecting on research gaps

General:

Until today, lot of research and projects in this relevant domain were developed but without the component of interpretation, which is very unique. This thesis explored some cases and contexts and found very bright possibilities precisely in the component of interpretation

Site specific:

Morphological footprint, which was missing from available literature, is a key output of this research in case of Khalifatabad in Bangladesh. There is scope for further community engagement to harvest more data to reflect on a comprehensive picture and reconstruction of that historic settlement.

In case of Évora, the rigid structure of ongoing urbanism is required to be flexible to pave the way for penetrating sustainable features that can help a resilient future for this heritage city and this thesis notes some starting points to work on.

Reflecting on research objectives

Mapping, especially Interpretative mapping, is quite a powerful tool for investigation in many fields including historic settlements. Non-invasively it can act and bring out satisfactory outcomes as seen in Lab 1. Interpretative mapping can aid in reconstructing historic sites and features while the real potential of it is far beyond. It can contribute very well to the documentation, investigation and fieldwork aid phases, strategic decision and simulation phase, only to name a few.

Interpretative mapping is a holistic approach which has its own power to harvest unique insights and knowledge about a context, system and human settlement. It is also learned that this methods works quite well in connection with other research methods (e.g. walking interview, archival research etc.) to bring out even more comprehensive results.

Contribution

The eight published articles (four as peer reviewed) are a very tangible contribution to the relevant knowledge field. Hopefully they would be able to inspire other fellow researchers and people with administration and authority to accomplish positive works.

Documentation on Khalifatabad (drawings, interviews, facts, lost history and photographs) is a permanent contribution in history domain.

Insights on historic territory of khalifatabd, that was retrieved through this research, is quite fascinating. This should be inspiring for other researchers to carry the search further for the same site and for other sites elsewhere too. The most important thing is to follow the path.

The thesis contributed to bring out some hidden connections of (1) Évora with its very rich history, (2) Urban integration possibilities and gaps, especially with landscape approach, and (3) a “mapping interview” method that could engage public participation on spatial level. This helped to identify more than 50 places/spots in historic center with a potential of creating collective memory, as well as the quality of these spaces which might help authority to plan for future.

Recommendations

There is scope to refine the methodology of interpretative mapping by further study and experimenting with projects and workshops in various domains as well as contexts. The same principle applies to the endeavour of reduce subjectivity of this method further.

There is quite a feasible scope to apply the methodology to bring useful results from projects, especially those falling in the category of “landscape urbanism” and “Heritage Urbnaism” .

Bibliography

Cited in the thesis

Chapter 1

Ahmed, Abu Sayeed M., and Syed Zakir Hossain. 2006. *Mosque Architecture in Bangladesh*. Dhaka: UNESCO Dhaka : Distributed by University Press.

Ahmed, Nazimuddin. 1984. *Discover the Monuments of Bangladesh*. Edited by John Sandy. UPL Limited.

———. 1989. *The Buildings of Khan Jahan in and Around Bagerhat*. Dhaka: UPL Limited.

Akhtaruzzaman, Md. 2021. 'Khalifatabad'. In *Banglapedia*.
<https://en.banglapedia.org/index.php/Khalifatabad>.

Barata, Filipe Themudo, and José Manuel Mascarenhas. 1997. 'O Território de Eborá, E A Organização e Ordenamento da Paisagem Envolvente'. In *Paisagens arqueológicas a oeste de Évora*, edited by Panagiotis Sarantopoulos and Carlos J. Pinto Gomes. Évora: Câmara Municipal de Évora.

Capelo, Sofia, Filipe Barata, and José de Mascarenhas. 2011. 'Why Are Cultural Landscapes of Various Values? Thinking About Heritage Landscape Evaluation and Monitoring Tools'. *Journal of Landscape Ecology* 4 (1). <https://doi.org/10.2478/v10285-012-0030-3>.

Carvalho, Ana, and Filipe Themudo Barata. 2008. 'Portuguese Legislation on Intangible Cultural Heritage and Inventories'. In *El Patrimonio Cultural Inmaterial: Definición y Sistemas de Catalogación : Actas Del Seminario Internacional, Murcia, 15-16 de Febrero de 2007*, edited by Inmaculada García Simó. Murcia: Servicio de Patrimonio Histórico.

Corner, James. 2011. 'The Agency of Mapping: Speculation, Critique and Invention'. In *The Map Reader*, edited by Martin Dodge, Rob Kitchin, and Chris Perkins, 89–101. Chichester, UK: John Wiley & Sons, Ltd. <https://doi.org/10.1002/9780470979587.ch12>.

Cosgrove, Denis E., ed. 2002. *Mappings*. Reprint. Critical Views. London: Reaktion Books.

Dani, Ahmad Hasan. 1961. *Muslim Architecture in Bengal*. Asiatic Society of Pakistan 7. Dacca: Asiatic Society of Pakistan. <https://lccn.loc.gov/sa63000666>.

Dodge, Martin, Rob Kitchin, and C. R. Perkins, eds. 2011. *The Map Reader: Theories of Mapping Practice and Cartographic Representation*. Chichester, West Sussex [England] ; Hoboken, NJ: Wiley-Blackwell.

Hasan, Perween. 1988. 'SULTANATE MOSQUES AND CONTINUITY IN BENGAL ARCHITECTURE'. *Muqarnas Online* 6 (1): 58–74. <https://doi.org/10.1163/22118993-90000235>.

———. 2007. *Sultans and Mosques: The Early Muslim Architecture of Bangladesh*. London: I. B. Tauris.

Imran, Md. Masood. 2014. 'Quantifying the Spatial Pattern of Medieval Urban Space of Khalifatabad, Bangladesh'. *Pratna Samiksha*, New Series, , no. 5: 87–95.

- Irwing, Kathleen. 2014. 'Performing and Mapping'. In . Coimbra, Portugal.
- Mascarenhas, José Manuel, and Filipe Themudo Barata. 2005. 'The Cultural Park as a Platform Connecting Human Ecology with Cultural Landscape Management'. *Journal of Mediterranean Ecology Journal of Mediterranean Ecology* 6 (1): 11–18.
- Mateus, João Mascarenhas. 2014. 'Cultural Mapping and the World Heritage Convention: The Case of Downtown Lisbon'. In . Coimbra, Portugal.
- Mathur, Anuradha, and Dilip da Cunha. 2006. *Deccan Traverses: The Making of Bangalore's Terrain*. New Delhi: Rupa.
- Michell, George, ed. 1984. *The Islamic Heritage of Bengal*. Protection of the Cultural Heritage 1. Paris: Unesco.
- Mitra, Satish Chandra. 1914. *Jessore-Khulnar Itihas (a history of jessore and Khulna district in Bengali)*. 1st ed. Vol. 1. 2 vols. Kolkata: Parul Prakashani.
- Ortega Nuere, Cristina, and Fernando Bayón. 2015. 'Cultural Mapping and Urban Regeneration: Analyzing Emergent Narratives about Bilbao'. *Culture and Local Governance* 5 (1–2): 9–22. <https://doi.org/10.18192/clg-cgl.v5i1-2.1455>.

Chapter 2

- Altman, R. (2008). *A theory of narrative*. Columbia University Press.
- Alves, D., & Queiroz, A. I. (2015). Exploring Literary Landscapes: From Texts to Spatiotemporal Analysis through Collaborative Work and GIS. *International Journal of Humanities and Arts Computing*, 9(1), 57–73. <https://doi.org/10.3366/ijhac.2015.0138>
- Briney, A. (2019). *How Did Map-Making Begin?* ThoughtCo. <https://www.thoughtco.com/the-history-of-cartography-1435696>
- Britannica. (2022). *Cartography Definition & Meaning | Britannica Dictionary*. <https://www.britannica.com/dictionary/cartography>
- Burdick, A., Drucker, J., Lunenfeld, P., Presner, T., & Schnapp, J. (Eds.). (2012). *Digital humanities*. MIT Press.
- Chowdhoree, I., Sloan, M., & Dawes, L. (2019). Community perceptions of flood resilience as represented in cognitive maps. *Journal of Flood Risk Management*, 12. <https://doi.org/10.1111/jfr3.12478>
- Corner, J. (2002). The Agency of mapping. In D. E. Cosgrove (Ed.), *Mappings* (Reprint, pp. 213–215). Reaktion Books.
- Corner, J. (2011). The Agency of Mapping: Speculation, Critique and Invention. In M. Dodge, R. Kitchin, & C. Perkins (Eds.), *The Map Reader* (pp. 89–101). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9780470979587.ch12>
- Cosgrove, D. (2008). Cultural cartography: Maps and mapping in cultural geography. *Annales de Géographie*, 660–661(2), 159. <https://doi.org/10.3917/ag.660.0159>

Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia*. University of Minnesota Press.

Dictionary.com. (n.d.). Cartography. In *Www.dictionary.com*. Retrieved 3 September 2022, from <https://www.dictionary.com/browse/cartography>

Dodge, M., Kitchin, R., & Perkins, C. R. (Eds.). (2011). *The map reader: Theories of mapping practice and cartographic representation*. Wiley-Blackwell.

Downs, R. M., & Stea, D. (2011). Cognitive Maps and Spatial Behaviour: Process and Products. In M. Dodge, R. Kitchin, & C. Perkins (Eds.), *The Map Reader* (pp. 312–317). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9780470979587.ch41>

Harley, J. B. (2011). Deconstructing the Map. In M. Dodge (Ed.), *Classics in Cartography* (1st ed., pp. 271–294). Wiley. <https://doi.org/10.1002/9780470669488.ch16>

Horlings, L. G. (2014, May 28). Cultural mapping: A value centered and place-based perspective. *Proceedings of Mapping Culture: Communities, Sites and Stories*. Mapping Culture: Communities, Sites and Stories, Coimbra, Portugal. https://www.researchgate.net/publication/261793400_Horlings_LG_2014_Cultural_mapping_A_value_centered_and_place-based_perspective_Paper_for_the_conference_on_Cultural_Mapping_Coimbra_Portugal_28-30_May_2014

Imran, M. (2012). *Patterns in the medieval urban space of Khalifatabad, Bangladesh Spatial analyses of archaeological records with a proposed surveying model*. LAP LAMBERT Academic Publishing. <http://nbn-resolving.de/urn:nbn:de:101:1-201209261819>

Jenks, G. F. (1963). GENERALIZATION IN STATISTICAL MAPPING. *Annals of the Association of American Geographers*, 53(1), 15–26. <https://doi.org/10.1111/j.1467-8306.1963.tb00429.x>

Kirschenbaum, M. G. (2010). What Is Digital Humanities and What's It Doing in English Departments? *ADE Bulletin*, 55–61. <https://doi.org/10.1632/ade.150.55>

Kitchin, R., & Dodge, M. (2007). Rethinking maps. *Progress in Human Geography*, 31(3), 331–344. <https://doi.org/10.1177/0309132507077082>

Lloyd, R. (2015). Understanding and Learning Maps. In R. Kitchin & S. Freundschuh (Eds.), *Cognitive mapping: Past, present and future* (1. issued in paperback). Routledge.

Longley, A., & Duxbury, N. (2016). Introduction: Mapping cultural intangibles. *City, Culture and Society*, 7(1), 1–7. <https://doi.org/10.1016/j.ccs.2015.12.006>

MacEachren, A. M. (2004). *How maps work: Representation, visualization, and design* (Pbk. ed). Guilford Press.

- Merriam-Webster. (2022). *Definition of CARTOGRAPHY*. <https://www.merriam-webster.com/dictionary/cartography>
- Merriam-Webster.com Dictionary. (n.d.). Map. In *Merriam-Webster*. Retrieved 3 September 2022, from <https://www.merriam-webster.com/dictionary/map>
- Moudon, A. V. (1997). Urban morphology as an emerging interdisciplinary field. *Urban Morphology*, 1, 8.
- Nag, O. S. (2018, August 17). *What Is Cartography?* WorldAtlas. <https://www.worldatlas.com/what-is-cartography.html>
- OSU. (2011, August 10). *What is Narrative Theory?* Project Narrative. <https://projectnarrative.osu.edu/about/what-is-narrative-theory>
- Piatti, B., Bär, H. R., Reuschel, A.-K., Hurni, L., & Cartwright, W. (2009). Mapping Literature: Towards a Geography of Fiction. In *Cartography and Art* (pp. 1–16). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-540-68569-2_15
- Reuschel, A.-K., & Hurni, L. (2011). Mapping Literature: Visualisation of Spatial Uncertainty in Fiction. *The Cartographic Journal*, 48(4), 293–308. <https://doi.org/10.1179/1743277411Y.0000000023>
- Robichaud, A., & Blevins, C. (2011). *The Spatial Turn* [Repository of essays]. Tooling Up for Digital Humanities. http://toolingup.stanford.edu/?page_id=1139
- Robinson, A. H. (2010). Cartography as a Visual Technique. In *The look of maps: An examination of cartographic design* (1st ed). ESRI Press.
- Robinson, A. H., Morrison, J. L., Guptill, S. C., Kimerling, A. J., & Muehrcke, P. C. (Eds.). (1995). History of Cartography. In *Elements of cartography* (6th ed). Wiley.
- Robinson, A. H., & Petchenik, B. B. (1976). On Maps and Mapping. In *The nature of maps: Essays toward understanding maps and mapping*. University of Chicago Press.
- Stea, D., & Downs, R. M. (2017). Cognitive Maps and Spatial Behaviour: Process and Products. In *Image and Environment: Cognitive Mapping and Spatial Behavior* (1st ed.). Routledge. <https://doi.org/10.4324/9780203789155>
- Svensson, P. (2012). Envisioning the Digital Humanities. *Digital Humanities Quarterly*, 006(1).
- Tally, R. T. (2008, May 1). Literary Cartography: Space, Representation, and Narrative. *International Society for the Study of Narrative Conference, 2008, Austin, Texas, United States*. <https://digital.library.txstate.edu/handle/10877/3932>
- Trancik, R. (1986). *Finding lost space: Theories of urban design*. John Wiley & Sons.

ULisboa. (2019). *International conference – Digital map of iberian literary relations (1870-1930)*. <http://maplit.letras.ulisboa.pt/en/international-conference/>

Vincent J. Del Casino Jr. J., D. C. Jr., & Hanna, S. P. (2005). Beyond The 'Binaries': A Methodological Intervention for Interrogating Maps as Representational Practices. *ACME: An International Journal for Critical Geographies*, 4(1), 34–56.

Wilde, R. (2019, July 14). *Key Renaissance Events in Art, Philosophy, Politics, Religion, and Science*. ThoughtCo. <https://www.thoughtco.com/renaissance-timeline-4158077>

Yuan, M. (2010). Mapping Text. In D. J. Bodenhamer, J. Corrigan, & T. M. Harris (Eds.), *The spatial humanities: GIS and the future of humanities scholarship*. Indiana University Press.

Chapter 3

Alivizatou, M. (2006). Museums and Intangible Heritage: The Dynamics of an 'Unconventional' Relationship. *Papers from the Institute of Archaeology*, 17(0), 47–57. <https://doi.org/10.5334/pia.268>

Bagnall, R., Talbert, R. J. A., Bond, S., Becker, J., Elliott, T., Gillies, S., Horne, R., McCormick, M., Rabinowitz, A., Robinson, E., & Turner, B. (2006). *Pleiades: A community-built gazetteer and graph of ancient places* [Collection]. Institute for the Study of the Ancient World, New York University. <http://pleiades.stoa.org>

Bala, S. (2012). Digital inventories of cultural memories and intangible cultural heritage: Case study of the Yadav community of Haryana, India. *ICOM International Committee for Documentation*, 2012, 11–19; illus.

CRL, M. I. (n.d.). *MEMORIAMEDIA* [Collection]. MEMORIAMEDIA e-museo do Património Cultural Imaterial. Retrieved 26 September 2020, from <https://www.memoriamedia.net/index.php/memoriamedia-inicio/o-projecto>

Doulamis, A., Voulodimos, A., Doulamis, N., Soile, S., & Lampropoulos, A. (2017). Transforming Intangible Folkloric Performing Arts into Tangible Choreographic Digital Objects: The Terpsichore Approach: *Proceedings of the 12th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*, 451–460. <https://doi.org/10.5220/0006347304510460>

Ekaterinoslav. (n.d.). *The Imperia project*. Retrieved 25 September 2020, from <https://imperia.omeka.fas.harvard.edu/document/307>

European Commission. (2021). *Digicult project*. Digital Presentation and Preservation of Intangible Cultural Heritage Project No: KA2-02-VET: 2019-1-BG01-KA202-062231 Digital Presentation and Preservation of Intangible Cultural Heritage Project No: KA2-02-VET: 2019-1-BG01-KA202-062231. <https://digicultproject.eu/en/>

Jenstad, J. (2021). *Map of Early Modern London*. Map of Early Modern London. <https://mapoflondon.uvic.ca/>

Mapping Early American Elections. (2019). [Map]. Roy Rosenzweig Center for History and New Media, George Mason University. <https://doi.org/10.31835/meae>

Michael L. Satlow, L. S., Mylonas, E., Lembi, G., & Montieth, L. (n.d.). *Inscriptions of Israel/Palestine*. Inscriptions of Israel Palestine. Retrieved 19 December 2020, from <https://library.brown.edu/iip/index/>

O'Neill, K. (2020, September 25). *The Imperia Project*. The Imperia Project: Maps. Data. Questions. Notes. Insight. <https://imperia.omeka.fas.harvard.edu/>

Robichaud, A., & Blevins, C. (2011). *The Spatial Turn* [Repository of essays]. Tooling Up for Digital Humanities. http://toolingup.stanford.edu/?page_id=1139

Scheidel, W., & Meeks, E. (n.d.). *ORBIS: The Stanford Geospatial Network Model of the Roman World*. ORBIS the Stanford Geospatial Network Model of the Roman World. Retrieved 19 December 2020, from <https://orbis.stanford.edu/#>

Veronnezzi, J. L., & Carvalho, C. P. (2015). Arteria – A Regional Cultural Mapping Project in Portugal. *Culture and Local Governance*, 5(1–2), 117–136. <https://doi.org/10.18192/clg-cgl.v5i1-2.1467>

Chapter 4

Ahmed, Dr. Nazimuddin. 1979. *Bangladeesh Archaeology 1979*. Vol. 1. 1. Dhaka: The Department of archaeology and Museum.

Ahmed, Nazimuddin. 1989. *The Buildings of Khan Jahan in and Around Bagerhat*. Dhaka: UPL Limited.

Ahmed, Nazimuddin, and AKM Shamsul Alam. 1990. 'Architectural Conservation of Paharpur and Bagerhat'. In *Architectural & Urban Conservation in the Islamic World: A Collection of Papers Based on a Workshop ... Held in Dhaka, Bangladesh, April 1989*, edited by Abu H. Imamuddin. Papers in Progress 1. Geneva.

Akter, S.M Shamim. 2008. 'COUNTRY REPORT: BANGLADESH Governmental Mechanism for Safeguarding of Intangible Cultural Heritage'. International Partnership Programme for Safeguarding of Intangible Cultural Heritage "Training Course for Safeguarding of Intangible Cultural Heritage". Tokyo, Osaka and Kyoto, JAPAN: Asia/Pacific Cultural Centre for UNESCO (ACCU). https://www.accu.or.jp/ich/en/training/country_report_pdf/country_report_bangladesh_02.pdf.

Alam, Shamsul. 2015. 'Barobazar'. In *Banglapedia*. Dhaka. <https://en.banglapedia.org/index.php?title=Barobazar>.

Alves, Daniel, and Ana Isabel Queiroz. 2015. 'Exploring Literary Landscapes: From Texts to Spatiotemporal Analysis through Collaborative Work and GIS'. *International Journal of Humanities and Arts Computing* 9 (1): 57–73.

<https://doi.org/10.3366/ijhac.2015.0138>.

Barata, Filipe Themudo, and José Manuel Mascarenhas. 1997. 'The Eborá Territory and the organization and management of the surrounding landscape'. In *Paisagens arqueológicas a oeste de Évora*, edited by Panagiotis Sarantopoulos and Carlos J. Pinto Gomes. Évora: Câmara Municipal de Évora.

Blake, Janet. 2001. 'Preliminary Study into the Advisability of Developing a New Standard- Setting Instrument for the Safeguarding of Intangible Cultural Heritage („Traditional Culture and Folklore“)' . Italy.

Burdick, Anne, Johanna Drucker, Peter Lunenfeld, Todd Presner, and Jeffrey Schnapp, eds. 2012. *Digital Humanities*. Cambridge, MA: MIT Press.

Cambridge Academic Content Dictionary. 2019. 'INSTITUTION'. In *Cambridge Dictionary*. Cambridge University Press.

<https://dictionary.cambridge.org/dictionary/english/institution>.

Dacin, M. Tina, and Peter A. Dacin. 2008. 'Traditions as Institutionalized Practice: Implications for Deinstitutionalization'. In *The SAGE Handbook of Organizational Institutionalism*, edited by Royston Greenwood, Christine Oliver, Roy Suddaby, and Sahlin Kerstin, 326–51. 1 Oliver's Yard, 55 City Road, London EC1Y 1SP United Kingdom: SAGE Publications Ltd. <https://doi.org/10.4135/9781849200387.n13>.

Deleuze, Gilles, and Félix Guattari. 1987. *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press.

Dodge, Martin, Rob Kitchin, and C. R. Perkins, eds. 2011. *The Map Reader: Theories of Mapping Practice and Cartographic Representation*. Chichester, West Sussex [England] ; Hoboken, NJ: Wiley-Blackwell.

Haque, Mohamad Rezwanul. 2014. *Bibortito Bagerhat*. 2nd ed. Dhaka: Gatidhara.

Hossain, Shajjad, and Filipe Themudo Barata. 2019. 'Interpretative Mapping in Cultural Heritage Context: Looking at the Historic Settlement of Khan Jahan in Bangladesh'.

Journal of Cultural Heritage 39 (September): 297–304.

<https://doi.org/10.1016/j.culher.2018.09.011>.

Imran, Masood. 2012. *Patterns in the Medieval Urban Space of Khalifatabad, Bangladesh Spatial Analyses of Archaeological Records with a Proposed Surveying Model*. Saarbrücken: LAP LAMBERT Academic Publishing. <http://nbn-resolving.de/urn:nbn:de:101:1-201209261819>.

Imran, Md. Masood. 2014. 'Quantifying the Spatial Pattern of Medieval Urban Space of Khalifatabad, Bangladesh'. *Pratna Samiksha*, New Series, , no. 5: 87–95.

Merriam-Webster. 2019. 'INSTITUTION'. In *Merriam-Webster Dictionary*. Merriam-Webster, Incorporated. <https://www.merriam-webster.com/dictionary/institution>.

Mitra, Satish Chandra. 1914. *Jessore-Khulnar Itihas (a history of jessore and Khulna district in Bengali)*. 1st ed. Vol. 1. 2 vols. Kolkata: Parul Prakashani.

———. 1922. *Jessore-Khulnar Itihas (a history of jessore and Khulna district in Bengali)*. 1st ed. Vol. 2. 2 vols. Kolkata: Gurudash Chatarjee and sons.

MOCA. 2015. 'Archaeological Law 2015'. Ministry of Cultural Affairs, Bangladesh. https://moca.portal.gov.bd/sites/default/files/files/moca.portal.gov.bd/page/033f8cde_ea98_463d_bc35_dd2a59161438/Law%20of%20Archology.pdf.

Oliver, Christine. 1992. 'The Antecedents of Deinstitutionalization'. *Organization Studies* 13 (4): 563–88. <https://doi.org/10.1177/017084069201300403>.

Ong, Sor Fern. 2015. 'Unesco World Heritage Sites in Asia and South-East Asia'. *The Straits Times*, 20 May 2015. <https://www.straitstimes.com/asia/unesco-world-heritage-sites-in-asia-and-south-east-asia>.

Peton, Hélène, and Antoine Blanc. 2009. 'Deinstitutionalization as a Cumulative Process : The Role of Successive Struggles in the Case of a "Magic Mineral"'. In . Barcelona: EGOS. <https://halshs.archives-ouvertes.fr/halshs-00672416/document>.

Piatti, Barbara, Hans Rudolf Bär, Anne-Kathrin Reuschel, Lorenz Hurni, and William Cartwright. 2009. 'Mapping Literature: Towards a Geography of Fiction'. In *Cartography and Art*, 1–16. Berlin, Heidelberg: Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-540-68569-2_15.

Rob, Abdur. 2014. 'Ganges-Padma River System - Banglapedia'. In *Banglapedia*. https://en.banglapedia.org/index.php?title=Ganges-Padma_River_System.

Schulz, Kathryn. 2011. 'What Is Distant Reading?' *The New York Times*, 24 June 2011, sec. Books. <https://www.nytimes.com/2011/06/26/books/review/the-mechanic-muse-what-is-distant-reading.html>.

Shuvo, Mokammel. 2013. 'Bhairab River in Jessore Now a Narrow Stream | The Daily Star'. *The Daily Star*, 1 April 2013. <https://www.thedailystar.net/news/bhairab-river-in-jessore-now-a-narrow-stream>.

Suddaby, Roy. 2013. 'Institutional Theory'. In *Encyclopedia of Management Theory*, edited by Eric H. Kessler, 379–84. Thousand Oaks, California: SAGE Publications, Inc. https://www.researchgate.net/profile/Yasir_Jamal2/publication/323445090_encyclopedia_of_managements_theory_encyclopedia_by_eric_hKessler_ed/links/5a9647880f7

e9ba42972e52d/encyclopedia-of-managements-theory-encyclopedia-by-eric-hKessler-ed.pdf.

Tally, Robert T. 2008. 'Literary Cartography: Space, Representation, and Narrative'. In *International Society for the Study of Narrative Conference, 2008, Austin, Texas, United States*. <https://digital.library.txstate.edu/handle/10877/3932>.

Tribal Research and Cultural Institute. 2019. 'Tribal Population & Statistics'. Government. Tribal Research and Cultural Institute. 2019. https://trci.tripura.gov.in/tribal_population.

Umitsu, Mosatamo. 1985. 'Natural Levees and Evolution of Landforms in the Bengal Lowland'. *Geographical Review of Japan* 58 (2): 149–64.

Unesco. 2015. *The World's Heritage: The Bestselling Guide to the Most Extraordinary Places*. Glasgow: HarperCollins.

UNESCO. n.d. 'Tangible Cultural Heritage'. UNESCO OFFICE IN CAIRO. Accessed 19 June 2019. <http://www.unesco.org/new/en/cairo/culture/tangible-cultural-heritage/>.

UNESCO ICH. 2011. 'What Is Intangible Cultural Heritage?' UNESCO Intangible Cultural Heritage. 2011. <https://ich.unesco.org/en/what-is-intangible-heritage-00003>.

Vermeulen, Frank, and Filipe Themudo Barata. 2009. 'Hidden Landscapes and Ancient Landmarks: Some Theoretical and Methodological Issues of Studying Early Historical Landscapes in SW - Iberia'. In *From Present to Past through Landscape*, edited by Almudena Orejas Saco del Valle, David Mattingly, Monique Clavel-Lévêque, European Cooperation in the Field of Scientific and Technical Research (Organization), and Consejo Superior de Investigaciones Científicas (Spain). Madrid: Consejo Superior de Investigaciones Científicas.

Zucker, Lynne G. 1987. 'Institutional Theories of Organization'. *Annual Review of Sociology* 13: 443–64.

Chapter 5

Barata, F. T. (2021). Managing Old and New Urban Environments in the City of Évora: Difficulties in Fixing Long-term Cosmopolitan Public Policies. In J. Schröder, M. Carta, F. Scaffidi, & A. Contato (Eds.), *Cosmopolitan habitat: World, citizens, living space: A research agenda for urban resilience*. jovis Verlag GmbH.

Barata, F. T. (2022, May 25). *Urban planning process of Évora* [Personal communication].

Barata, F. T., & Sá, J. (Directors). (2020, May 13). *ART IN | ARQUITECTURA- Malagueira e Arquitectura | Universidade Saudável* [Documentary; Youtube]. <https://www.youtube.com/watch?v=ngBaqymg8jU>

Brabec, E., Carr, E., Chilton, E. S., Taylor, E., Clouse, C., & Hill, M. (2015). *Cultural Landscapes and Heritage Values*.

Briney, A. (2019). *How Did Map-Making Begin?* ThoughtCo. <https://www.thoughtco.com/the-history-of-cartography-1435696>

Britannica. (2022). *Cartography Definition & Meaning* | Britannica Dictionary. <https://www.britannica.com/dictionary/cartography>

Britannica, T. E. of E. (n.d.). Afonso I | king of Portugal. In *Encyclopaedia Britannica*. Retrieved 1 May 2022, from <https://www.britannica.com/biography/Afonso-I-king-of-Portugal>

Câmara Municipal, É. (2021). *Património*. Câmara Municipal de Évora Official Website. <https://www.cm-evora.pt/municipio/patrimonio/>

CMÉ. (2017). *Operação de Reabilitação Urbana do Centro de Histórico de Évora*. Camara Municipal de Évora; CMÉ archive. https://www.cm-evora.pt/wp-content/uploads/2021/03/2017_00_00_ORU-CHE-2017.pdf

Downs, R. M., & Stea, D. (2011). Cognitive Maps and Spatial Behaviour: Process and Products. In M. Dodge, R. Kitchin, & C. Perkins (Eds.), *The Map Reader* (pp. 312–317). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9780470979587.ch41>

Feeney, S. A. (2011, September 28). Hard times under the High Line for small businesses. *The New York Times*. <https://www.newsday.com/news/new-york/hard-times-under-the-high-line-for-small-businesses-g36365>

Haw, J. (2013, June 10). The UNESCO World Heritage Site Selection Process. *Scientific American Blog Network*. <https://blogs.scientificamerican.com/expeditions/the-unesco-world-heritage-site-selection-process/>

Johnson, T. P. (2014). Snowball Sampling: Introduction. In N. Balakrishnan, T. Colton, B. Everitt, W. Piegorisch, F. Ruggeri, & J. L. Teugels (Eds.), *Wiley StatsRef: Statistics Reference Online* (1st ed.). Wiley. <https://doi.org/10.1002/9781118445112.stat05720>

Leuven, K. (2015). *Landscape Urbanism—KU Leuven*. https://onderwijsaanbod.kuleuven.be/2015/syllabi/e/H02Q2AE.htm#activetab=doelstellingen_idm12549936

Melon, L. (n.d.). *Modern History*. Portugal Live. Retrieved 6 May 2022, from <https://www.portugal-live.net/en/portugal/facts/modern-history.html>

Merriam-Webster. (2022a). *Definition of CARTOGRAPHY*. <https://www.merriam-webster.com/dictionary/cartography>

Merriam-Webster. (2022b). *Definition of URBANISM*. <https://www.merriam-webster.com/dictionary/urbanism>

MINISTÉRIO DOS NEGÓCIOS ESTRANGEIROS. (n.d.). *Centro Histórico de Évora*. Comissão Nacional da UNESCO. Retrieved 23 April 2022, from <https://unescoportugal.mne.gov.pt/pt/temas/proteger-o-nosso-patrimonio-e-promover-a-criatividade/patrimonio-mundial-em-portugal/centro-historico-de-evora>

Nag, O. S. (2018, August 17). *What Is Cartography?* WorldAtlas. <https://www.worldatlas.com/what-is-cartography.html>

Obad Šćitaroci, M., & Bojanić Obad Šćitaroci, B. (2019a). Models of Revitalisation and Enhancement of Cultural Heritage and Sustainable Use. In A. Mrđa (Ed.), *Cultural Urban*

Heritage (pp. 457–475). Springer International Publishing. https://doi.org/10.1007/978-3-030-10612-6_29

Obad Šćitaroci, M., & Bojanić Obad Šćitaroci, B. (2019b). Heritage Urbanism. *Sustainability*, 11(9), 26–69. <https://doi.org/10.3390/su11092669>

Parker, C., Scott, S., & Geddes, A. (2020). *Snowball Sampling*. SAGE Publications Ltd. https://eprints.glos.ac.uk/6781/1/6781%20Parker%20and%20Scott%20%282019%29%20Snowball%20Sampling_Peer%20reviewed%20pre-copy%20edited%20version.pdf

RAMSEY, A. C. (2021, October 6). The Moors in Portugal: A Brief History. *Portugal Our Way*. <https://portugalourway.com/moors-in-portugal/>

Rodrigues, P. S., & Matos, A. C. de. (2007). Restaurar para renovar na Évora do século XIX. In *DOSSIÊ: CENTRO HISTÓRICO DE ÉVORA* (pp. 134–143). DGEM. <http://hdl.handle.net/10174/6517>

Silva, H. V. da. (n.d.). *Centro Histórico de Évora | e-cultura*. Retrieved 5 May 2022, from <http://www.e-cultura.pt/artigo/20250>

Silva, J. C. V. da. (1989). *O tardo-gótico em Portugal: A arquitectura no Alentejo*. Livros Horizonte.

TRE, T. R. de É. (2018). *TREVO - Transportes Rodoviários de Évora*. <http://www.trevo.com.pt/pt/default.html>

UIS, U. I. of S. (2016, November 18). *Sustainable Development Goal 11.4*. UNESCO Institute of Statistics. <http://uis.unesco.org/en/topic/sustainable-development-goal-11-4>

UNESCO, W. H. C. (1986). *Historic Centre of Évora*. UNESCO World Heritage Centre. <https://whc.unesco.org/en/list/361/>

Viver Évora: Mapa de Évora. (2014, terça-feira, de abril de). *Viver Évora*. <https://viverevora.blogspot.com/2014/04/mapa-de-evora.html>

WHITRAP. (2013). *THE HISTORIC URBAN LANDSCAPE (HUL)*. <http://www.historicurbanlandscape.com/themes/196/userfiles/download/2015/1/5/0rIneczs0ltzg72.pdf>

Wilde, R. (2019, July 14). *Key Renaissance Events in Art, Philosophy, Politics, Religion, and Science*. ThoughtCo. <https://www.thoughtco.com/renaissance-timeline-4158077>

Chapter 6

Gez, Y. N. (2021, August 26). *Development and its Afterlives*.

Mapping Manhattan: A Love (and Sometimes Hate) Story in Maps by 75 New Yorkers by Becky Cooper [many mapping examples given here are close to what is expected from the workshop]

J. Corner, "The Agency of mapping," in *Mappings*, London, Reaktion Books Ltd., 1999, pp. 213–252. Also available at (http://n.fonty.free.fr/PhD/Corner-The%20Agency%20of%20Mapping_ch12.pdf) [To understand the detailed concept of mapping and difference from traditional cartographic map]

Hossain, Shajjad, and Filipe Themudo Barata. 'Interpretative Mapping in Cultural Heritage Context: Looking at the Historic Settlement of Khan Jahan in Bangladesh'. *Journal of Cultural Heritage* 39 (September 2019): 297–304. <https://doi.org/10.1016/j.culher.2018.09.011> [to understand the concept of Interpretative mapping+ example + application]

Hossain, Shajjad, and Filipe Themudo Barata. "Mapping the Literature through Digital Humanities Protocol: Decoding the Morphology of a Historic Settlement." In: H. Griffin (ed.), *AMPS Proceedings Series 20.1. Connections: Exploring Heritage, Architecture, Cities, Art, Media*. University of Kent, UK. 29 – 30 June (2020). pp.[187-200] [the pdf will be provided, or find here <http://architecturemps.com/proceedings/>; Dealing with multiple narrative and expression through mapping is important, methodology described here is out of scope of this workshop]

Antwerp North: Re-visiting the Modernist city (MaHS-MaUSP-EMU studio project, KULeuven) [the pdf is provided, Reading (by mapping) of abandoned industrial site in conjunction to nearest community is important, proposed urban design is not in scope of this workshop; the site is close to the concept of development afterlife]

Examples engaging walking methodologies to build narrative that I mentioned in the presentation: Secrets of the City with Iain Sinclair

https://www.youtube.com/watch?v=CHyizbQ6Tmc&ab_channel=JohnRogers

Iain Sinclair - Living with Buildings walking with ghosts

https://www.youtube.com/watch?v=w-9O4xDsJ2U&ab_channel=JohnRogers

Walking Keiller's 'London' – the first walk

<https://thelostbyway.com/2018/12/walking-keillers-london-first-walk.html>

<https://www.deveron-projects.com/the-walking-institute/temp/reference/london/>

Not cited in the thesis (but consulted)

Ahmed, Nazimuddin. 1980. **Islamic Heritage of Bangladesh**. Department of Film & Publications, Government of the People's Republic of Bangladesh, Dhaka.p.40.

Batista T., Mascarenhas J.M., Mendes P., Mantas V., 2010. **Heritage Landscapes in Évora surroundings: a GIS approach**. Istanbul Technical University, Department of Landscape Architecture. Proceedings of European Council of Landscape Architecture, ECLAS. Instambul.791-802

Batista, Teresa, José Manuel de Mascarenhas, and Paula Mendes. 2014. "**The fourth dimension in landscape analysis: changing of heritage and ecological values in the Évora cultural landscapes.**" *Problemy Ekologii Krajobrazu* 30.30

Barata, F. and Mascarenhas, J.M. de, 2002. Preservando a Memória do Território - O Parque Cultural de Tourega - Valverde (**Preserving the Land's Memories - The Tourega-Valverde Cultural Park**). Évora:CEEM – University of Évora.

- Bari, K.G.M. Latiful (ed.). 1979. **Bangladesh District Gazetteers Bagerhat**. Bangladesh Government Press, Dhaka. pp- 11-12, 35.
- Beveridge, H.T., 1876, *The District of Bakarganj: Its History and Statistics*, London
- Bonine, Michael E. 2005. "**Islamic Urbanism, Urbanites, and the Middle Eastern City.**" **A Companion to the History of the Middle East**. Choueiri, Youssef M. Blackwell Publishing.
- Brown, Percy. 1942. **Indian Architecture (Islamic Period)**. D.B. Taraporevala sons & Co. pvt. Ltd. Bombay.p-38,41, 58.
- Campos, J.J.A., 1919, **History of the Portuguese in Bengal**, Calcutta
- Caravello, G.U. and Giacomini, F., 1993: **Landscape ecology aspects in a territory centuriated in Roman times**", *Landscape and Urban Planning*, 24: 77-85.
- Casana, Jesse, **Satellite Imagery-Based Analysis of Archaeological Looting in Syria** in *Near Eastern Archaeology*, Vol. 78, No. 3, Special Issue: The Cultural Heritage Crisis in the Middle East (September 2015), pp. 142-152
- Centro Historico de Évora(Maps of)** – Area Classificada como Patrimonio Mundial e respectiva Zona de Protecção, scale 1:5,000, 2006
- Cultural Survey of Bangladesh**, 2002. Architecture, Asicatioc Society of Bangladesh.
- Cunningham, Alexander. 1882. **Archaeological Survey of India Report**. Vol. 15. Calcutta: Government of India.
- Dani, A.H. 1961. **Muslim Architecture in Bengal**. Asiatic society of Pakistan, Dhaka.pp.88-93.
- Dani, AH., 1986. **List of Ancient Monuments on Bengal**, Calcutta.
- DOZA, Sajid-Bin, 2016, **Riverine Fortress city of `MAHASTHAN´ in Deltaic Bengal:In search for the traditional settlement pattern of ancient cities**, Uévora (unpublished thesis)
- Elizabeth Doyle, Shelby, 2012. **City of Water: Architecture, Urbanism and the Floods of Phnom Penh**, *Nakhara : Journal of Environmental Design and Planning*, Vol 8.
- Farina, A., 2006: **Principles and Methods in Landscape Ecology: Towards a Science of the Landscape** , Springer,Dordrecht, 412 p.
- Fortune, Robert,1852, **A journey to the tea countries of China including Sung-Lo and the Bohea Hills**, London
- Hasan, S. Mahmudul. 1979. **Mosque Architecture of Pre-Mughal Bengal**. The University press Ltd., Dhaka.pp-155-156
- Hoechstetter S., 2009: **Enhanced methods for analyzing landscape structure. Landscape metrics for characterizing three-dimensional patterns and ecological gradients.** " Reihe, Fernerkundung Angew. Geoinformatik

Iván Azócar Fernández Pablo, and Manfred F. Buchroithner., 2014, **Paradigms in cartography: An Epistemological Review of the 20th and 21st Centuries**. Springer

Jakaria, Abul Kalam Mohammad. 2007. **Bangladesher Pratna Shampad** . Dhaka: Dibyaprakash.

Lucia Rojas, Claudia. 2014. "**Water Urbanism in Bogota: Exploring the Interplay between Settlement Patterns and Water Management**." URBAN FUTURES. Multiple Visions, Paths and Constructions? Proc. of 14th N-AERUS Conference, Enschede, The Netherlands.N.p.: n.p.,n.d. N. pag. Web. 8 Sept. 2014.

Majumder, S.C., 1942, **Rivers of the Bengal Delta**, University of Calcutta

Mapping of Cultural Heritage actions in European Union policies, programmes and activities , 2017, (Report by European Commission)

Mannay, Dawn, and Pauwels. Luc, 2020, **The Sage Handbook of Visual Research Methods**, Sage.

Meulder, Bruno De, and Kelly Shannon. 2013.**Water Urbanisms 2** - East. Zürich: Park, UFO: Explorations of Urbanism.

MowlaQ.A.,and Naqi M.A. 1992. **Khalifatabad Sangrakshan**. Quarterly Stapattya O“Nirman, I (4), Oct-Dec. 1992.

Mowla A. and Naqi M.A. , 1999. "**An appraisal of Khan-e-Jahan style in architecture**". Khulna University Studies, volume 1 (1), pp. 5-11.

Hasan, Syed Mahmudul, 2003, **Muslim Monuments of Bengal**, Islamic Foundation Bangladesh, Dhaka

NAQI, MD. Ali, 2003, **The Architecture of the Khan-e-Jahan Style: Context and influence** (Unpublished Thesis)

Rahaman,Hafizur, & Mahfuz-ud-Darain, Kh., 2006, **A Description of Buildings in Khalifatabad City**, BAGERHAT

Rahman, Hafizur, 2008, **Preserving the Architectural Heritage of Bangladesh** in Pratnatattva, Journal of the department of Archaeology, JU, Vol. 14, pp 81-88



Proposal for fieldwork Bangladesh

Md Shajjad Hossain

Programa de Doutoramento in Historia da Arte (cod. 276)

2018



To Whom It May Concern

I, Filipe Themudo Barata, Professor in the University of Évora and researcher at CIDEHUS and Chair holder at the UNESCO Chair in Intangible heritage, am the principle supervisor of the PhD thesis of Md Shajjad Hossain at the University of Évora, Portugal. He is a scholarship holder of HERITAS Program (Heritage studies). His student number is D37034. The title of his thesis is "New Methodology of Investigating the Identity of Historic Settlement". His research concerns interpretative mapping regarding the districts of south-west of the country that holds the position of settlement of Khan Jahan Period (special focus on Bagerhat and Barobazar).

He intends to do his field work in Bangladesh in 2018, including site survey, photography, interview and collection of literary materials and maps. I wish him success and request everyone to give him necessary assistance.

University of Évora, Évora, Portugal, 1 February, 2018

Filipe Themudo Barata

Departamento of History Full Professor

UNESCO Chair Holder in Intangible Heritage and traditional Know-how: Linking Heritage

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To
 Prof. Filipe Themudo Barata
 CIDEHUS and Departamento de História, UE
 UNESCO chair in Intangible Heritage and Traditional Know-How

It has been agreed with the supervisor that having the initial proposal (Minuta Proposta Projeto Tese) completed and approved, the next step is to do the fieldwork in Bangladesh in the site of Khalifatabad. Attached is the detail work plan for case study and fieldwork. It involves collecting data, literary and graphic material and interview, verify and record location of vestiges, taking photograph and note of the updated state of architectural heritage, collecting information about the intangible heritage that are still surviving. The time period estimated to work both in Dhaka and Khalifatabad is, two months.

It is requested that following detail plan of work list, to be done during fieldwork, might be checked and approved by the supervisor.

Regards

Shajjad Hossain
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 HERITAS-UNESCO CHAIR, Portugal
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Title of Thesis: New methodological approaches of investigating the identity of Historic Settlement

Supervisor: Prof. Filipe Themudo Barata

Proposal for Field work (Bangladesh)

(1) Methodology for fieldwork and data collection:

For the purpose of mapping tangible and intangible heritage in the site of Khalifatabad, Bangladesh, an appropriate methodology is very necessary. Defining tangible and intangible heritage can be modified from the standard definitions by UNESCO. For fieldwork and data collection, definitions, research procedure and tools have been partially adopted from “Pacific Intangible Cultural Heritage Mapping Toolkit”¹.

Tangible cultural heritage refers to physical heritage such as buildings and historic places, monuments, books, documents and artifacts that are considered worthy of preservation for the future and are significant to the archaeology, architecture, science and technology of a specific culture.

Intangible cultural heritage refers to cultural expressions and practices that form a body of knowledge and provide for continuity, dynamism and meaning of social life to generations of people as individuals, social groups and communities. Intangible cultural heritage allows for identity and a sense of belonging for people as well as an accumulation of intellectual capital for current and future generations in the context of mutual respect for human, social and cultural rights.

Intangible cultural heritage domains refer to UNESCO’s broad forms or grouping of different manifestations of intangible cultural heritage elements that exist in different cultures around the world.

The main domains include:

- 1) oral traditions and expressions;
- 2) performing arts;
- 3) social practices, rituals and festive events;
- 4) knowledge and practices concerning nature and the universe; and
- 5) traditional craftsmanship.

¹ Pacific Intangible Cultural Heritage Mapping Toolkit developed by Sipiriano Nemani published in 2012 by Secretariat of Pacific Community (SPC), Suva, Fiji; It has been widely appreciated and adopted as a best practice approach in some Pacific Island countries since its inception in 2004. As a result, many of the examples in the toolkit are derived from Fiji, although they can be applied to other nations, once modified according to context.


Instances of intangible cultural heritage are not limited to a single manifestation and may include elements from multiple domains. Intangible cultural heritage elements are different forms of intangible cultural heritage. While the domains referred to above are broader groupings, elements on the other hand refer to detailed and specific manifestations of domains. For example, in the context of Khalifatabad, Bangladesh, the culture of mausoleum include the manifestations of daily visits of general people to the mausoleum and prayer, bath and collection of water from Khan Jahan water tank, feeding the crocodile, annual fair in the name of Khan Jahan etc. all of which has a spatial significance (to help to do interpretative mapping later). These are the elements of local culture that represent heritage from Khan Jahan periods of the 15th century. When set in the context of UNESCO's domains, these elements would fit into domains 1 and 3 above. Following are the protocols and procedures to be followed during fieldwork.

Table 1: Rules, Procedures and tools for fieldwork

Ethical rules	fieldwork procedure	Documentation tools
<p>→ Develop consent forms and collect signature/consent from informant/interviewee.</p> <p>→ Ascertain proper government and local channels with declaration from thesis supervisor, to collect map and data from.</p> <p>→ keep note of resource/person to give proper credit during publication.</p>	<p>→ Collect formal publication and documents from central institutions in the capital Dhaka as well as from relevant local govt. offices.</p> <p>→ Prepare a list of questions but not to issue any questionnaire and survey form.</p> <p>→ Participate in and observe local rituals (like visit and prayer in mausoleum and mosque, yearly festivals and fair etc.)</p> <p>→ Take into account with stories and information of local resource persons, access other resource/people directed from them.</p>	<p>→ Electronic equipment: Digital camera for both still picture and video, Audio recorder, handheld GPS.</p> <p>→ Altimeter to measure land elevation for particular artefact/vestigis (elevation for landscape to get from topographical map from SOB)</p> <p>→ Standard tools: pre-printed guide map, graph paper, notebook, forms of consent and questions.</p>

Identifying elements to map and selecting/defining questions based on the elements and thematic area of choice is very important because beyond the “set criteria” of about cultural heritage by UNESCO, there might be some more elements/perspectives, unique and important to the local community. Therefore it might be very useful to pre-categorize the possible cultural elements, as useful guide for the field survey. Interview questions may also follow the themes. Following is a table illustrating the themes.

Table 2: Cultural Heritage Category and specific elements

Themes	Tangible Elements	Intangible Elements	Comments
Anthropological		Traditional ceremonies, rituals, practices and beliefs; traditional food	

o मन्त्रालय, 2000 ई
 2000 ई + 21 (नए मन्त्र (spicy) + sheyari pitha
 o मन्त्र मन्त्र मन्त्र
 o मन्त्र मन्त्र मन्त्र
 Appendix 1
 add मन्त्र

		preparations and culinary methods(public) in mausoleum, Annual festivals and fair	
Sociological / Religious		Public visit and prayer in mausoleum and mosque + मन्त्र	
Archaeological / Architectural	old architecture, bridges, roads, earth mounds, old structure adopted for new use, burial grounds, vestiges and water tanks		
Aesthetical	Historic engraving, art and designs, patterns found in the existing historic architecture, statues and vestiges found underground and preserved in museums.		o calligraphy o floral → terracotta o thin brick specification
Genealogical		Traditional hierarchical system of mausoleum (e.g. Chief and subordinate families of Khadem, murid)	
Ethical		Mannerisms; taboos; sharing of knowledge and ideas (like things to do and not to do regarding activities in mausoleum)	
Linguistic	<i>need the name of every village and maps</i>	idioms; stories; legends; names (of people, places and sites) that have cultural significance	Toponymy is very important as evidence to trace back historic settlements.
Topographic	Land arrangements, heritage sites, sacred areas, historic landscape and change in landscape due to natural phenomena like river system of delta and annual flood		
Symbolic		Traditional or religious beliefs systems, symbols used in architecture or elsewhere that represent the historic period (for example patterns in different façades of architecture)	
Botanical	Botanical evidence that represent the historic		

	period		
Maritime	Vestiges regarding the port (local name Jahajghata) of historic period	Ancient stories and terminology regarding trade, transportation and communication using river system and the port	
Economic	To be determined	To be determined	
Musicological / equivalent	To be determined	To be determined	
Administrative	Spatial significance of the administration system	Mosque and mausoleum centric administration system	
Defense	Spatial significance of the defense system	Defense strategy of the settlement regarding natural hazard as well as invasion of other nations	

The category and list of elements of cultural heritage might be modified according the context during the field work.

(2) Collection of maps:

Several kinds of maps are to be collected from Bangladesh. Administrative maps are important for place names and locations, specially the details about villages, town centers, upazillas, police stations and post offices, districts etc. are important to find reference from literature. "Survey of Bangladesh (SOB)" is responsible national organization to produce, update and disseminate different kind of maps, which recently includes topographic maps with GIS data as well as high resolution aerial image. This organization is run under the ministry of defense of Bangladesh Government. Following is a list of current maps from SOB, to be collected during fieldwork. The complete list of available maps can be found [here](#).

Table 3: List of maps to be collected from SOB

SL.	Name of the Map	Scale	Classification	Edition (with year)	Version (Bangla / English)	Price(BDT)	General Area		Remarks
							Covered	No. of sheets	
✓ 1.	Bangladesh Map (Administrative)	1:1,000,000	Non-Restricted	1 st /2003	Bangla	70/-	Whole Bangladesh	01	
✓ 2.	Bangladesh Map (Communication)	1:1,000,000	"	1 st /2001	English	70/-	"	01	
3.	Bangladesh Map	1" =10 Mile	"	2 nd /1991	Bangla	50/-	"	02 Part	
✓ 4.	Bangladesh Map	1" =10 Mile	"	2 nd /1992	English	50/-	"	02 Part	
✓ 5.	P.S. Map Bangladesh	1" =16 Mile	"	1 st /1978	"	25/-	"	01	

6.	Bangladesh Map (Showing Ancient Monuments)	1" = 16 Mile	"	1 st /1990	"	25/-	"	01	
7.	Bhu-Porichiti	1" = 1 Mile	"	1 st /1984	Bangla	10/-	"	01	
8.	Khulna Division	1:400,000	"	1 st /2002	"	100/- 150	Whole Khulna Division	01	
9.	Barisal Division	1:250,000	"	1 st /2002	"	100/-	Whole Barisal Division	01	
10.	Barisal Guide Map	1:20,000	"	1 st /2001	"	30/-	Barisal City	01	
11.	District Map (13 nos.)	Different Scale	"	1 st /02/03	"	30/- 150/-	Whole Bangladesh	13	Meherpur, Kustia, Chuadanga, Jhineidah, Magura, Jessore, Narail, Satkhira, Khulna, Bagerhat, Pirojpur, Barisal Jhalokati
12.	Topographical Map	1:250,000	Restricted	Different edition	"	25/- & 50/-	Whole Bangladesh	-	Collect for 13 districts if the next one (1:50000 scale) not available or feasible
13.	Topographical Map (for 13 districts)	1:50,000	Restricted	Different edition	"	25/- & 50/-	Whole Bangladesh	-	Meherpur, Kustia, Chuadanga, Jhineidah, Magura, Jessore, Narail, Satkhira, Khulna, Bagerhat, Pirojpur, Barisal Jhalokati
14.	Map Catalogue	-	Non-Restricted	2000	"	150/-	-	01	
15.	Bench Mark	-	"	-	English	200/-	-	-	
16.	Co-ordinate	-	"	-	"	100/-	-	-	

page 25/no 23/ Diarah survey map 1881-82 (58 sheets) Shahbazpooor, Tetulia, meghna river, Betua Day of Bengal & different char. 1911

Following maps are 50 to 100 years old and to be collected from National Achieves of Bangladesh (NAB) and National Library located in Dhaka. The complete list of maps available in NAB can be found [here](#).

17 map register → 22, 23 Bakerganj Dist map. 52 char maps.

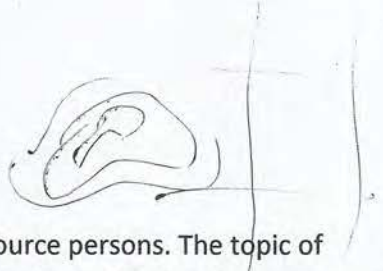
- (1) Mouja map of Khulna division
- (2) Survey maps of Rennell
- (3) Maps of several Char areas and important Rivers (1980-1982), ✓
- (4) Maps of Bengal in the 19th century ✓
- (5) Diara survey map of Bakerganj (1880-1881), ✓
- (6) Diara survey map of the river and Char (1881-1882) ✓
- (7) Map of Bakerganj (1878-79).

Gazette of India 1839-1910? what is it?

Topographic map 79 F/10, 14 open series

(3) Interviewing resource persons:

There will a semi-structured interview to be conducted with the relevant resource persons. The topic of discussion will be guided by the interviewer. The topics to be explored includes but not limited to mapping, Heritage of Bangladesh, dynamic relation between river and human settlement in delta, Khan Jahan Ali led settlement in Khalifatabad and Barobazar on the bank of river Bhairab, intangible cultural



73. The geological survey of India 1905 350. The curator of ancient monument 2nd report 1982-83 → 242 1st report is available.
 85. Map Dhaka 1910-14 353-364 archaeological survey of India report 1879-1883
 118. Bengal plants vol 1 1903

heritage in this area . Following persons are to be interviewed. The list might be modified depending on their availability and with the progress of the paper.

Table 4: list of interviewee

Dr. Qazi Azizul Mowla	Professor, Department of Architecture, BUET, Dhaka-1000, Bangladesh qamawla@arch.buet.ac.bd	Post-doc research in Architectural conservation; Work and publication on Khalifatabad, Bangladesh; Research interest in Theory and Practice in Architecture and Urban Design, Built-Environment Design and Urban Morphology
Dr. Sajid bin Doza	Assistant Professor, Department of Architecture, BRAC University, Bangladesh sajidbin@bracu.ac.bd	Research and publication on historical monuments of North Bengal; doctoral research on Art History & Heritage Study regarding historic settlement in Bangladesh, research interest in Historical buildings documentation & the Conservation practice in Bangladesh, Bangle Art and Architecture.
Dr. M Habib Reza	Assistant Professor, Department of Architecture, BRAC University, Bangladesh habib.reza@bracu.ac.bd	Doctoral research regarding the morphological development pattern of ancient and mediaeval Buddhist architecture of Bengal-which has close relationship with Khalifatabad; Research interest in architecture and settlements and their connection with cultural, social and religious processes
Dr. Ainun Nishat	Professor Emeritus, BRAC University, Bangladesh	Internationally recognized as a pioneering expert of water resource management and climate change in Bangladesh.
Dr. Parween Hasan	Vice-Chancellor, Central Women's University, Bangladesh Former Professor, Department of Islamic History and Culture, University of Dhaka	Noteworthy research and literary work on Islamic architecture and culture on Sultanate period in Bangladesh including Khalifatabad.
Present regional director/research officer	Khulna Divisional Museum, Dept. of Archeology, Bangladesh	Responsible official from government for research, preservation and knowledge dissemination regarding historic site.
Inzamamul Haque	Editor and Contributor, local news portal "bagerhatinfo.com"	Photography and publication on Khalifatabad, local resource person
Local resource person on site (8 - 10 persons)	To be determined during fieldwork	Local information for folklore, less known earth mounds and unpublished information

also available in National Archives.
1. Land sat Satellite Digital Mosaic map 1984
2. " 1984 sheet 3 (land use type)
3. Bangladesh Administrative map type 1950

Look into (SPARSO)

353 tone on central Domb & GoraKapur

Archaeological survey of India

803 | Population of Unions
805 | East Bengal census 1952 | Bakerganj | search the names of the unions.
953 | the Bengal tanks improvement rules 1940



2304 | Map of Bengal 1912
2315 | Descriptive Anthropology of Bengal 1872

327. শ্রীমতী কবি (কবি) রচনা করে by ড. শফিক রশিদ
352. Islamic Heritage of Bangladesh Dr Nazimuddin Ahmed / Ministry of information

Semi-Structured interview guide/guiding questions:

- (a) Explain to the interviewee --> the synopsis of the research and purpose of the interview (take consent to record interviews).
- (b) What is your opinion about the undiscovered locations of tangible heritage of Khan Jahan Settlement?
- (c) What is, in your opinion, the best way to survey, record and map the elements of historic landscape (tanks, roads/paths, mounds, river course, vestiges, lost or newly formed land due to river erosion or siltation)
- (d) What are the intangible heritage in Jessore-Khulna-Bagerhat region that represent Khan Jahan Settlement? Discuss more for detail information. (toponymy, folklore, festivals, traditions, rituals etc.)
- (e) Is there any local publication or resource persons relating to those tangible and intangible heritage? (collect and interview)
- (f) What are the cultural elements still present in the local community that represent Khan Jahan Period of 15th century? (reference to table 2, ask separately about each theme)
- (g) Can you give some information about the (1) administrative system and (2) its spatial significance in the historic period?
- (h) Can you give some information about the (1) defense system and (2) its spatial significance in the historic period?

china

(4) Ascertaining previous research, data and publication on relevant cultural heritage elements:

Collection of Books: It is necessary to collect the following books from Bangladesh during this fieldwork. Some of the books are locally available in Bangladesh and not available to purchase internationally or online as follows:

Ahmad, Nazimuddin., 2000. The Buildings of Khan Jahan in and Around Bagerhat. Dhaka: UPL.

Hasan, Perween. 2007. Sultans and Mosques: The Early Muslim Architecture of Bangladesh. London: I.B. Tauris.

Beveridge, Henry. 1876. District of Bakerganj: Its History and Statistics, London, Trubner & Co.

Excavation booklets- published by Department of Archaeology, Bangladesh

Bangladesh Archeology 1979 vol 1 (published by Department of Archaeology, Bangladesh)

Consult libraries and archives: To consult National library (located in Shahbag, Dhaka) and National Archives(NAB) to copy/part of relevant books and documents in archive section. Documentation project from non-govt agency (e.g. Institute of Architects Bangladesh, AGA Khan Trust for Culture etc.) are also to be consulted.

Consult Department of Archeology: Department of Archeology is the official authority to manage those heritage sites. There might be many important documents and publication in the department, which are not available as publication on the market. It is very necessary to consult documents and publications regarding excavation in Khalifatabad and Barobazar.

Department of Archaeology in Jahangirnagar University, Bangladesh, is also an important resource, to look for relevant information in theses and department publication.

Consult local government departments: local government departments like post office, tourism, environment, administration may have valuable and relevant information that can also be used as secondary data complementing the raw data collected from actual fieldwork.

Consult local resources: local news agency is an important source of data. For example the local team and personnel of <http://www.bagerhatinfo.com> might provide unpublished data and information.

Consult electronic resources national and international: Existing documentation and publication is a must to go through and utilize in applicable places. Probable places to find documents about Khalifatabad are UNESDOC database, UNESCO World Heritage Convention Documents, ICOMOS and ICCROM publications.

(5) Duration and schedule:

It is intended that the duration of fieldwork is to be utilized properly and optimally.

Intended travel month: February and March, 2018

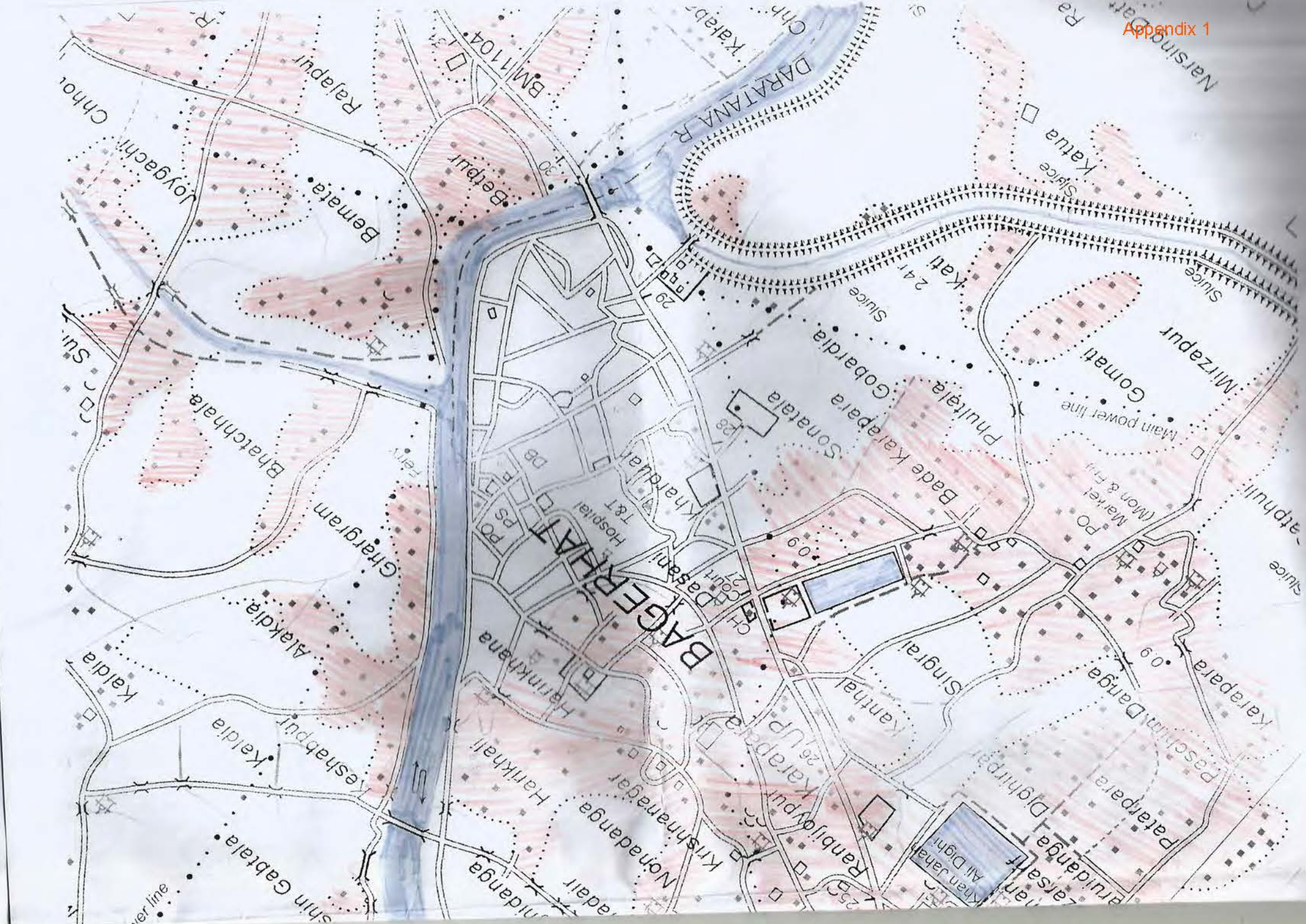
Duration: 2 months approximately (excluding travel time)

Date: precise dates may vary according to available air tickets

(6) Preparation and caution for Fieldwork:

Before fieldwork, paperwork, collection of equipment, fieldwork planning, review with supervisor, approval is necessary- which is to be completed by January 2018. From previous experience it is anticipated that bureaucratic processes like permission, coordination from government department and searching and collecting old maps and documentation in National Archive might be very lengthy. Therefore fieldwork duration in Bangladesh is assumed as of 2 months.

In fieldwork, GPS location, current picture and footprint of the old architecture, vestiges and water tanks and site sections, elevation of land will be recorded. Handheld GPS equipment is to be collected from home institution beforehand. In Bangladesh late winter (especially February-March) is best time to do field work because all spots of the site will remain accessible, which otherwise become inundated due to high tide or flood or rain in monsoon period.





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UNESCO Chair in Intangible Heritage
and Traditional Know-How: Linking Heritage
University of Evora



Participant Number/Initials

/

Title: New methodological approaches of investigating the identity of Historic Settlement

Consent Form for Interview

Thank you for reading the information sheet about the research and interview. If you are happy to participate then please complete and sign the form below. Please initial the boxes below to confirm that you agree with each statement:

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Initial box:*

I confirm that I have read and understood the information sheet and have had the opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.

I understand that my responses will be kept strictly confidential. I understand that my name will not be linked with the research materials, and will not be identified or identifiable in the report or reports that result from the research.

I agree for this interview to be tape-recorded. I understand that the audio recording made of this interview will be used only for analysis and that extracts from the interview, from which I would not be personally identified, may be used in any conference presentation, report or journal article developed as a result of the research. I understand that no other use will be made of the recording without my written permission, and that no one outside the research team will be allowed access to the original recording.

I agree that my anonymised data will be kept for future research purposes such as publications related to this study after the completion of the study.

I agree to take part in this interview.

Sarder Inzammul Haque

Inzammul

Name of participant

Date

Signature

Principal Investigator

Date

Signature

To be counter-signed and dated electronically for telephone/email interviews or in the presence of the participant for face to face interviews

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I agree to take part in this interview.

Surbata KUMEN

[Signature]

Name of participant

Date

Signature

Principal Investigator

Date

Signature

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I agree to take part in this interview.

MORSHEDUR RAHMAN
Name of participant

17-04-2018
Date

Rahman
Signature

Principal Investigator

Date

Signature

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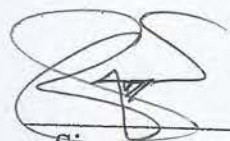
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I agree to take part in this interview.


Md. Golam Faridaush
Name of participant

18-04-2018
Date


Signature

MD. SHAKJAD HOSSAIN
Principal Investigator

18-04-2018
Date


Signature

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I agree to take part in this interview.

AHAD UDDIN HAIDER
Name of participant

17.04.2018
Date

Signature

MD SHAJJAD HOSSAIN
Principal Investigator

17.04.2018
Date

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কালোরপোল রাজার ভিটা প্রত্নটিবি

রাজার ভিটা নামক প্রত্নটিবি চুয়াডাঙ্গা জেলার সদর উপজেলার তিতুদহ ইউনিয়নের অন্তর্গত কালোরপোল গ্রামে ২৩.৫৫৮৪৩ উত্তর অক্ষাংশে ও ৮৮.৯১৪৯০ পূর্ব দ্রাঘিমাংশে অবস্থিত। স্থানীয় ভাবে রাজার ভিটা নামে সুপরিচিত প্রত্নস্থানটি গড়াইটুপি থেকে সরোজগঞ্জ গামী পাকা রাস্তায় অবস্থিত কালোরপোল মোড় থেকে ১.৫ কিঃ মিঃ পূর্ব-দক্ষিণ কোণে এবং চিত্রা নদীর মরা খাতের উত্তর পাড়ে অবস্থিত।

পার্শ্ববর্তী সমতল ভূমি থেকে টিবিটি শীর্ষদেশের উচ্চতা প্রায় ৫ থেকে ৬ ফুট। উত্তর-দক্ষিণে টিবির পরিমাপ উত্তর-দক্ষিণে ৩৭৫ ফুট ও পূর্ব-পশ্চিমে ২২৫ ফুট। টিবির উপরিভাগে বিক্ষিপ্ত অবস্থায় ইটের কণা, পটারীর ভগ্নাংশের উপস্থিতি লক্ষ্য করা যায়। টিবির পাদদেশে বিক্ষিপ্তভাবে ইট পাটকেল পটারীর ভগ্নাংশসহ সাংস্কৃতিক জঞ্জালের উপস্থিতি রয়েছে। বর্তমানে টিবির শীর্ষদেশ প্রায় সমতল চাতালে রূপ নিয়েছে। টিবির উপরিভাগে লতা-গুল্ম ছাড়া তেমন কোন গাছ-গাছালীর অস্তিত্ব নেই। কোন চাষাবাদ না হওয়ায় স্থানটি বর্তমানে গোচারণ ভূমি হিসেবে ব্যবহৃত হচ্ছে।

চুয়াডাঙ্গার আঞ্চলিক ইতিহাস গ্রন্থে টিবির ইতিহাস সম্পর্কে কোন তথ্য লিপিবদ্ধ নেই। তবে স্থানীয় ভাবে প্রচলিত জনশ্রুতি থেকে জানা যায় যে, স্থানটি জনৈক গন্ধর্ব রায় নামক জনৈক এক রাজার বাড়ি ছিল। যদিও রাজা গন্ধর্ব রায় সম্পর্কে ইতিহাস সমর্থিত নির্ভরযোগ্য কোন সূত্র থেকে কোন তথ্য বা পরিচয় জানা যায়নি। প্রচলিত জনশ্রুতি থেকে জানা যায় যে, তিনি প্রখ্যাত সাধক হযরত খানজাহান (রঃ) ঘনিষ্ঠ সহচর ও অনুসারী ছিলেন। চার আউলিয়ার অন্যতম হযরত 'মালেক উল গাউচ' এর সাথে রাজা গন্ধর্ব রায়ের সাথে যুদ্ধ সংঘটিত হওয়ার কথা জানা যায় এবং এই যুদ্ধে রাজা গন্ধর্ব রায় পরাজিত ও নিহত হওয়ায় কথা জানা যায়। জনশ্রুতির উপর ভিত্তি করে ধারণা করা যায় যে, রাজা গন্ধর্ব রায় সম্ভবত পঞ্চদশ শতকে খানজাহান (রঃ) সমসাময়িক কোন আঞ্চলিক রাজা বা শাসক ছিলেন। সরেজমিনে প্রত্নতাত্ত্বিক জরিপ কালে টিবির শীর্ষদেশে প্রত্নানুসন্ধানের উদ্দেশ্যে কিঞ্চিৎ মাটি খনন করে কয়েকটি বর্গাকৃতি লাল পোড়া টালি ইটের সন্ধান পাওয়া যায়। ইটের পরিমাপ ২২×১৮×৪.৫ সে.মি। যা খানজাহান (রঃ) স্থাপত্য নির্মাণ কাজে ব্যবহৃত ইটের সাথে যার সাদৃশ্যপূর্ণ। টিবির নিচে কৌতুহলোদ্দীপক প্রাচীন নিদর্শন/স্থাপনার অস্তিত্ব রয়েছে তা প্রত্নানুসন্ধানে অনেকটাই নিশ্চিত হওয়া গেছে। নির্মাণ উপকরণ ও ইটের পরিমাপ বিশ্লেষণ করে খুব সহজে অনুমান করা যায় যে, টিবির নিচে বিলুপ্ত পুরাকীর্তির ধ্বংসাবশেষ সমূহ সুলতানী আমলের সাক্ষ্যবাহী। তাছাড়া চিত্রা নদীর তীরে মনোরম প্রাকৃতিক পরিবেশ ভূ-রাজনৈতিক, অবস্থানগত ও কৌশলগত গুরুত্বের কারণে স্থানটিতে গুরুত্বপূর্ণ পুরাকীর্তির অস্তিত্ব থাকাও অস্বাভাবিক নয়। সংরক্ষণযোগ্য প্রত্নটিবি হিসেবে স্থানটিকে ১৯৬৮ সালের প্রত্নসম্পদ আইনে জরুরী ভিত্তিতে সংরক্ষিত পুরাকীর্তির তালিকাভুক্ত করা প্রয়োজন। এই প্রত্নটিবিতে প্রত্নতাত্ত্বিক খনন ও অনুসন্ধান কার্যক্রম পরিচালনা করা হলে এখানে বসবাসকারী বিস্মৃত জনগোষ্ঠীর বিভিন্ন সাংস্কৃতিক ও স্থাপত্যিক নিদর্শন পাওয়া সম্ভব হতে পারে।

চারুলিয়া প্রত্নটিবি

চারুলিয়া প্রত্নটিবি চুয়াডাঙ্গা জেলার দামুরহুদা উপজেলার নতিপোতা ইউনিয়নের অন্তর্গত চারুলিয়া গ্রামে ২৩.৬৩৫৬০° উত্তর অক্ষাংশে এবং ০৮৮.৬৯১৯৯° পূর্ব দ্রাঘিমাংশে অবস্থিত। চারুলিয়া গ্রামে একটি প্রাচীন মাজারসহ প্রত্নটিবির অস্তিত্ব আছে।

চারুলিয়া পূর্বপাড়া রাস্তার মোড় থেকে ৫০০ মিটার দক্ষিণে কার্পাসডাঙ্গাগামী কাচা রাস্তা ধরে সামনে অগ্রসর হলে রাস্তার ডান দিকে দুর্লভ প্রজাতির কয়েক প্রাচীন গাছ-গাছালী ঘেরা একটি নবনির্মিত মাজার, ঈদগাহ ও খানকাহ এর উপস্থিতি রয়েছে। মাজারের দক্ষিণে একটি প্রাচীন জলাশয়সহ প্রত্নটিবির সন্ধান পাওয়া যায়। যাকে চারুলিয়া প্রত্নটিবি হিসেবে অভিহিত করা হয়েছে।

প্রত্নটিবির চারপাশে বিক্ষিপ্ত ভাবে পড়ে থাকা সাংস্কৃতিক জঞ্জাল, পাতলা টালি ইটের ভগ্নাংশ, কারুকার্য খোচিত ইট, চুন-সুরকির নমুনা, চুনকণার উপস্থিতি থেকে অনুমান করা যায় যে, টিবির নীচে সম্ভবত কোন প্রাচীন স্থাপত্যিক নিদর্শনের ধ্বংসাবশেষ লুকায়িত আছে। স্থানীয় প্রচলিত জবশ্রুতির সূত্র ধরে “চারুলিয়া” নামকরণ সম্পর্কে তথ্য জানা যায় যে, ‘চারুলিয়া’ গ্রামের নামকরণ মূলত ফার্সি শব্দ “চাহার (চার) আউলিয়া” শব্দ থেকে উদ্ভূত। আবার কারো কারো মতে, ‘চারুলিয়া’ নামকরণ করা হয়েছে বাংলা শব্দ চার আউলিয়া শব্দ থেকে। এক্ষেত্রে তাদের অভিমত ও যুক্তি চার আউলিয়া শব্দটি লোকমুখে বিকৃত হয়ে “চারুলিয়া” শব্দে রূপ নিয়েছে।

জনশ্রুতি রয়েছে যে, হযরত খানজাহান আলী (রঃ) নেতৃত্বে ভৈরব নদীর পূর্বতীর ধরে যে চারজন বুজুর্গ ব্যক্তি ও অগণিত অনুসারী ও ভক্তবৃন্দ সহযোগে বারবাজার হয়ে চারুলিয়া গ্রামে অবস্থান করেন। খানজাহান আলী(রঃ) কিছু দিন চারুলিয়ায় অবস্থান করে তাঁর অনুসারী হযরত মেহমান শাহ (রঃ) এখানে রেখে তিনি বাগেরহাটের অভিমুখে গমন করেন। হযরত মেহমান শাহ (রঃ) খানজাহান (রঃ) নির্দেশে চারুলিয়াতে থেকে যান। তিনি এখানে খানকাহ স্থাপনসহ ইসলাম প্রচারের লক্ষ্যে এই অঞ্চলে আত্মনিয়োগ করেন। তাঁর মৃত্যু হলে তাকে এখানেই সমাহিত করা হয়।

চারুলিয়াসহ পার্শ্ববর্তী গ্রাম গুলোর ইসলামিক নাম করণ থেকে সহজেই অনুমান করা যায় গ্রামটি ১৫শ শতক থেকেই মুসলিম অধ্যুষিত ছিল। চারুলিয়া গ্রামের পাশেই ‘পাঠান পাড়া’ নামের একটি মুসলিম অধ্যুষিত গ্রাম আছে। এ গ্রামের নারী ও পুরুষের নৃতাত্ত্বিক বৈশিষ্ট্যে মধ্য-এশিয়ার নৃ-জনগোষ্ঠীর সুস্পষ্ট ছাপ পরিলক্ষিত হয়। শওকাত আলী খান নামক চারুলিয়া গ্রামের এক প্রবীন ব্যক্তি জানান তাদের পূর্বপুরুষগণ ১৪১৯ খ্রিঃ থেকেই এ গ্রামে বসবাস করছেন। হযরত মেহমান শাহ এর মাজার প্রাঙ্গনে ৪-৫টি দুর্লভ প্রজাতির অজ্ঞাত নামা পুরাতন গাছ রয়েছে। গাছ গুলোকে এলাকার লোকজন তসবীগাছ বলে থাকেন। অনেকেই গাছগুলোকে ২০০-৩০০ বছরের পুরনো বলে দাবী করে থাকেন। কেউ কেউ আবার গাছগুলোকে হযরত মেহমান শাহ (রঃ) সমসাময়িক কালের বলেও মনে করেন। গাছগুলোকে তারা হযরত মেহমান শাহ(রঃ) সঙ্গে নিয়ে আসা দুর্লভ প্রজাতির তসবী গাছের পরবর্তী প্রজাতীও বলে দাবী করছেন তারা। উক্ত গাছের ফল গুলোকে তসবী দানা তৈরী করা যায় বলে এরূপ নাম করণ করেছেন বলে সহজে অনুমান করা যায়। তবে চারুলিয়া এলাকার ভূমি গঠন প্রক্রিয়া বেশ প্রাচীন। মাথাভাঙ্গা নদীর তীরবর্তী একটি গ্রাম হওয়ায় সঙ্গত কারণেই এস্থানটিতে প্রাচীন জনবসতীর রৈখিক বসতী বিন্যাস গড়ে উঠা স্বাভাবিক। জীবন ধারণের অনুকূল পরিবেশ পারিপার্শ্বিকতা বিরাজিত থাকায় সঙ্গত কারণেই চারুলিয়া গ্রামে এ ধরনের উত্তম অধিবসতী ক্ষেত্র গড়ে ওঠা খুবই স্বাভাবিক।

Code: Geotiff of Hillshade of Khalifatabad which is available at

https://code.earthengine.google.com/?scriptPath=users%2Fsshajjad%2Fkhalifatabad_mapping%3Ahillshade%20of%20khalifatabad%20ex

```

Imports (3 entries)
  var aoi: Polygon, 4 vertices
  var imageVisParam: elevation from 158 to 1811
    bands: ["elevation"]
      0: elevation
      gamma: 1
      max: 1811
      min: 158
      opacity: 1
  var aoi2: Polygon, 4 vertices
    type: Polygon
    coordinates: List (1 element)
      0: List (5 elements)
        0: [89.63367729885316, 22.598036264209394]
        1: [89.85615044338441, 22.598036264209394]
        2: [89.85615044338441, 22.750727790108915]
        3: [89.63367729885316, 22.750727790108915]
        4: [89.63367729885316, 22.598036264209394]
    geodesic: false

```

```

// PACKAGES FOR COLOR GRADIENT

var palettes = require('users/gena/packages:palettes');

// DEM DATASET

var dataset = ee.Image('CGIAR/SRTM90_V4').clip(aoi2);

// SELECT ELEVATION PROPERTY

var elevation = dataset.select('elevation');

// CALCULATE SLOPE

var slope = ee.Terrain.slope(elevation);

// HILLSHADE

var hillshade = ee.Algorithms.Terrain(elevation);

// DEFINE OR SELECT COLOR GRADIENT

var style = palettes.niccoli.cubicyf[7]

// Map.addLayer(elevation, imageVisParam, 'elevation');

```



```

Map.addLayer(hillshade, {}, 'hillshade');

Map.addLayer(slope, {min: -11, max: 25, palette: style}, 'slope');

// Cast band's types to uint16

// Transformo los tipos de dato de las bandas a uint16

hillshade = hillshade.toUint16()

//export image to google drive

Export.image.toDrive({

    image:hillshade,

    scale:30,

    region: aoi2});

    // Export a cloud-optimized GeoTIFF.

Export.image.toDrive({

    image: hillshade,

    description: 'imageToCOGeoTiffExample',

    scale: 30,

    region: aoi2,

    fileFormat: 'GeoTIFF',

    formatOptions: {

        cloudOptimized: true

    }

});

```

```

*****

```

Code for TIMELAPSE satellite Video of Khalifatabad

Link for GEE:

https://code.earthengine.google.com/?scriptPath=users%2Fsshajjad%2Fkhalifatabad_mapping%3ATimelapsemoviebagerhat

Code:

```
// create geometry to define your area of interest
Imports(1 entry)
  var geometry:Polygon, 4 vertices
// define the period
var years = ee.List.sequence(1988,2019,1);

// import collections
var I4 = ee.ImageCollection("LANDSAT/LT04/C01/T1_SR");
var I5 = ee.ImageCollection("LANDSAT/LT05/C01/T1_SR");
var I7 = ee.ImageCollection("LANDSAT/LE07/C01/T1_SR");
var I8 = ee.ImageCollection("LANDSAT/LC08/C01/T1_SR");

// set bandnames for rgb
var I4names = ee.List(["B1", "B2", "B3"]);
var I5names = ee.List(["B1", "B2", "B3"]);
var I7names = ee.List(["B1", "B2", "B3"]);
var I8names = ee.List(["B2", "B3", "B4"]);

// bands
var bands = ee.List(['blue', 'green', 'red']);

// Filter based on location
var I4images = I4.filterBounds(geometry).filter(ee.Filter.lt("CLOUD_COVER",5));
var I5images = I5.filterBounds(geometry).filter(ee.Filter.lt("CLOUD_COVER",5));
var I7images = I7.filterBounds(geometry).filter(ee.Filter.lt("CLOUD_COVER",5));
var I8images = I8.filterBounds(geometry).filter(ee.Filter.lt("CLOUD_COVER",5));

function scale(image){
  // get QA band
  //var QA = image.select("pixel_qa");
  //var shadow = QA.bitwiseAnd(8).neq(0);
  //var cloud = QA.bitwiseAnd(32).neq(0);
  //return image.updateMask(shadow.not()).updateMask(cloud.not()).multiply(0.0001);
  return image.multiply(0.0001).set("system:time_start",image.get("system:time_start"));
}
```

```
// Change the bandnames
l4images = l4images.map(scale).select(l4names,bands);
l5images = l5images.map(scale).select(l5names,bands);
l7images = l7images.map(scale).select(l7names,bands);
l8images = l8images.map(scale).select(l8names,bands);

var collection = l4images.merge(l5images).merge(l7images).merge(l8images).sort("system:time_start");

print(collection);

// we need an 8-bit format
var coll4Video = collection
  .map(function(image) {
    return image.multiply(512).uint8(); // need to make it 8-bit
  });

// export the video to the drive
Export.video.toDrive({
  collection: coll4Video.select(['red','green','blue']),
  description: "Colombo" ,
  scale: 30,
  framesPerSecond: 4,
  region: geometry.bounds()
});
```

```
*****
```

Mapping Interview

Time: March 2022

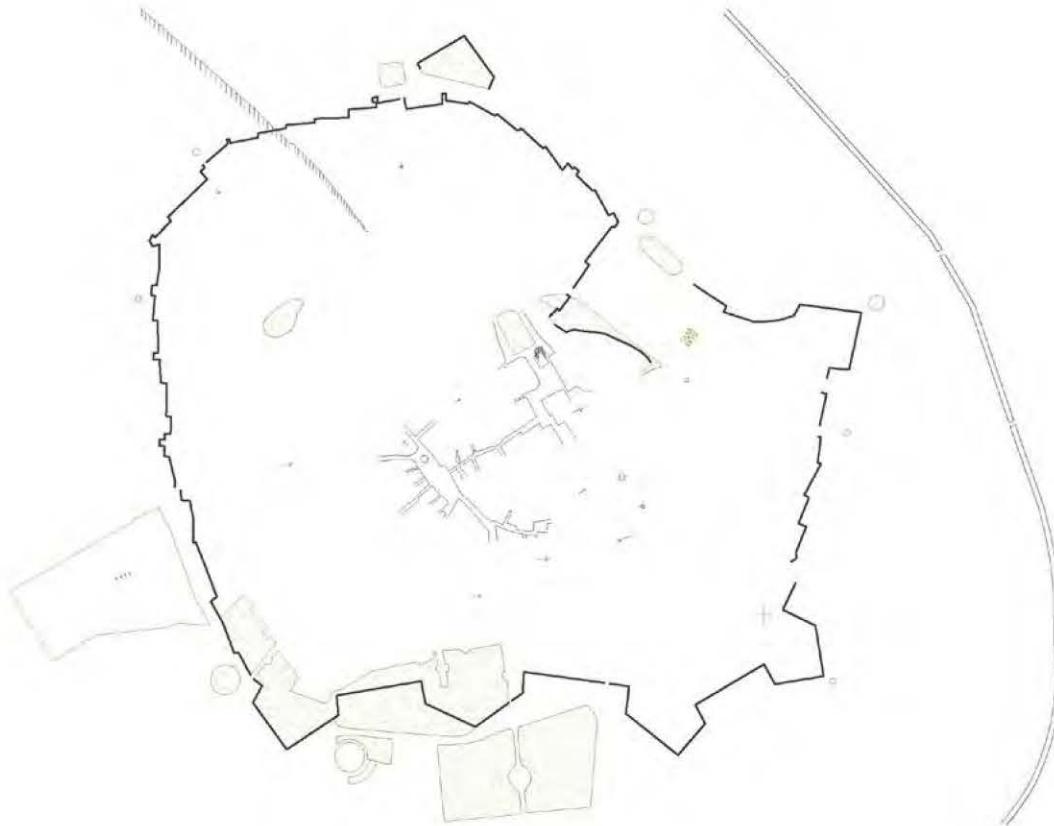


Figure: a key map of Évora provided to interviewee for preparing cognitive maps

Title: **Mapping Heritage(s) : How a heritage city (Évora) Functions !**

Alternative Title: **Mapping Heritage(s): Évora Functions !**

Évora is a UNESCO world heritage site and a fully functional European city. Despite the restriction on alteration and new construction, the city is continuously attracting tourists, hosting the life and business of regular residents and acting as a regional capital. A deep insight on how the city is functioning (especially the connectivity, legibility, environmental sustainability, services and amenities, educational, health and other functions) can be an important cultural asset/knowledge to manage other heritage cities worldwide.

From the historical point of view, Évora is a center of historic settlement which dates back to the Roman period and beyond. Mapping on different tangible (places, buildings, gardens etc.) and intangible (urban connections, accessibility, cultural identity etc.) indicators would denote the identity of this settlement. Here the dynamics of the city is very important. **Being a heritage city, how it functions as a normal city without sacrificing the dynamics is a key issue of assessment for identity.** Évora has large educational facilities inside the historic center as well as outside. Education community comprises a large part of the city. Industrial investment is increasing by time and the industrial zone, although situated outside the historic center, is always referenced to the center for cultural identity. The aim of this

chapter is to find out insights how the world heritage site (centro historico) is creating a cultural identity for the whole Évora city and acting functionally sound in all aspects.

[Draw reference from cultural+Historical destination city & ~~cross-road city~~]

Note about mapping:

Interpretative mapping as defined, described and practised in other parts of the thesis, may be conceived in between (or combination of) cartographic mapping and cognitive mapping. Interpretative maps have author's interpretation along with geographic reference and drawn with a skillset with reference to cartographic maps. On the other hand cognitive maps are drawn as people perceive various phenomena and places which is very subjective. Deliberate distortion with scale and geo-reference is allowed in cognitive mapping for the authenticity of its nature. The combination of the above two may bring a superior insight in mapping interview when interviewees are provided an outline drawing of a city/place, which may help with geo-reference and orientation and then allow interviewees to draw/write/illustrate on the same in a cognitive process.

Cognitive mapping : Cognitive map is mental representation of the reality perceived and interacted by human. Cognitive mapping is a process composed of a series of psychological transformations by which an individual acquires, codes, stores, recalls and decodes information about the relative locations and attributes of phenomena in his everyday spatial environment(Downs & Stea, 2011). It exists as a visual manifestation of patterns relating to a place and portrays physical representations of those thoughts to produce individual's cognitive maps, or graphical representations of perceptions of place. The resulting image denotes the importance of items, playing significant roles in generating orientation and consequently forming that person's geographic imagination. People store information about their environment and use that information to make spatial decisions, with cognitive mapping helping to explain and lead more developed understanding of spatial behavior. That is why people see the world in a certain way and behave on the basis of cognitive maps one builds, whatever flaws and imperfections it possess.

Maps produced via this method do not display a high degree of spatial accuracy, nor is such accuracy their goal. Maps are produced in a qualitative, hand-drawn fashion as a means for not only mapping significant features, but also for promoting more spatially literate, verbal responses from participants. These maps may contain interesting spatial distortions and these distortions indicate the relative strength attributed to investigate reasons behind these distortions

Primary Mapping by researcher

(Map of) Layers of historic periods (2~3 maps of historic evolution)

(Map of) Toponym layers

(Map of) Public places(e.g. Praças, jardins, fonte, fields, swimming pool, feiras, ecopista etc.)

(Map of) Places accessible to public (all places except private property)

(Map of) Ecological network 1(landscape, trees, green cover, urban agriculture, wine factory field etc.)

(Map of) Ecological network 2 (small ponds, water pockets, fountains...accessible to birds/fauna)

(Map of) Transportation 1 (road and train tracks, one-way road systems inside centro historico, cobblestone and asphalt different maps)

(Map of) Buildings (along with height mapping, grossly residential and non-residential)

(Map of) Footpath/pedestrian connections(historic center)

(Map of) Public transport coverage (Trevo coverage)

(Map of) Parking (paid and non paid)

(Map of) places identified for cultural events

(Map of) More

Analyzing/superimposing Mapping by researcher

(Map of) Transportation combining buildings and one-way road network,pedestrian connections,etc. to remark on How well the one-way driving system serves the city (private car, bus, construction vehicle, cleaning vehicles and delivery vans)? Ease of access!

(Map of) Green in Heritage city (compare green to built ratio with other ecologically sound cities) and remarks on sustainability

(Map of) Combining praças with shortest pedestrian connections and combine praças with nearest school, crèches, groceries, municipality, post office and other public amenities)

Mapping the Distributions of restaurants, accommodations and tourist attractions

(Important !!!) Mapping by Invited user/residents (method: mapping Interview)

What to map?

- Map who you are. + where you are.
- Map the invisible + Map the obvious + Map your memories

(+)

Most joyful place/which spots do you like most?

Which spots/places are you proud of?

Which are the most touristic/popular places?

Which are the most historic/heritage places?

What are the most accessible parts of the historic center? (you can answer for all modes of transport e.g. pedestrian, bicycle, car, public transport)

Which part of the historic center do you consider suitable for living (for yourself, even if you live elsewhere)?

Which part of the city do you consider affordable?

Which part of the city do you consider most ecological/environment friendly?

Which part of the city do you consider suitable as a workplace?

Which part of the city do you consider easy for navigation?

(-)

Most wired / which spots do you dislike most?

What are the most inaccessible parts of the historic center? (you can answer for all modes of transport e.g. pedestrian, bicycle, car, public transport)

Which part of the city do you consider very expensive?

Which part of the city do you consider fearful (walk at night, alone, unfriendly to women, etc.)?

Which part of the city do you consider ecologically/environmentally unfriendly?

Which part of the city do you consider difficult for navigation?

Please map accordingly if you feel/observe lack of equality and equity in terms of social, political, urban, environmental, historical, economic, and safeguarding of heritage aspects.

Please map accordingly if you feel/observe lack of equality and equity in terms of social, political, urban, environmental, historical, economic, and safeguarding of heritage aspects.

How to map?

You are provided with the digital copy of a simplified map of Évora city. The simplified version is basically outlines of the city with city wall and some important features to help with orientation. You are requested to print on an A4 page and draw on the map. If you wish, you may do similar in any software (msword, corel, illustrator, paint, photoshop etc.). To answer the above questions, you can use separate markers, color/transparent color filled area limited by geometric shapes or convex/concave hulls etc.

You can map separate topics in separate A4 page maps or in the same page map

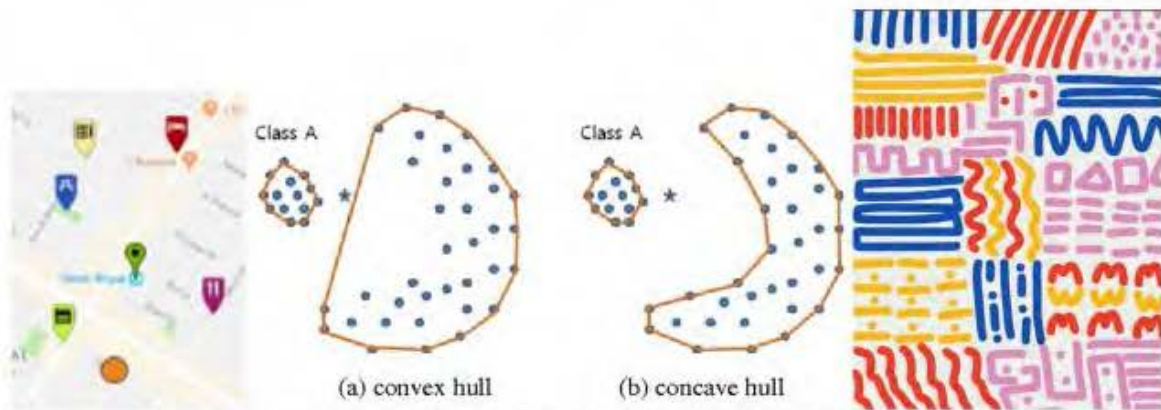


Figure 1: Map markers, Figure 2: Dots, Convex hull and concave hull, Figure 3: lines/colors

What to write?

Please write a few words or a sentence inside/beside the map in support of your mapping and understanding. If you wish to write a paragraph, please do so on the same page and be very brief.

Return your contribution

Please write your name and date at designated place below the map, scan your handdrawn map in PDF and send to shajjad@uevora.pt; If you do the mapping digitally, save a PDF copy, include your name and date and send to the same email address by 15 March 2022. (Maintain a high resolution; e.g. 300pixel/inch)

Reference

A reference map of Évora is attached in the next page for your use in this assignment. A pdf book is provided here for your reference. It is some selected pages of a book that contains public mapping of New York and some examples of mapping interview done with students of BRAC University, Bangladesh. You can use the concept, technique and thoughts people used in the examples; else you can use your own technique and thoughts.

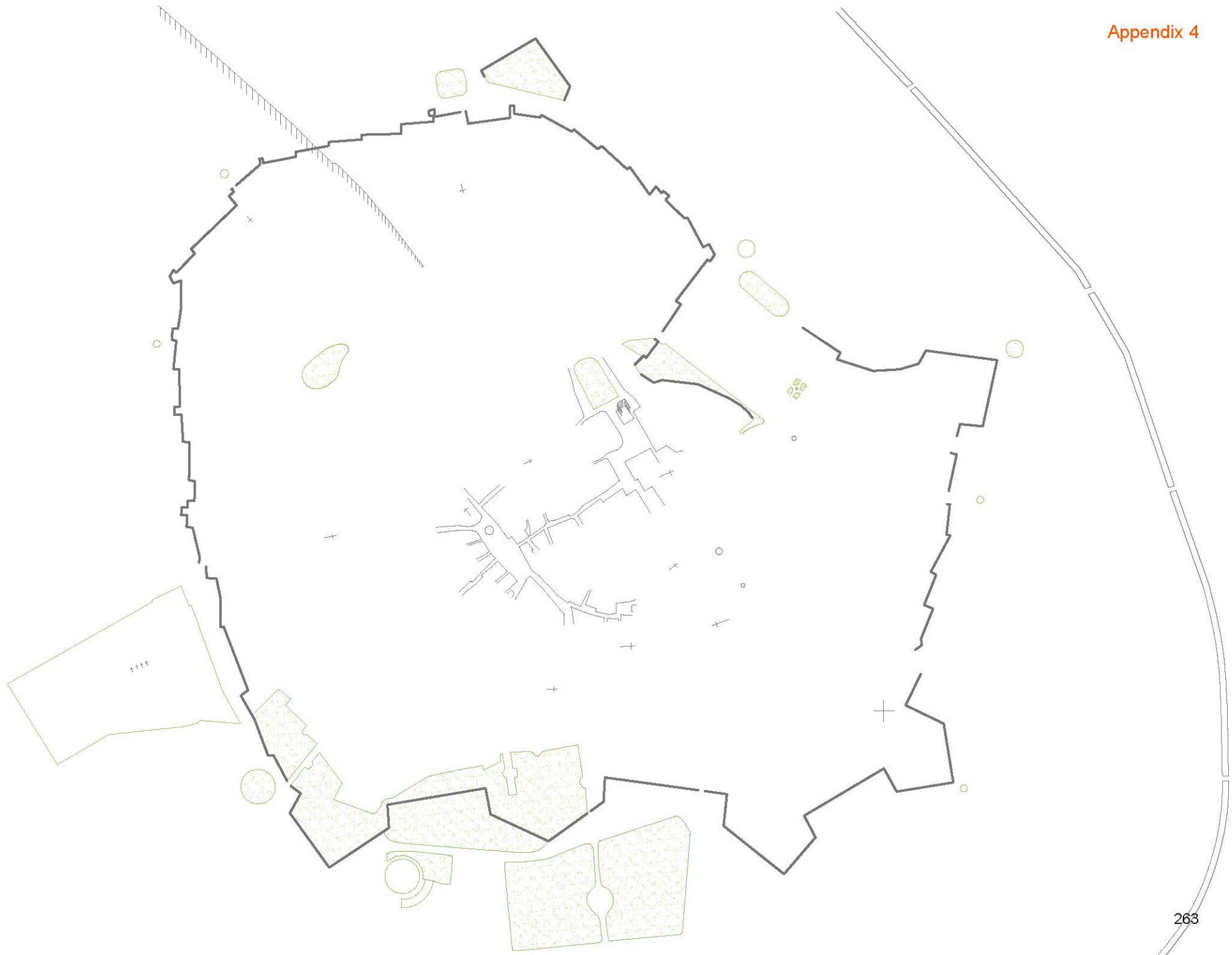
Bibliography

(Chowdhoree et al., 2019); (Wagner, 2020)

Chowdhoree, I., Sloan, M., & Dawes, L. (2019). Community perceptions of flood resilience as represented in cognitive maps. *Journal of Flood Risk Mnagement*, 12.

<https://doi.org/10.1111/jfr3.12478>

Wagner, J. (2020). Visual Studies and Empirical Social Inquiry. In L. Pauwels & D. Mannay, *The SAGE Handbook of Visual Research Methods* (pp. 57–75). SAGE Publications, Inc. <https://doi.org/10.4135/9781526417015.n4>



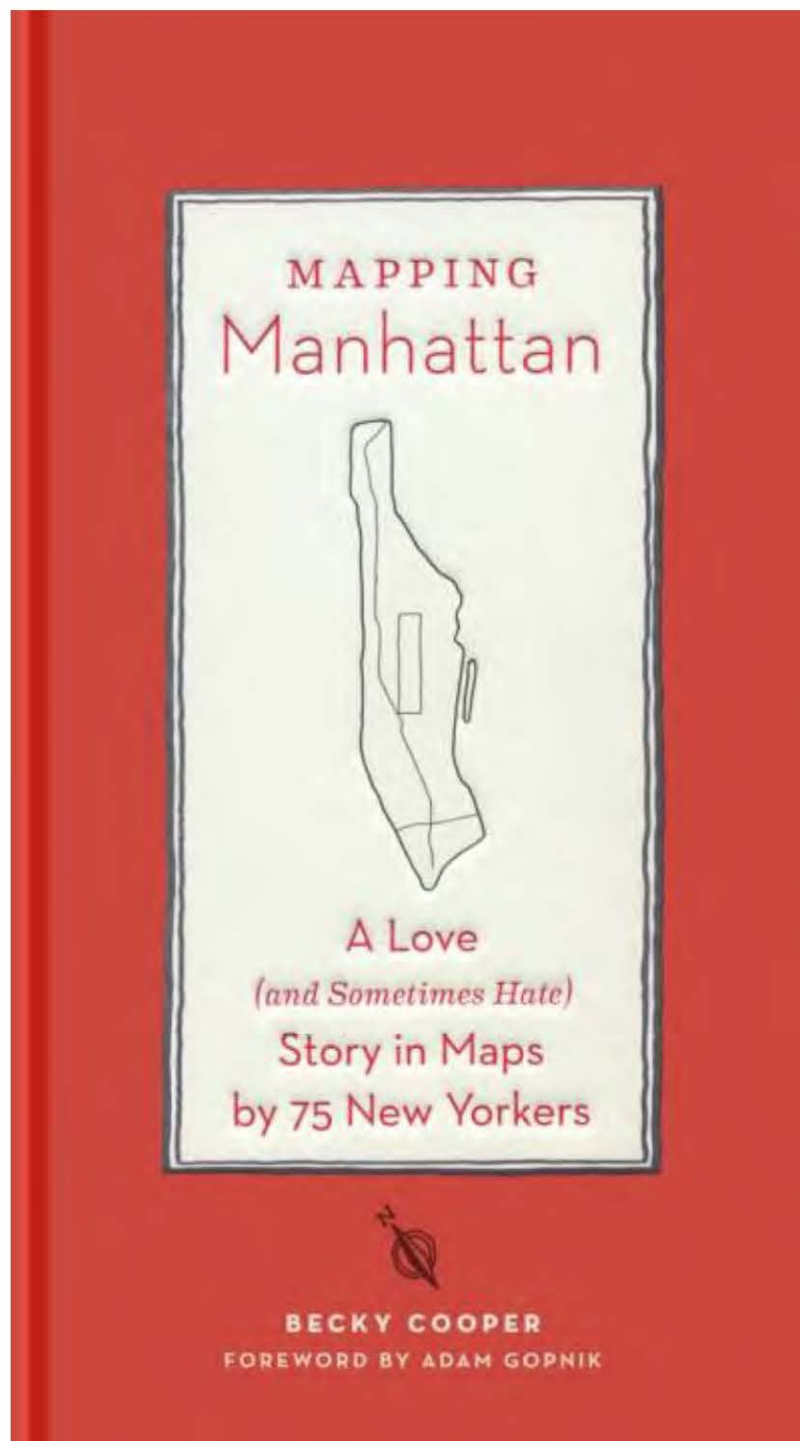
Following texts and images are part of the book [MAPPING MANHATTAN](#) and are publicly available in websites listed below:

<https://www.brainpickings.org/2013/04/02/mapping-manhattan-becky-cooper/>

https://www.abramsbooks.com/product/mapping-manhattan_9781419706721/

<https://books.google.pt/books?id=UmYtKBld5QcC&printsec=frontcover#v=onepage&q&f=false>

The following composition is intended for pedagogical purpose only.



MAPPING MANHATTAN

This book, an anthropological fingerprint of the city, is in the tradition of other works of creative cartography, personal mapping, and psychogeography. Stanley Milgram, the social psychologist who realized people were shockingly willing to zap other people with high voltage in lab situations, did a similar project thirty-five years ago in *New York* magazine. It is also a response to the ubiquity and ease of Google Maps—a GPS can't map the cure to all kinds of lostness— and a refusal of the idea that all print can go digital. (Look, I still use the post office!) Beyond this, it's a love letter to New York and to the people who shape it. To a place of restlessness, constant motion, and passion. A city of contradictions. But also to a place that's so much more. I've been thinking a lot about what defines a city. How you can capture its essence. In Portland, people twirl in the streets. In Paris, everything is a gorgeous art museum: Look, don't get too comfortable, and certainly don't change things unnecessarily. But what about Manhattan? Are we New Yorkers characterized by our energy? Our feverishness? Do we all come here seeking something? Do we all have the same fears? The same size dreams? It's taken me twenty years to realize I love this place not just because I was born here. I take pictures of the reservoir in Central Park at sunset, even though I've run there a hundred times before. My heart fills when I hear an older man at City Diner say, "Hey, Marion, have you tried the pies here yet? They're nice." I love the subway. The fleeting moments of connection—a glance with a stranger to acknowledge a rat on the tracks, the hand that goes out of its way to keep the door open for you. Even the gentle white noise of a train rumbling between stations is something I get as homesick for as for my mother's cooking. Maybe that one's just me. And yet, there will always be something essentially elsewhere about New York. It is a place that people come to precisely because it doesn't ever fully offer itself. It's intoxicating. Keeps you on your toes. Keeps you drinking coffee and keeps you walking. Part of why I love New York so deeply is exactly this elusiveness. This refusal to be caught is what allows it to carry such fantasy, mystery, and myth, yet also be home. It is simultaneously no one's city and everyone's city. New York may always be just over there, but what you know is yours. And these tiny, invisible cities are what make up Manhattan.

- Maps are more about their makers than the places they describe.
- Map who you are.
- Map where you are.
- Fill the whole map with a story or paint your favorite cup of coffee.
- Map the invisible.
- Map the obvious.
- Map your memories.

Foreword BY ADAM GOPNIK

Maps and memories are bound together, a little as songs and love affairs are. The artifact envelops the emotion, and then the emotion stores away in the artifact: We hear "All the Things You Are" or "Hey There Delilah" just by chance while we're in love, and then the love is forever after stored in the song. (Someone mentioned this once to Marcel Proust, and he said there might be an idea for a book in it.) So with maps: We go to live somewhere, and then we see a schematic representation of it, and superimposing our memories upon it, we find that it becomes peculiarly ... alive. This attachment requires no particular creative energy. It just happens. Even a map of the most ordinary "found" kind—that map of Schenectady you needed when you went on a bus trip—becomes filled with a particular time's particular pleasure. And (this is the truly weird thing) the more limited the map, the bigger the feelings it evokes. I can't see the métro map of Paris, or hear

the roster of its stops—Château Rouge, Gare de l'Est, Château d'Eau—without feeling myself in Paris on a summer Sunday on the way to the flea market. The map is a stronger version of the trip than a video might be; it is almost a stronger version of the trip than the trip is. What's more, I look at the subway map of New York, see the dull line of New York numbers—33, 42, 51, 59—and they fill up at once with memory. Maps, especially schematic ones, are the places where memories go not to die, or be pinned, but to live forever.

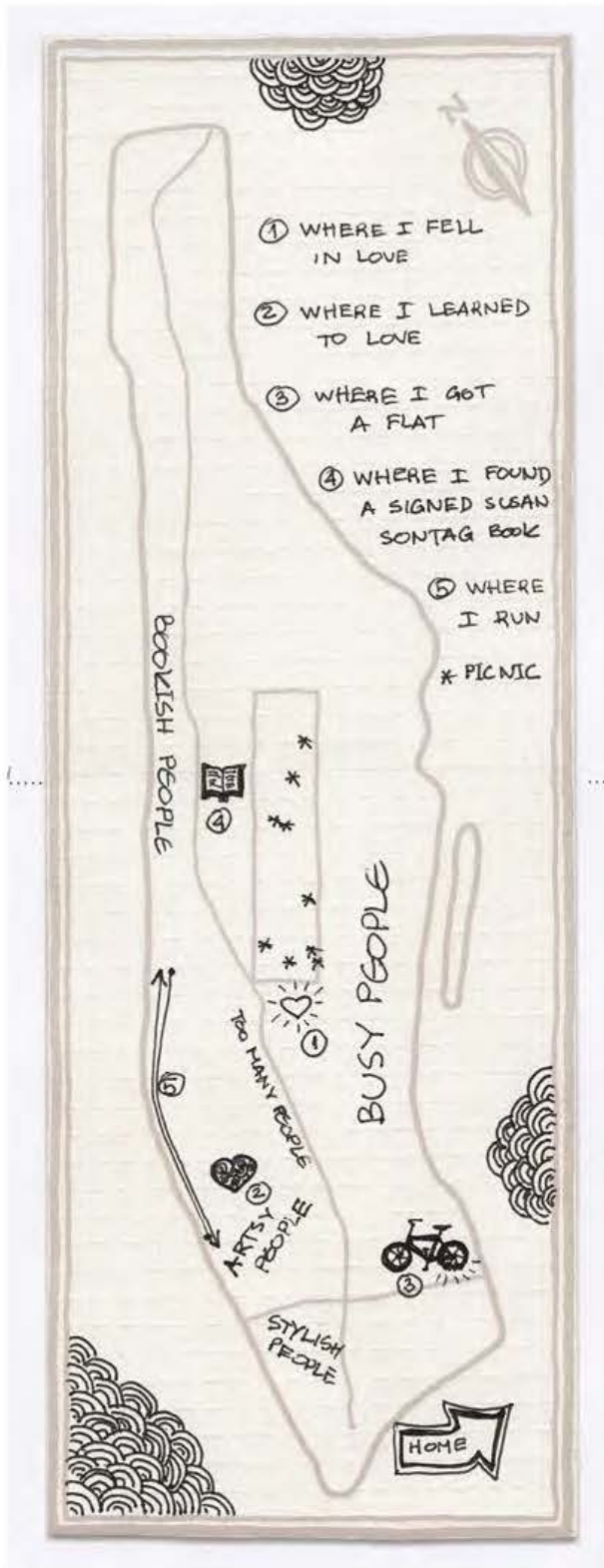
What's true even of the utilitarian map is still more true of the purpose-made poetic map. Of all artists, Saul Steinberg is the greatest and wittiest poet of the relation between the made map and memories. The most famous of his maps, of course, is of the relation between the New Yorker's mind and the map he makes of the world, with Tenth and Eleventh Avenues looming vast in the foreground and then the rest of America a vaguely sketched-in space, half the size of Manhattan. But this is only one of a hundred equally beautiful maps Steinberg made of his New York, all turning on his own home, on East 75th Street, as the city's natural center. His essential conviction was that we can only live within maps—and that every good map is oriented around our own hearth. It's no accident that Steinberg never drew a landscape, except as nostalgic parody or kitsch pastiche, because the landscape is the antithesis of the map. The usual way of writing the history of images is to insist that the map comes first and the landscape is the escape from it: We start with stylized, conceptual depictions of our world—the ocean chart for the Phoenician sailor showing the way home, the quick charcoal sketch of the bison's location drawn on the side of the cave—and slowly begin to see, and then show, the elements that maps can't capture, the irreducible optical presence of the world as it really is; this leaf, this shadow, this morning, this one animal. But there is another way of thinking about this: The landscape may be the artificial, warped, artistic vision—earned by hard mental work on the part of creator and beholder both—while the map is the real thing, the way we see, the way we store, and the way we keep it safe for good. Unroll the canvases lined up, without their stretchers, from the artistic attic of our minds, and what we find are not pictures but depictions, not snapshots but, if you like, map-shots, graphic studies of the relationships forged in memory that let us go on, and move on. This is not a conceit, or not merely one, nor even a metaphor. Cognitive science now insists that our minds make maps before they take snapshots, storing in schematic form the information we need to navigate and make sense of the world. Maps are our first mental language, not our latest. The photographic sketch, with its optical hesitations, is a thing we force from history; the map, with its neat certainties and foggy edges, looks like the way we think.

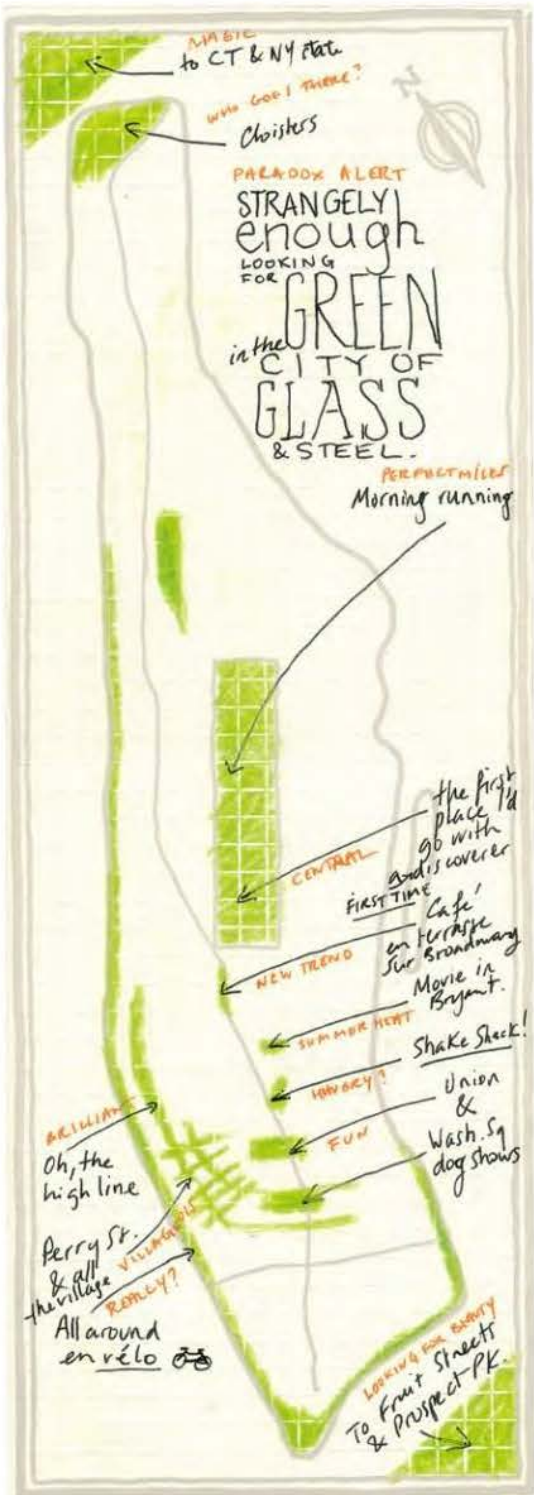
Between the found descriptive map we share and the poetic map of the artist lie the smaller improvised personal maps that fill this book—the maps we can't help but make in our heads, even if we don't always draw them with our hands. Manhattan is a particularly fit, rich subject for the mental map. Though big in area, it is small, compressed in articulation. More than almost any other city, it was made on purpose. London is a collection of villages drawing ever more tightly together over time—Shoreditch, where Shakespeare lived, and Southwark, where he worked, about two miles away, were once felt to be as far apart as Montauk and Westhampton, which have some forty miles separating them; Paris, despite the broad boulevards that cut across it, is still an organic web of small streets that seem to supply an overcharge of memory in themselves. New York offers instead a rectilinear grid of numbers and minimal descriptors, a cookie cutter laid down upon a green island. Its most emotive locales are laconically named: Say, Central Park West and 72nd Street. Manhattan is so like the abstract, modernist grid on which Cubist painters were expected to hang their emotions, or objects, in fact, that it isn't an accident that great Cubist paintings, though made in gray Parisian garrets, always put us (as they put their painters) in mind of New York: Song lyrics and old guitars and breakfast tabletops appear through the rigid conceptual scheme of straight verticals and horizontals. And no accident, either, that the

New York paintings of Cubist-minded Piet Mondrian, after his immigration here in the 1940s, are among the best mental maps we have of the city, with their perfect evocation of the collision of a high modern sensibility, their taste for geometric abstraction, and a just-off-the-boat arrival's excitement at the blinking, boogie-woogie energy of New York. In Seth Robbins and Robert Neuwirth's wonderful anthology, *Mapping New York*, we see how pliable, how supple this strict ironwork grid has been to the needs and urgencies of individual imaginations, some worthy and some seedy. The nineteenth-century "fire insurance" maps of New York—marvelously detailed and purely utilitarian in purpose, they were used by insurance companies to decide how much coverage to write for each building depending on how close it was to fire departments and gas and water sources—still give a dazzling, rococo view of New York: By miniaturizing the city, they make us specially aware of the variety that lingers within the grid. Filled with seemingly indigestible detail, they remind us of what a varied feast a city is. In a way, these most utilitarian maps of New York provide a stronger and more emotional charge than the more self-consciously wrought city maps do.

It is this essential mapmaker's understanding—that the more restricted the compass it circumscribes, the richer the index of emotion it supplies—that moves Becky Cooper, a young artist and writer of extraordinary gifts and gumption, throughout this book. She had the simple idea of seeding, Johnny Appleseed-like, an extremely schematic map of Manhattan throughout the city, urging its finders to mark their memories on its plain outlines. Later, she asked some better-known New Yorkers to join the game. What is startling throughout is how much emotion pours through the limited language of pure mapping. A remembered relation of spaces, a hole, a circle, a shaded area—and a whole life comes alive. The real appeal of the map, perhaps, is not so much that it stores our past as that it forces our emotions to be pressed into their most parsimonious essence—and, as every poet knows, it is emotion under the force of limits, emotion pressed down and held down to strict formal constraints, that makes for the purest expression. These maps are street haiku, whose emotions, whether made by the well known or the anonymous, are more moving for being so stylized. My life? You can reduce it to this series of marks right here—and once reduced, it has more of its essential tang and meaning, not less. In their abstract, conceptual simplicity, the maps remind us of what a consensual thing a city is, particularly one as plural as New York. We make it up together. We scrutinize that map on the subway wall before we find our own apartment, and then start to make up newer maps where that apartment becomes, for our New York, the San Marco of everything, the central piazza.

"I see buildings and water" were the haunting, inescapable last words of the flight attendant on 9/11 who did not know where she was. Cities, when we see them, seem first like chaos and have to be revealed to us as charts before we know them as our own. The spare, topographic facts speak, and love (and some torch) songs then pour out. In the face of mortality, we turn those buildings, that water, first into a map, and then a memory, and at last, a life. Each map in this book diagrams the one thing we most want a map to show us, and that is a way home.





SO I'M ACTUALLY FROM SEATTLE/LIVE THERE AND THERE AND THIS WAS MY FIRST TIME IN NEW YORK. GOTTA SAY NEW YORK IS GREAT, I LOVE IT HERE AND THEN MORE AND MORE I'M HERE I DON'T WANT TO GO BACK TO SHITTY SEATTLE. MY BROTHER SISTER AND I HAVE BEEN ALL OVER MANHATTAN AND BROOKLYN AND STAYING WITH FRIENDS THAT LIVE IN THE STAR AREAS BUT THIS TRIP HAS BEEN THE BEST TRIP I'VE EVER BEEN ON, REALLY. IT'S BEEN SO FUN. JUST NON-STOP STAYING UP TIL 3AM EATING THE BEST PIZZA AND BAGELS EVER. YEAH. MA

STAYED HERE THAT WAS PRETTY FUN

STAYED HERE THAT WAS THE BEST

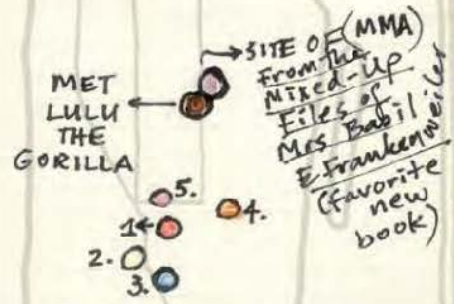
ALSO STAYED IN BROOKLYN... BUT THAT SUCKED...

- 1 WHERE THEIR APT. WAS, OVERLOOKING A WEIRD BACK YARD (which was the MOMA sculpture garden)* (it turned out)
- 2 MY 2ND MOVIE: UP THE DOWN STAIRCASE, WITH A LOT OF DANCING LADIES (The Rockettes of course)*
- 3 The AUTOMAT! Egg Salad sandwich



FLYING BY MYSELF AT AGE 7 IN 1967 TO VISIT MY GRANDPARENTS IN NEW YORK CITY

when my fondest dream was to be a Stewardess



- 4 WE WENT TO LUNCH AT A FANCY PLACE AND A MAN WITH A FUNNY MUSTACHE HAD A BIG CAT ON A LEASH NEXT TO HIS TABLE (this was Salvador Dali + his ocelot)*
 - 5 ICE CREAM PALACE! (Rumpelmaier's)
- CLIMBED TO TOP OF SOFL WITH GRANDPA
- * My mother explained, decades later

16 This is the funny way to the bridge

15 just remember: left foot right foot left foot right foot

A GUIDE TO LEAVING MANHATTAN

PEDESTRIAN'S

OR AT LEAST THE REST OF NEW YORK CITY

RESIST THE WORLD'S

EMERGING THE

1 You have to come all the way up here if you want to walk to the top. It's hard. Can you believe that?

2 Brooklyn Bridge to Red Hook Boat Terminal

3 Manhattan Bridge to Gateway Wood Cemetery

4 W. 14th St. Bridge to Rockaway Beach

5 Triborough Bridge to Self-Transcendence 3000

6 Whales Island Bridge to Lighthouse Landing Lights

7 Triborough Bridge to Randall's Island

8 Willis Ave Bridge to 14th St Ferry Terminal

9 5th Ave Bridge to the Hub

10 Madison Ave Bridge to St. Mary's Park

11 145th St Bridge to Inland Pt marsh

12 Macombs Dam Bridge to Jerome Slope

13 High Bridge (you can walk it if you really try) to Featherbed Lane

14 Washington Bridge to Thread's Neck

15 University Heights Bridge to Hall of Fame for Great Americans

16 Broadway Bridge to Marble Hill (re-inland Manhattan?)

17 Henry Hudson Bridge to Putnam Trail stone steps

Fun Fact: Most people don't know that the bridge is made of steel.

Did You Know? You can also leave Manhattan by subway, bus, car, boat, bicycle, and more!

Learn to dance

Stop man go fast

Stairs don't count

Read "Beauty and the Beast"

Watch east through the afternoon

Learn perspective

Take time to appreciate

Read low letters

grow up

Press pause



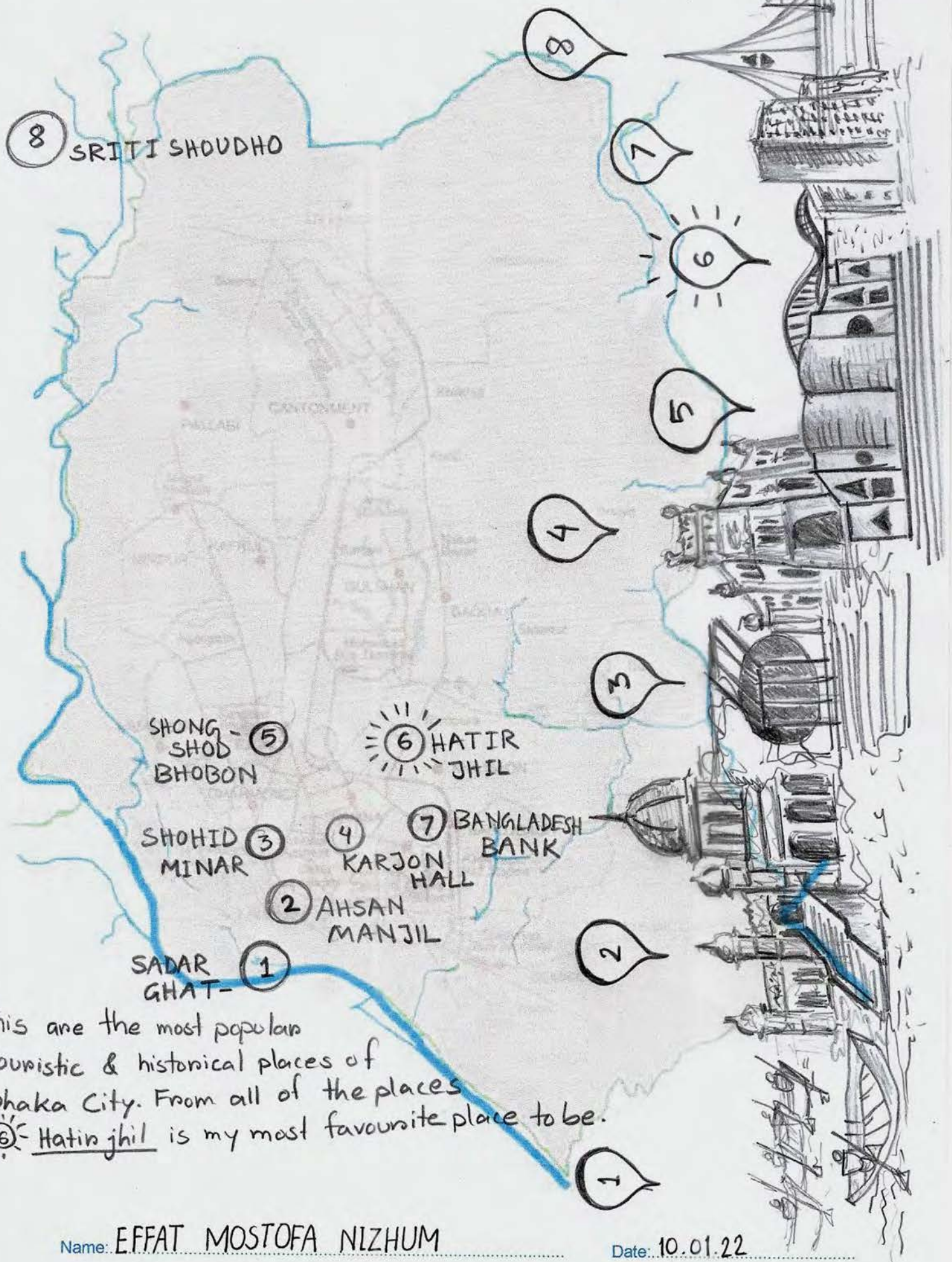
[DHANMONDI] is my most Favourite place because in this place every thing is in reachable area and mostly there are so many restaurants in one area. Most importantly ROBINDRO SOROBOR Is my forever safe place to be. For me "Robindro Sorobor" is the heart of Dhanmondi.

Also this full area is surrounded with By the lake/ water body, this make this area less suffocating than any other areas in Dhaka City. This Lake Provides life to this Place.

-  — MOST JOYFUL PLACE FOR ME
-  — HOME
-  — OVER POPULATION AREA
-  — VERY EXPENSIVE PART OF CITY
-  — Affordable AREA
-  — MOST SUITABLE WORK PLACE
-  — ENVIRONMENT FRIENDLY
-  — SUITABLE FOR LIVING

Name: EFFAT MOSTOFA NIZHUM

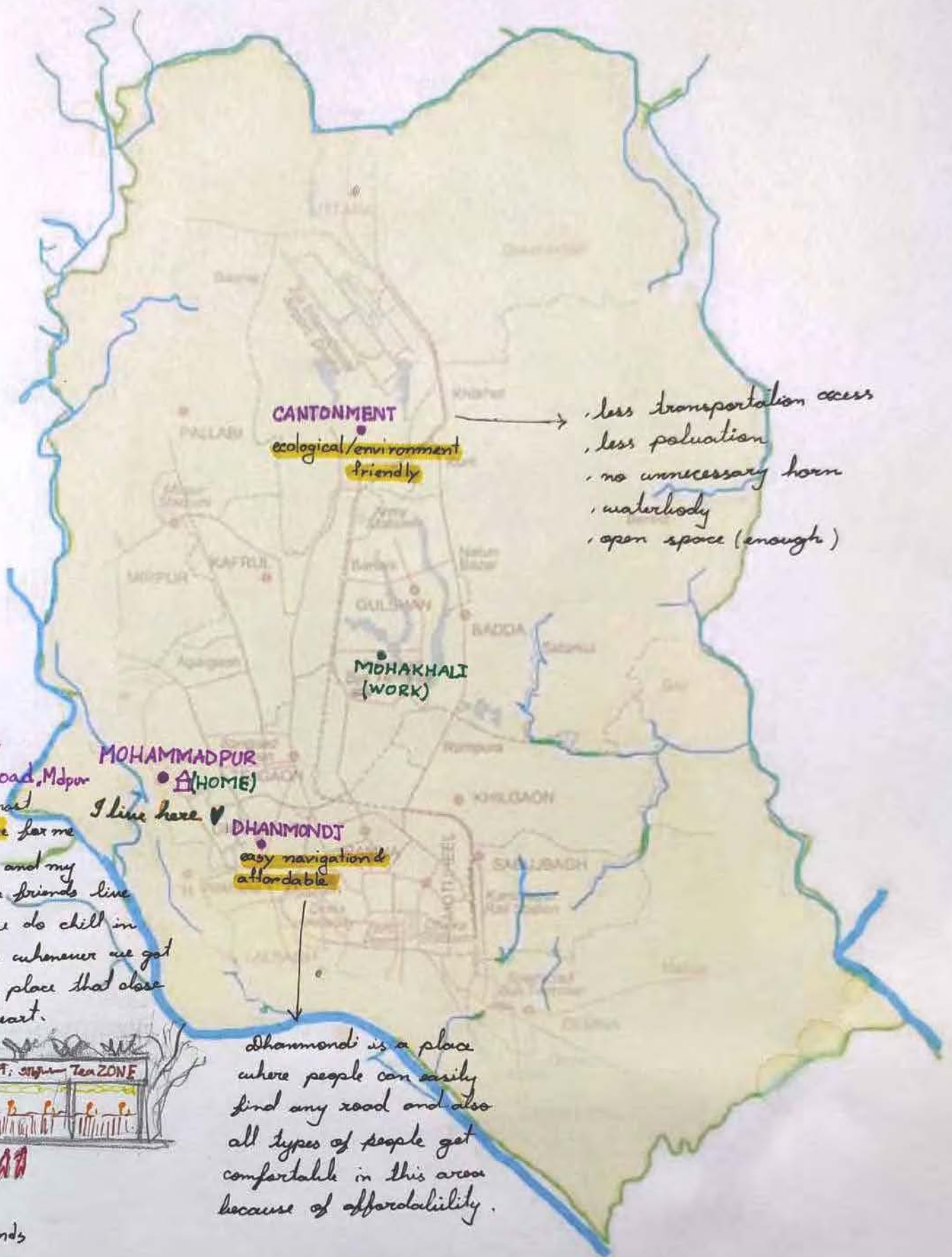
Date: 10.01.22



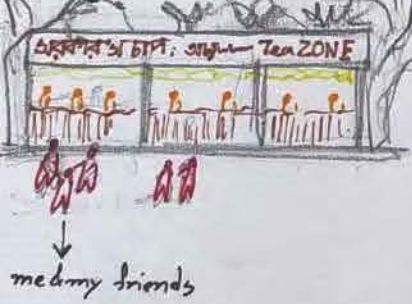
This are the most popular
 touristic & historical places of
 Dhaka City. From all of the places
 ☀️ Hatir jhil is my most favoursite place to be.

Name: EFFAT MOSTOFA NIZHUM

Date: 10.01.22



King Road,
Tajmohol road, Mdpor
These are most joyful place for me because me and my most of the friends live here and we do chill in these place whenever we get time. Also, place that close to my heart.

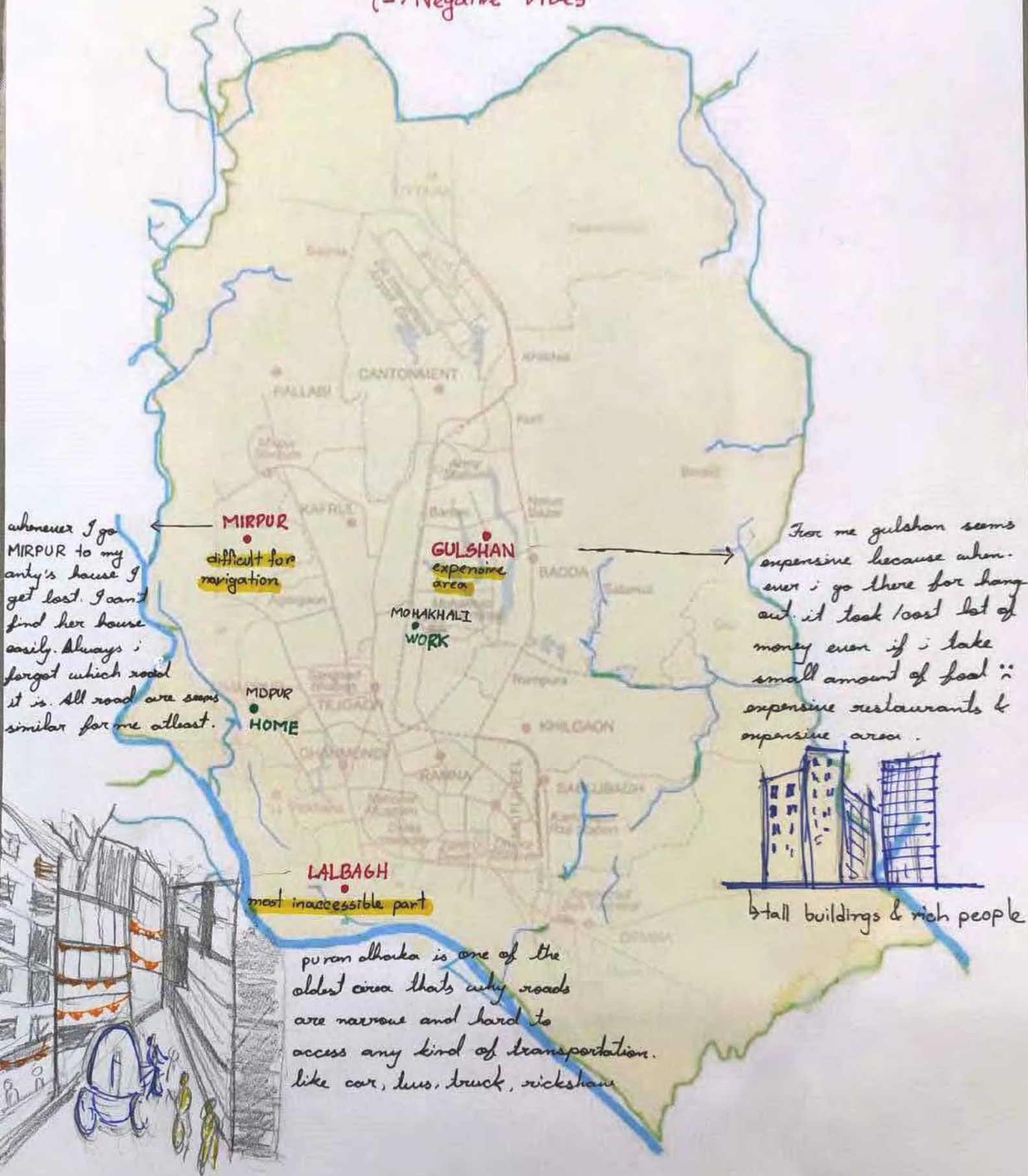


Dhanmondi is a place where people can easily find any road and also all types of people get comfortable in this area because of affordability.

Name: Farhana Tasmin

Date: 5.01.2022

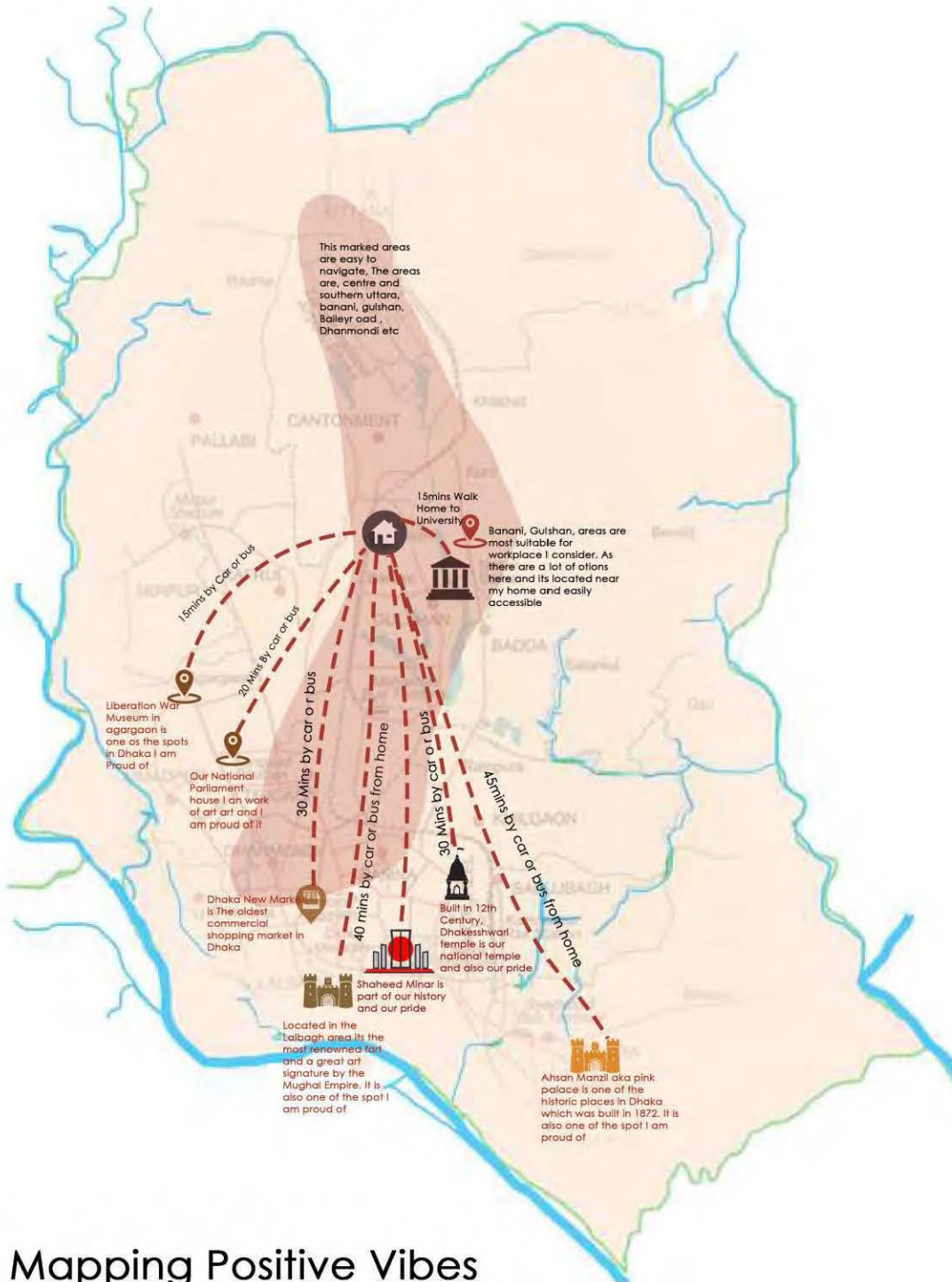
(-) Negative Vibes



Name: Faahana Tasmin

Date: 5.01.2022

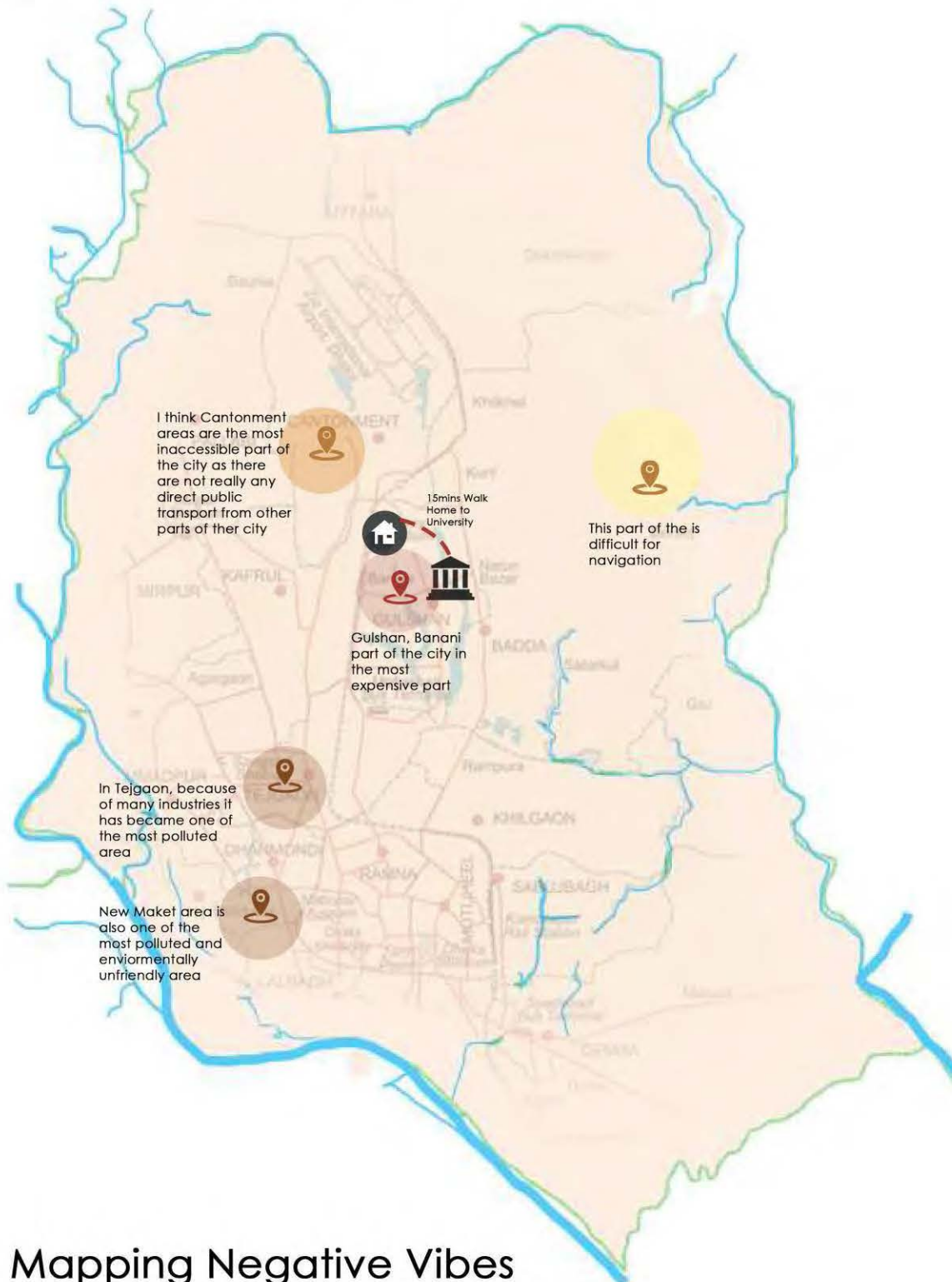
In this map, I have shown all the places I am proud of, easy places to navigate and some historical places of Dhaka city. The map is full of positive vibes.



Mapping Positive Vibes

Name: Subah Samaeen
ID: 18108012

Here, this map is showing negative vibes of Dhaka city. Like- the most expensive areas, environmentally unfriendly places and inaccessible areas in my consideration



Mapping Negative Vibes

Name: Subah Samaeen
 ID: 18108012

Mapping Vibes in Dhaka

Here, I intended to identify the places of my interest in both positive and negative aspect

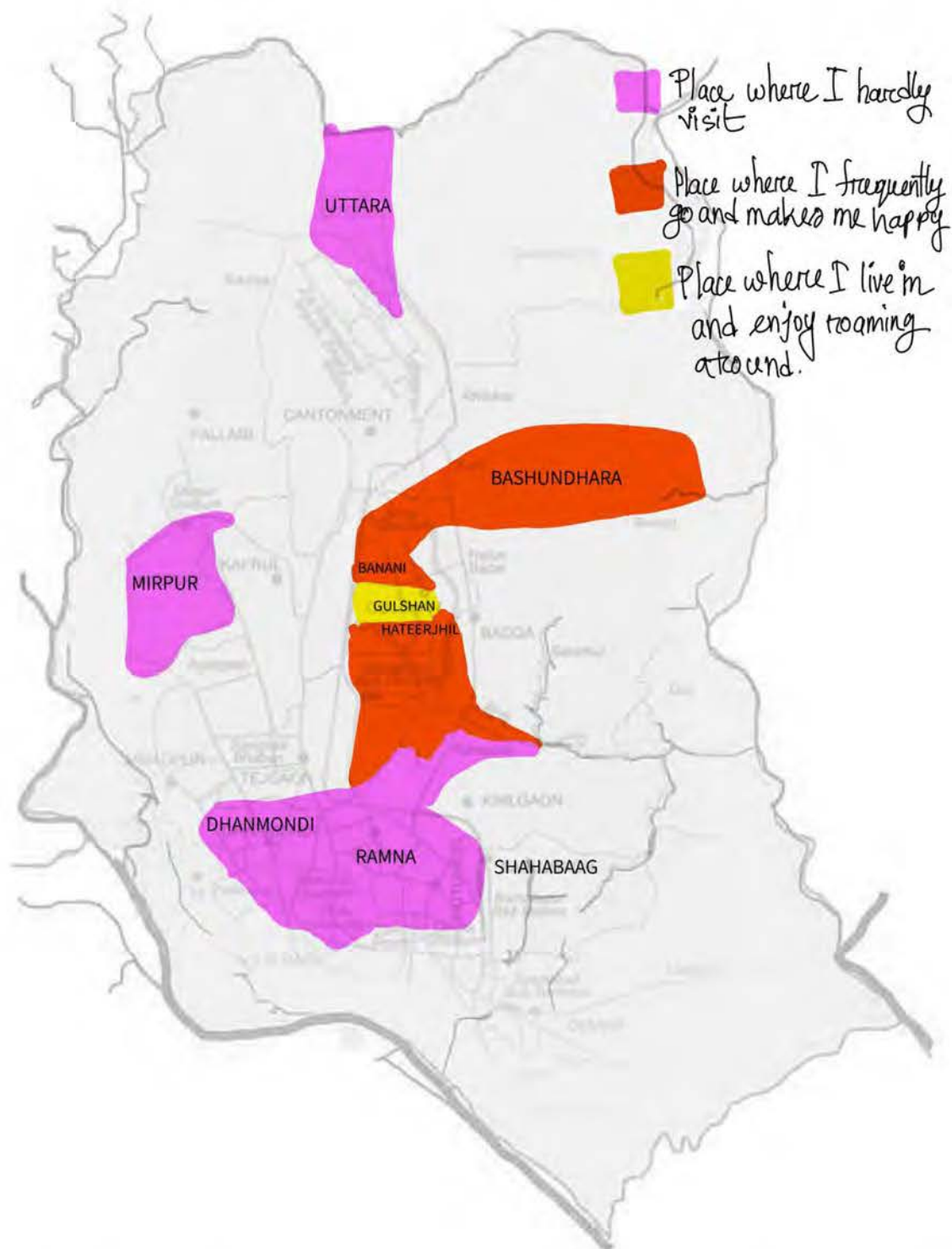


Name: Rifah Tasfia

Date: 09/01/2022

Mapping Vibes in Dhaka

Here, I tried to identify the areas where I pay visit on and off and vice versa.

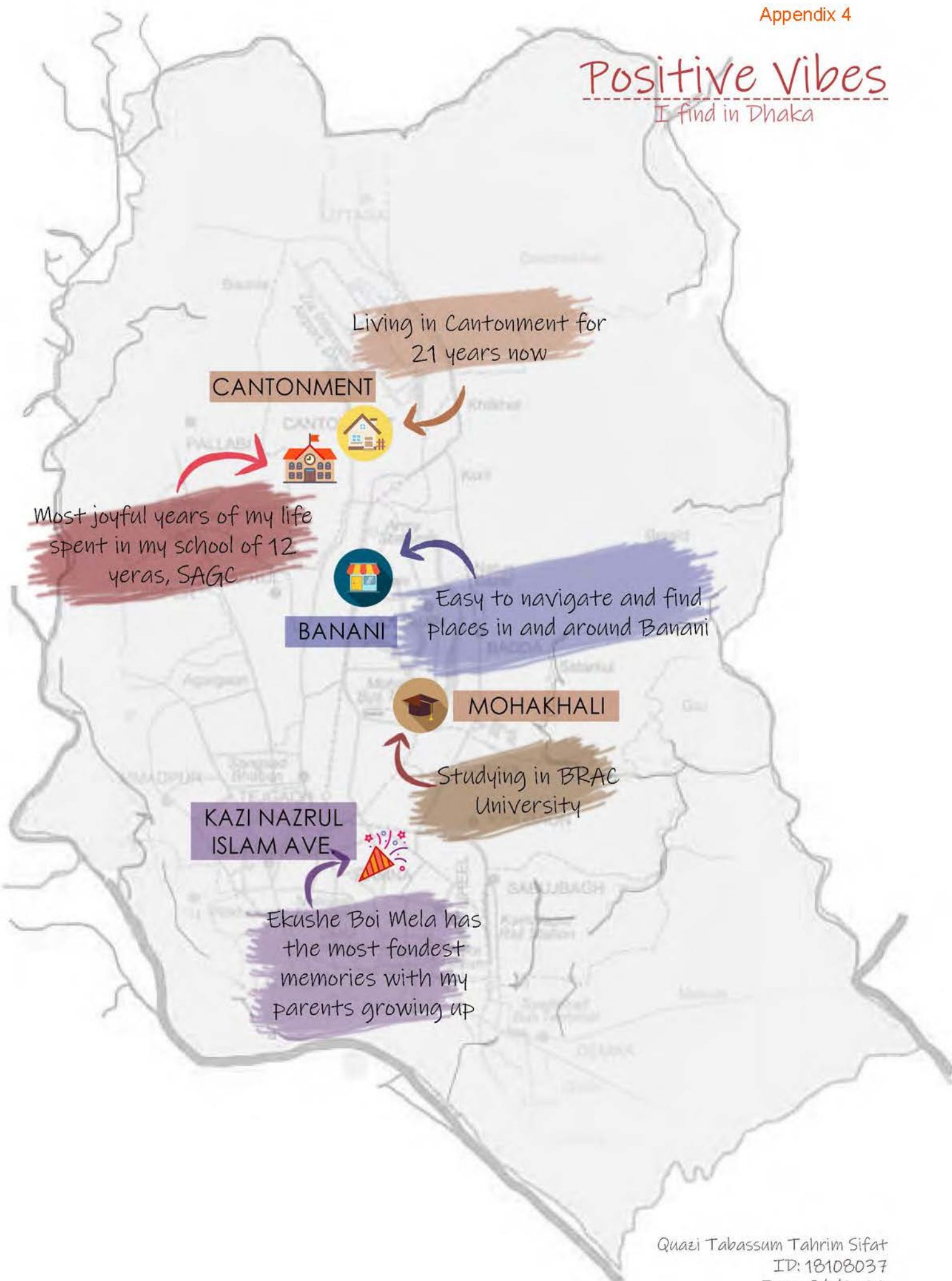


Name: Rifah Tasfia

Date: 09/01/2022

Positive Vibes

I find in Dhaka



Living in Cantonment for 21 years now

CANTONMENT



Most joyful years of my life spent in my school of 12 yeras, SAGC



BANANI

Easy to navigate and find places in and around Banani



MOHAKHALI

Studying in BRAC University

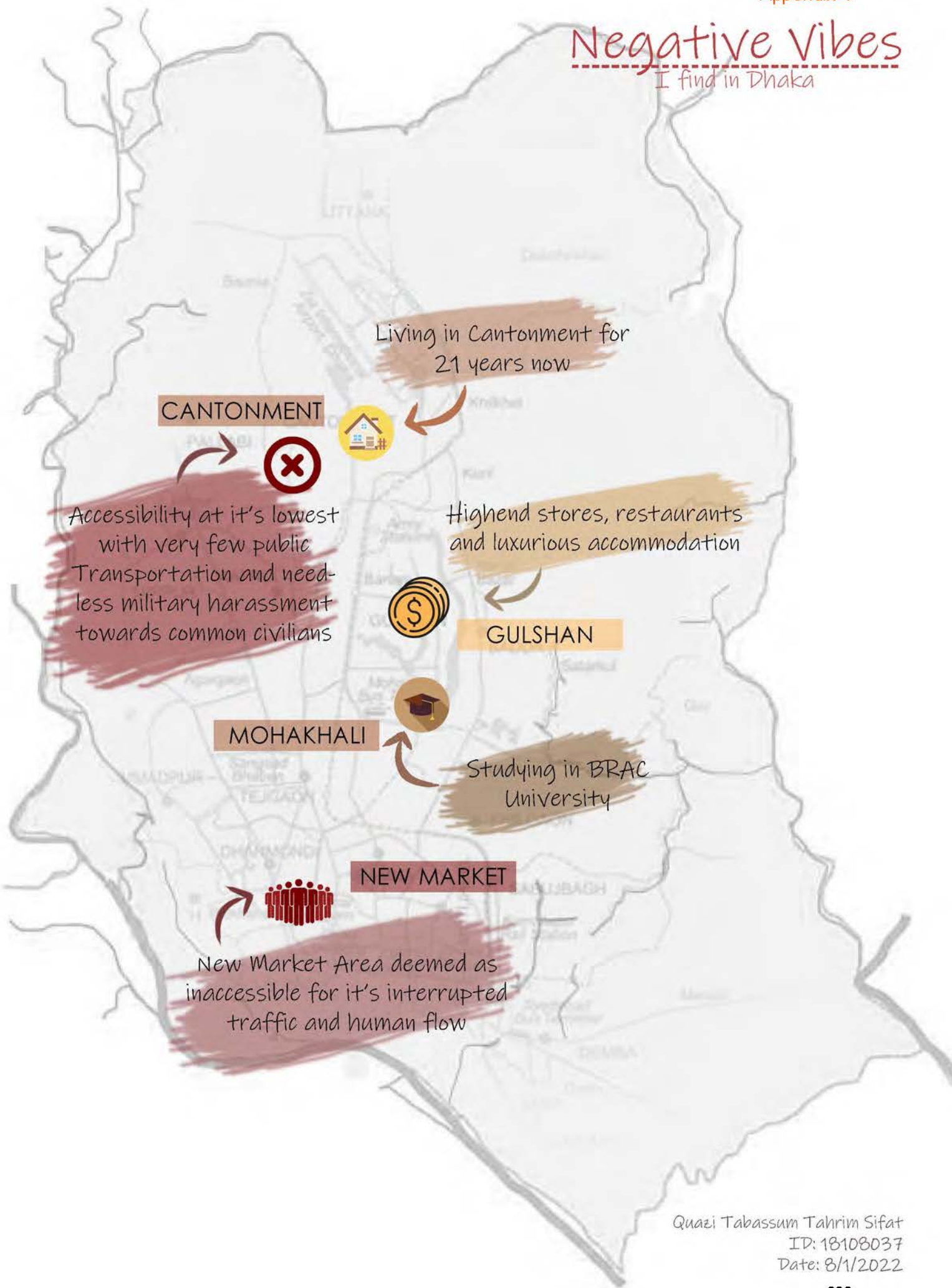
KAZI NAZRUL ISLAM AVE



Ekushe Boi Mela has the most fondest memories with my parents growing up

Negative Vibes

I find in Dhaka



Living in Cantonment for 21 years now

CANTONMENT



Accessibility at it's lowest with very few public Transportation and needless military harassment towards common civilians

Highend stores, restaurants and luxurious accommodation

GULSHAN



MOHAKHALI



Studying in BRAC University

NEW MARKET



New Market Area deemed as inaccessible for it's interrupted traffic and human flow

Mapping Positive Vibes

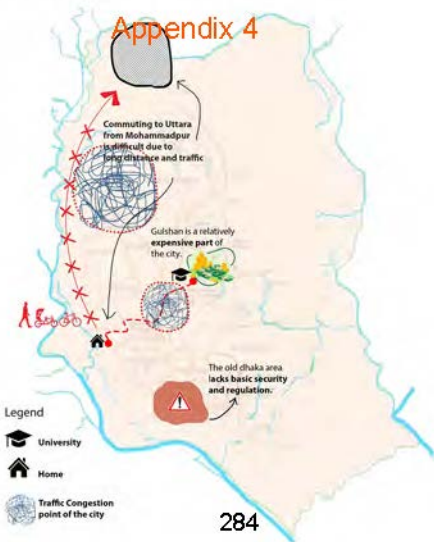
Appendix 4



283

Mapping Negative Vibes

Appendix 4





Arraisolos
Rugs, one
of the most
relevant and
well-known expres-
sions of decorative
arts.

The perfect combination
between rural and urban,
the ancestral and modern,
the traditional and con-
temporary, make
Évora such a peculiar
city. And the peace...
There I am happy!

João Cutileiro
Culptor
works several
left around
the city

Name: Cristina Seixas
Date: March 2022

Among the rural path's
stands "Sobreira Grande"
that harbors life, arouses
feelings and
surprises by its longevity.

The largest circle
of menhirs ever
found in the
Iberian
Peninsula

WELCOME!

Ever Évora

We had the privilege of living in Évora for two years full time and on and off for a total of 3 years
 Appendix 5
 Key Map: Centro Historico de Évora



magical, mystical, marvelous memories
 walks along the aqueduct and beyond into the countryside

Amazing to live in this beautifully preserved ancient city with all modern conveniences in easy access. I remember the rich textures, beautiful doors, tiles, archways, many wonderful artistic experiences, and the incredible Alentejo countryside right beyond the center.

I had my favorite Birthday dinner here
 Boteguanda mudearia

Escola Gabriel Pereira where I studied Portuguese w/ Professore Manuel Dias, along side students from around the world: Bangladesh, Senegal, Nepal, France, Holland, Georgia, Ukraine, ...

Lived on this street
 Avenida Germano Vidigal

For two full years we lived in this 5th floor condominium with a huge terrace overlooking countryside and city center. The terrace also overlooked an estate w/ exotic animals: white peacocks, black swans, deer, and French sheep. We could watch flocks of storks and cattle egrets, with the sun reflected on their wings flying right in front of us. And sometimes people drifting down with sky hanging from colorful parachutes, and hot air balloons floating by.

Garcia de Resende
 Gorgeous Italian style where we saw a stunning dance concert of Portuguese choreographer

The best Pastéis de Nata
 Olga Roriz

Fundação Eugénio d'Almeida - my favorite gallery, very tucked away. A special exhibit of M.C. Escher woodblock prints, and one of Salvador Dali drawings!

From her we could walk anywhere in the historic center, to classes, the market, restaurants and in the opposite direction to walk on the Ecopista. Unfortunately the house had no ability to be heated, and we froze during the winter and it also had unexpected plumbing, pee yew!!

I always felt safe walking even at night. Two drunk boys crashed a car into our car Christmas morning and ran away.

Casado Manuel Dias
 Our tutor, professor, guide and best friend!





Companhia de Dança 286

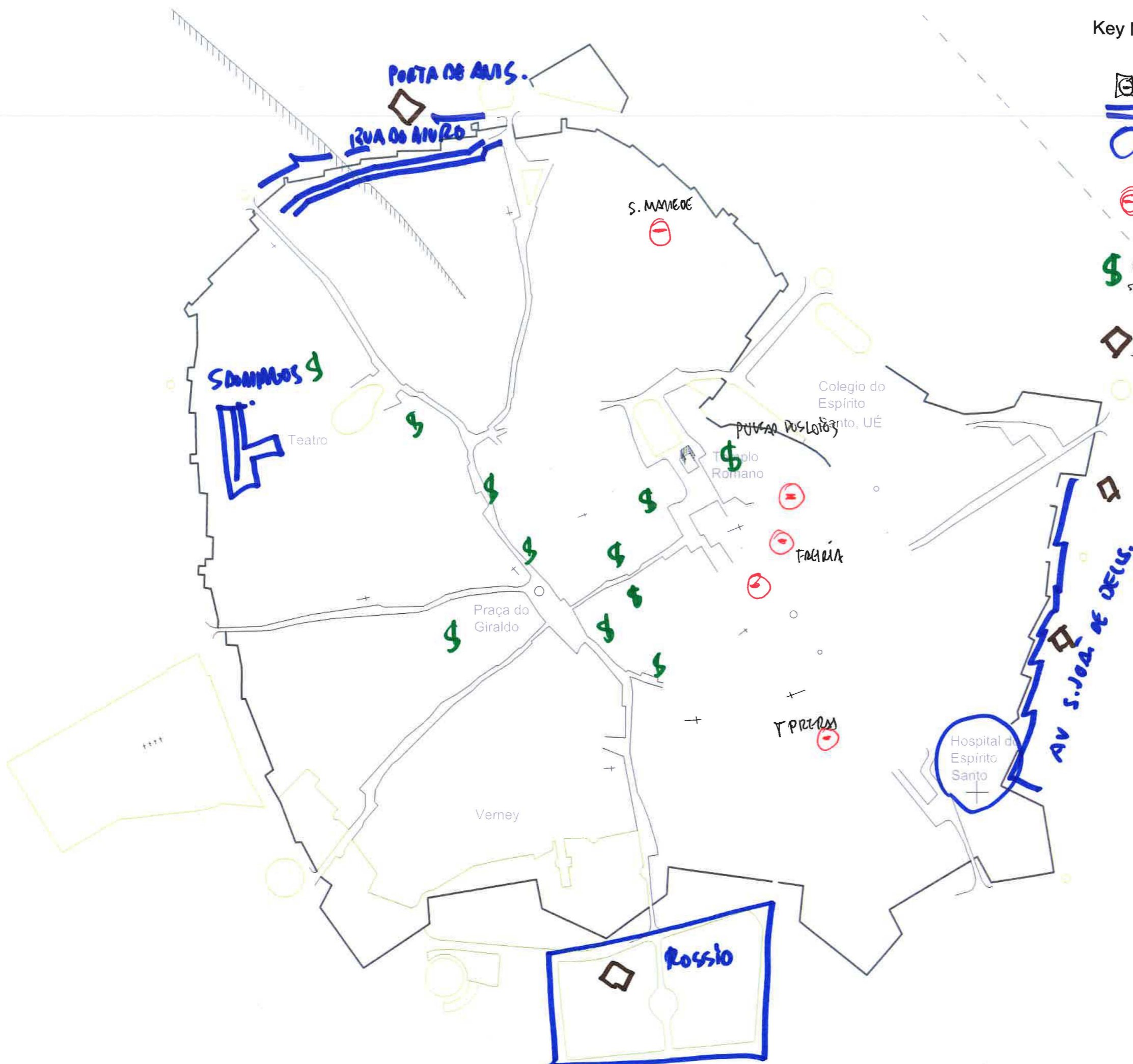
On the outskirts -> Contemporaria de Évora

Name: Denise Bell Nyland
 Date: March 12, 2020

Black Box theater amazing company beautiful studio where I taught modern dance classes & participated in a Pilates teacher training.

Key Map: Centro Historico de Évora

-  SPOTS DISLIKE MOST - PORTA DE ANZ, RUA DO MURO, AV. S. J. DE DEUS, MUSICAL, ROSSIO, CENA DE S. DOMINGOS.
-  INACCESSIBLE PARTS OF HC - FREIRA E B. MAMBOE ET PERAS.
-  VERY EXPENSIVE PARTS - TOURIST SPOTS, PRAÇA DOS LOBOS, SOME SHOPS
-  FEARFUL PARTS. ? DOUBTS ABOUT...! PORTA DE ANZ., S. J. DE DEUS, ROSSIO



Name:
Date:

[Signature]
24 09 2002

Key Map: Centro Historico de Évora

[+] LIKE A LOT OF SEATS!

[⊕] JOYFUL PLACE!

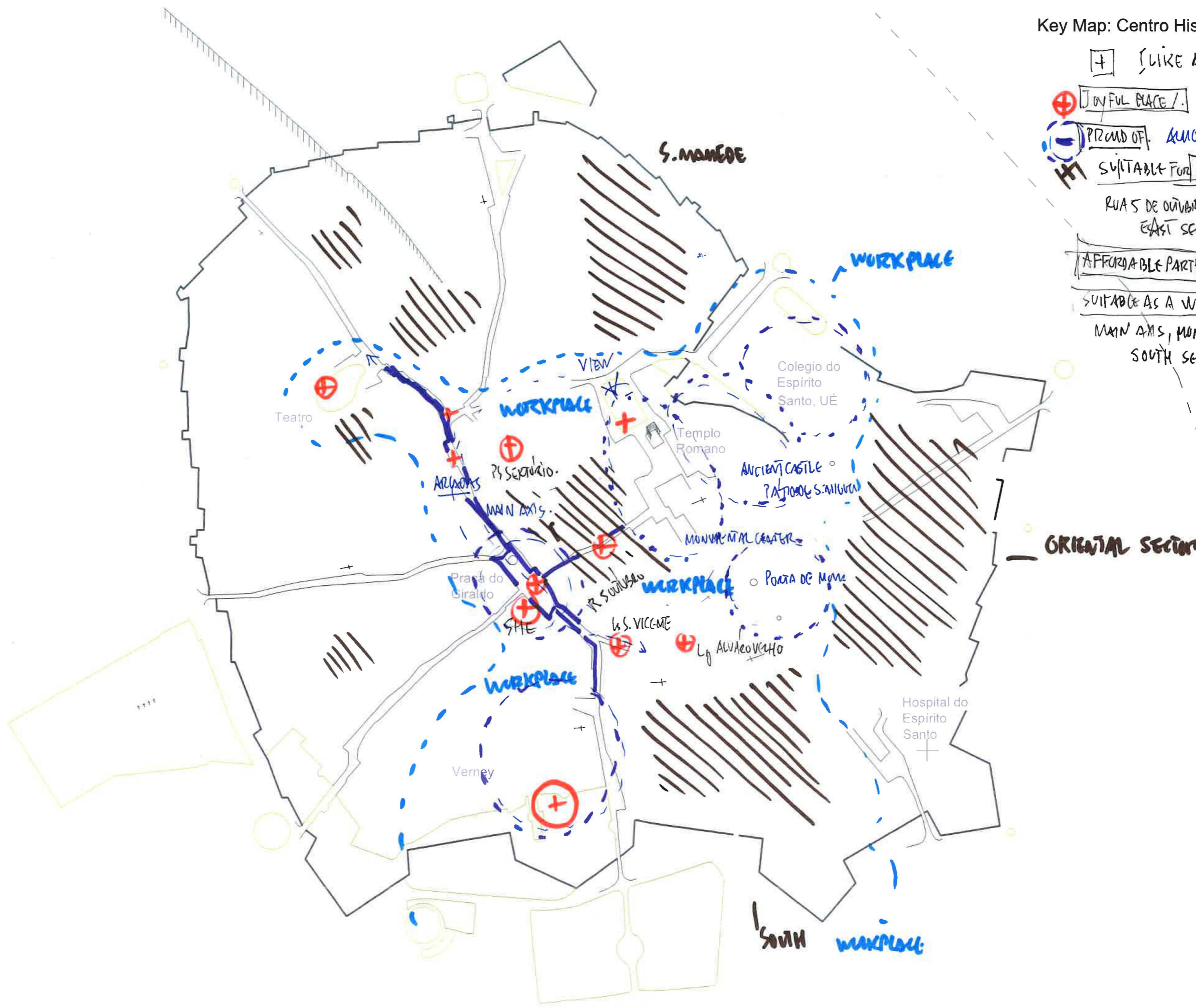
[⊖] PROUD OF. ALMOST EVERYTHING

[H] SUITABLE FOR LIVING - SEVERAL SECTS...

RUA S DE OUBAIO, S. MANEDE NEIGHBOURHOOD;
EAST SECTOR, SOUTH SECTOR.

[A] AFFORDABLE PARTS! - SMALL STOPS,




SUITABLE AS A WORKPLACE - CENTRAL AREA/
MAIN AXIS, MONUMENTAL CENTRE,
SOUTH SECTOR.



Name:
Date:

[Signature]
23/07/2008

Key Map: Centro Historico de Évora

-  all the places I've lived...
 -  places I like to be...
 -  places I like to share with visitors...
- THOUGHTS

A MUSEUM IS NOT IMMUTABLE, NOR SHOULD BE THE CITY

YET SO BEAUTIFUL
SO PEACEFUL
SO SAFE

CRUZ DA PICADA
(people can stop saying it's a problematic spot. I enjoyed a lot!)

THIS CITY IS NOT ACCESSIBLE FOR OLD PEOPLE, CHILDREN, DISABLE PEOPLE

THE CITY CENTRE IS THE BEST TO LIVE IN (except for drunk students)

A NO AFFORDABLE CITY



Name: NATÁLIA MELO
Date: 16/03/2022

Key Map: Centro Historico de Evora

- all the places I've lived...
 - places I like to be...
 - places I like to share with visitors...
- THOUGHTS

A MUSEUM IS NOT IMMUTABLE, NOR SHOULD BE THE CITY.

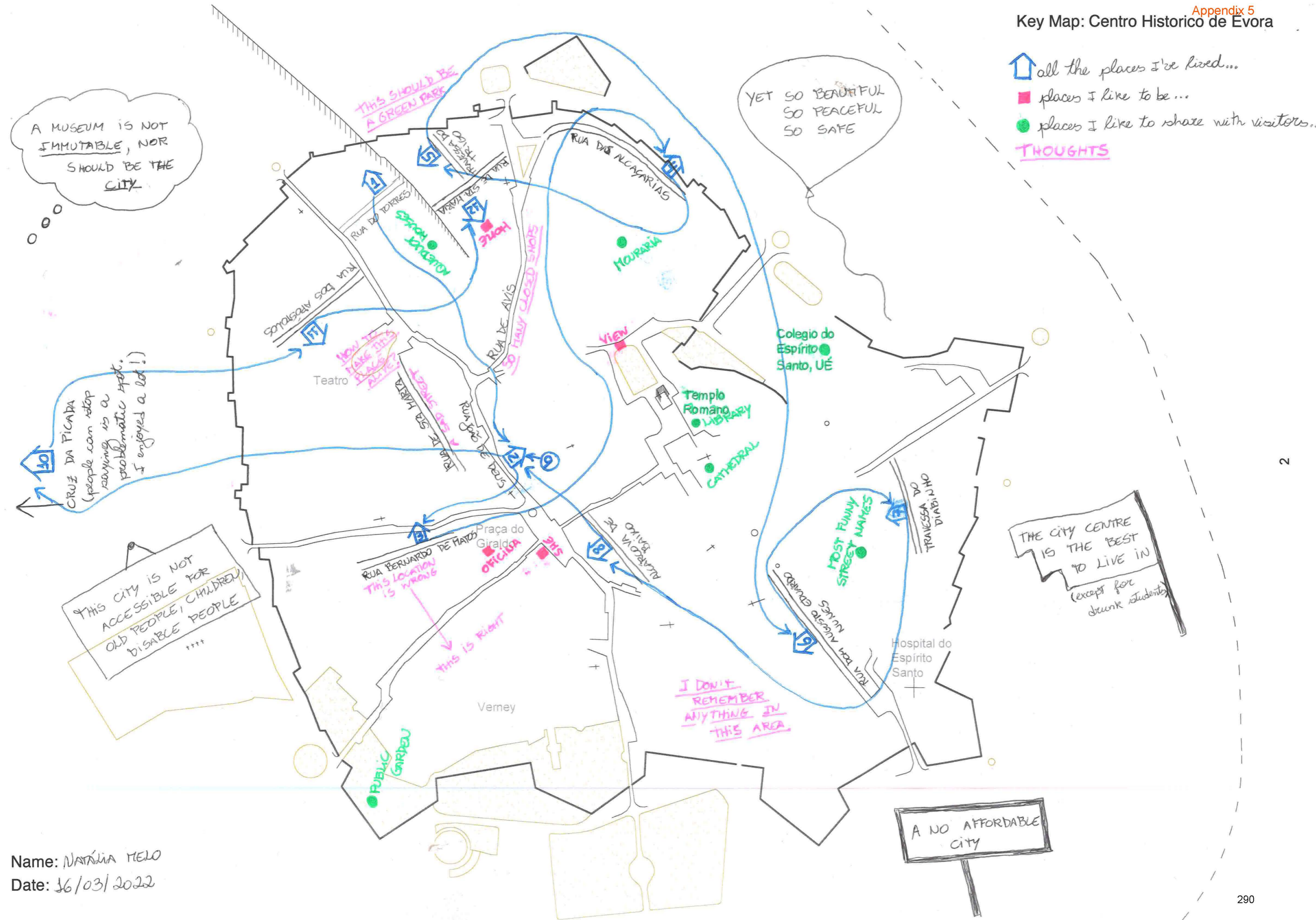
YET SO BEAUTIFUL
SO PEACEFUL
SO SAFE

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THE CITY CENTRE IS THE BEST TO LIVE IN
(except for drunk students)

A NO AFFORDABLE CITY



Name: NATÁLIA MELO
Date: 36/03/2022

Appendix 5

- ① Best place to see sunset.
- ② My Favorite place.
- ③ Geraldo Square for beers.
- ④ Laboratory.
- ⑤ Home.



I really like this "Place for afternoon relaxation and for seeing the beautiful sunset.."

We always make a gathering after classes.

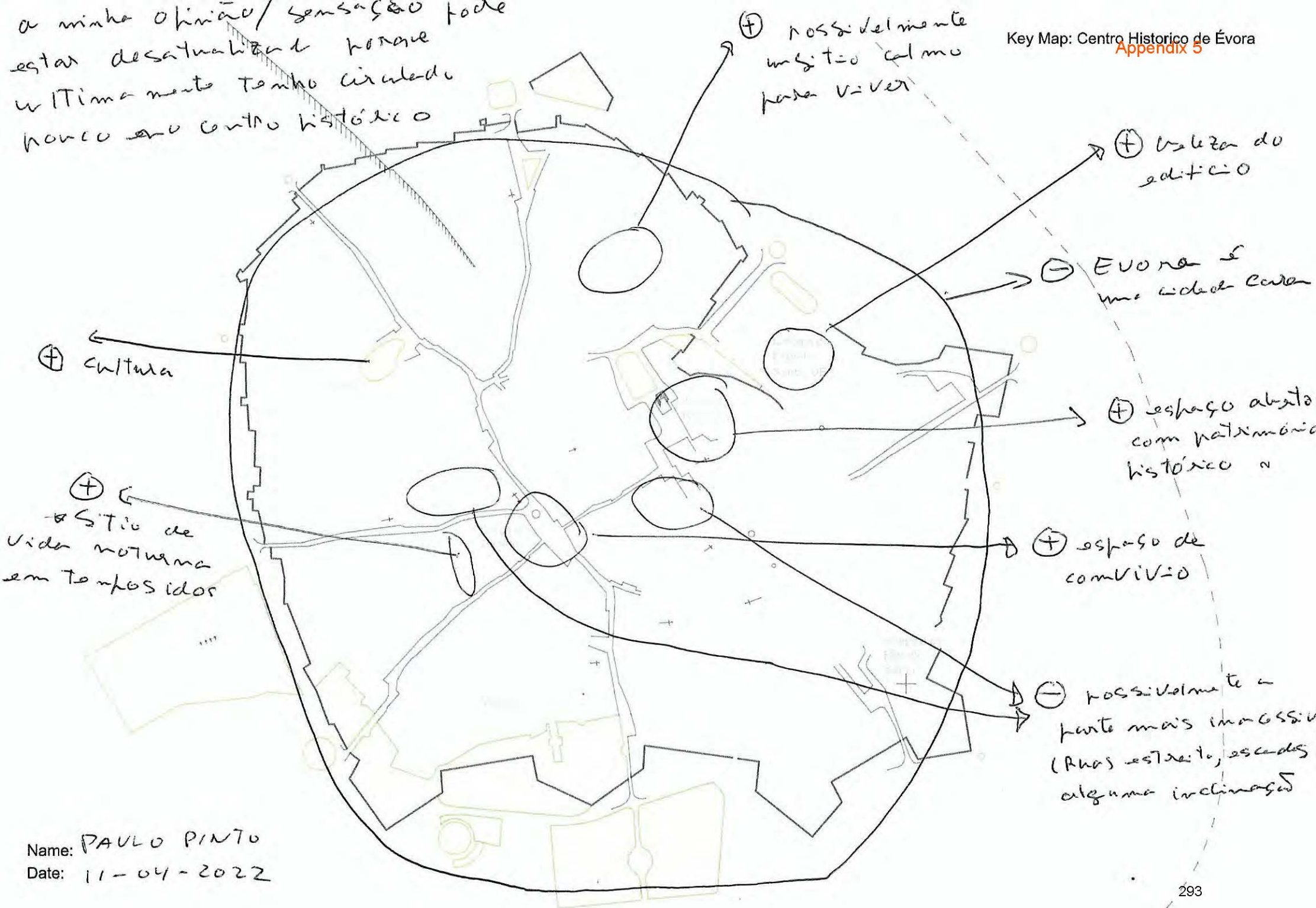
Nothing is better than home, and feel home with Maxi, pinto and friends. 😊

Most of the time spend in the Lab. Hercules Laboratory.

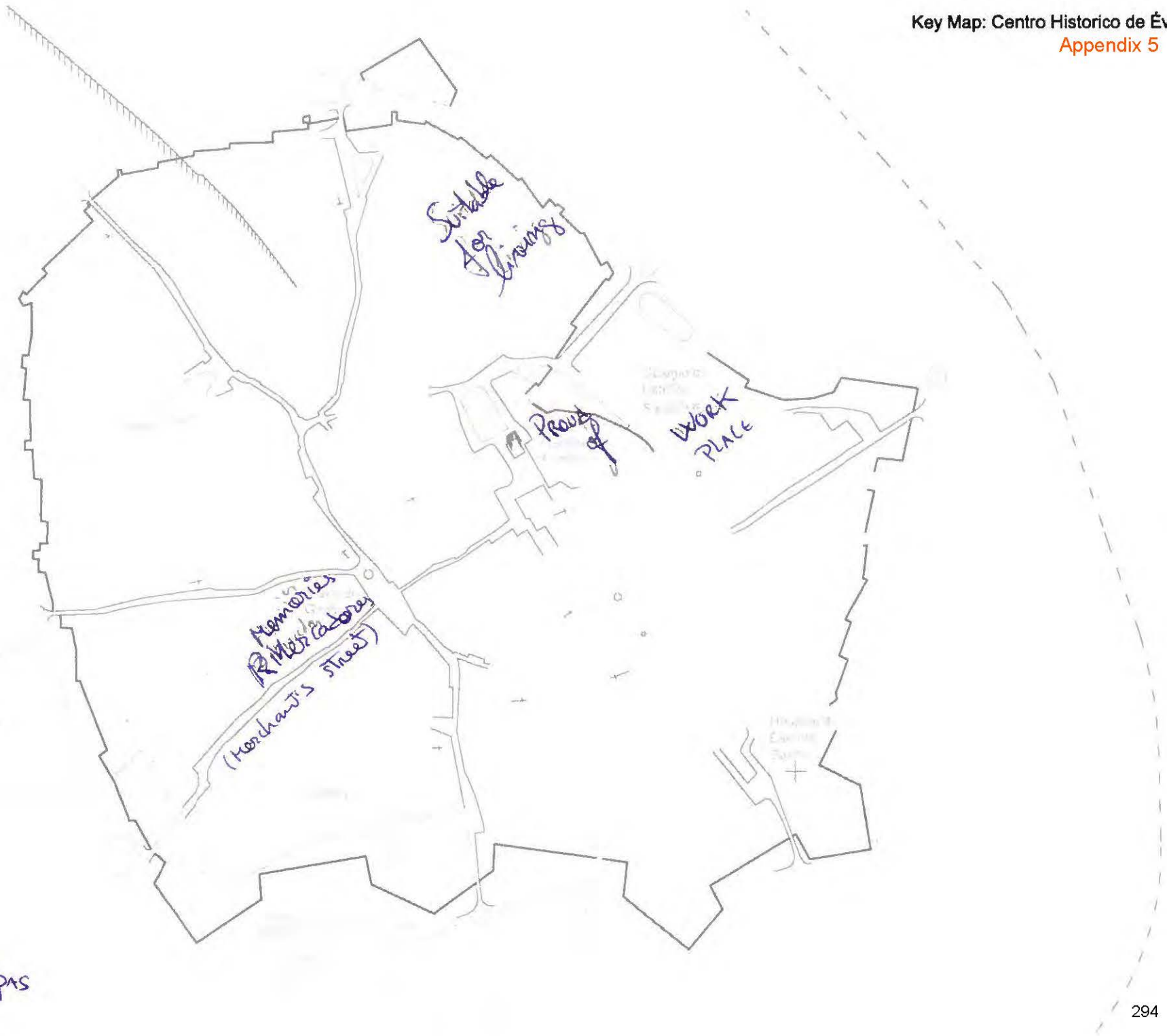
I always missed the time we spend together with my best friend here on the corner. My Favorite Place.

Name: TANJIL
Date: AHMMED
14.03.2022.

a minha opinião/sensação pode estar desatualizada porque ultimamente tenho circulado pouco no centro histórico

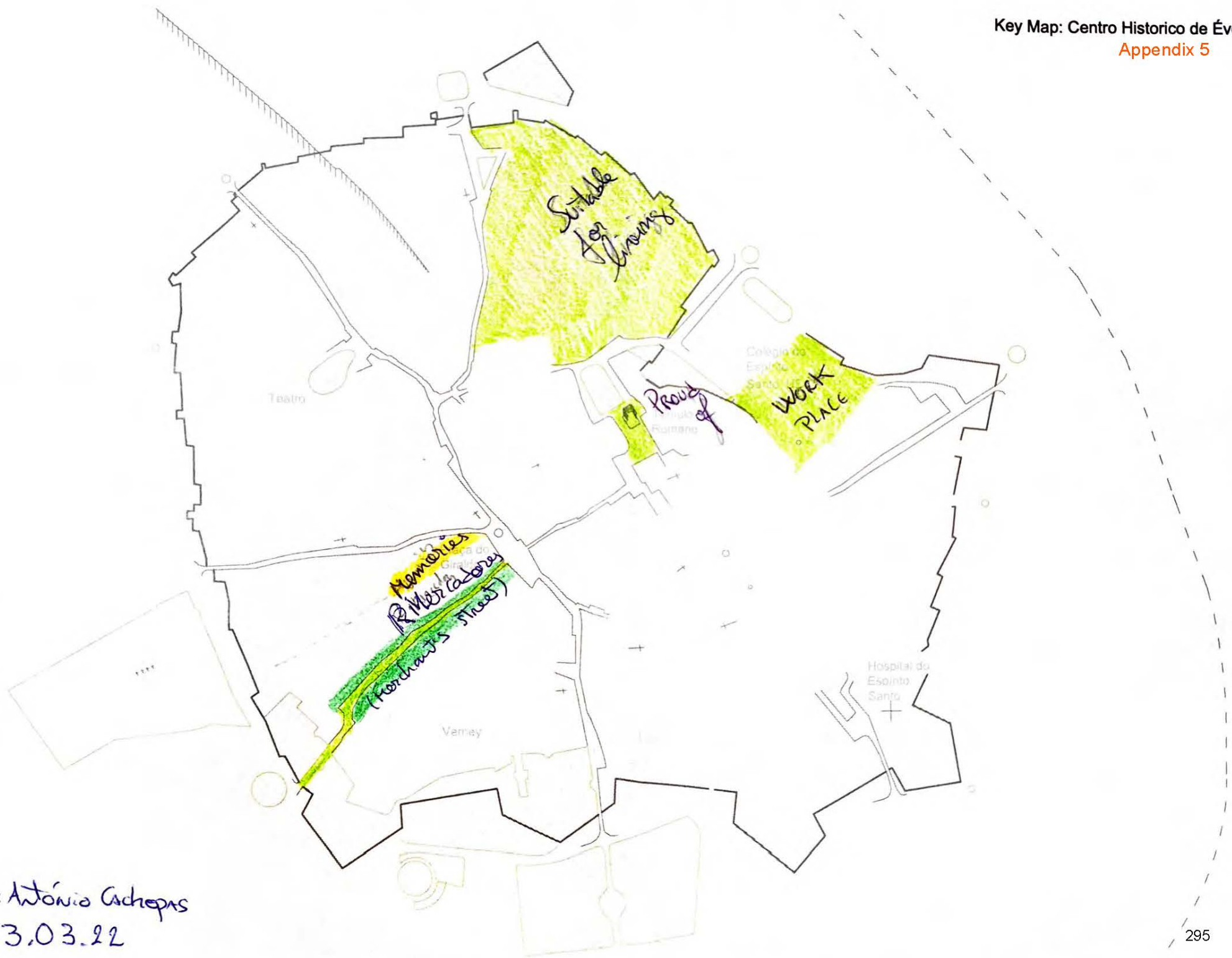


Name: PAULO PINTO
Date: 11-04-2022



2

Name: António Cachepas
Date: 3.03.22



Name: António Cachepas
Date: 3.03.22

Imping positive vibes (because there are no Negative). Example I never feared walking alone because there was always police vigilance in or outside the walls)

Affordable Area => only area out of the walls (mostly)



Name: Sónia Rodrigues
Date: 3.03.22

Here I played many times as a child

(+ +) Pedestrian friendly

(+ +) Very clean city all over

bright & lively

SAMURAI

I can enjoy food and gossip for long time.

bright & lively

Biochemistry LAB work Place

age group wise design (+ +) equipped good memory

bright & lively

High slope, poor accessibility.

I would like to live here.

quiet residential area

Close to supermarket

fearful and uncomfortable at night.

PINGO DOCE

Colegio do Espirito Santo. UE

MERCELES LAB Academically very rich and scientifically well equipped lab.

IRENE LISBOA Very difficult access

dark & fearful

Difficult bicycle route to work
Tourist city makes everything expensive, contradictory to resident's normal life

Name: SUMAYA AKTER
Date: 10/04/22

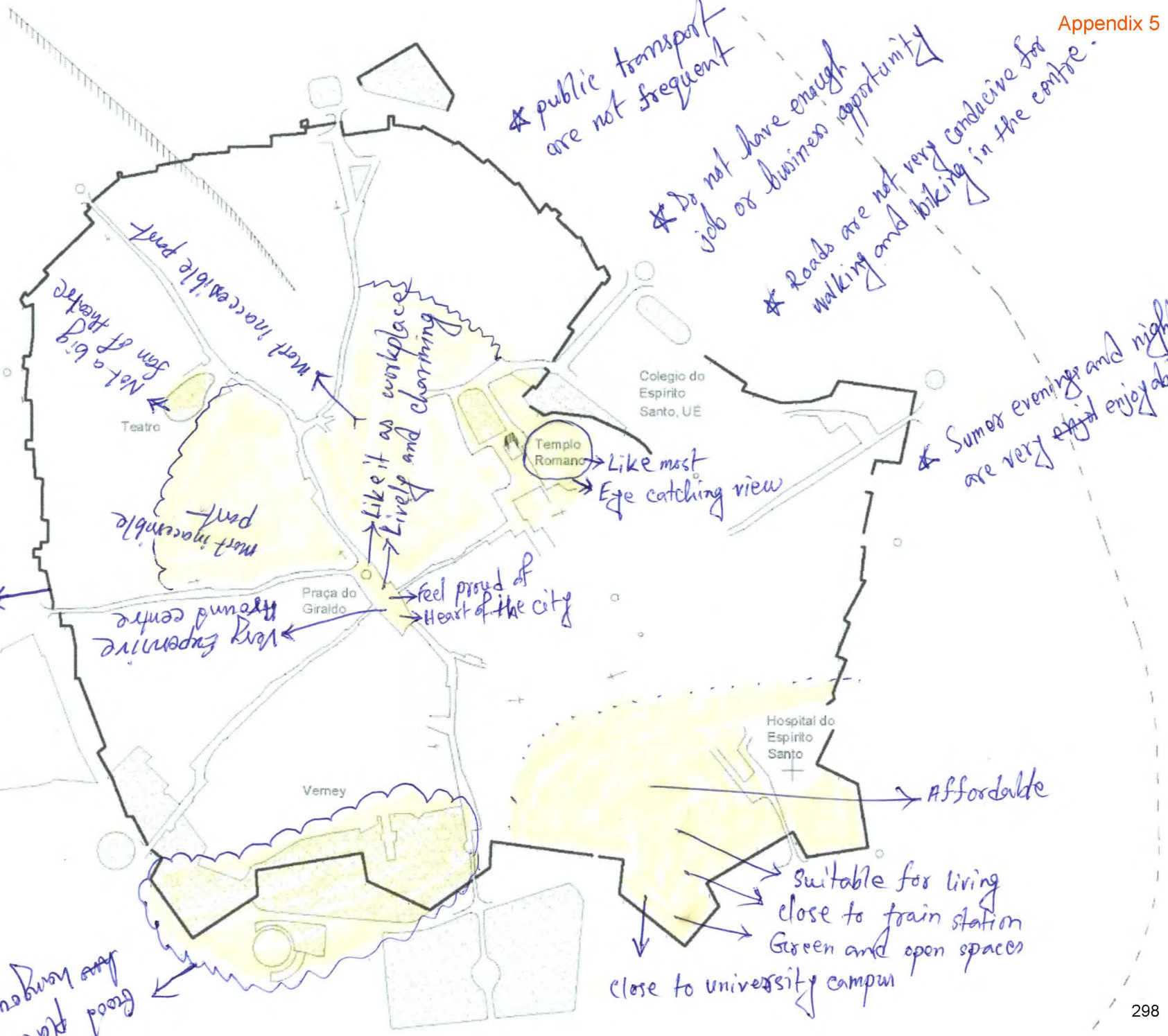
* Good facility for biking.

* Surrounding parts are beautiful.

* City centre is difficult for elderly to visit as it is on top of hill.

* Did not feel any part of the city being fearful.

Good place for bike hangout



Key Map: Centro Historico de Évora

- (+)
- City is peaceful.
- City is safe to walk around.
- City is very legible and easily navigable.

- (-)
- Some streets are not disabled friendly.
- In many internal streets, there is almost no footpath
- In many internal streets, vehicles are given priorities over pedestrian.
- Narrow streets have poor accessibility, especially for emergency vehicle(ambulance).
- Many residential and institutional buildings have poor accessibility, especially for disabled people.

roads are not disabled friendly

most legible place

not accessible by emergency vehicles.

place to walk.

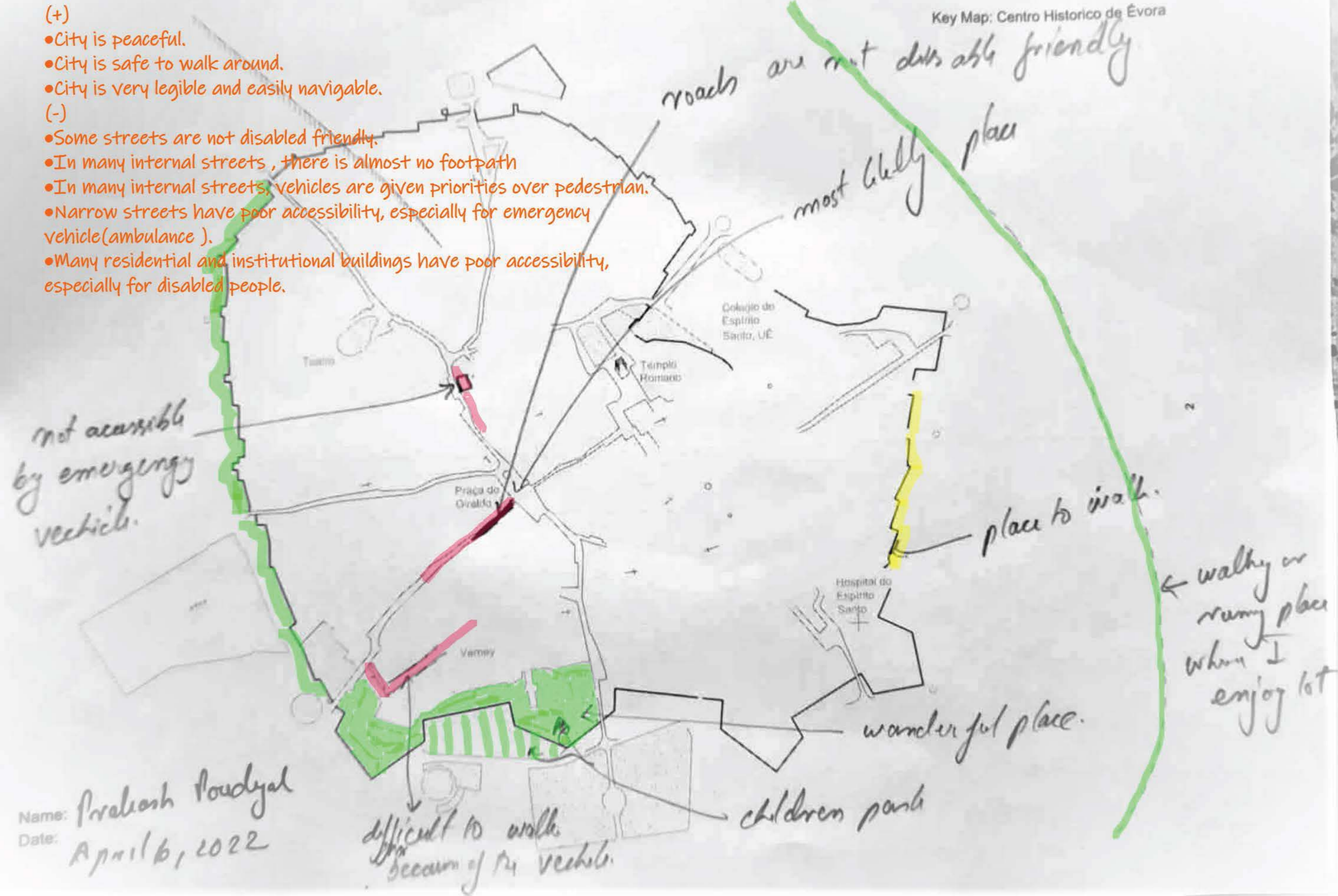
walking in many places when I enjoy lot

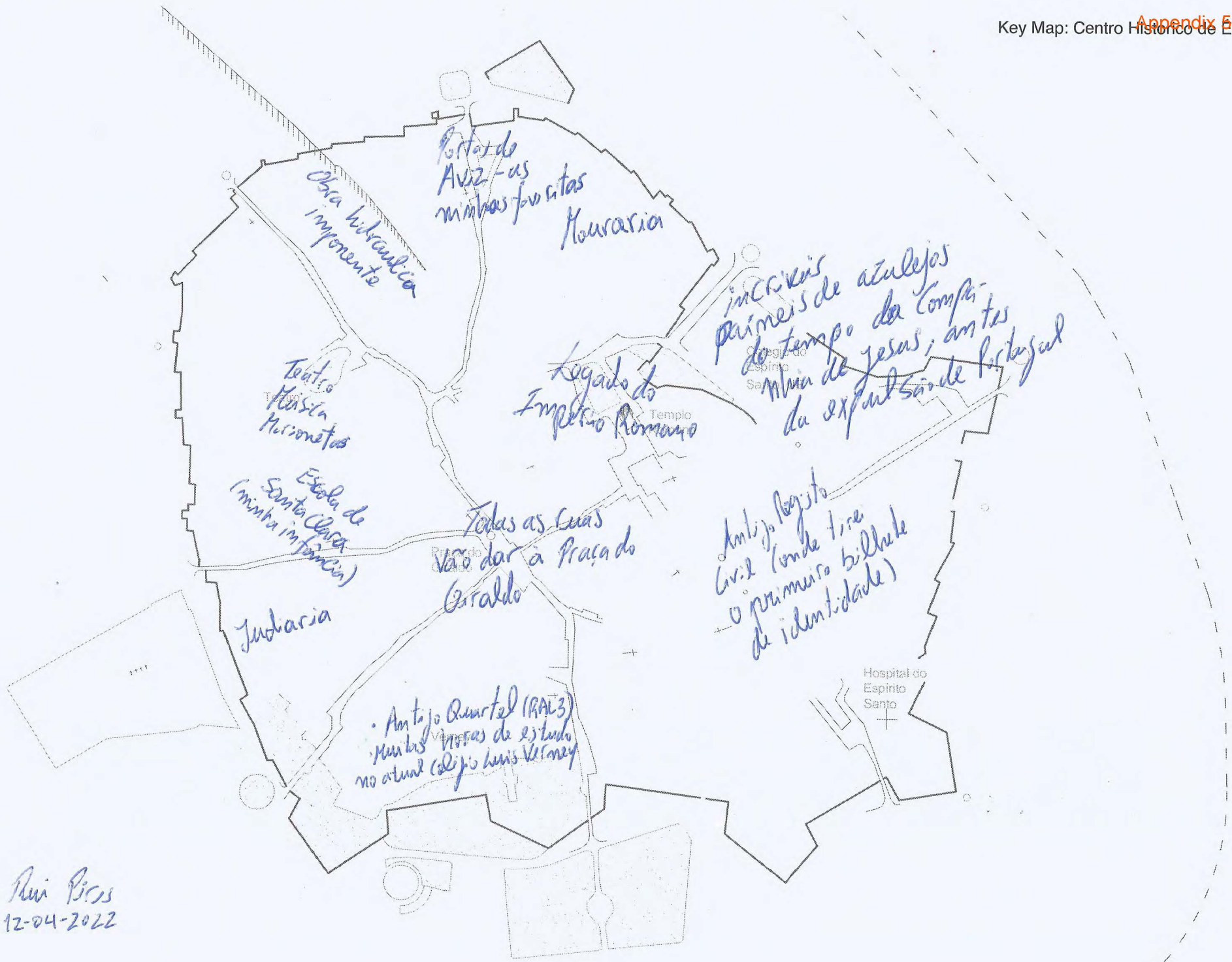
wonderful place.

difficult to walk because of the vehicle.

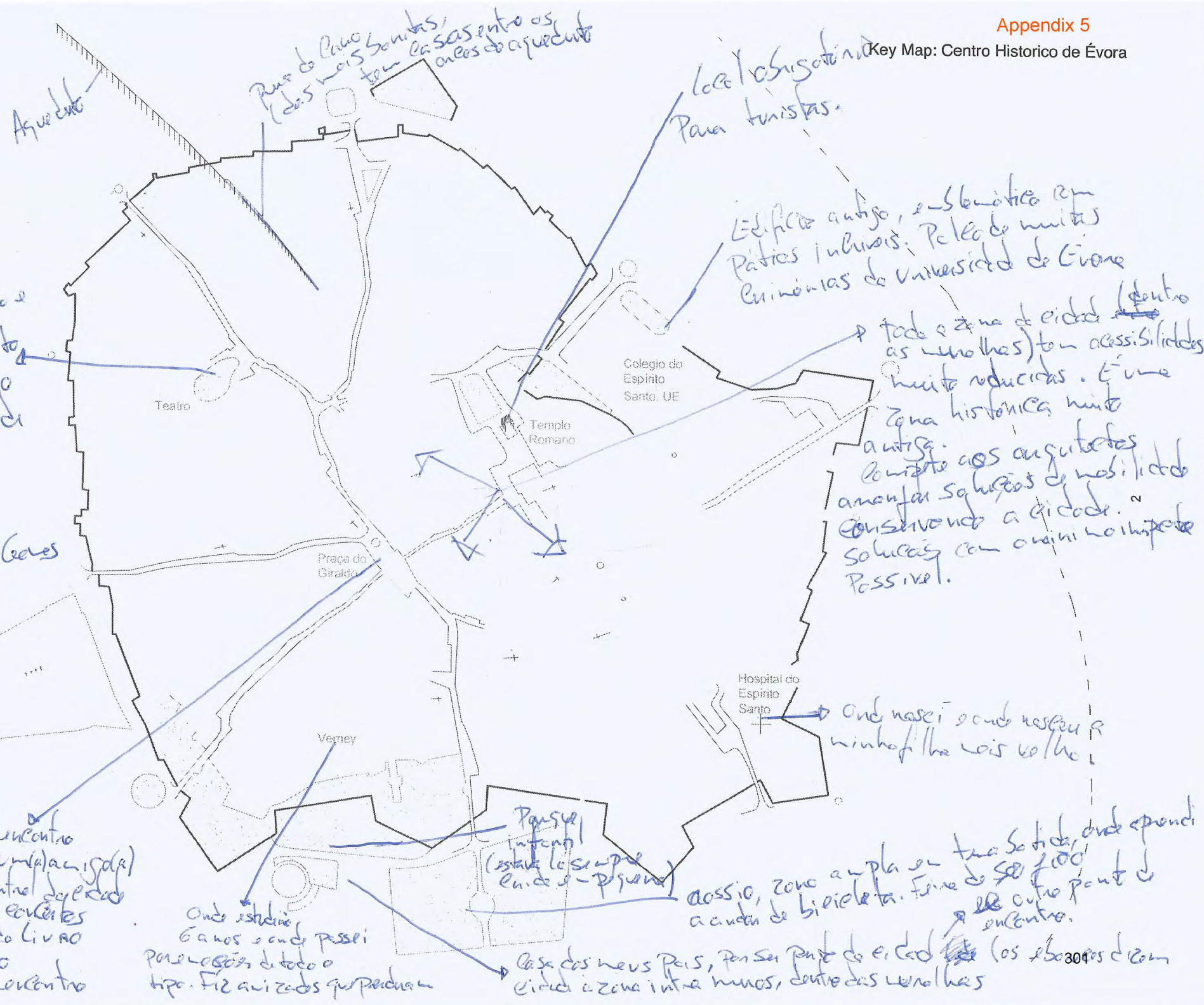
children park

Name: Prakash Poudyal
Date: April 6, 2022





Name: Rui Pires
Date: 12-04-2022



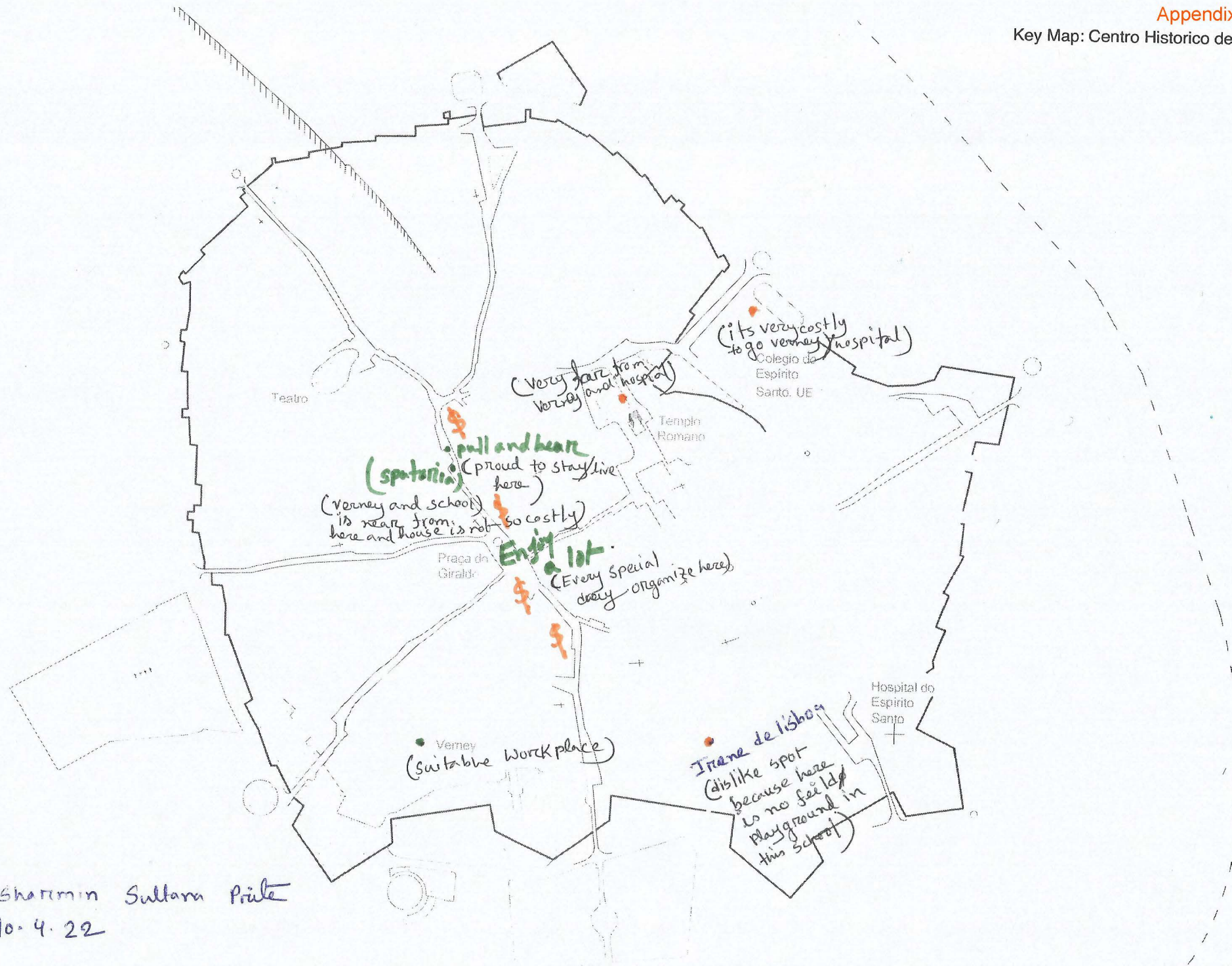
Name: Ana Isabel Gomes
Date: 13/04/22

Name:
Date:

- negative/dislikes
- positive / Likes

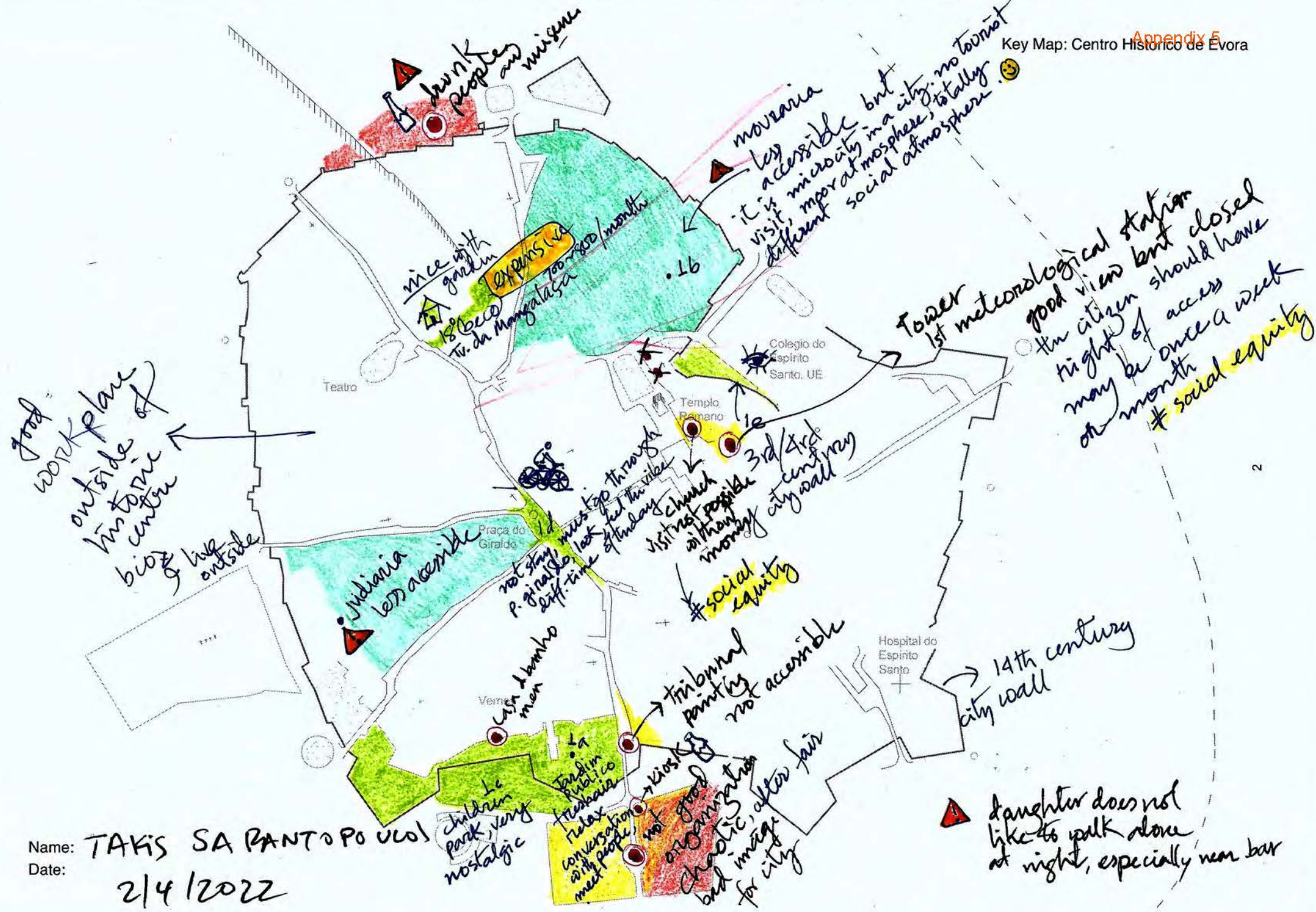


Name: Md Tefael Ammed
Date: 10/04/2022

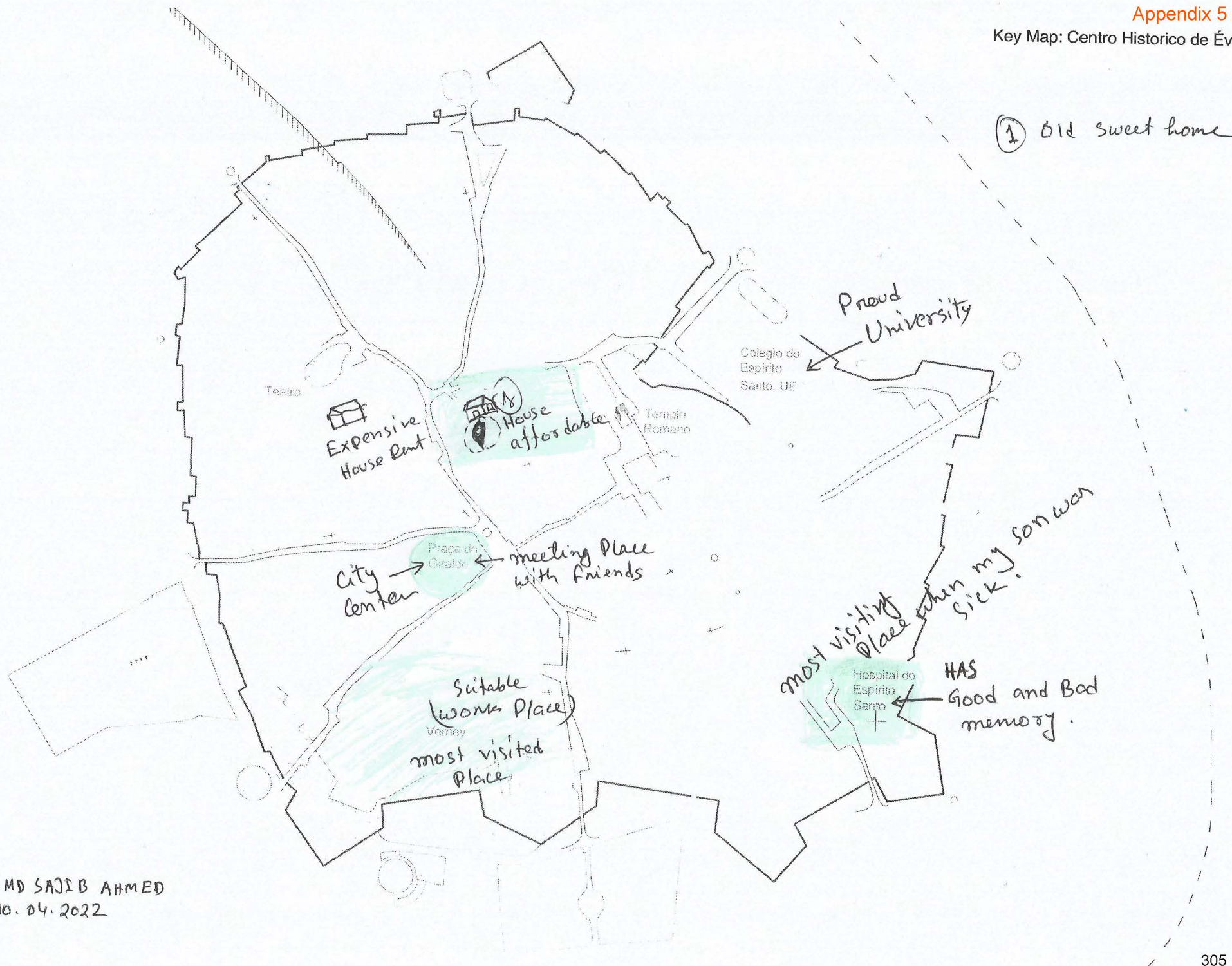


Name: Sharmin Sultan Patel

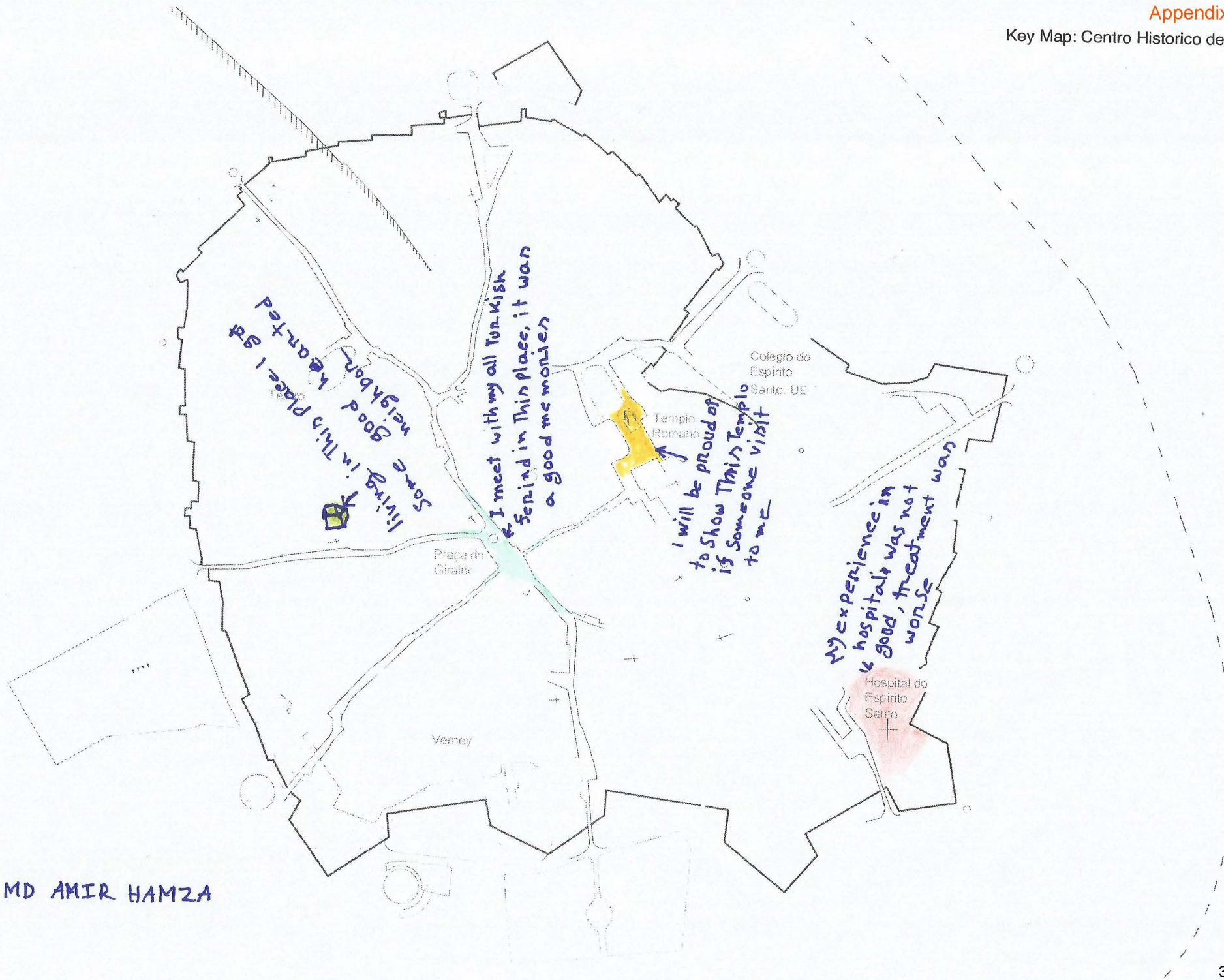
Date: 10.4.22



Name: TAKIS SA RANTOPOULOS
 Date: 2/4/2022



Name: MD SAJJIB AHMED
Date: 10.04.2022



Name: MD AMIR HAMZA

Date:



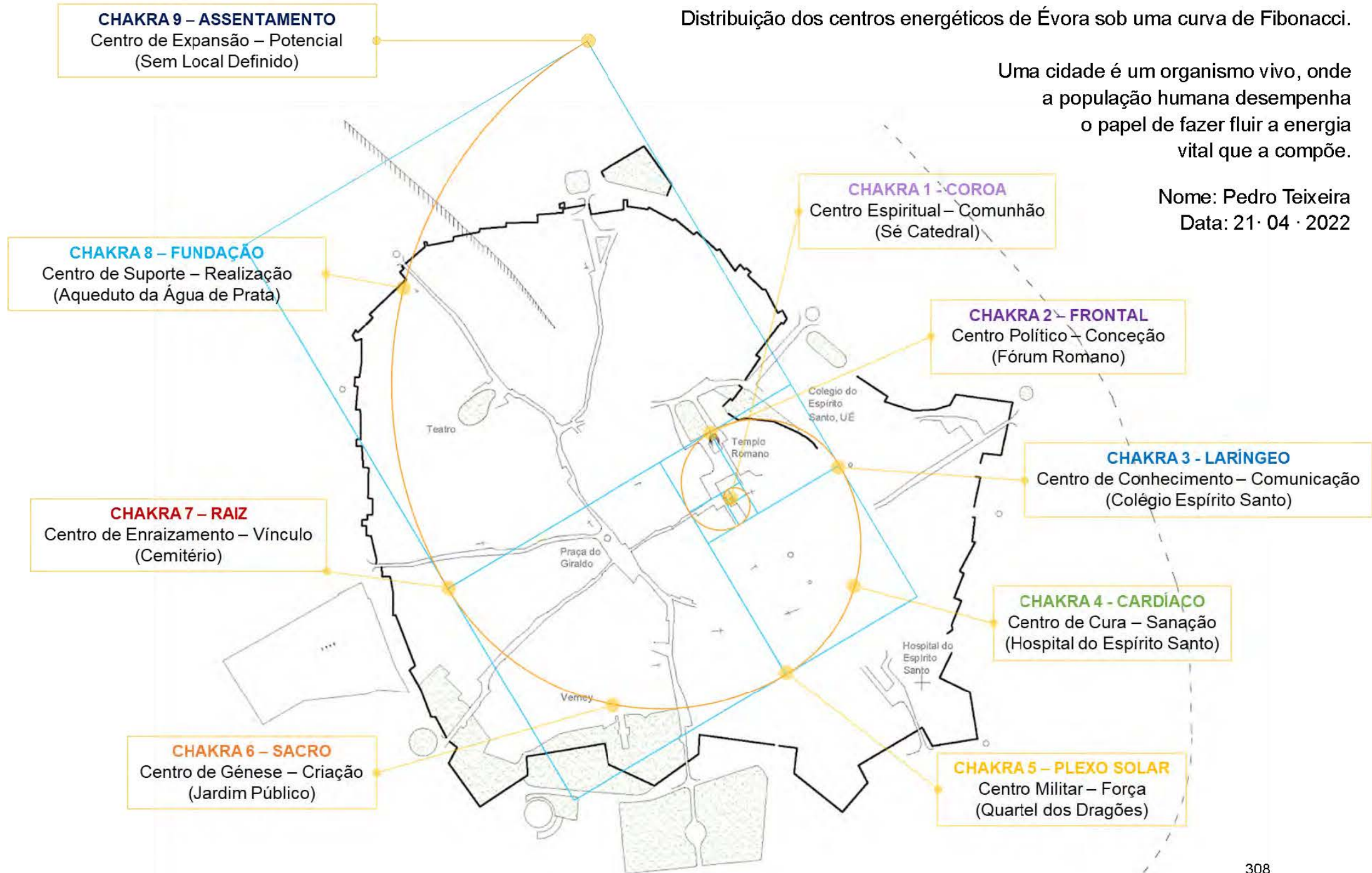
Name: Kashyap
Date: 10/4/22'

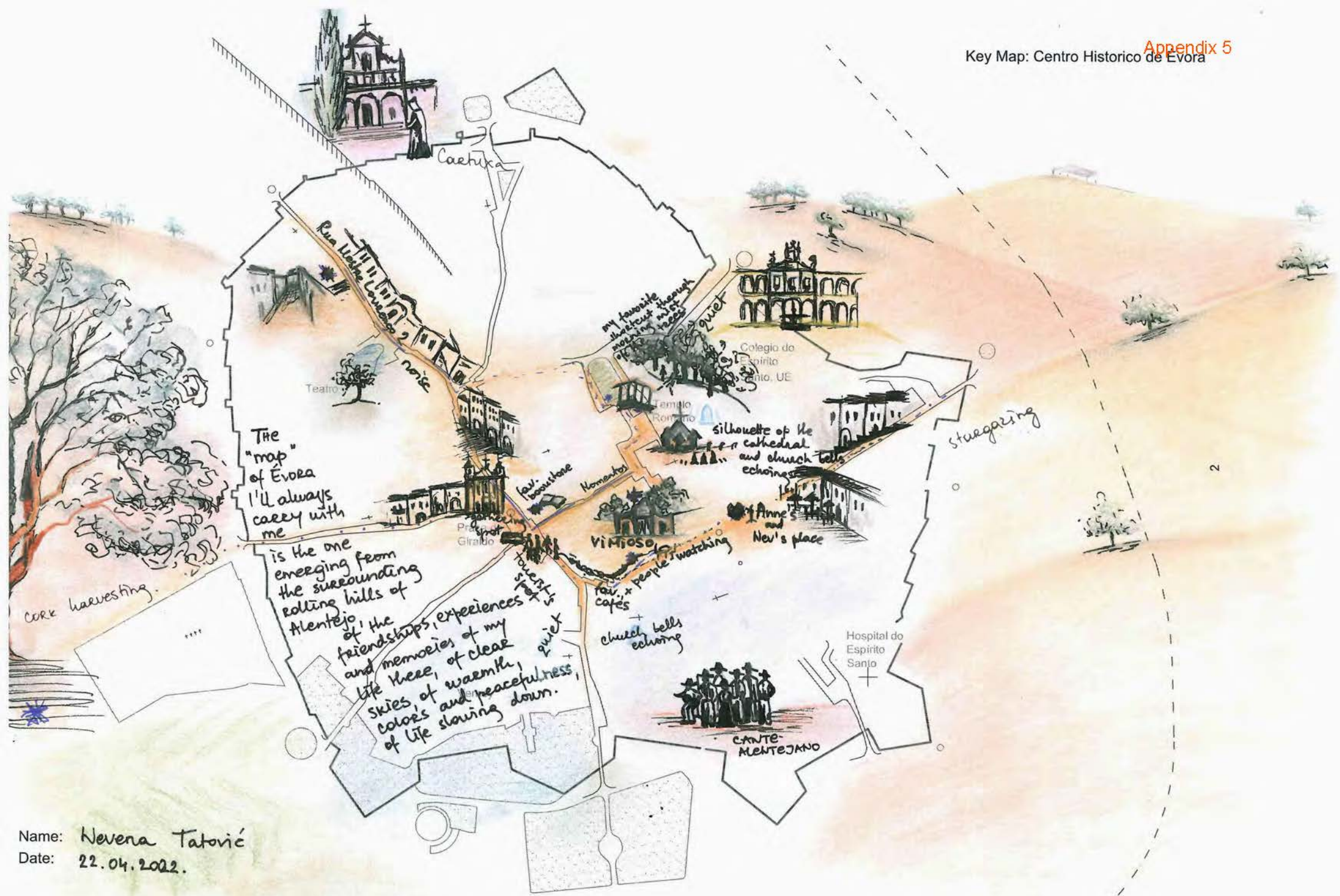
PERCEÇÃO HOLÍSTICA DE ÉVORA | Key Map: Centro Histórico de Évora

Distribuição dos centros energéticos de Évora sob uma curva de Fibonacci.

Uma cidade é um organismo vivo, onde a população humana desempenha o papel de fazer fluir a energia vital que a compõe.

Nome: Pedro Teixeira
Data: 21 · 04 · 2022





Name: Nevena Tatović
Date: 22.04.2022.

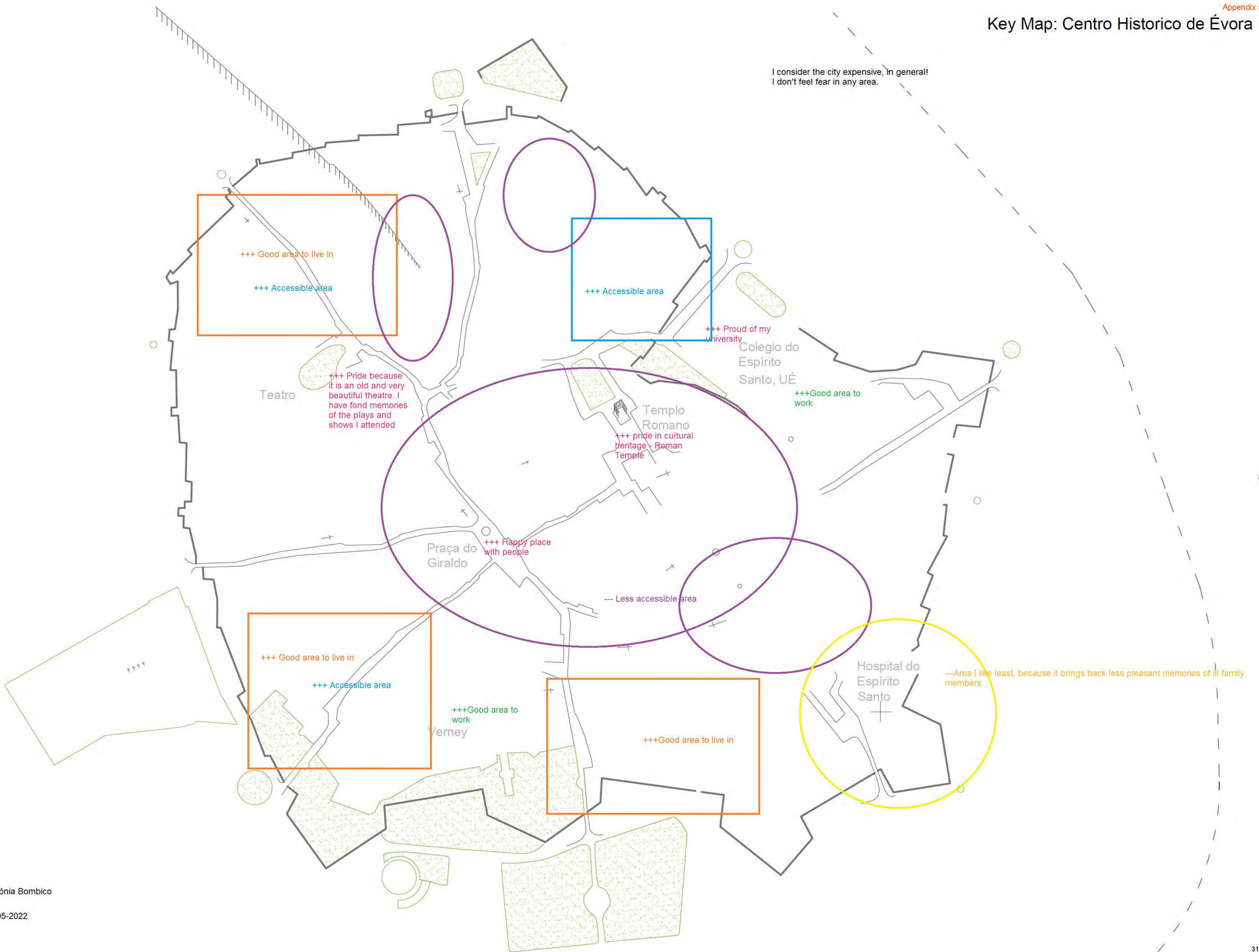


- Joyful places
- Proud places
- Good living places
- Affordable part
- Suitable work-place
- In accessible parts of the historic centre (not by bicycle, public transport)
- Expensive
- Fearful

Name: MASUD RANA RASHEL
 Date: 24 th April, 2022

Key Map: Centro Historico de Évora

I consider the city expensive, in general!
I don't feel fear in any area.



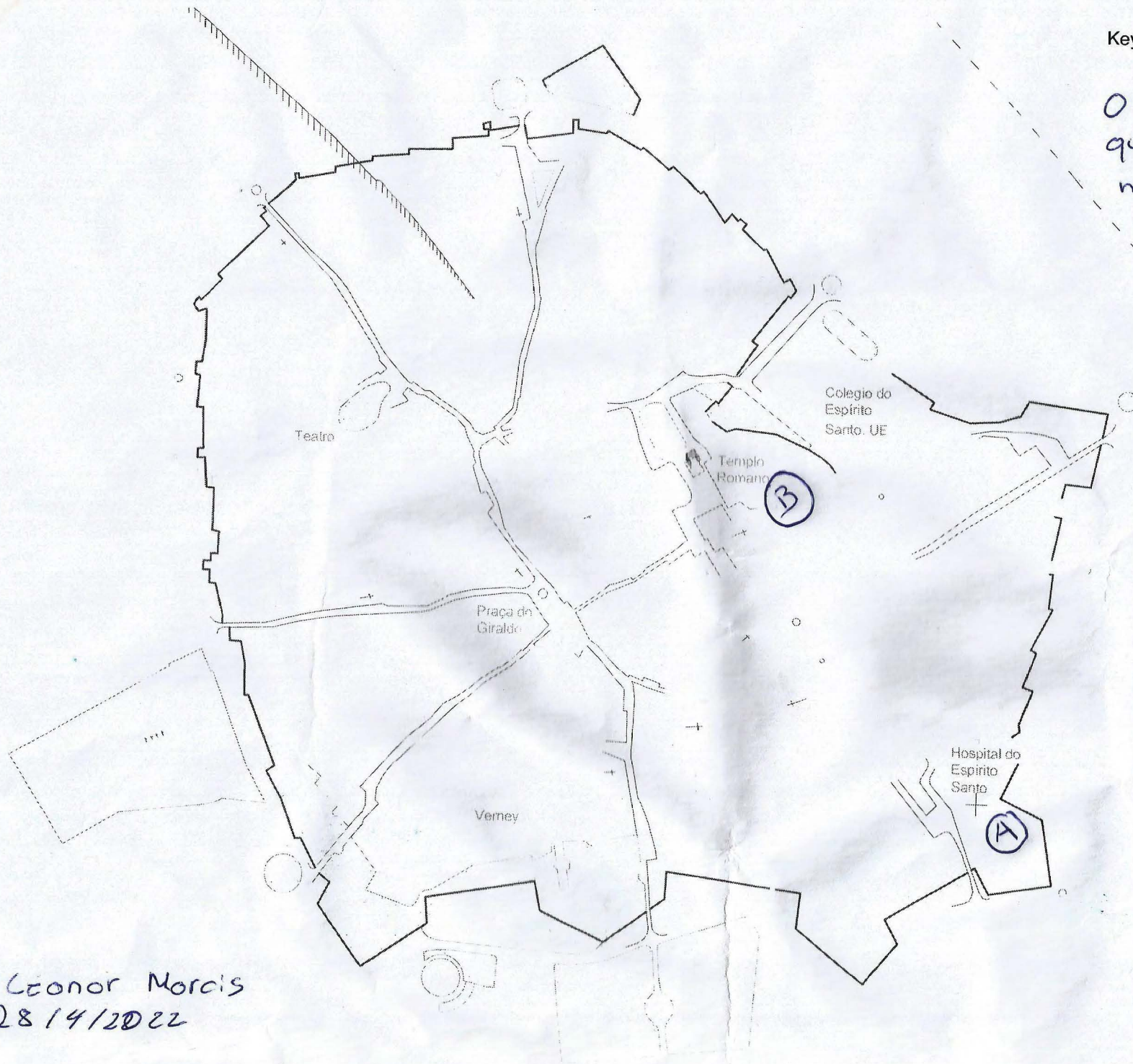
- Ⓐ + Tectizo Lindo
- Ⓑ + Amidos
- Ⓒ + Orçulho em MOSTRAR
- Ⓓ - Mau Serviço



Name: Lilias Riscado
Date: 28/4/22

O hospital é o sítio
que eu considero
mais importante

O Templo romano
é o lugar que
eu mais me
orgulho pois
é um monumento
histórico que
eles preserva-
-ram.



Name: Leonor Morais
Date: 28/4/2022

(A) - Teatro muito bonito

(B) - Praça do giraldão
 Site bonito, um lugar muito bom para estar com família e amigos.

(C) - monumento lindo onde se pode apreciar uma linda paisagem tanto de dia como à noite.

(D) - Muito tempo de espera mas a rodoviária (j)



Name: *Fosco Fernandes*
 Date: *28/4/22*

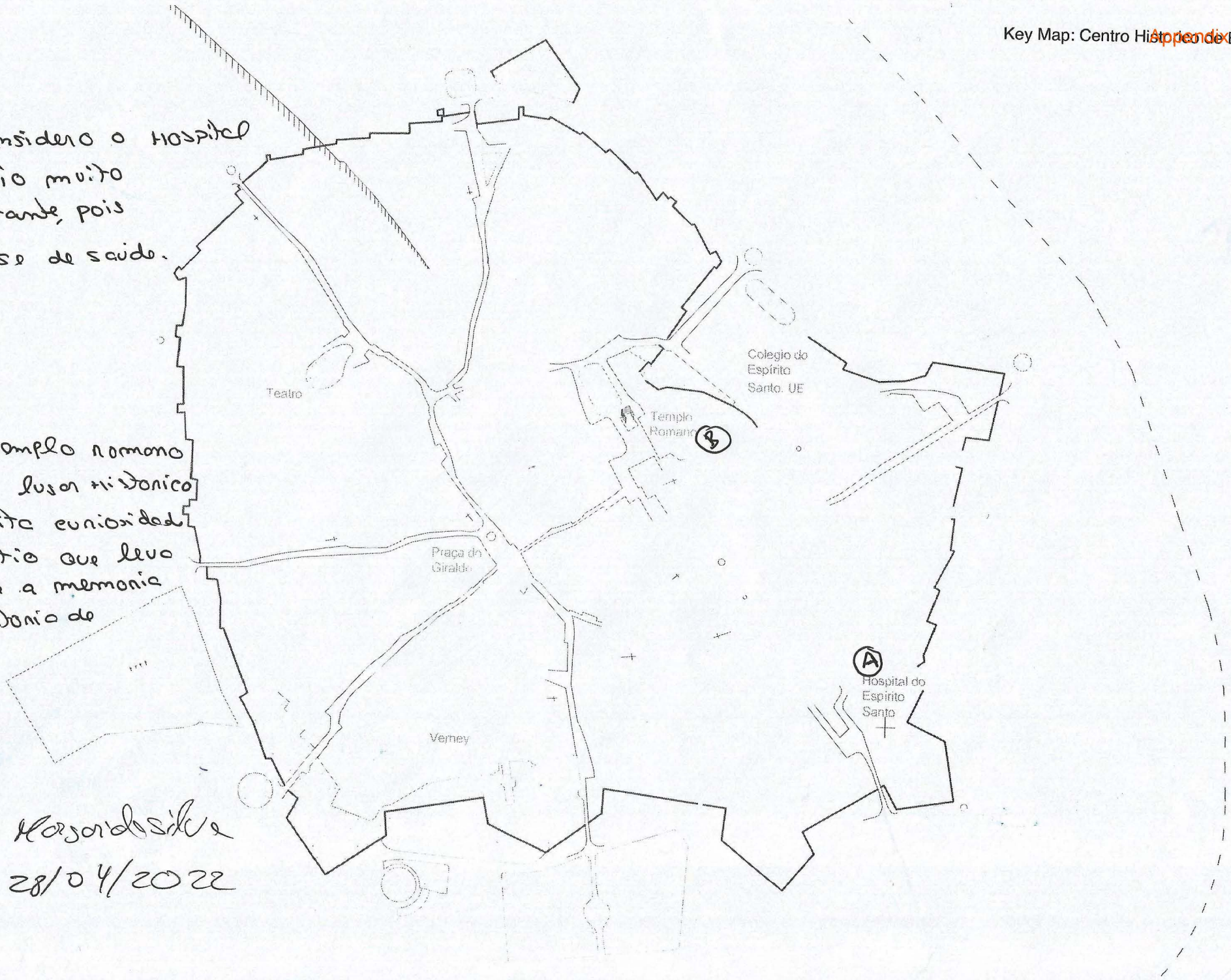
(A) considero o Hospital
Um sitio muito
importante, pois
trata-se de saúde.

(B) - O templo romano
é um lugar histórico
de muita curiosidade.
Um sitio que leva
com ele a memoria
da historia de
Évora

Margarida Silva

Name: 28/04/2022

Date:

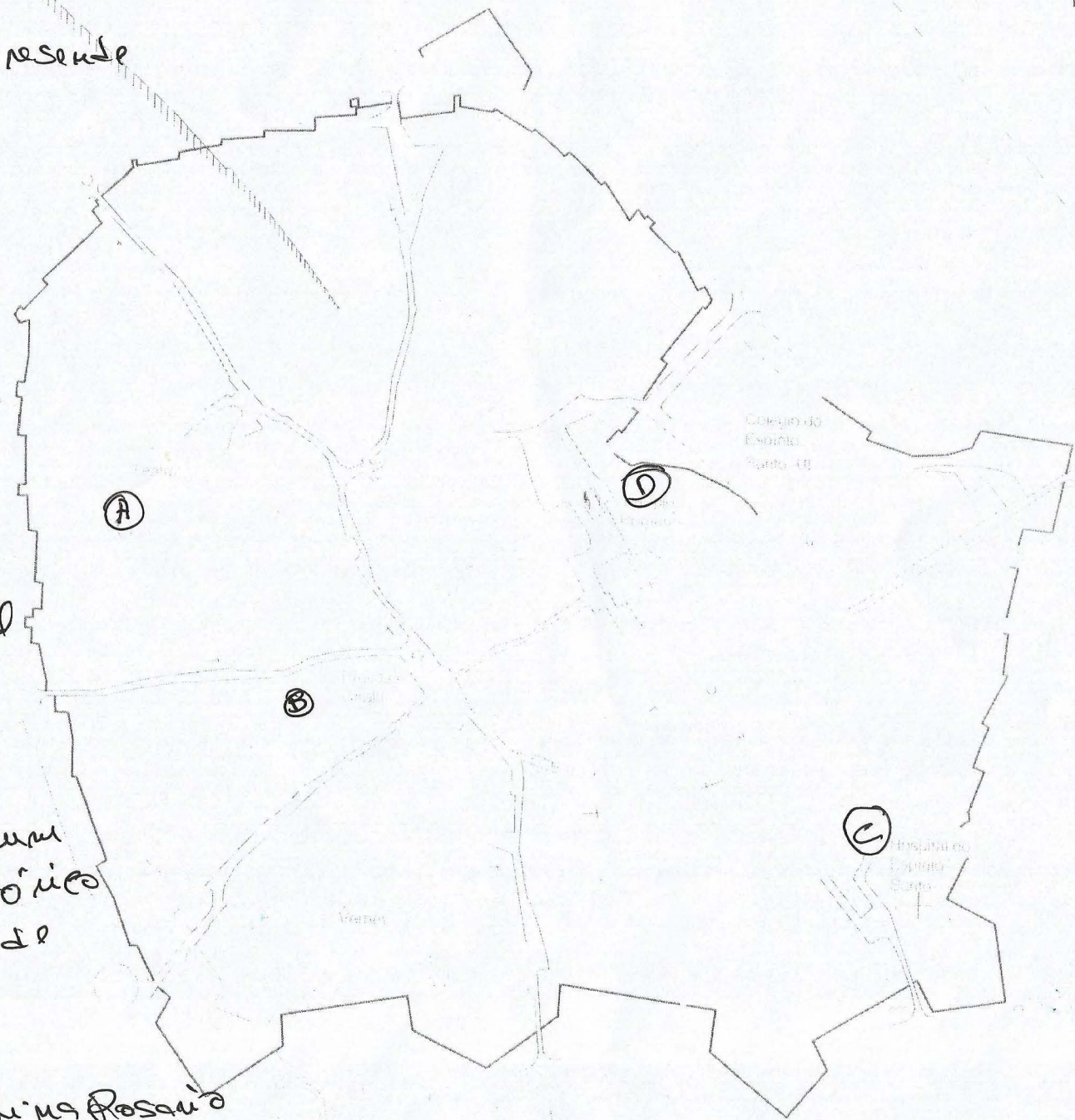


Ⓐ Teatro Ercia de Resende e' manado.

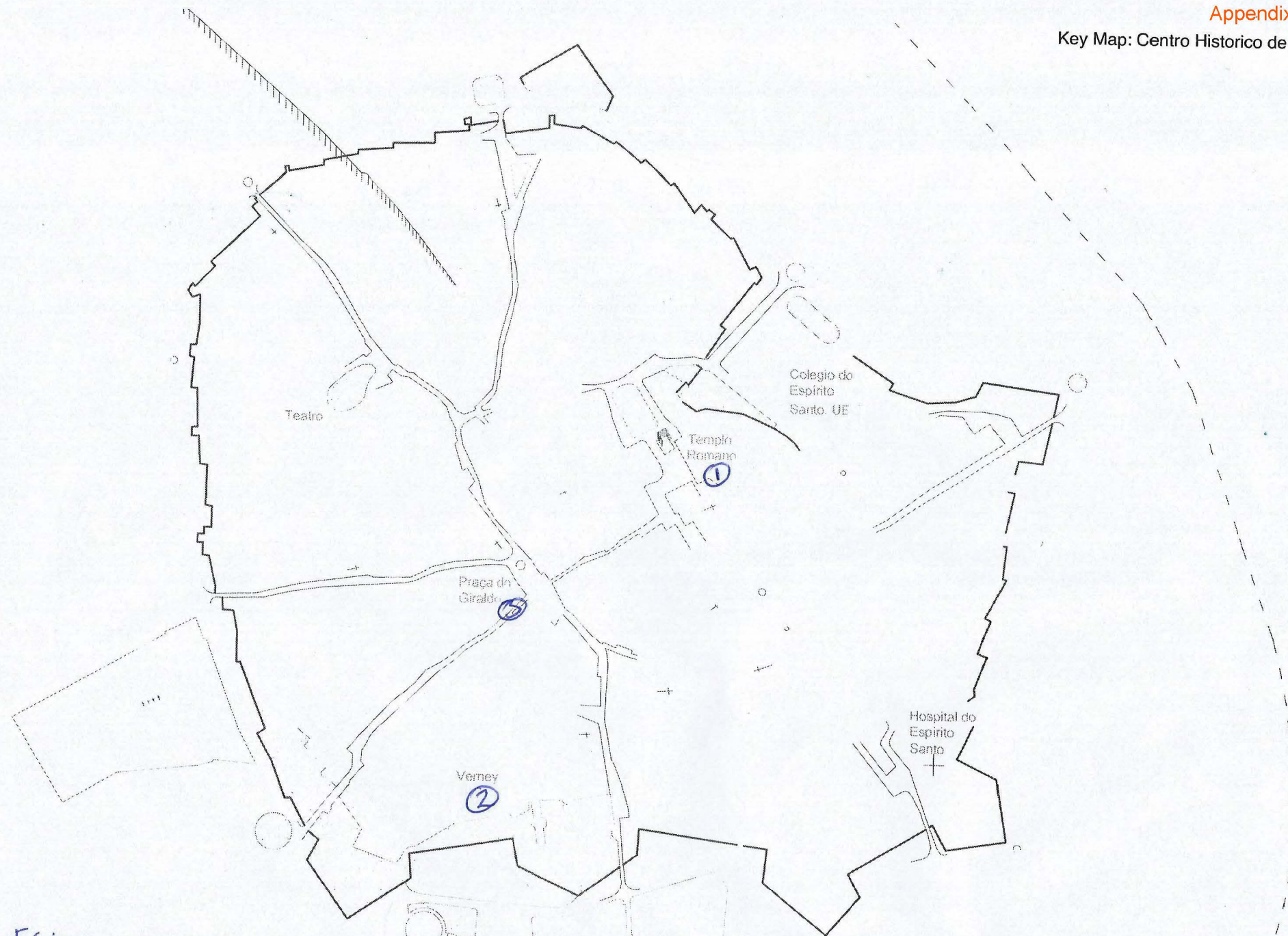
Ⓑ Fonte da Ines do Goncalo e' linda

Ⓒ acesso ao hospital Espírito Santo muito limitado

Ⓓ templo romano um monumento historico linda da cidade do Gvora



Name: Rinda Jeantina Rosario
Date: 28/04/2022



③ You can have new friends, the free internet is available

Name: Fikero Sissay
Date: 15/04/22

Comments

- ① The area has historical attractions to visit and like, the temple, the cathedral, the museums also found. It is the highest topography to visit the ~~center~~ North West parts of the town.
- ② - Less crowded and students from different parts of the world, the public garden and some bars
- ③ - Can meet many people, many restaurants, heritages, projects, shops and bank services

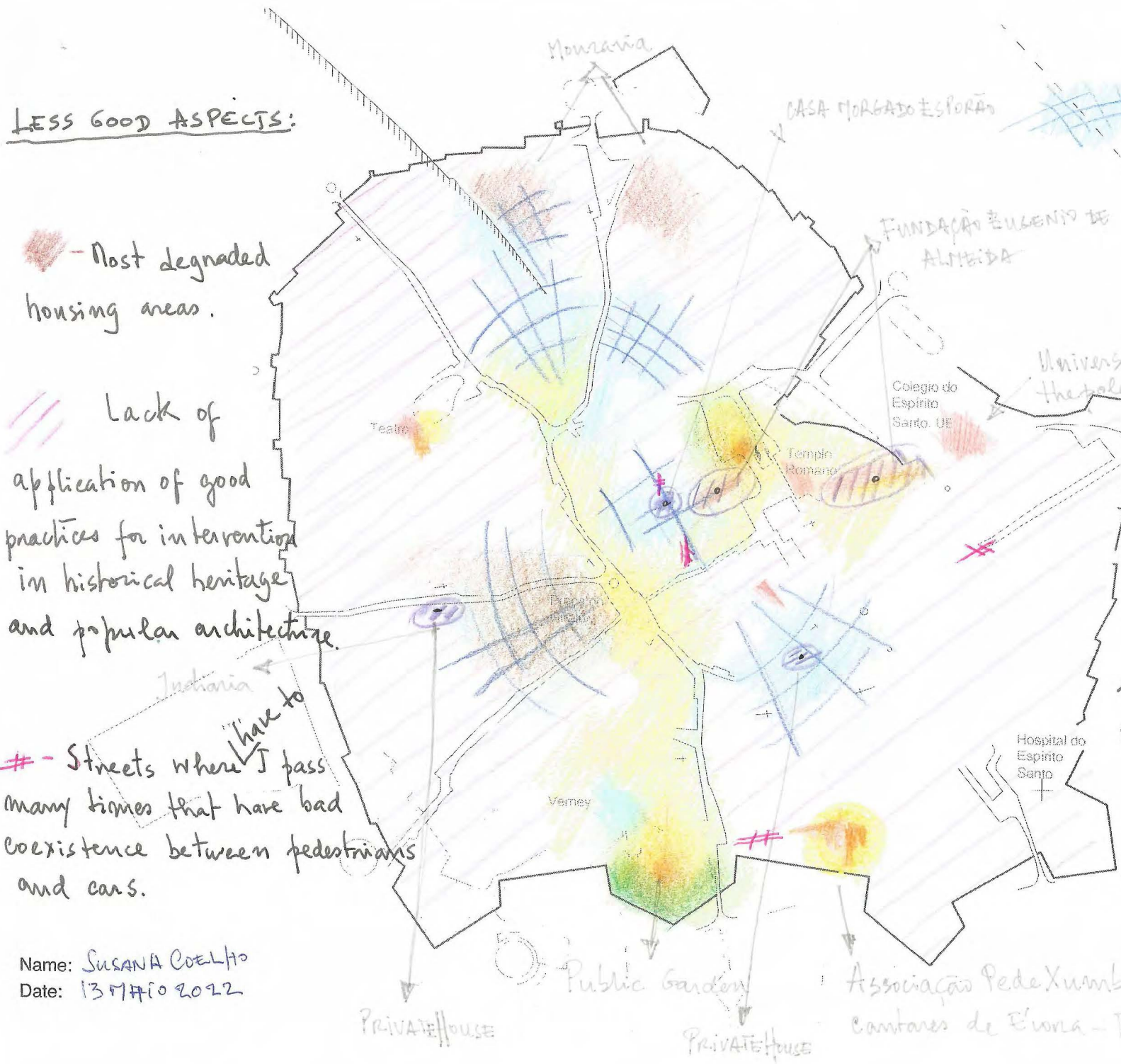
ASPECTS I'M PROUD OF:

LESS GOOD ASPECTS:


- Most degraded housing areas.
- Lack of application of good practices for intervention in historical heritage and popular architecture.
- Streets where I pass many times that have bad coexistence between pedestrians and cars.


- Streets where I like to get lost.
- My favorite socializing places.
- Culture and knowledge for formal education.
- Humanity. Popular knowledge. Best experiences of good interpersonal relationships.
- Good examples of application of good practices for intervention in historical buildings.

Name: SUSANA COELHO
Date: 13/11/2022





Aspetos menos positivos (-):


 - Difícil de estacionar


 - Boa zona turística, porém pouco "aproveitada" e "deixada".


Aspetos positivos (+):


 - jardim público. Ótimo para passar uma tarde de sol. Super agradável.


 - Foa das muralhas. Melhores caminhadas.

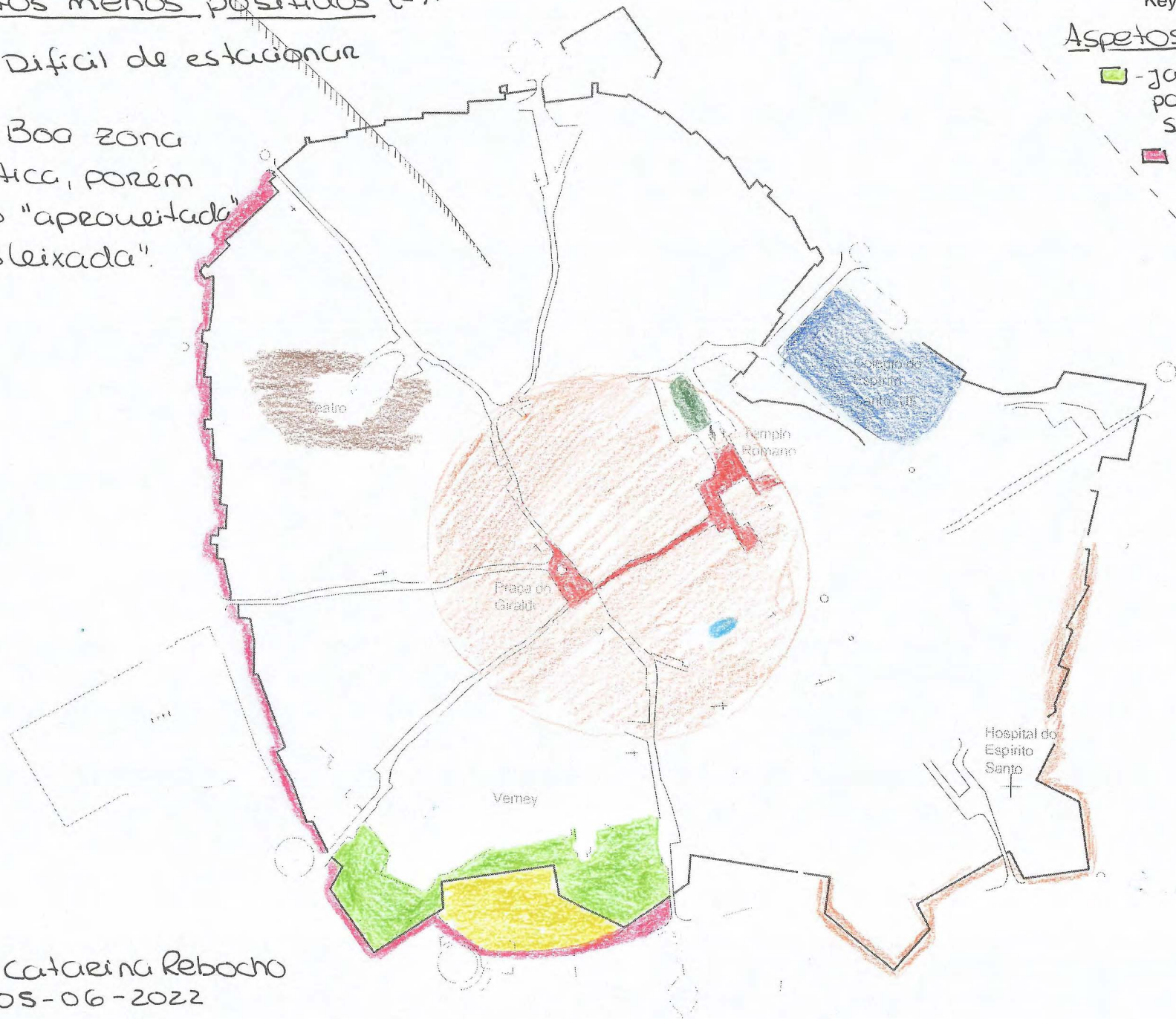
 - jardim em frente ao templo. Agradável

 - Barue. Melhor site para me juntar com amigos numa esplanada a ouvir música.

 - Zona mais frequentada da cidade. Bastante turismo

 - Universidade. Outro grande ponto turístico da cidade.

 - Ótimo site para levar as crianças a passar um bom dia.



Name: Catarina Rebocho
Date: 05-06-2022

+ Aspectos Positivos:

- 🟢 - Jardins da cidade - SITOS MUITO AGRADÁVEIS PARA ESTAR E PASSEAR.
- ☕ - quiosques com café e esplanada ao ar livre, que proporciona agradáveis momentos.

- 🔴 - Decididamente a zona mais bonita da cidade. O Malacalho.

- 🟡 - Per fora das Malcalhas, onde mais gosto de carinhais.

- 🟠 - Grande centro da cidade onde tudo acontece. Quem quiser saber as novidades, tem que passar por aqui.

- 🟠 - Bairro Zona turística e comercial.

- 🟡 - Univer- sidade: rejuvenesce a cidade, dá vida e alegria; desenvolve relações culturais e social com a cidade

⊗
↓
Mozo fora do centro da cidade.

- Aspectos Menos Positivos:

- 🟠 - Zona muito difícil de estacionar. Como é uma zona que oferece muitos serviços, a necessidade de ir resolver um assunto rapidamente, torna-se esgotante.

- 🚗 - Apesar de ser agradável para carinhais, o baculho constante do trânsito, é um inconveniente.

- 🟡 - Zonas frequentemente sujas no chão.

- outros aspectos
- * Casas pequenas e antigas com geralmente velhas

- * Remdos muito caras para estudantes



Name: CRISTINA REBOUCHO
Date: 04-06-2022

+ Centro da cidade seguro



Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

Eu, (Nome Completo), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na "Entrevista Mapeamento" realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico", (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Data: 28/4/22

Ulic Risado

(Assinatura)

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Data: 28/4/2022

Leonar Marcos

(Assinatura)

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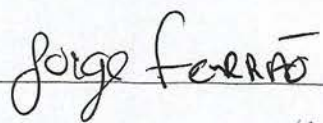
Universidade de Évora

2022

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Data: 28/4/2022


 (Assinatura)

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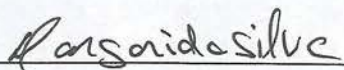
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Data: 28/04/2022



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Data: 28/04/2022

Rui Leutínio Rosário

(Assinatura)

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Data:

15/04/2022

(Assinatura)

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Data: 13 Maio 2022

Suzana Patrícia Nogueira Coelho

(Assinatura)

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Data: 5 de junho 2022

Catarina Rebocho

(Assinatura)

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Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

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Data: 04-junho-2022

Cristina Rebelo

(Assinatura)

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Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

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Data: 01-05-2022

Sónia Bombico

(Assinatura)

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uniTwin

UNESCO Chair in Intangible Heritage
and Traditional Knowledge Linking Heritage
University of Évora

Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

MASUD RANA RASHEL

Eu, (Nome Completo), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na "Entrevista Mapeamento" realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da Identidade do Assentamento Histórico", (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Data: 24th April, 2022

(Assinatura)

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Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

Eu, (Nevena Tatovic), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na “Entrevista Mapeamento” realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico", (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Data: 26.04.2022

Nevena Tatović

(Assinatura)

Por favor, envie este formulário (assinado) para shajjad@uevora.pt



Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

Eu, Pedro Manuel Machado Teixeira, declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na "Entrevista Mapeamento" realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico", (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY).

Data: 21 Abril 2022

Pedro Teixeira

(Assinatura)

Por favor, envie este formulário (assinado) para shajjad@uevora.pt



University of Évora

2022

Declaration of rights of Illustration, drawing and mapping

I, Eduardo Ratão Vasconcelos Miranda, declare on my honor and for all legal aspects, to grant to the University of Évora, free of charge and unconditionally, the rights to use my Illustration, drawing and mapping relating to participation in the "Mapping Interview" conducted under the scope of the methodological framework of Shajjad Hossain's PhD project "*New-methodological approaches of investigating the identity of Historic Settlement*", (FCT - HERITAS PD/BI/143001/2018) and subsequent publication of the e-book "Mapping Heritage(s)" to be published by UNESCO Chair for Intangible Heritage and Traditional Know - How: Linking Heritage, University of Évora, authorizing their reproduction, publication, adaptation and use within the scope of science dissemination activities. The copyright for them would be specified under creative commons license (CC-BY)

Date: 28 of March, 2022

(Signature equal to the one on the Identification Document)

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University of Évora

2022

Declaration of rights of Illustration, drawing and mapping

I, Ana Cristina Ribeiro de Seixas, declare on my honor and for all legal aspects, to grant to the University of Évora, free of charge and unconditionally, the rights to use my Illustration, drawing and mapping relating to participation in the “Mapping Interview” conducted under the scope of the methodological framework of Shajjad Hossain’s PhD project "*New-methodological approaches of investigating the identity of Historic Settlement*", (FCT - HERITAS PD/BI/143001/2018) and subsequent publication of the e-book “Mapping Heritage(s)” to be published by UNESCO Chair for Intangible Heritage and Traditional Know - How: Linking Heritage, University of Évora, authorizing their reproduction, publication, adaptation and use within the scope of science dissemination activities. The copyright for them would be specified under creative commons license (CC-BY).

Date: 11/ 03/ 2022

AnaCristinaSeixas

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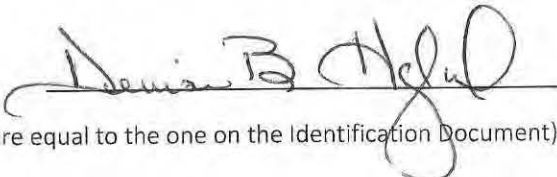
University of Évora

2022

Declaration of rights of Illustration, drawing and mapping

I, (Full Name), declare on my honor and for all legal aspects, to grant to the University of Évora, free of charge and unconditionally, the rights to use my Illustration, drawing and mapping relating to participation in the "Mapping Interview" conducted under the scope of the methodological framework of Shajjad Hossain's PhD project "*New-methodological approaches of investigating the identity of Historic Settlement*", (FCT - HERITAS PD/BI/143001/2018) and subsequent publication of the e-book "Mapping Heritage(s)" to be published by UNESCO Chair for Intangible Heritage and Traditional Know - How: Linking Heritage, University of Évora, authorizing their reproduction, publication, adaptation and use within the scope of science dissemination activities. The copyright for them would be specified under creative commons license (CC-BY)

Date: March 12, 2022


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University of Évora

2022

Declaration of rights of Illustration, drawing and mapping

I, Eduardo Ratão Vasconcelos Miranda, declare on my honor and for all legal aspects, to grant to the University of Évora, free of charge and unconditionally, the rights to use my Illustration, drawing and mapping relating to participation in the "Mapping Interview" conducted under the scope of the methodological framework of Shajjad Hossain's PhD project "*New-methodological approaches of investigating the identity of Historic Settlement*", (FCT - HERITAS PD/BI/143001/2018) and subsequent publication of the e-book "Mapping Heritage(s)" to be published by UNESCO Chair for Intangible Heritage and Traditional Know - How: Linking Heritage, University of Évora, authorizing their reproduction, publication, adaptation and use within the scope of science dissemination activities. The copyright for them would be specified under creative commons license (CC-BY)

Date: 28 of March, 2022

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Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

Eu, (Paulo Nuno dos Santos LopesPinto), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na “Entrevista Mapeamento” realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain “Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico”, (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book “Mapping Heritage(s) | Mapeamento do Património” a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Data: 11 de abril de 2022

(Assinatura)

Por favor, envie este formulário (assinado) para shajjad@uevora.pt



University of Évora

2022

Declaration of rights of Illustration, drawing and mapping

I, Sónia Mariza Belmonte Rodrigues, declare on my honor and for all legal aspects, to grant to the University of Évora, free of charge and unconditionally, the rights to use my Illustration, drawing and mapping relating to participation in the “Mapping Interview” conducted under the scope of the methodological framework of Shajjad Hossain’s PhD project "*New-methodological approaches of investigating the identity of Historic Settlement*", (FCT - HERITAS PD/BI/143001/2018) and subsequent publication of the e-book “Mapping Heritage(s)” to be published by UNESCO Chair for Intangible Heritage and Traditional Know - How: Linking Heritage, University of Évora, authorizing their reproduction, publication, adaptation and use within the scope of science dissemination activities. The copyright for them would be specified under creative commons license (CC-BY)

Date: 08.03.2022

Sónia Mariza Belmonte Rodrigues

(Signature equal to the one on the Identification Document)

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Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

Eu, (Nome Completo), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na “Entrevista Mapeamento” realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico", (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Data:

2/4/2022


 (Assinatura)
 TAKIS

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Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

Eu, (Nome Completo), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na “Entrevista Mapeamento” realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico", (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Data:

2/4/2022


 (Assinatura)
TAKIS

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University of Évora

2022

Declaration of rights of Illustration, drawing and mapping

I, Tanjil Ahmmed, declare on my honor and for all legal aspects, to grant to the University of Évora, free of charge and unconditionally, the rights to use my Illustration, drawing and mapping relating to participation in the “Mapping Interview” conducted under the scope of the methodological framework of Shajjad Hossain’s PhD project *“New-methodological approaches of investigating the identity of Historic Settlement”*, (FCT - HERITAS PD/BI/143001/2018) and subsequent publication of the e-book “Mapping Heritage(s)” to be published by UNESCO Chair for Intangible Heritage and Traditional Know - How: Linking Heritage, University of Évora, authorizing their reproduction, publication, adaptation and use within the scope of science dissemination activities. The copyright for them would be specified under creative commons license (CC-BY)

Date: 14/03/2022

(Signature equal to the one on the Identification Document)



Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

MD AMIR HAMZA

Eu, (Nome Completo), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na “Entrevista Mapeamento” realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico", (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Data: 10 - 04 - 2022

AMIR HAMZA

(Assinatura)

Por favor, envie este formulário (assinado) para shajjad@uevora.pt

hamzaamir086@gmail.com



Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

Eu, (Nome Completo), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na “Entrevista Mapeamento” realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico", (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Data:

13/04/22

Ana Isabel Cordeiro Lopes Cordeiro

(Assinatura)

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Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

Eu, (Nome Completo), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na “Entrevista Mapeamento” realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico", (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Data: 20/4/22

(Assinatura)

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University of Évora

2022

Declaration of rights of Illustration, drawing and mapping

Prakash Poudyal

I, (Full Name), declare on my honor and for all legal aspects, to grant to the University of Évora, free of charge and unconditionally, the rights to use my Illustration, drawing and mapping relating to participation in the "Mapping Interview" conducted under the scope of the methodological framework of Shajjad Hossain's PhD project "*New-methodological approaches of investigating the identity of Historic Settlement*", (FCT - HERITAS PD/BI/143001/2018) and subsequent publication of the e-book "Mapping Heritage(s)" to be published by UNESCO Chair for Intangible Heritage and Traditional Know - How: Linking Heritage, University of Évora, authorizing their reproduction, publication, adaptation and use within the scope of science dissemination activities. The copyright for them would be specified under creative commons license (CC-BY)

Date: *April 6, 2022*

Prakash

(Signature equal to the one on the Identification Document)

Please return this form (signed) to *shajjad@uevora.pt*



Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

Sharmín Sultana Prieto

Eu, (Nome Completo), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na “Entrevista Mapeamento” realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico", (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Data: 10.4.22

Prieto

(Assinatura)

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Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

Eu, (Nome Completo), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na “Entrevista Mapeamento” realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico", (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Data: 12-04-2022



(Assinatura)

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Por favor, envie este formulário (assinado) para shajjad@uevora.pt

(Assinatura)

Data: 10.04.2022

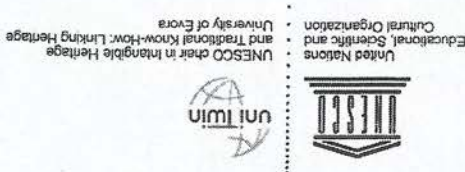
Eu, (Nome Completo), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha ilustração, desenho e mapeamento relativos à participação na "Entrevista Mapeamento" realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico", (FCT - HERITAS PD/B1/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cadeira UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Md Sajid Ahmad

Declaração de direitos de ilustração, desenho e mapeamento

2022

Universidade de Évora





Universidade de Évora

2022

Declaração de direitos de Ilustração, desenho e mapeamento

MD TOFAEL AHMED

Eu, (Nome Completo), declaro por minha honra e por todos os aspectos legais, conceder à Universidade de Évora, de forma gratuita e incondicional, os direitos de uso da minha Ilustração, desenho e mapeamento relativos à participação na “Entrevista Mapeamento” realizado no âmbito do enquadramento metodológico do projeto de doutoramento de Shajjad Hossain "Novas abordagens metodológicas de investigação da identidade do Assentamento Histórico", (FCT - HERITAS PD/BI/143001/2018) e posterior publicação do e-book "Mapping Heritage(s) | Mapeamento do Património" a publicar pela Cátedra UNESCO do Património Imaterial e do Saber Tradicional: Património de Ligação, Universidade de Évora, autorizando a sua reprodução, publicação, adaptação e utilização no âmbito das atividades de divulgação científica. Os direitos autorais para eles seriam especificados sob licença creative commons (CC-BY)

Data: 10/04/2022

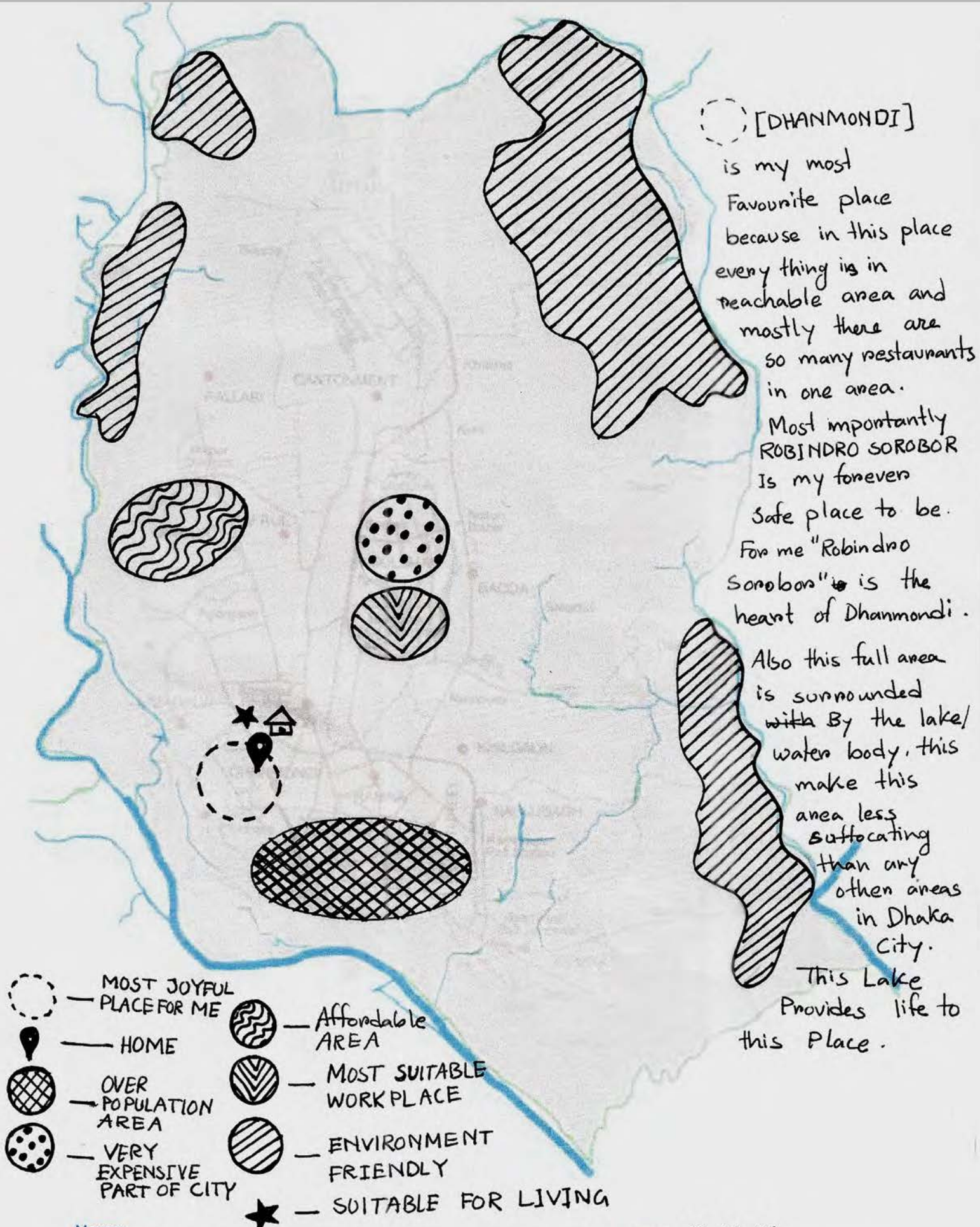
(Assinatura)

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No#	Places	List of Interviewee (code number)																																				
		(+)	(-)	(±)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	
1	Praça do Giraldo	21		2																																		
2	Theatre	10		4																																		
3	Aqueducto	6																																				
4	Rua Do Muro		1																																			
5	Porta de Avis	4																																				
6	Porta Velha de Lagoa	2		1																																		
7	Porta de Raimundo	1																																				
8	Entry point of Rua Da Republica	1	1																																			
9	Porta Rua Serpa Pinto	1	1																																			
10	Portas de Moura	2																																				
11	Rua do Raimundo			4																																		
12	Rua 5 October	3		3																																		
13	Triumph Arch	1																																				
14	SHE	2																																				
15	Largo do Alvaro Velho	2	1																																			
16	Igreja do Sao Vicente	1																																				
17	Oficina Bar	1																																				
18	Bone Chapel	2																																				
19	Palace/Patio de Sao Miguel	1																																				
20	Rua de Aviz			2																																		
21	Cathedral of Évora	4																																				
22	Roman Temple	20																																				
23	Garden of Roman Temple	4																																				
24	Barahona Palace	1																																				
25	Main Axis	4		4																																		
26	Public Garden	14																																				
27	Children Garden	7																																				
28	Hospital ES	5	7																																			
29	Jardim dos Colegiais	2																																				
30	Public Library Évora	2																																				
31	Cemetery	1	1																																			
32	Pousada dos Loios			1																																		
33	Town Hall/CM	1																																				
34	Mouraria	10	2	3																																		
35	Judairia	3	1	2																																		
36	South East Part (area between Rua da Mouraria e Rua da Mouraria)	2																																				
37	Muralha Garden Landscape	1																																				
38	East Part (Residential area)	2																																				
39	West Part (the area between Rua Serpa Pinto e Rua da Mouraria)	3	1																																			
40	Patio de Salema			1																																		
41	Hercules/Vimioso	3																																				
42	Verney Campus	9	1																																			
43	Rua da Freiria de Cima			1																																		
44	Travessa das Peras			1																																		
45	CES/UÉ	12																																				

Name	Code number of interviewee	Age(years)	Profession/Affiliation	Gender
Cristina Seixas	1	58	School teacher	F
Denise Bell Hyland	2	62	Retired dancer	F
Denise Bell Hyland	3	40	Architect	M
Natalia Melo	4	30	Academic	F
Tanzil Ahmed	5	25	Archaeologist	M
Paulo Pinto	6	55	Academic	M
António Manuel Chambel Cachopas	7	43	Librarian	M
Sonia Marisa Belmonte Rodrigues	8	43	School teacher	F
Sumaya Akter	9	31	Doctor	F
Rabiul Islam	10	36	Business	M
Prakash Poudyal	11	44	Academic(IT)	M
Rui Picos	12	43	Landscape architect	M
Ana Isabel Gomez	13	43	Landscape architect	F
Tofael Ahmed	14	30	student	M
Sharmin Sultana	15	30	IT professional	F
Takis Sarantopoulos	16	65	Administration of municipality	M
Sajib Ahmed	17	37	Student	M
Amir Hamza	18	26	Recycling Factory Worker	M
Kashyap Raiyani	19	42	IT professional	M
Pedro Teixeira	20	48	Academic	M
Nevena Tatovic	21	30	Landscape architect	F
Masud Rana Rashel	22	39	Physicist	M
Sonia Bombico	23	38	Researcher	F
Lilia Riscado	24	37	Receptionist	F

Lenor Morais	25	15	Intern nurse	M
Jorge Ferrão	26	35	veterinary surgeon	M
Margarida Silva	27	16	Intern nurse	F
Maria Leontina Rosario	28	55	Recycling Factory Worker	F
Fikeru Sissay	29	31	student	F
Filipe Themudo Barata	30	72	Retired professor	M
Susana Patrícia Nogueira Coelho	31	48	Heritage Professional	F
Cristina Rebocho	32	52	School teacher	F
Catarina Rebocho	33	25	Gym Instructor	F

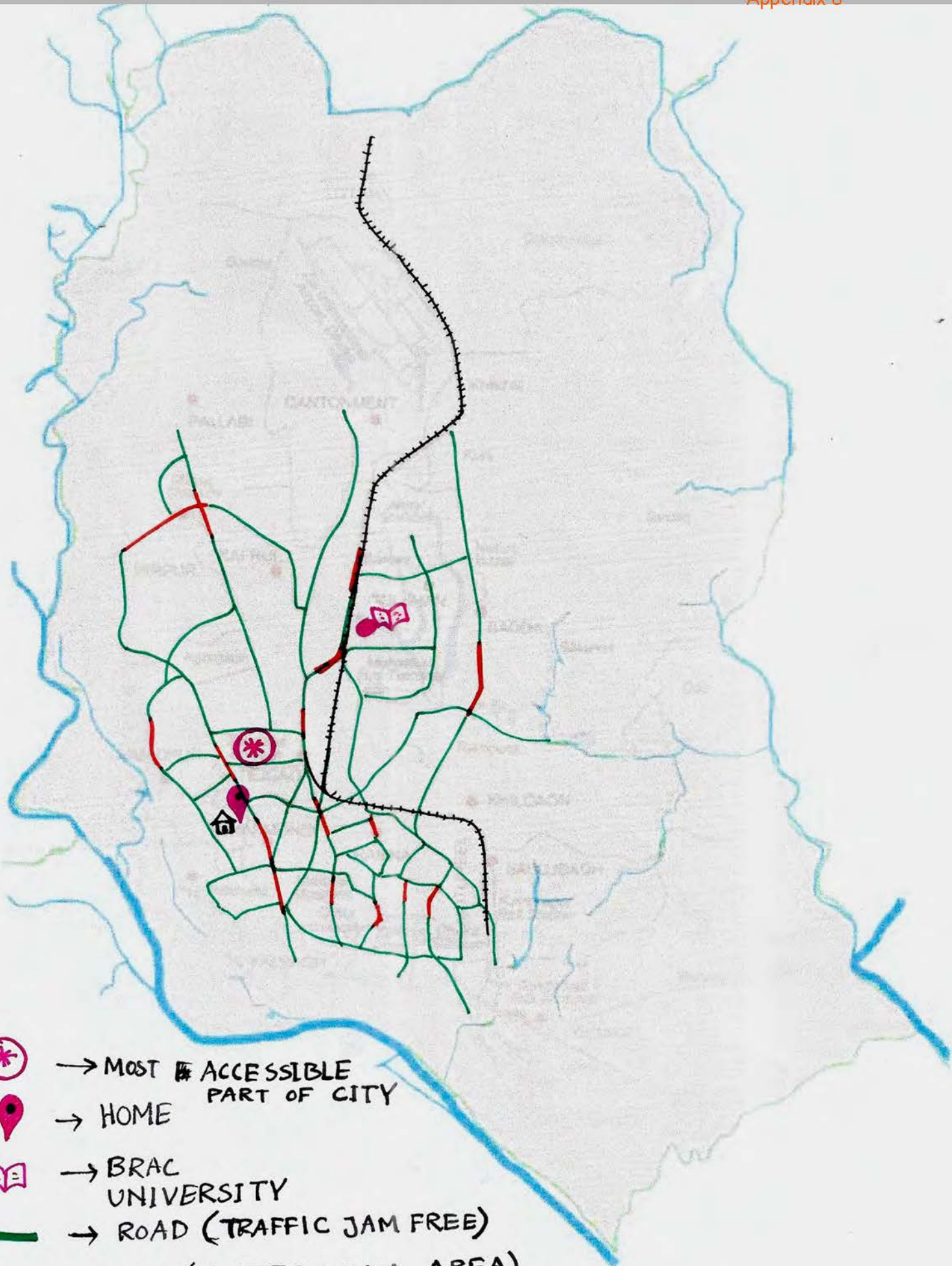







[DHANMONDI]
 is my most Favourite place because in this place every thing is in reachable area and mostly there are so many restaurants in one area. Most importantly ROBINDRO SOROBOR Is my forever safe place to be. For me "Robindro Sorobor" is the heart of Dhanmondi.

Also this full area is surrounded with By the lake/ water body, this make this area less suffocating than any other areas in Dhaka City. This Lake Provides life to this Place.

Name: EFFAT MOSTOFA NIZHUM

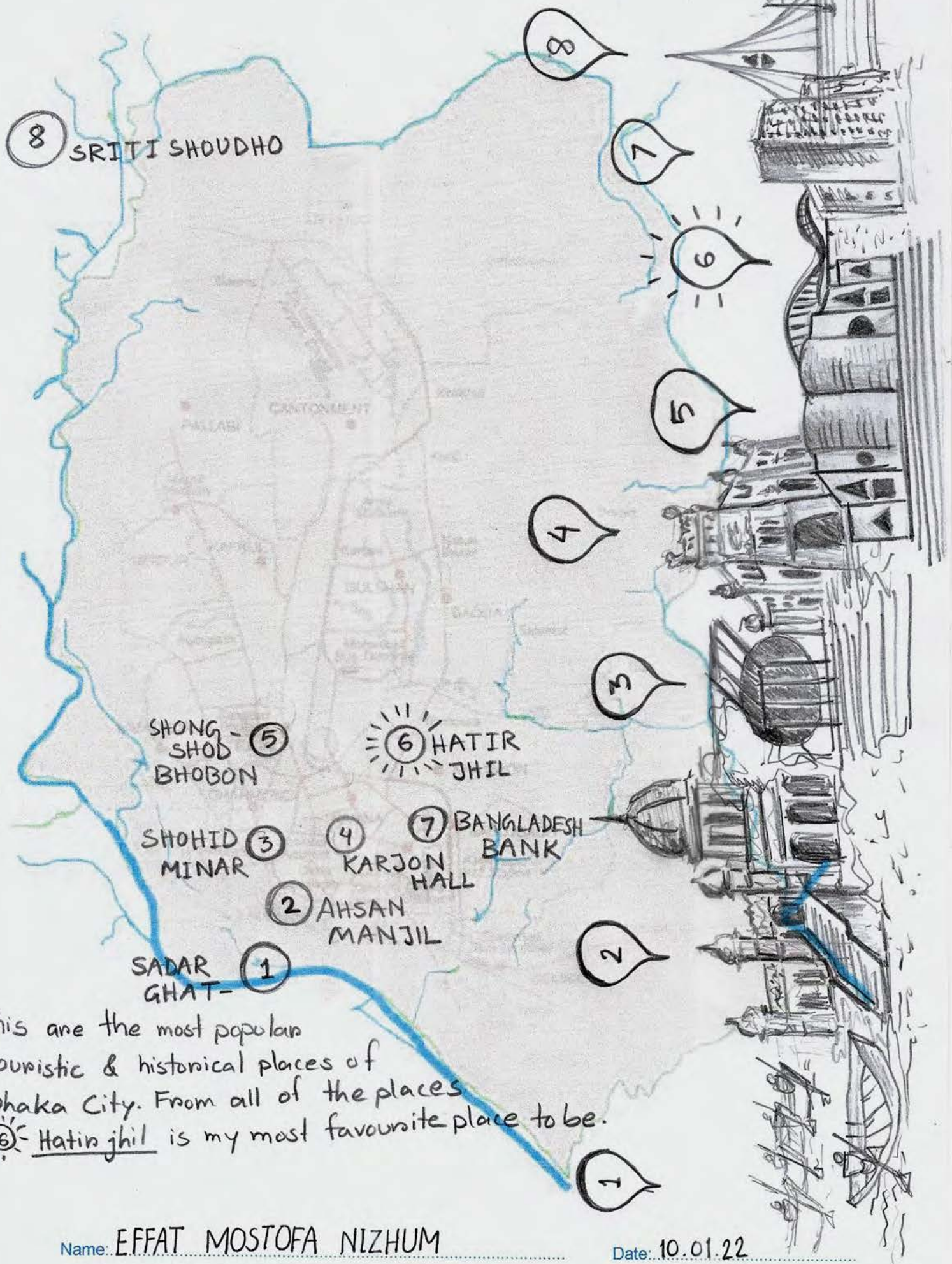
Date: 10.01.22



-  → MOST ACCESSIBLE PART OF CITY
-  → HOME
-  → BRAC UNIVERSITY
-  → ROAD (TRAFFIC JAM FREE)
-  → ROAD (TRAFFIC JAM AREA)

Name: EFFAT MOSTOFA NIZHUM

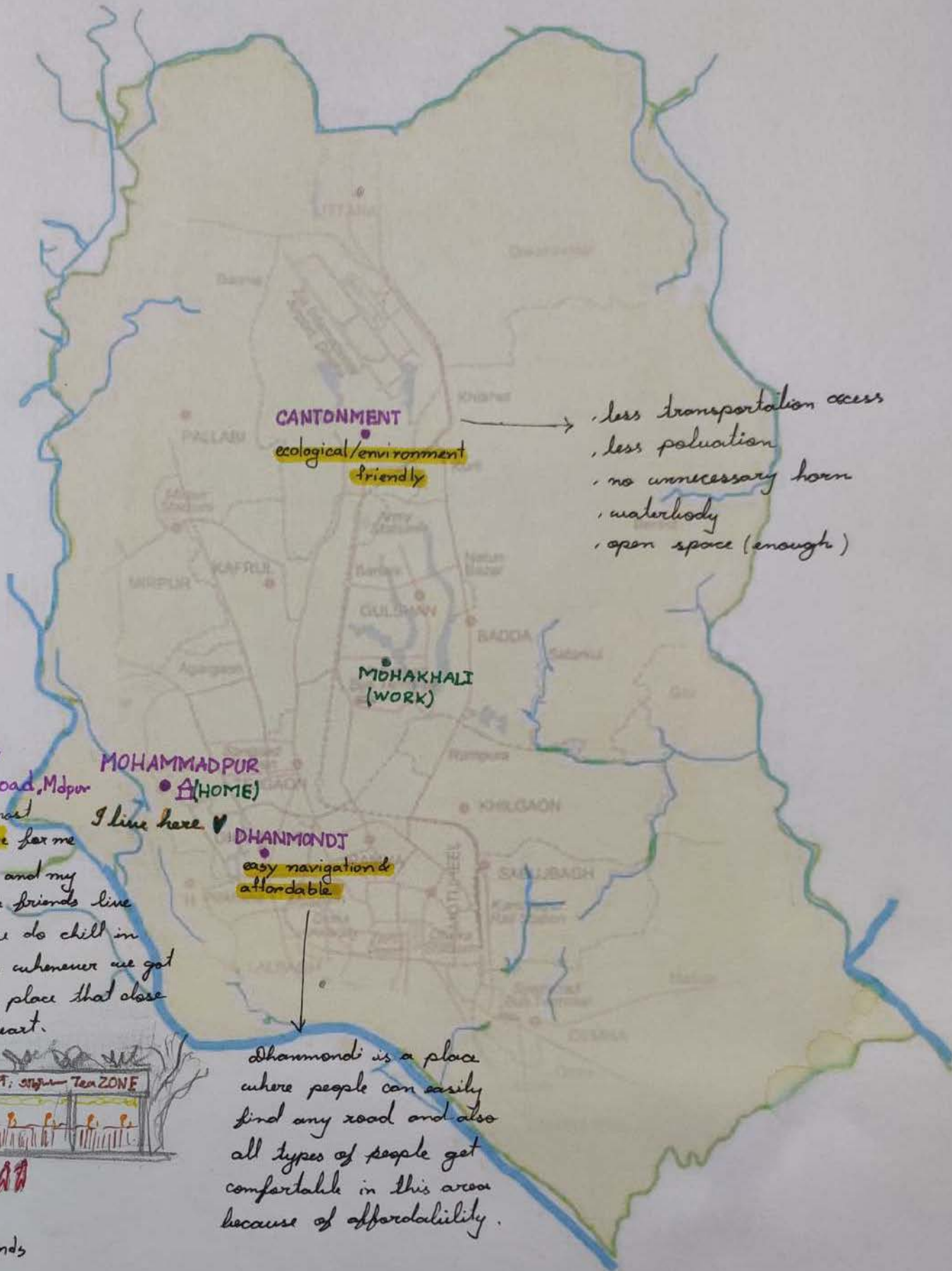
Date: 10.01.22



This are the most popular
 touristic & historical places of
 Dhaka City. From all of the places
 ☀️ Hatir jhil is my most favoursite place to be.

Name: EFFAT MOSTOFA NIZHUM

Date: 10.01.22



CANTONMENT
ecological/environment friendly

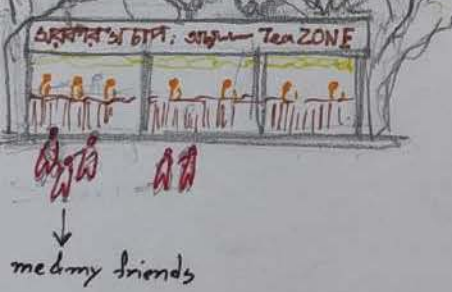
- less transportation access
- less pollution
- no unnecessary town
- waterbody
- open space (enough)

MOHAMMADPUR
I live here

King Road,
Tajmohol road, Mdpor
These are most joyful place for me because me and my most of the friends live here and we do chill in these place whenever we get time. Also, place that close to my heart.

DHANMONDI
easy navigation & affordable

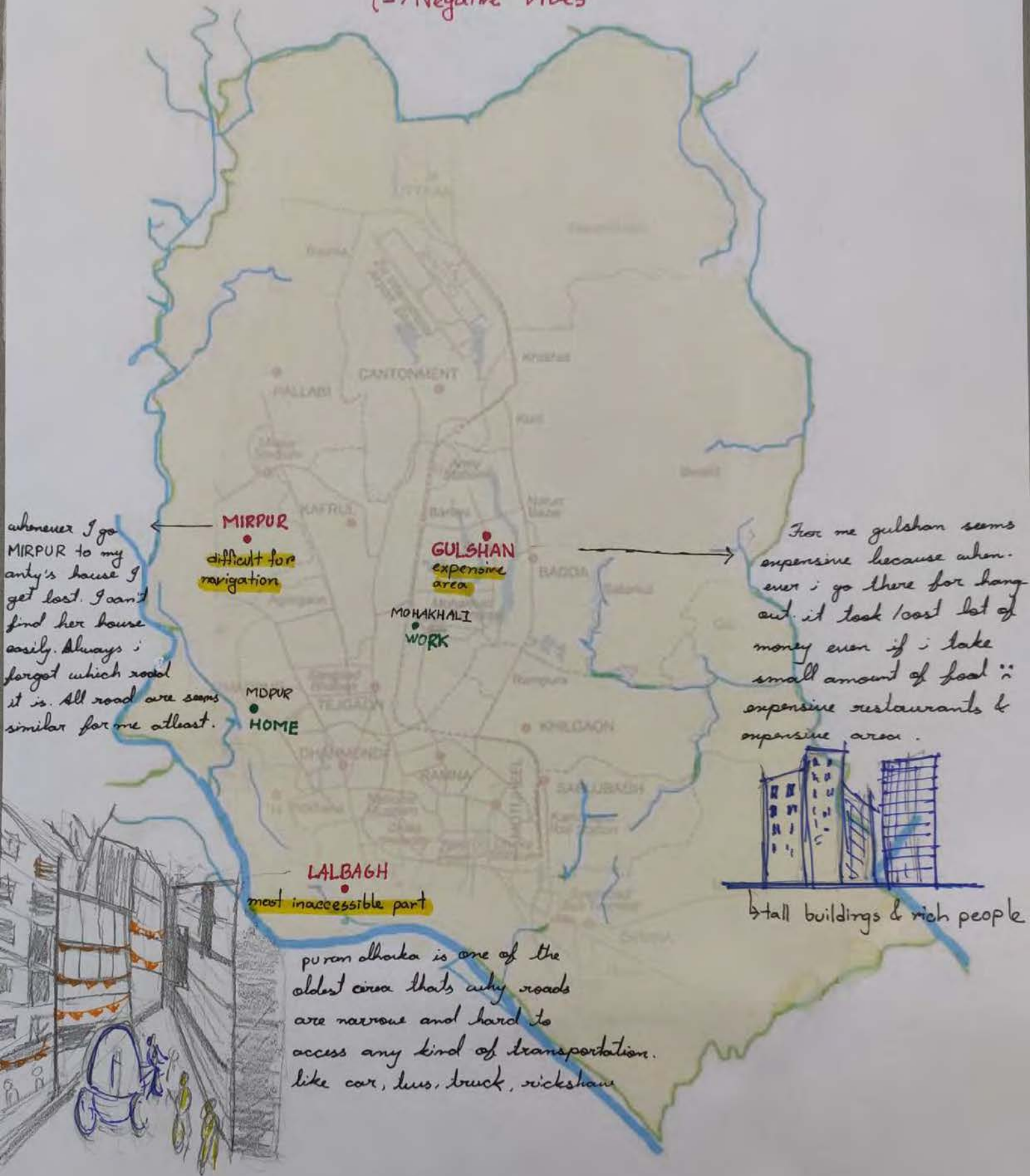
Dhanmondi is a place where people can easily find any road and also all types of people get comfortable in this area because of affordability.



Name: Farhana Tasmin

Date: 5.01.2022

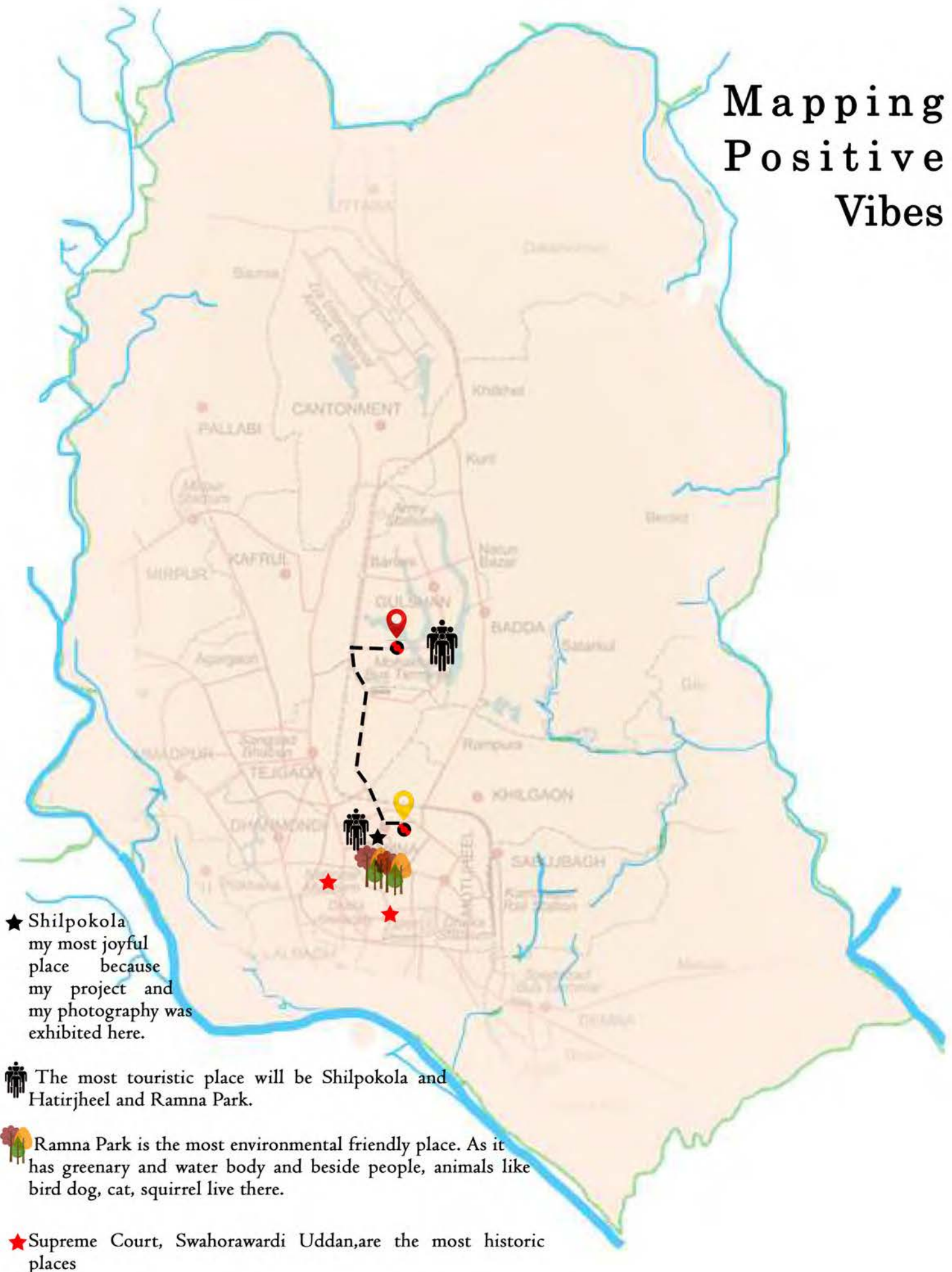
(-) Negative Vibes



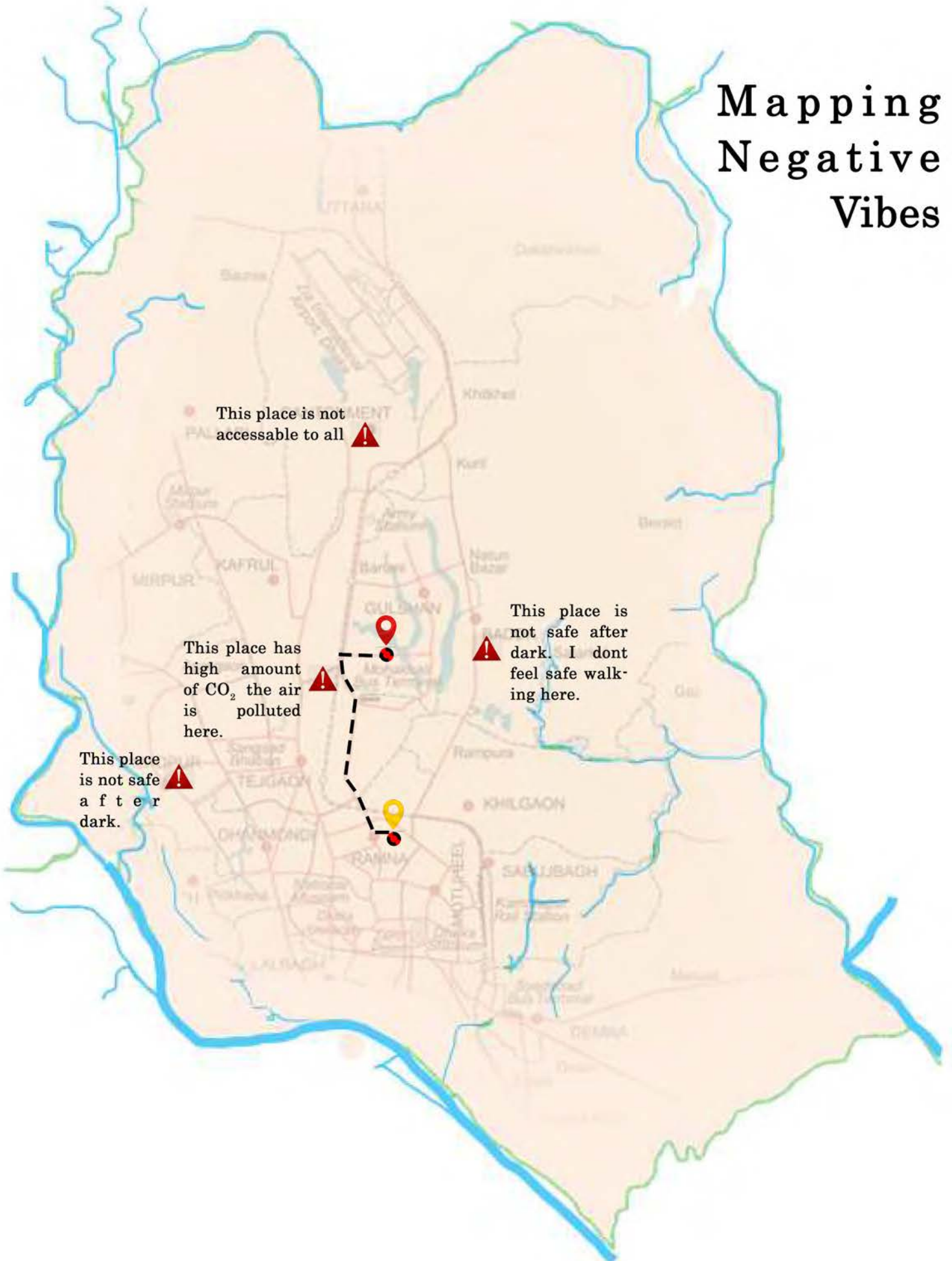
Name: Faahana Tasmin

Date: 5.01.2022

Mapping Positive Vibes

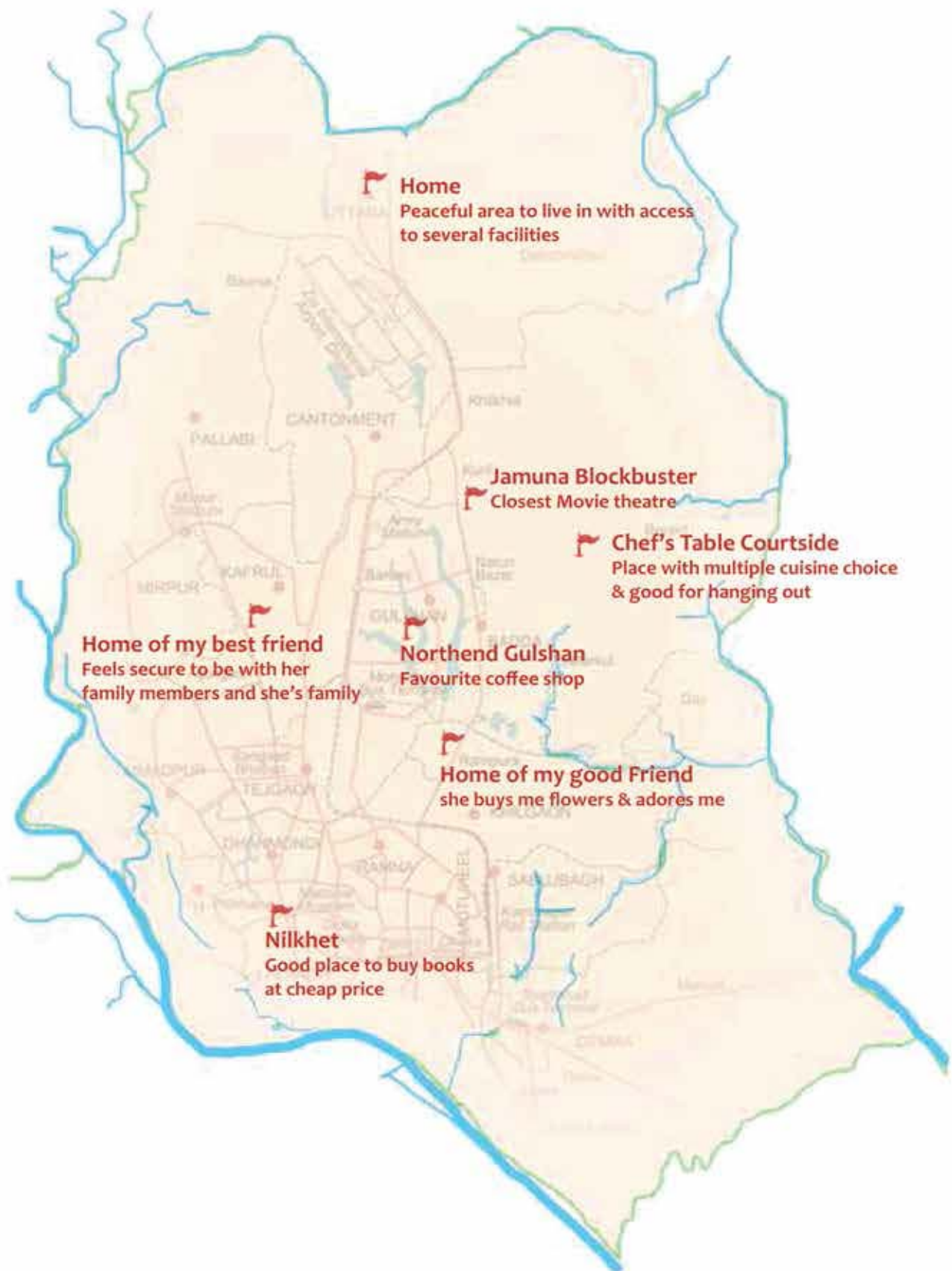


Mapping Negative Vibes



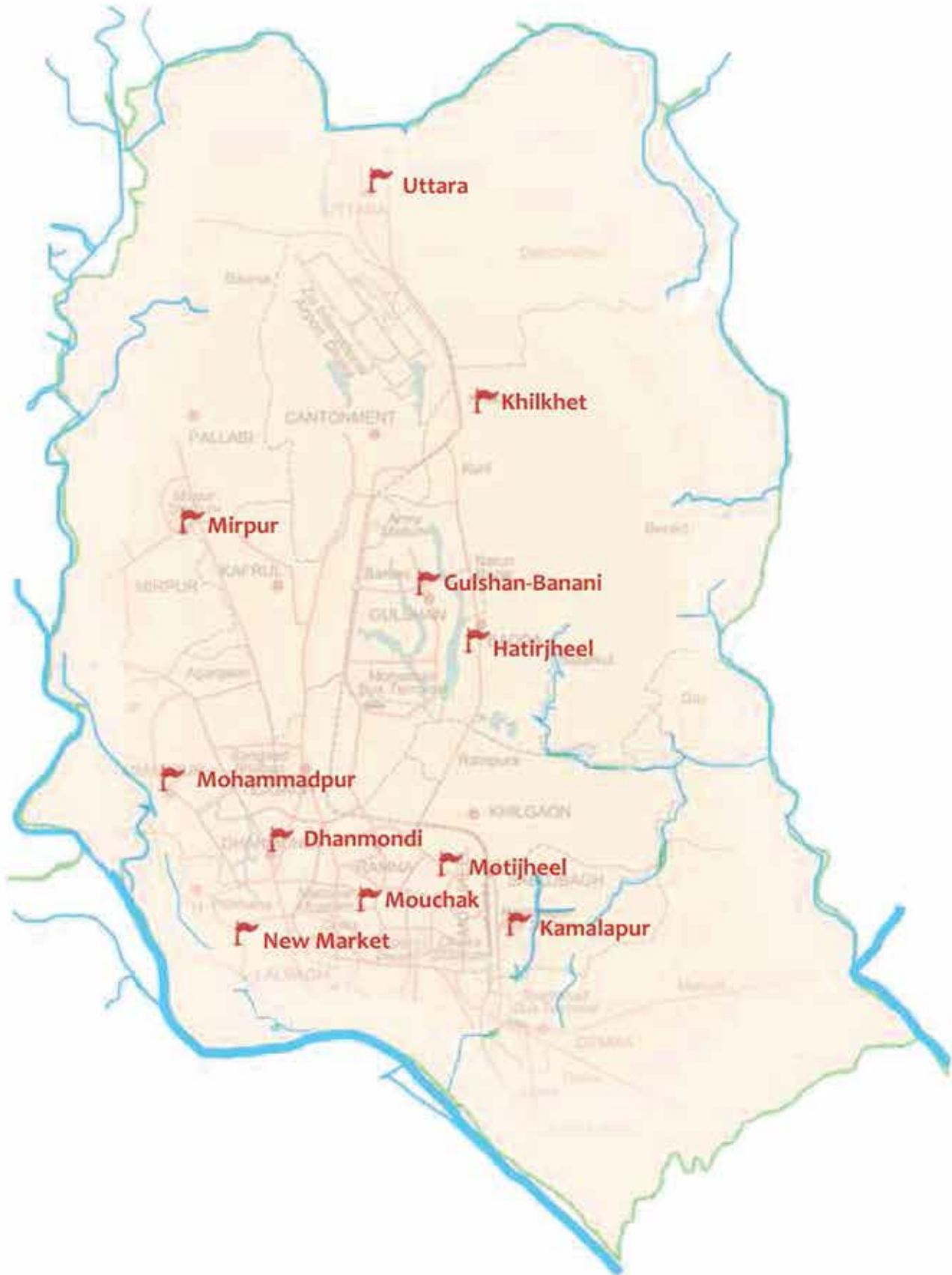
POSITIVE VIBES

Category: Spots I Like Most



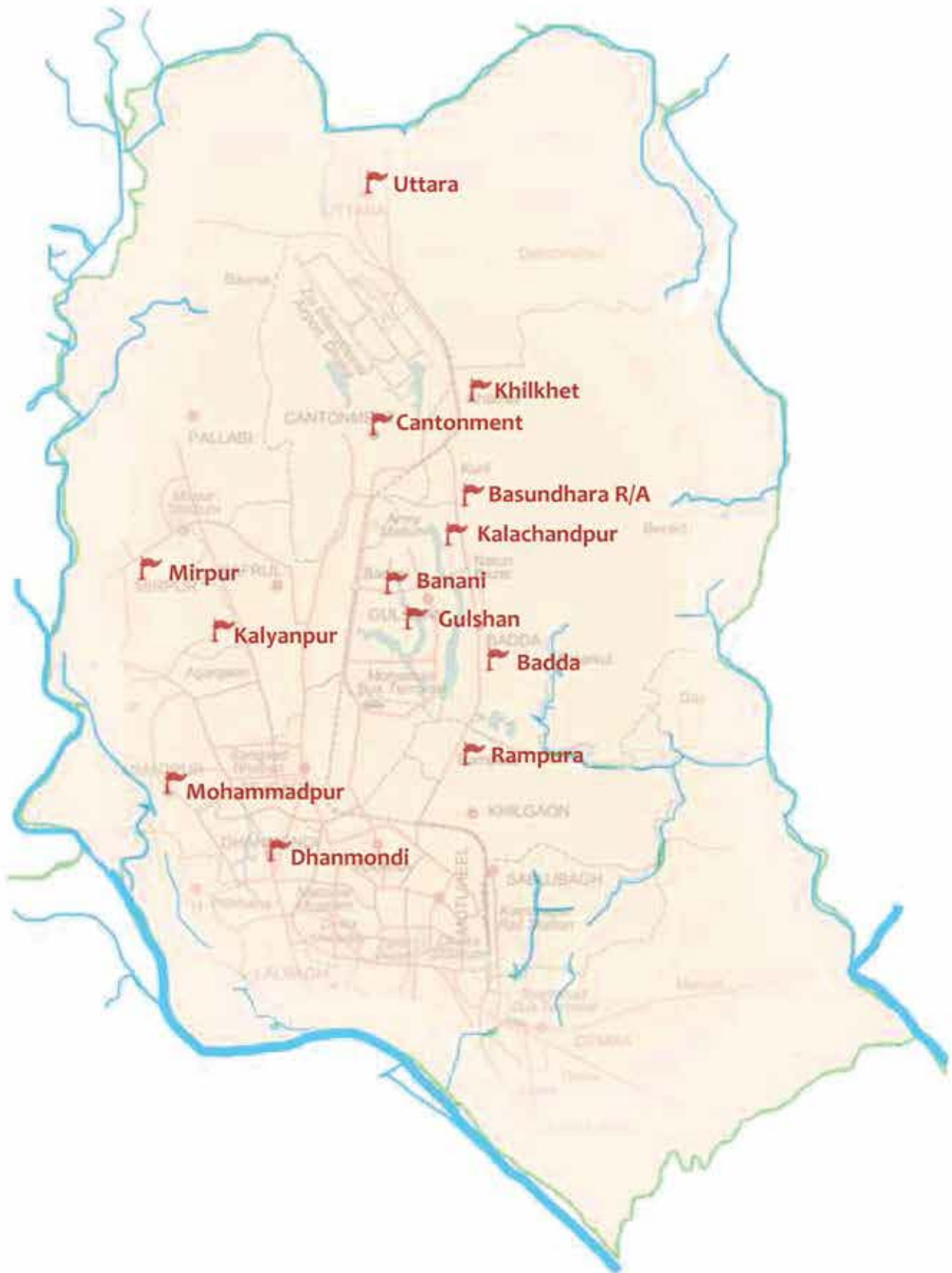
POSITIVE VIBES

Category: The most accessible parts of the city



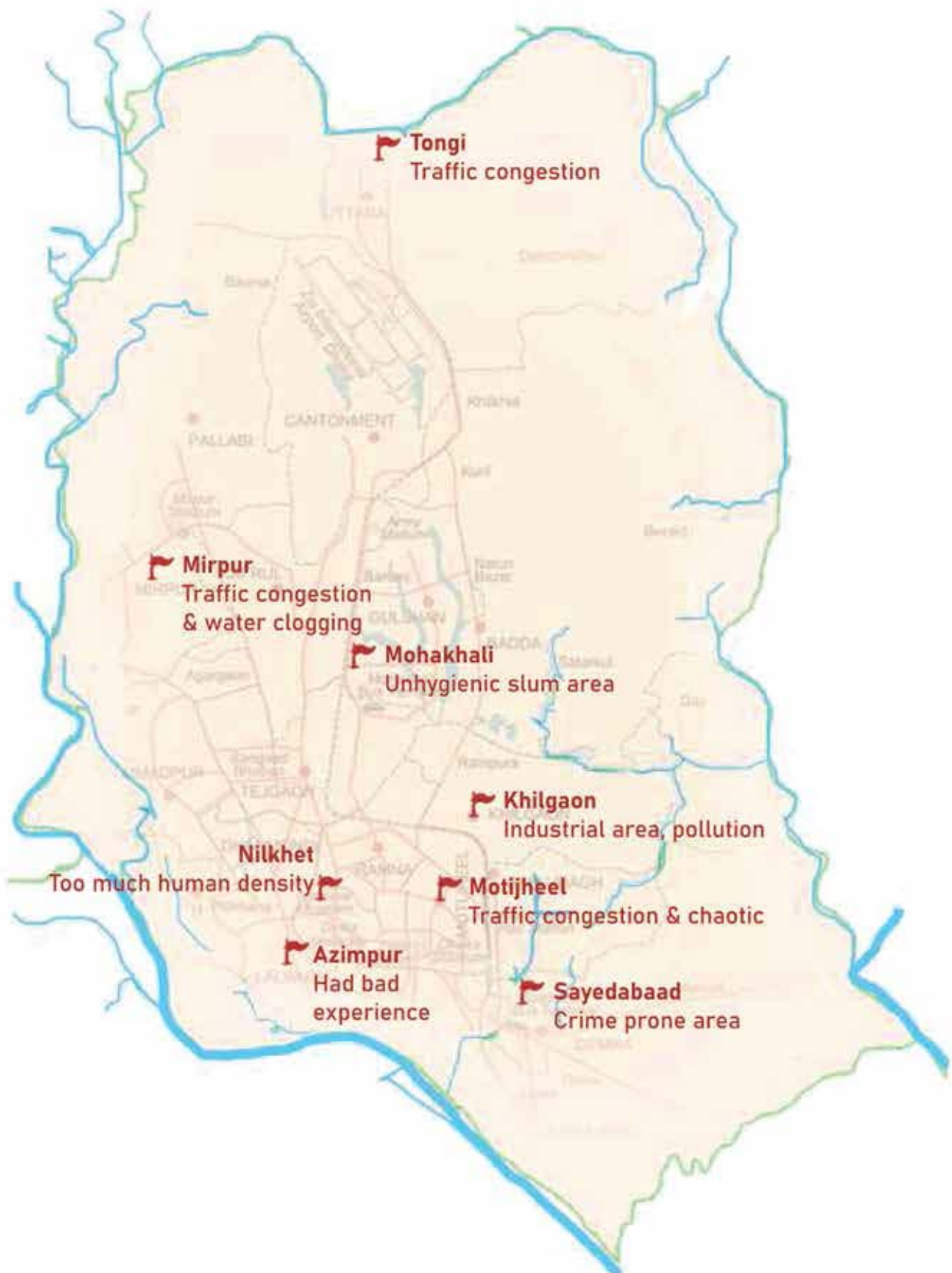
POSITIVE VIBES

Category: Parts of the city easy to navigate



NEGATIVE VIBES

Category: Parts of the city I Dislike most



NEGATIVE VIBES

Category: Parts of the city I find hard to Navigate



ARC 522 RESEARCH METHODS

ASSIGNMENT- MAPPING

FALL 2021

SUBMITTED BY
MUMTAHINAH MOMO
ID-18108007

Appendix 8
**DHAKA CITY
SPOT
MAPPING**

RESIDENCE 
MIRPUR 11

WORK 
MOHAKHALI



POSITIVE VIBES



A Place of natural serenity filled with diverse plantions. Nature's escape
ECOLOGICAL PLACE **RAMNA PARK**



Calming lake side edges with a charming view that peaces the mind
JOYFUL PLACE **HATIRJHEEL LAKE**



Lalbagh fort and a place where anyone can get lost in old traditions.
HISTORICAL PLACE **HERITAGE**

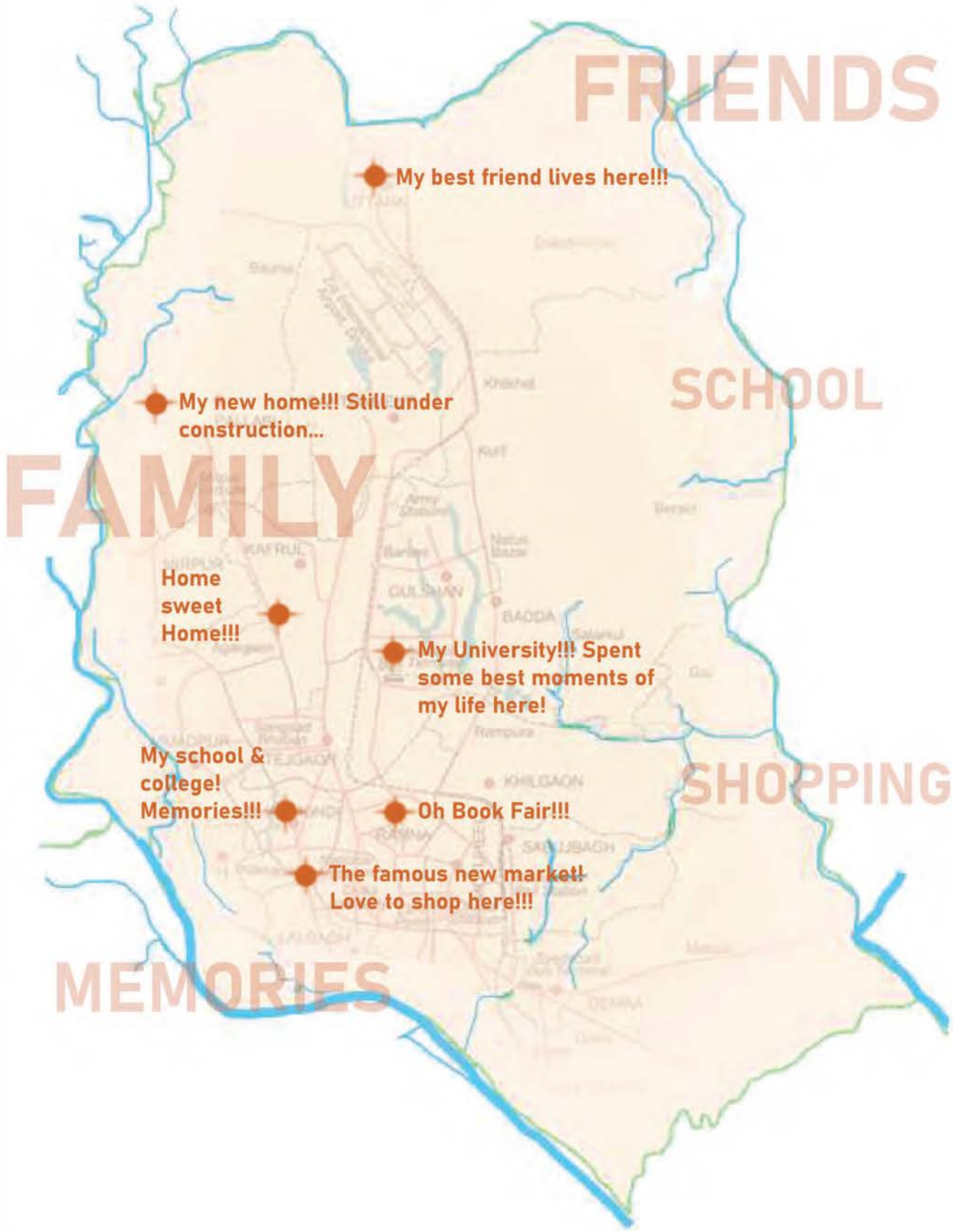
SUBMITTED BY,

MUMTAHINAH MOMO
ID- 18108007

8 JANUARY, 2022

POSITIVE VIBES

Places I Like The Most



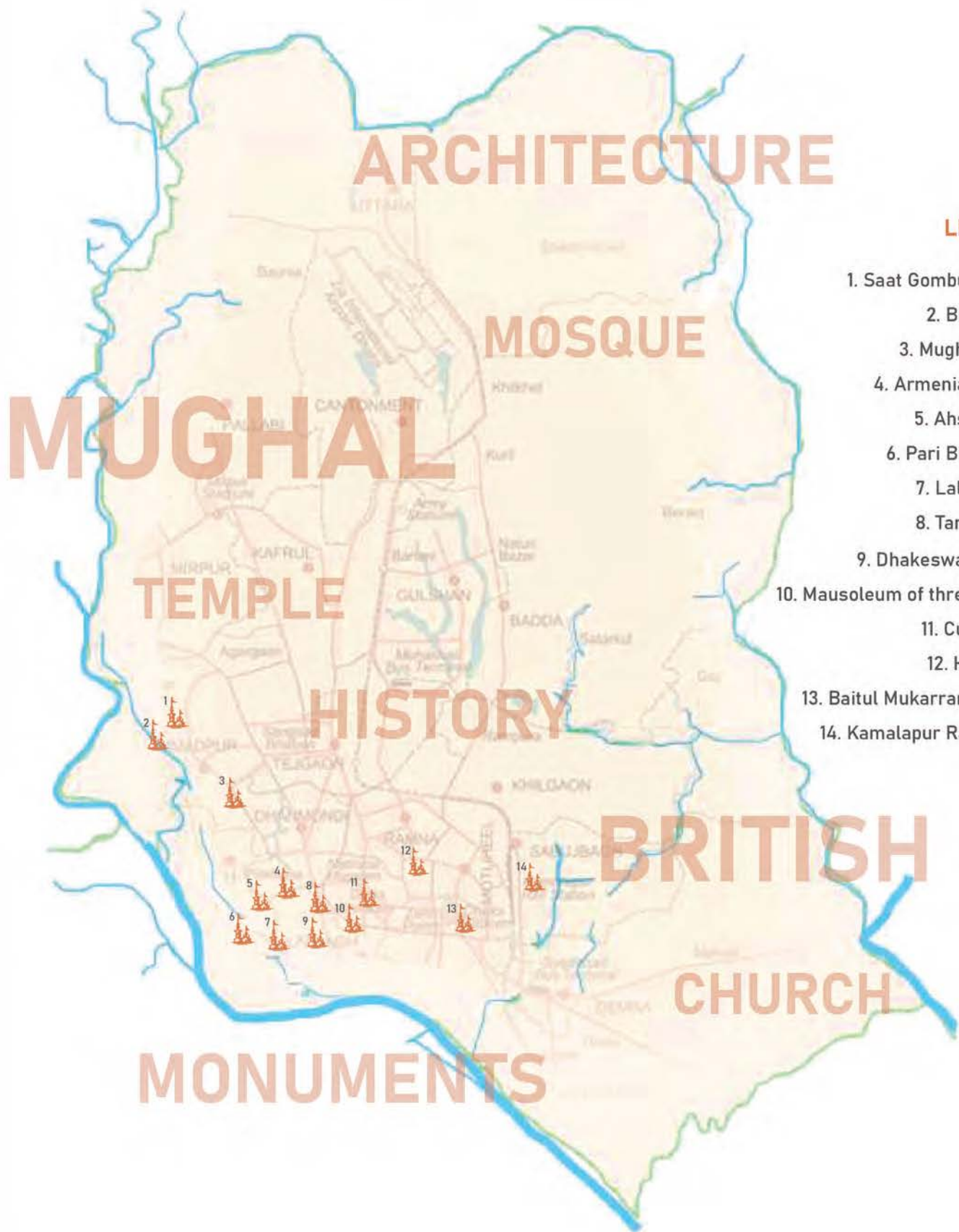
POSITIVE VIBES

Places That Make Me Proud



POSITIVE VIBES

Heritages Of Dhaka



LEGENDS

1. Saat Gombuj Mosque
2. Bibir Mazar
3. Mughal Eidgah
4. Armenian Church
5. Ahsan Manjil
6. Pari Bibir Mazar
7. Lalbagh Fort
8. Tara Mosque
9. Dhakeswari Temple
10. Mausoleum of three leaders
11. Curzon Hall
12. High Court
13. Baitul Mukarram Mosque
14. Kamalapur Rail Station

NEGATIVE VIBES

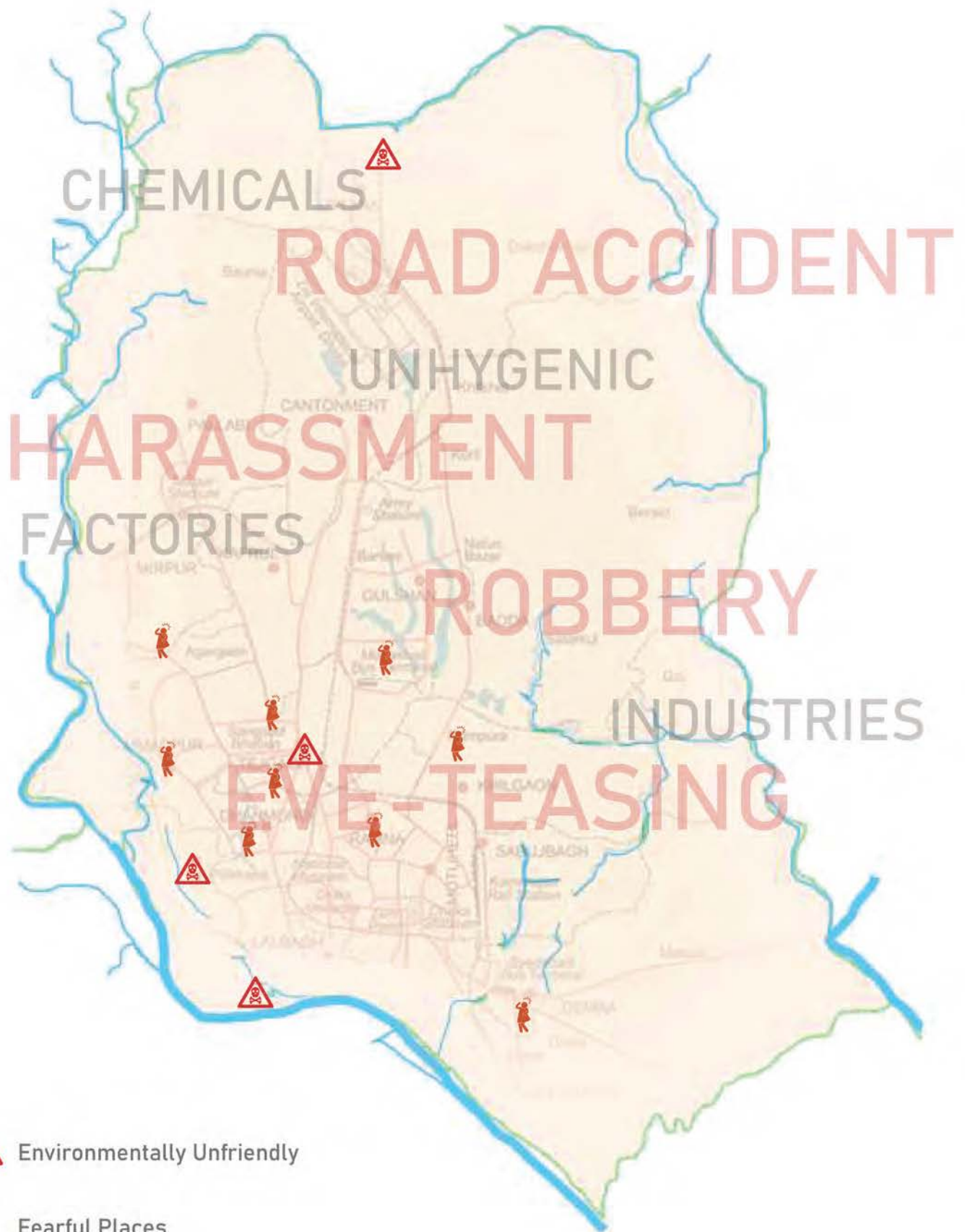
Places I Dislike The Most



Name: Nabilah Tabassum

Date: 10. 01. 2022

NEGATIVE VIBES



 Environmentally Unfriendly

 Fearful Places

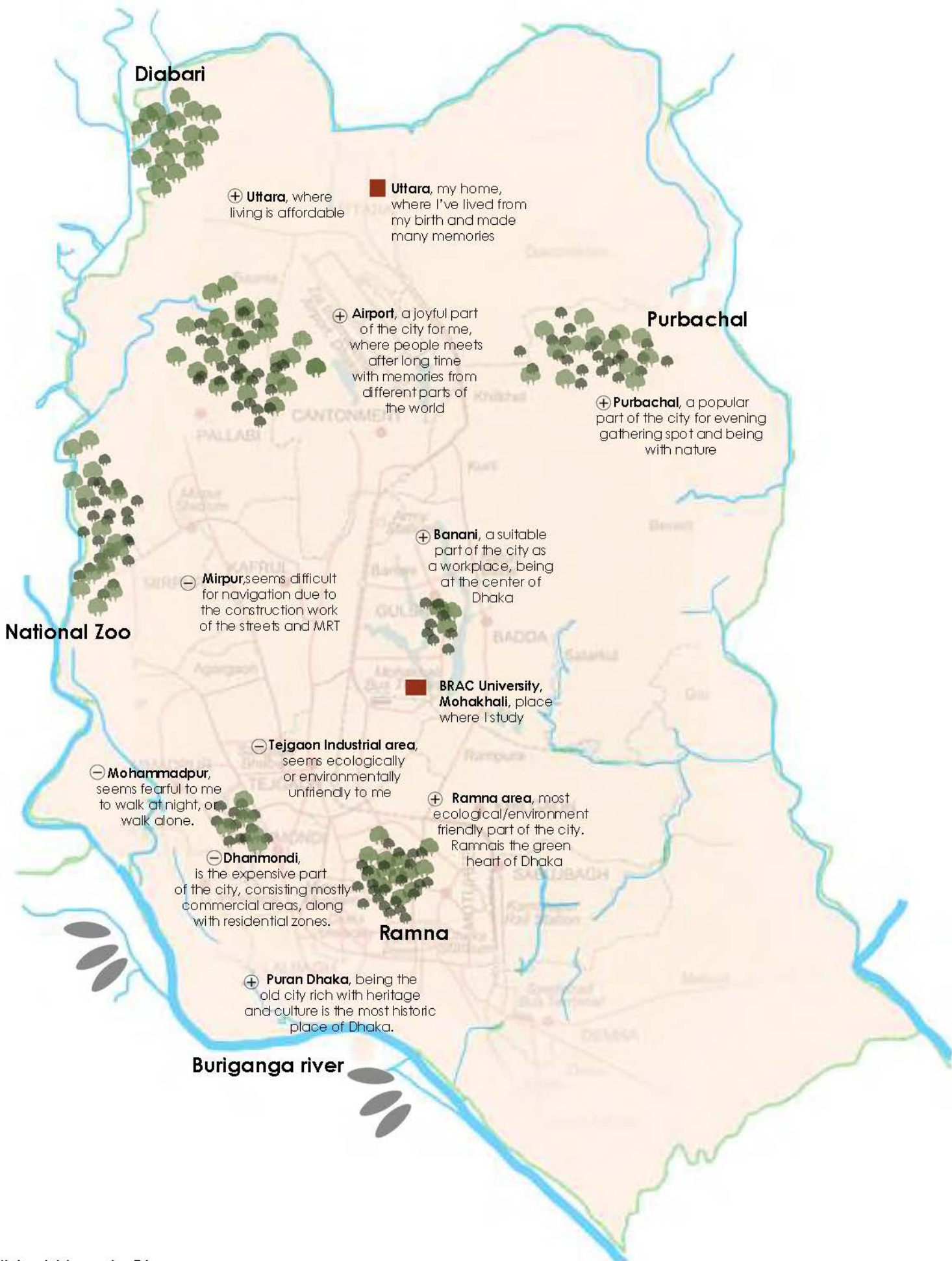
Name: Nabilah Tabassum

Date: 10. 01. 2022

Mapping Dhaka City

ARC 522: Research Methods

Nishat Yasmin Binu
18108009



Positive Vibes:

Suitable for workplace and easy to accesible.

My work place

I live there.

The most heritage place. Mughal and the british elite people stated to live here

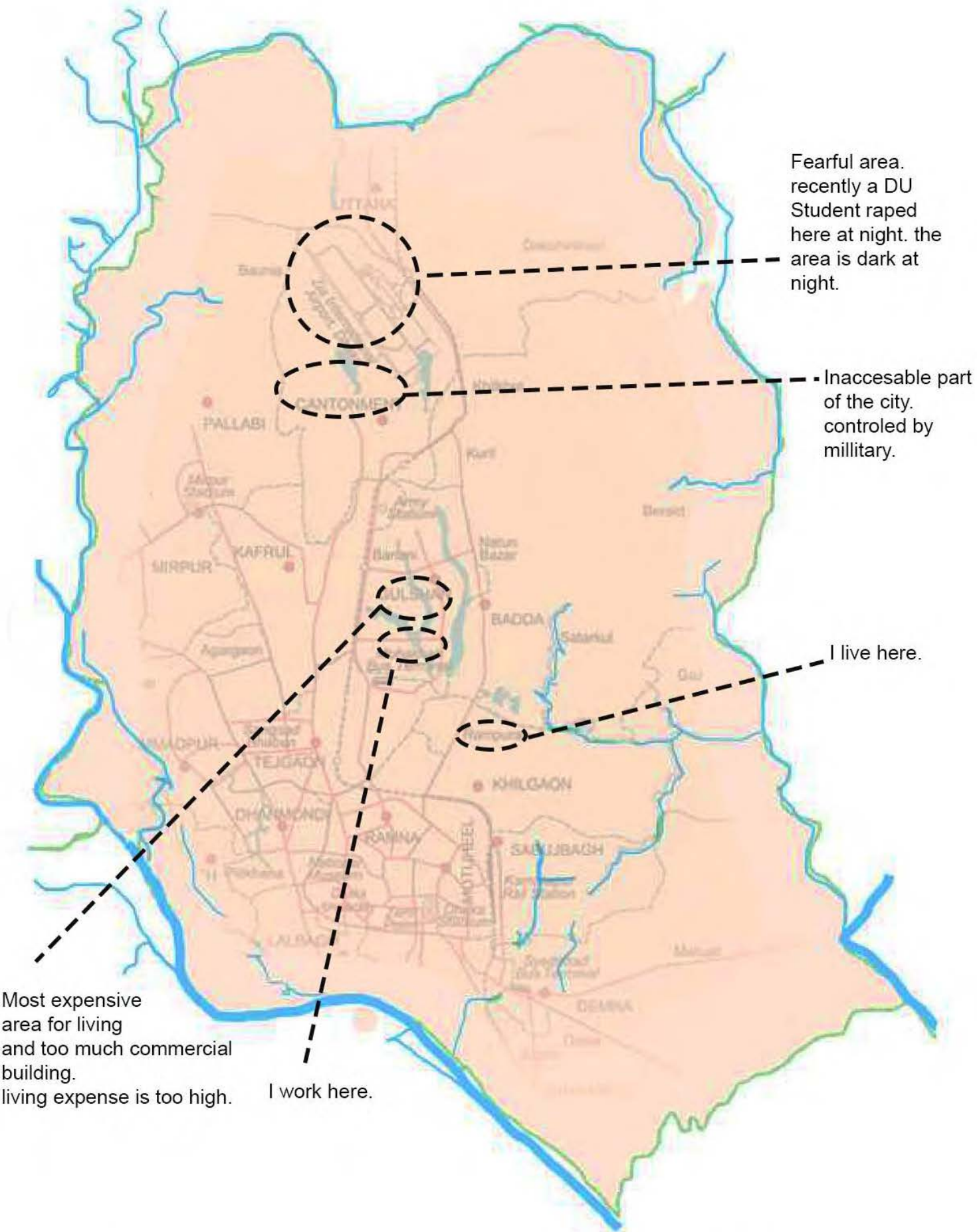
Most joyful place. people prefer to celebrate any occasion here.



Name: Raisal Anika

Date: 10.01.2022

Negative Vibe:



Name: Raisa Anika

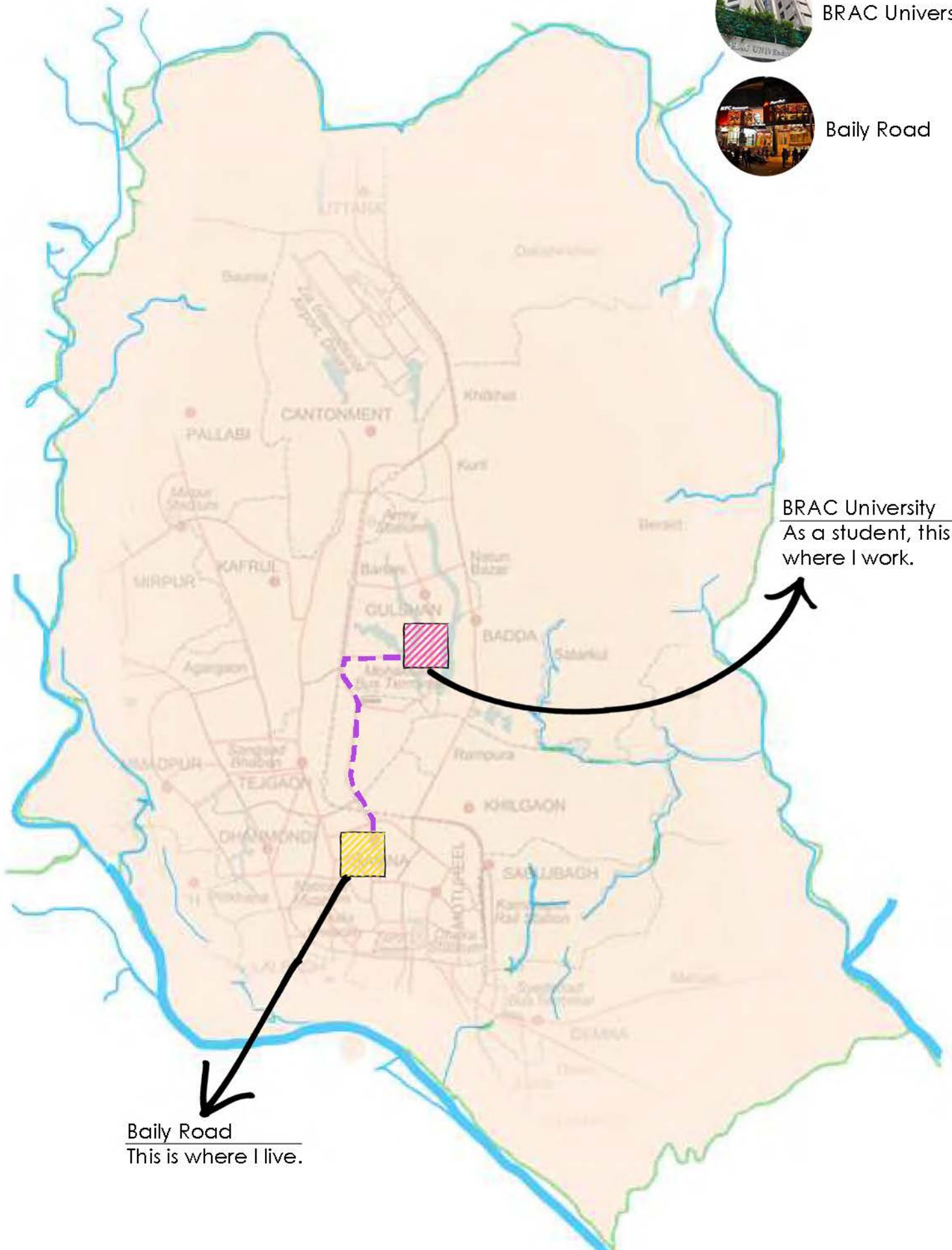
Date: 10.01.2022



BRAC University



Baily Road



BRAC University
As a student, this is where I work.

Baily Road
This is where I live.

Positive Vibes

Appendix 8



Gulshan



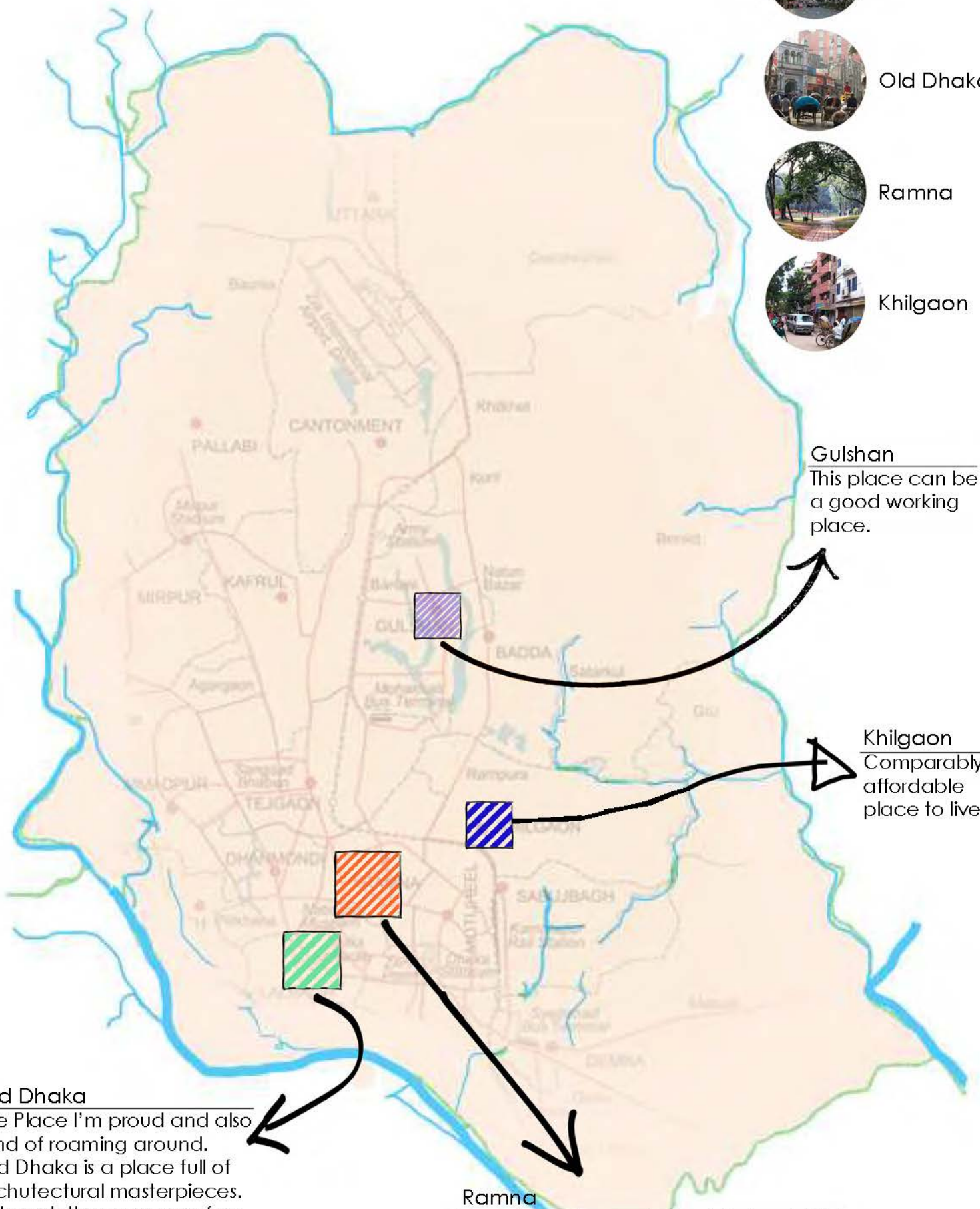
Old Dhaka



Ramna



Khilgaon



Gulshan
This place can be a good working place.

Khilgaon
Comparably affordable place to live

Old Dhaka
The Place I'm proud and also fond of roaming around. Old Dhaka is a place full of architectural masterpieces. Although there are very few left but looking at those make me realize how culturally rich we were.

Ramna
Growing up here, always felt about this place as the most vibrant place ever. From celebrating Boishakh at Ramna Park, to enjoying live stage drama, to never asleep vibrant Baily Road, list goes on and on for 381 loving this place.

Negative Vibes

Appendix 8



Mirpur



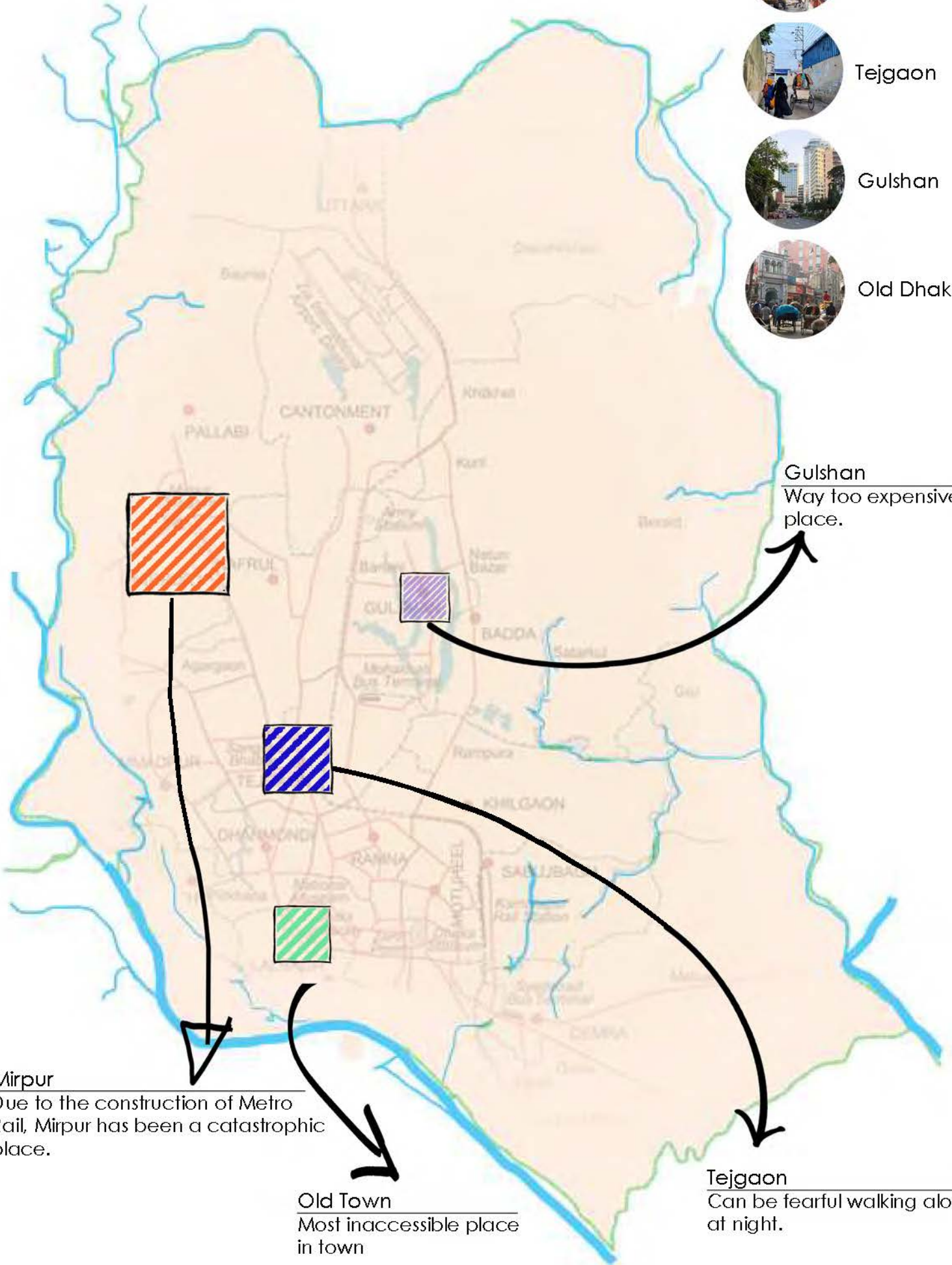
Tejgaon



Gulshan



Old Dhaka



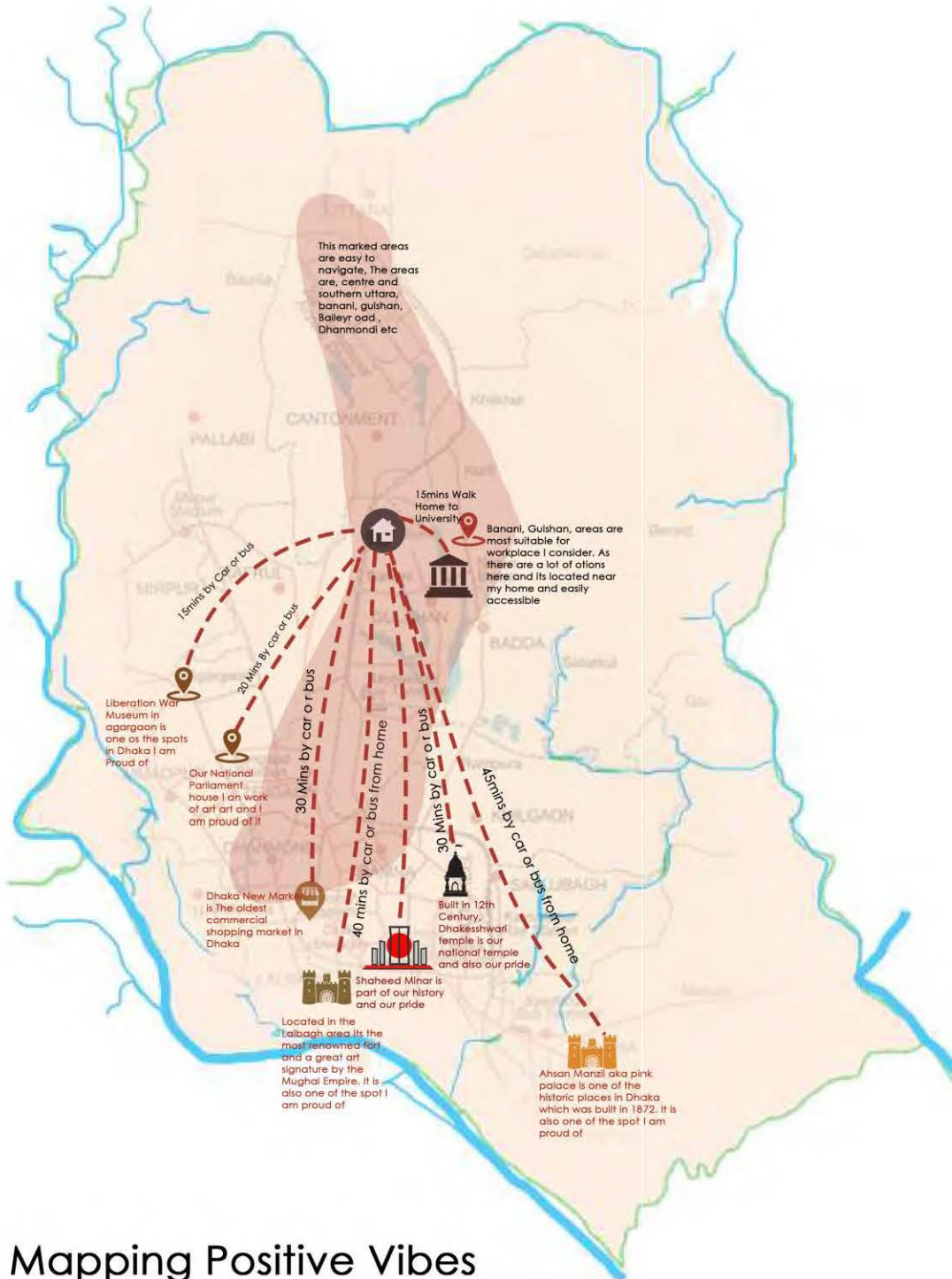
Mirpur
Due to the construction of Metro Rail, Mirpur has been a catastrophic place.

Old Town
Most inaccessible place in town

Tejgaon
Can be fearful walking alone at night.

Gulshan
Way too expensive place.

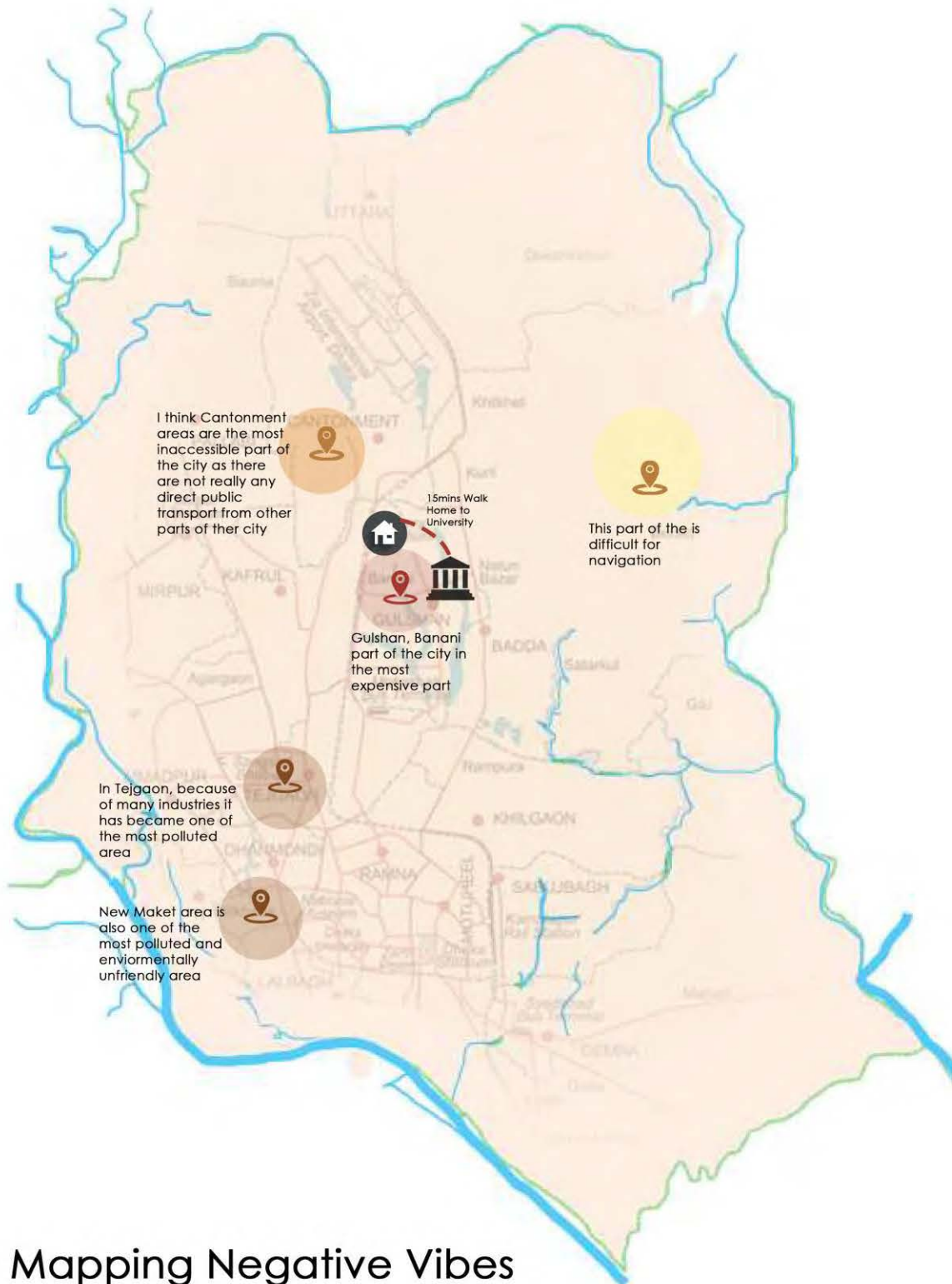
In this map, I have shown all the places I am proud of, easy places to navigate and some historical places of Dhaka city. The map is full of positive vibes.



Mapping Positive Vibes

Name: Subah Samaeen
ID: 18108012

Here, this map is showing negative vibes of Dhaka city. Like- the most expensive areas, environmentally unfriendly places and inaccessible areas in my consideration



Mapping Negative Vibes

Name: Subah Samaeen
ID: 18108012

In the following page shows the Positive Vibes of most joyful place & spots that I like most along with the spots-places in Dhaka city that I am proud of & the most touristic-popular places of Dhaka City along with showing my house and university on the map is given below.



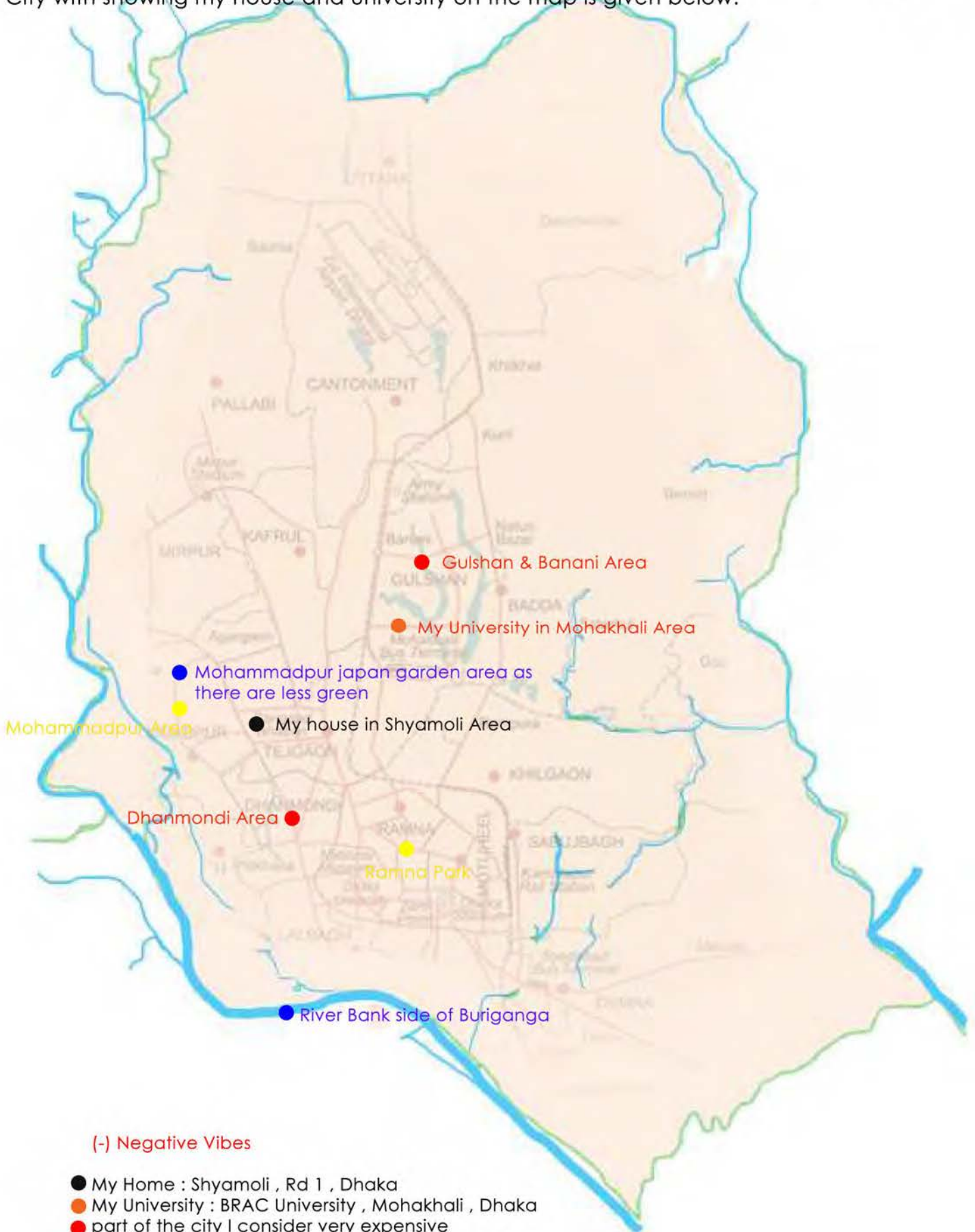
(+) Positive Vibes

- My Home : Shyamoli , Rd 1 , Dhaka
- My University : BRAC University , Mohakhali , Dhaka
- Most joyful place/which spots I like most
- spots/places I am proud of
- Most touristic/popular places of Dhaka City

Name:.....Sirajam Munira.(ID.:18108021.).....

Date:.....10-01-2022.....

In the following page shows the Negative Vibes of parts of Dhaka city that I consider very expensive & also the part of the city I consider fearful for walk at night alone-unfriendly to women along with part of the city I consider ecologically & environmentally unfriendly places of Dhaka City with showing my house and university on the map is given below.



(-) Negative Vibes

- My Home : Shyamoli , Rd 1 , Dhaka
- My University : BRAC University , Mohakhali , Dhaka
- part of the city I consider very expensive
- part of the city I consider fearful (walk at night, alone, unfriendly to women,etc.)
- part of the city I consider ecologically/environmentally unfriendly

Name:....Sirajam.Munira (.ID.:18.108021.).....

Date:....10-01-2022.....

ARC 522

RESEARCH METHODS

FALL 2021

ASSIGNMENT
MAPPING

SUBMITTED BY
MD. RAKIBUL HASAN
ID: 18108027

APPENDIX 8
 SUBMITTED BY
 MD. RAKIBUL HASAN
 ID- 18108027
 9 JANUARY, 2022

DHAKA CITY MAPPING



POSITIVE VIBES



Most eco friendly place in the city containing dense vegetation and clean air

ENVIRONMENT FRIENDLY RAMNA PARK



Residential housing with peaceful neighbourhood and walkable streets

SUITABLE LIVING NIKUNJO

HOUSE
UTTARA



WORK
MOHAKHALI

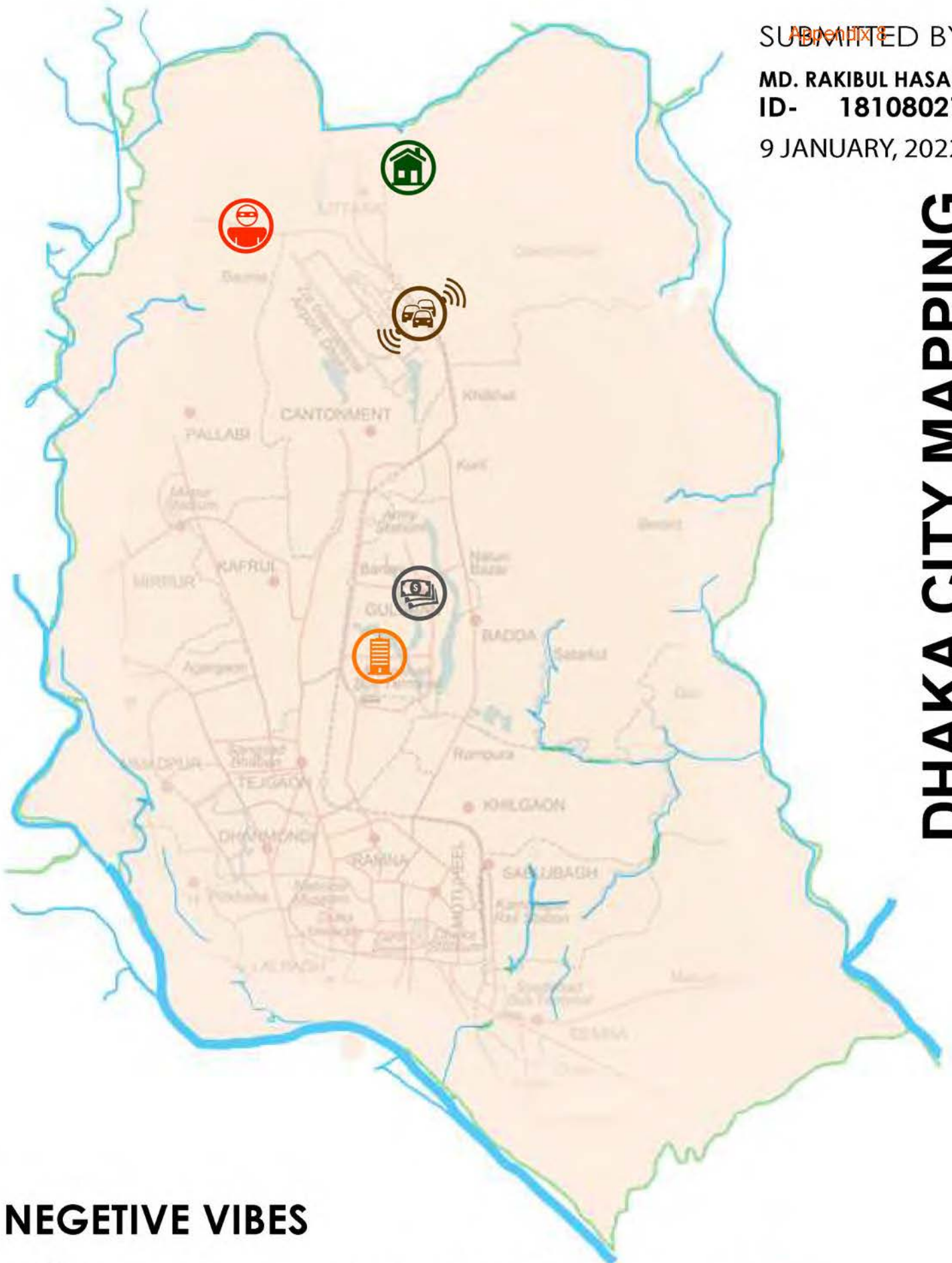


A rich and diverse place with old forts and building that brings out our culture

HISTORICAL PLACE LALBAGH FORT

APPENDIX 8
 SUBMITTED BY
 MD. RAKIBUL HASAN
 ID- 18108027
 9 JANUARY, 2022

DHAKA CITY MAPPING



NEGATIVE VIBES



Residence along with markets and restaurants are very expensive to live and visit
 EXPENSIVE LIVING **GULSHAN**



HOUSE
 UTTARA



WORK
 MOHAKHALI



Cases of heavy thievery and hijacking have been reported here at night times
 FEARFUL PLACE **BIRULIA**



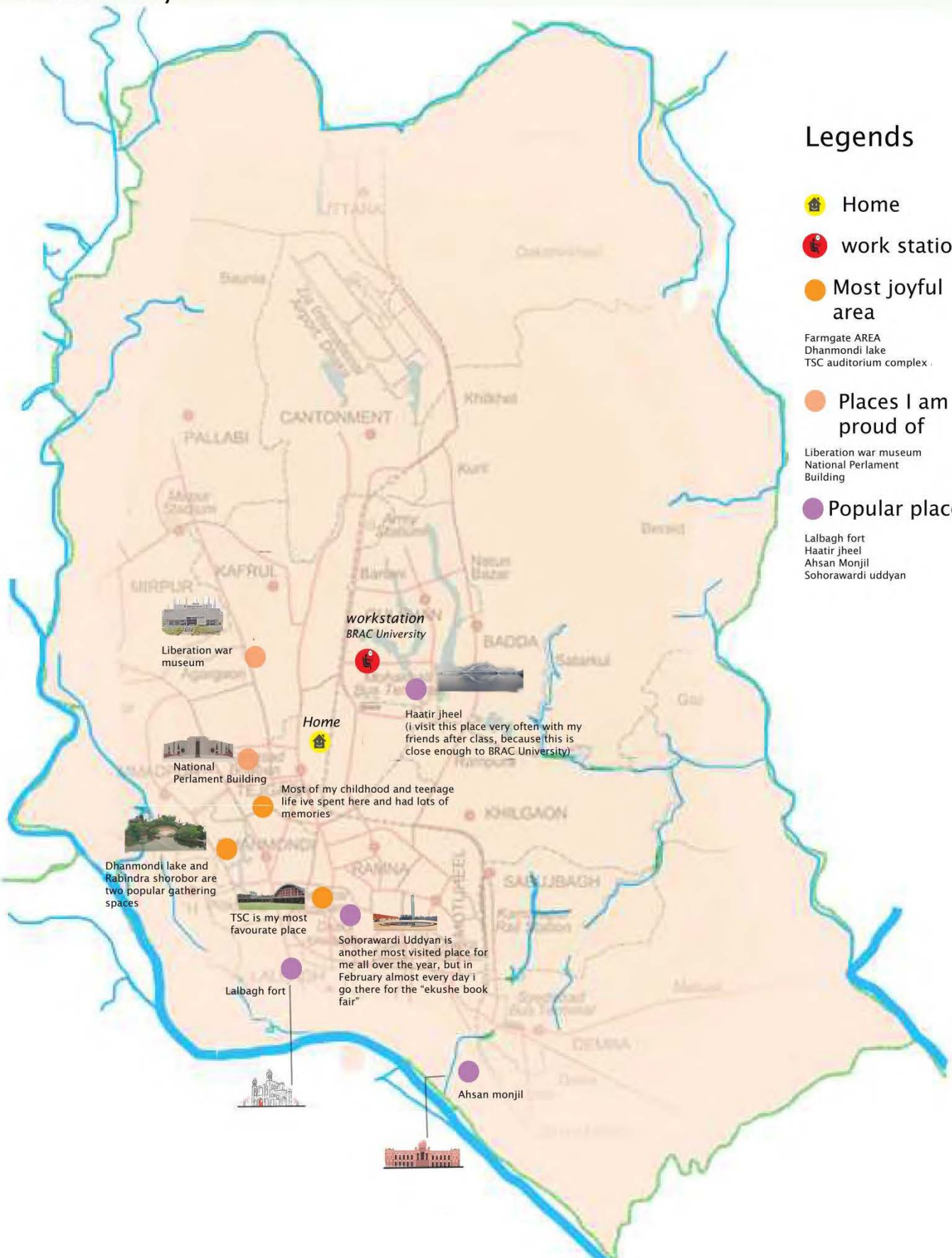
Heavy traffic and noise pollution due to the construction of airport overpass
 DISLIKED PLACE **INFRONT OF AIRPORT**

Positive Vibes

Dhaka City

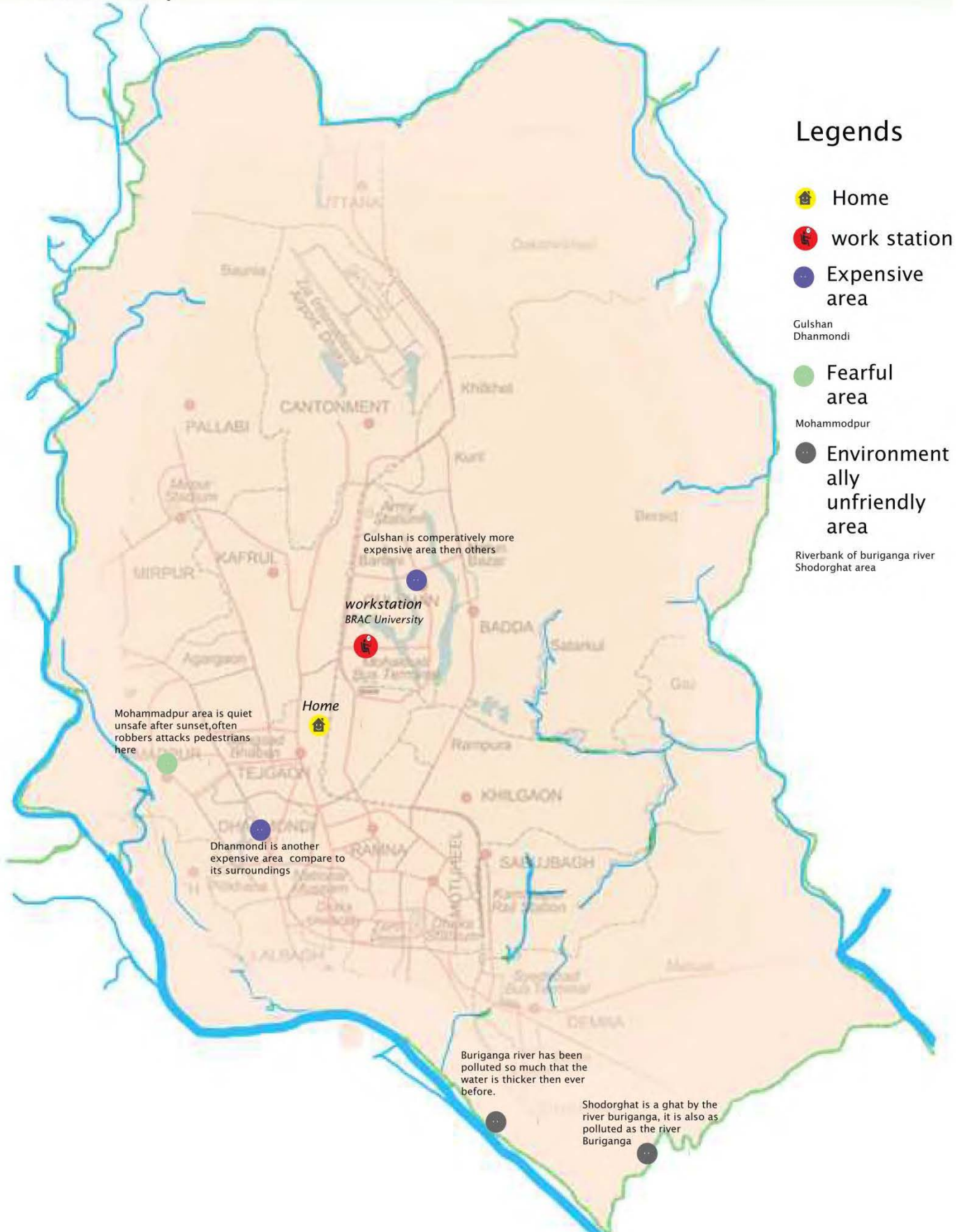
Legends

-  Home
 -  work station
 -  Most joyful area
 -  Places I am proud of
 -  Popular place
- Farmgate AREA
Dhanmondi lake
TSC auditorium complex
- Liberation war museum
National Parliament Building
- Lalbagh fort
Haatir jheel
Ahsan Monjil
Sohorawardi uddyan



Negative Vibes

Dhaka City



Mapping Vibes in Dhaka

Here, I intended to identify the places of my interest in both positive and negative aspect

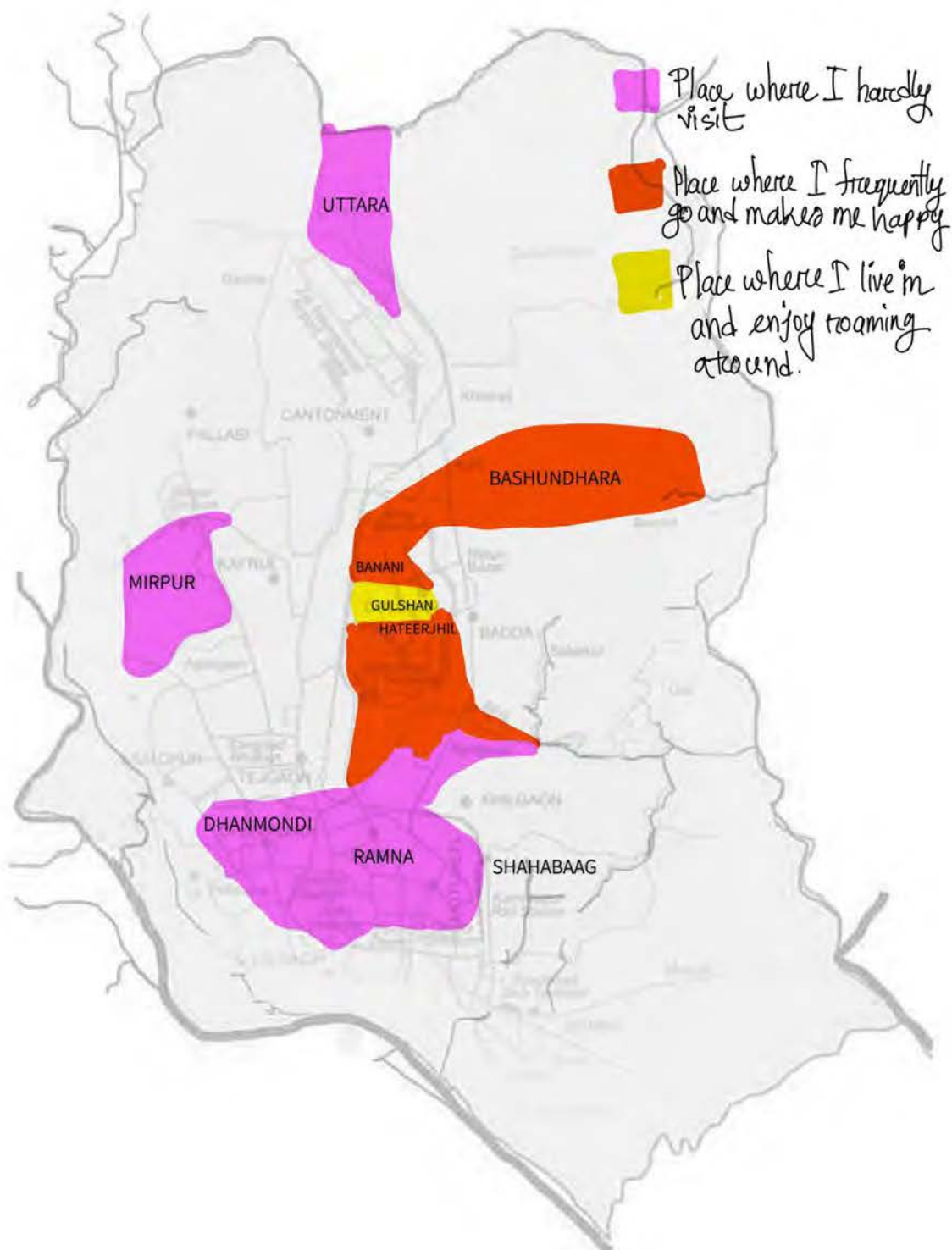


Name: Rifah Tasfia

Date: 09/01/2022

Mapping Vibes in Dhaka

Here, I tried to identify the areas where I pay visit on and off and vice versa.



Name: Rifah Tasfia

Date: 09/01/2022

ARC 522

Research Methods

ASSIGNMENT

Mapping vibes in Dhaka

Submitted by

Noshin Tasfia Proma

18108034

Mapping Vibes in Dhaka

by Invited user/residents (method: mapping Interview)

mapping

(+) Positive Vibes

Most joyful place/which spots do you like most? Which are the most touristic/popular places? Which are the most historic/heritage places?

(-) Negative Vibes

Which part of the city do you consider very expensive?

Which part of the city do you consider fearful (walk at night, alone, unfriendly to women, etc.)?

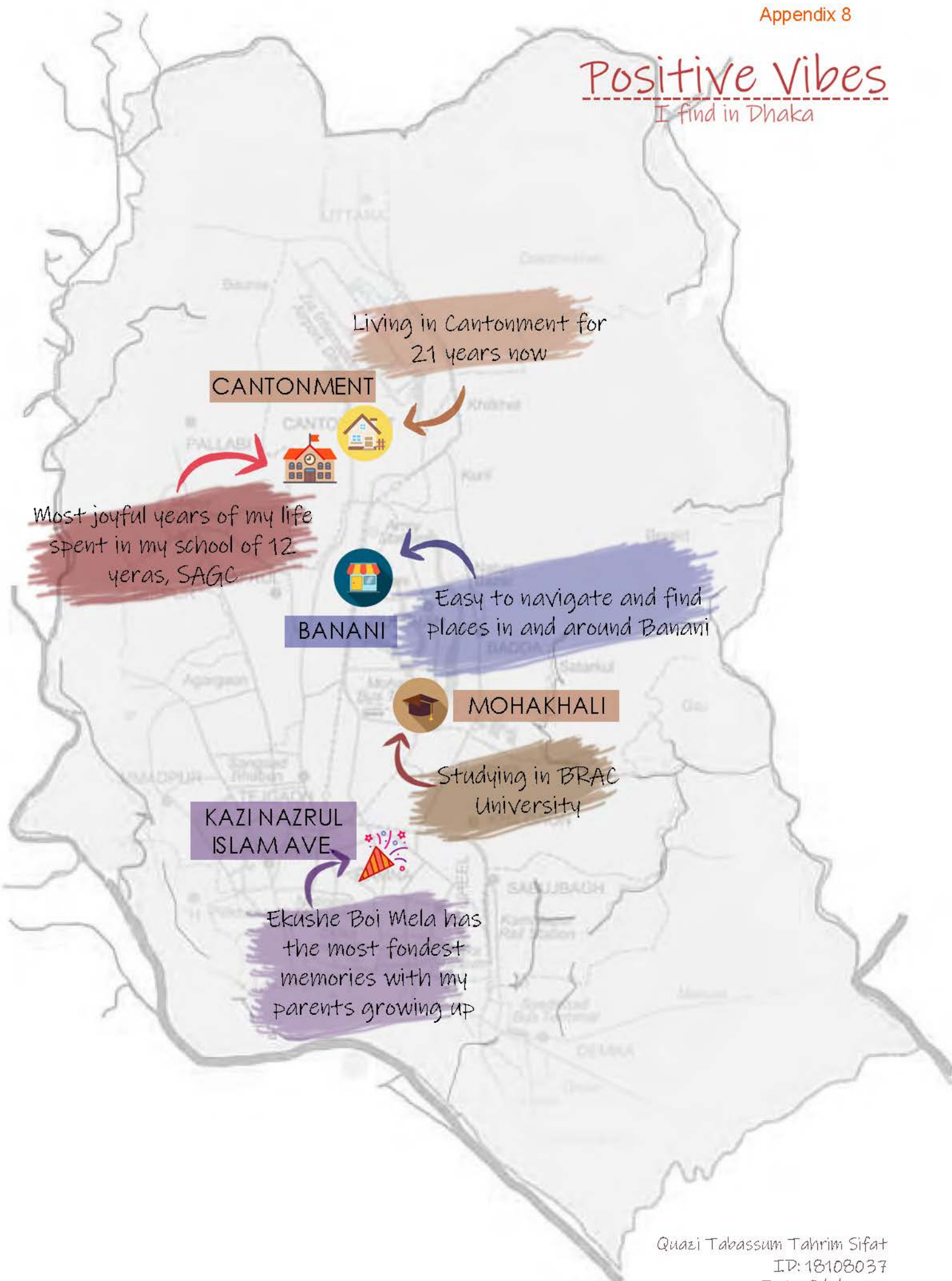
Which part of the city do you consider ecologically/environmentally unfriendly?





Positive Vibes

I find in Dhaka



Living in Cantonment for 21 years now

CANTONMENT

Most joyful years of my life spent in my school of 12 years, SAGC

BANANI

Easy to navigate and find places in and around Banani

MOHAKHALI

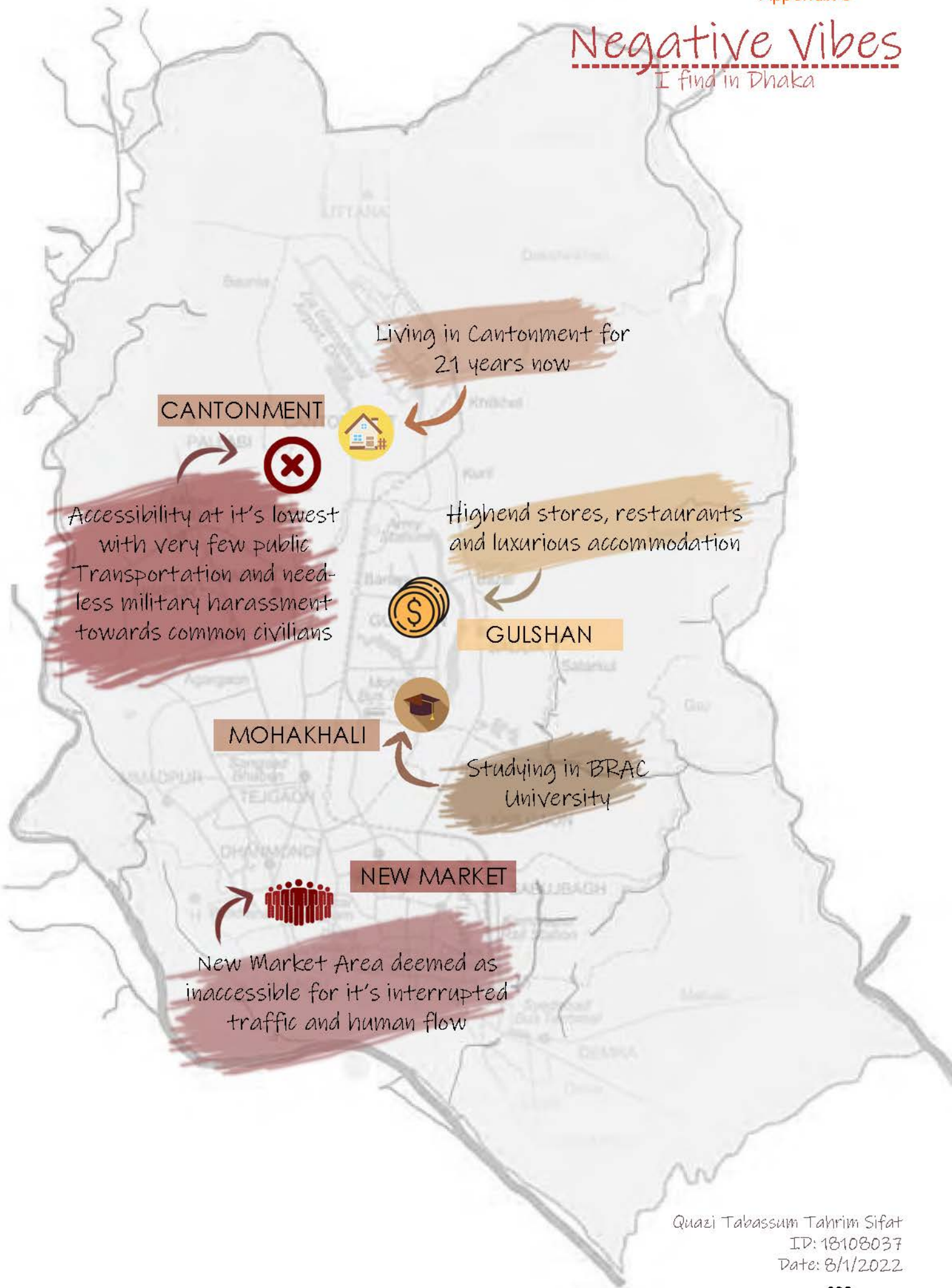
Studying in BRAC University

KAZI NAZRUL ISLAM AVE

Ekushe Boi Mela has the most fondest memories with my parents growing up

Negative Vibes

I find in Dhaka



CANTONMENT

Living in Cantonment for 21 years now



Accessibility at it's lowest with very few public Transportation and needless military harassment towards common civilians

Highend stores, restaurants and luxurious accommodation



GULSHAN

MOHAKHALI

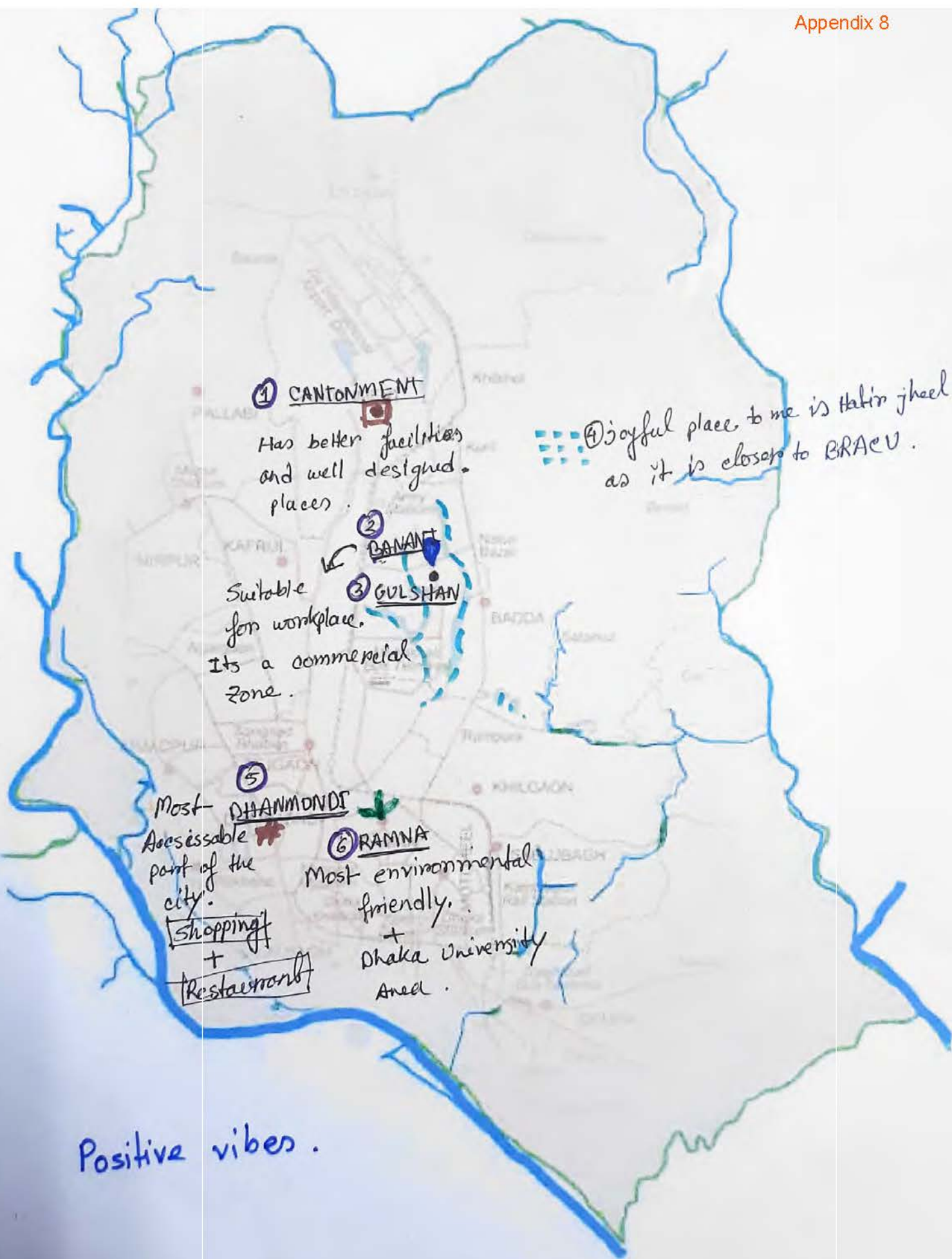


Studying in BRAC University

NEW MARKET



New Market Area deemed as inaccessible for it's interrupted traffic and human flow



① CANTONMENT

Has better facilities and well designed places.

④ Joyful place to me is Hatin jheel as it is closer to BRAEU.

②

BANANI

Suitable for workplace.

③ GULSHAN

Its a commercial zone.

⑤

DHANMONDI

Most Accessible part of the city.

Shopping + Restaurants

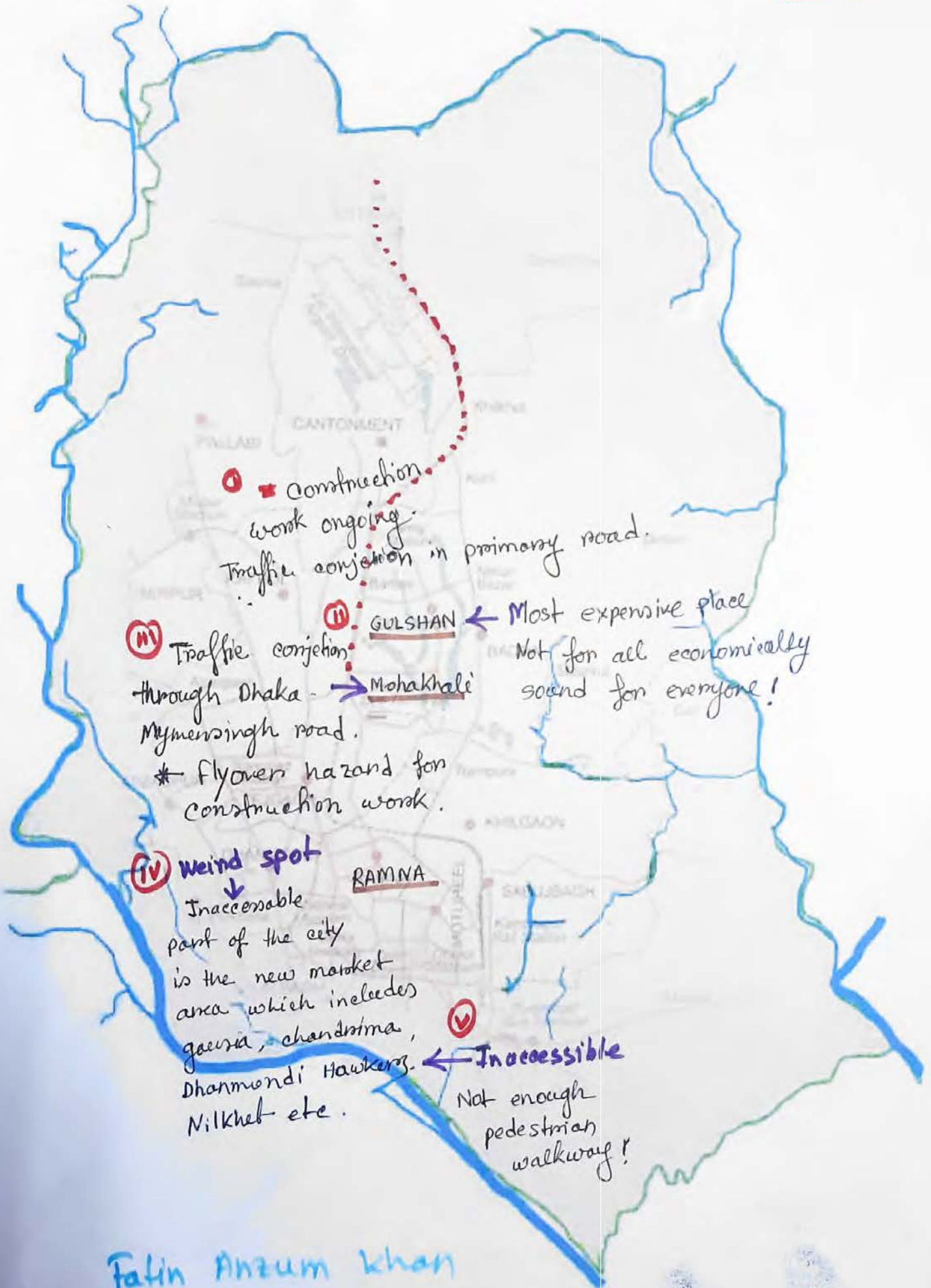
⑥ RAMNA

Most environmental friendly. + Dhaka University Area.

Positive vibes.

Name: Fatin Anzum Khan

Date: 10.01.22



Fatin Anzum Khan

Negative vibes.

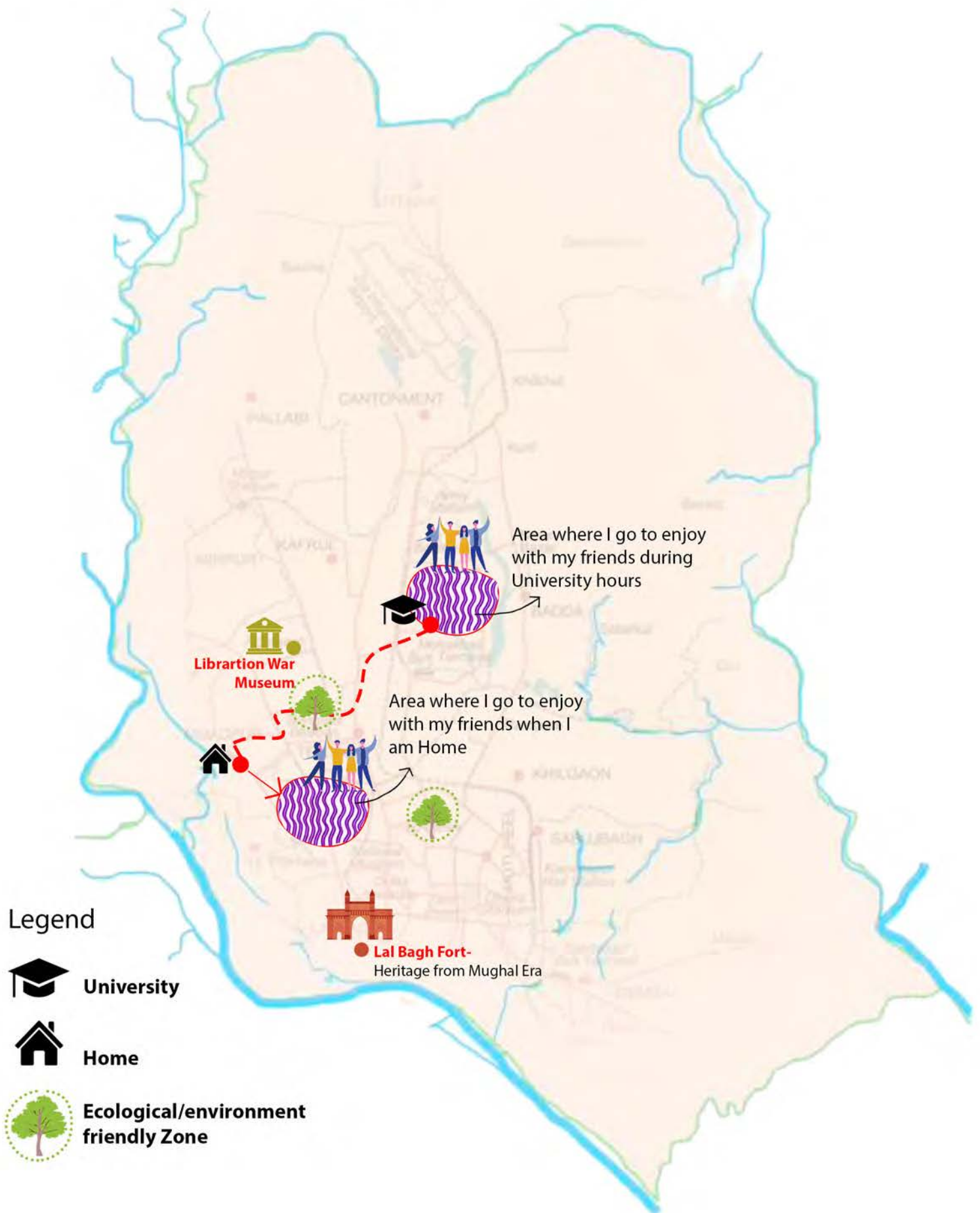


18108018

Mapping Vibes

In Dhaka City

Mapping Positive Vibes



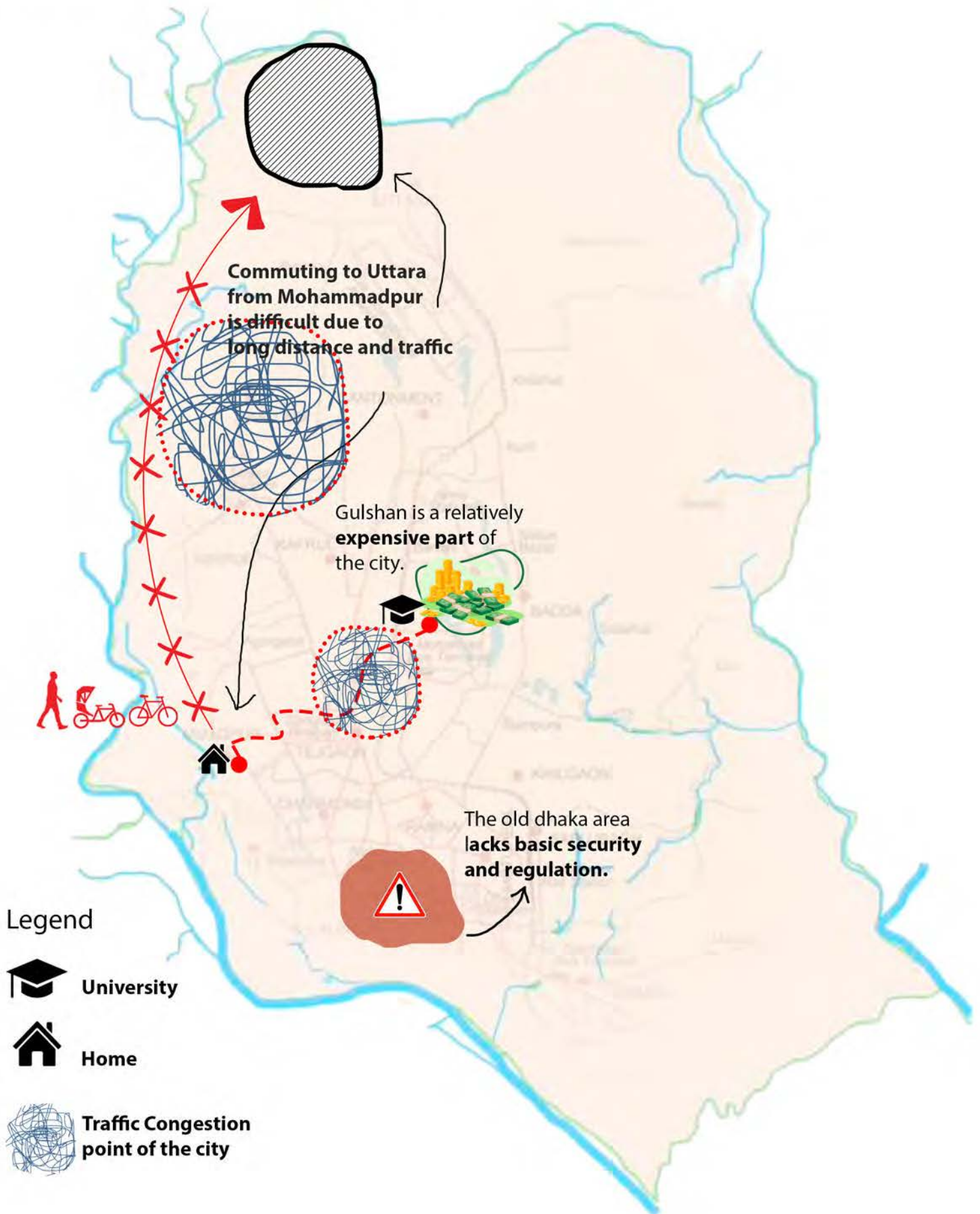
Legend

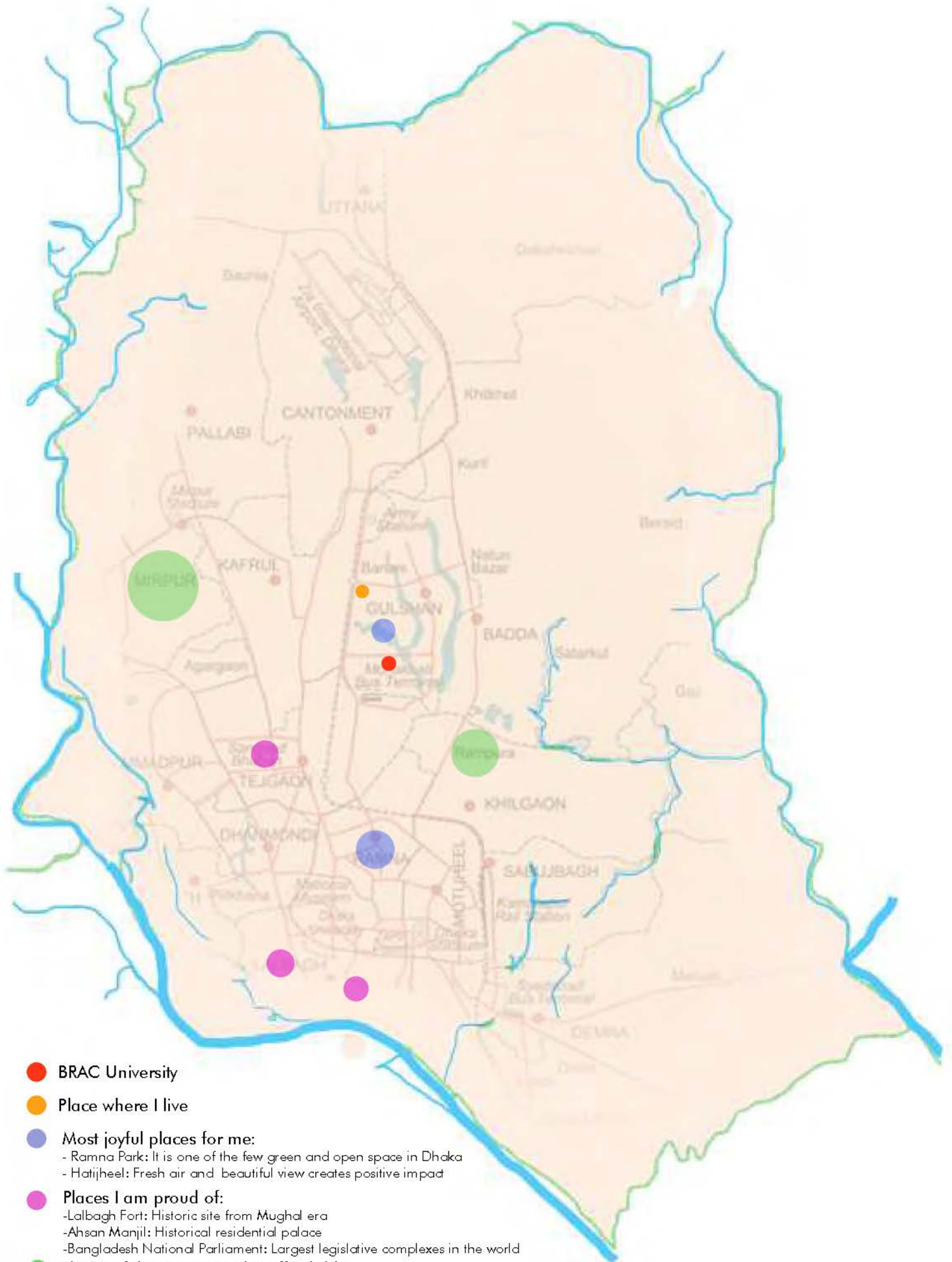
 University

 Home

 Ecological/environment friendly Zone

Mapping Negative Vibes



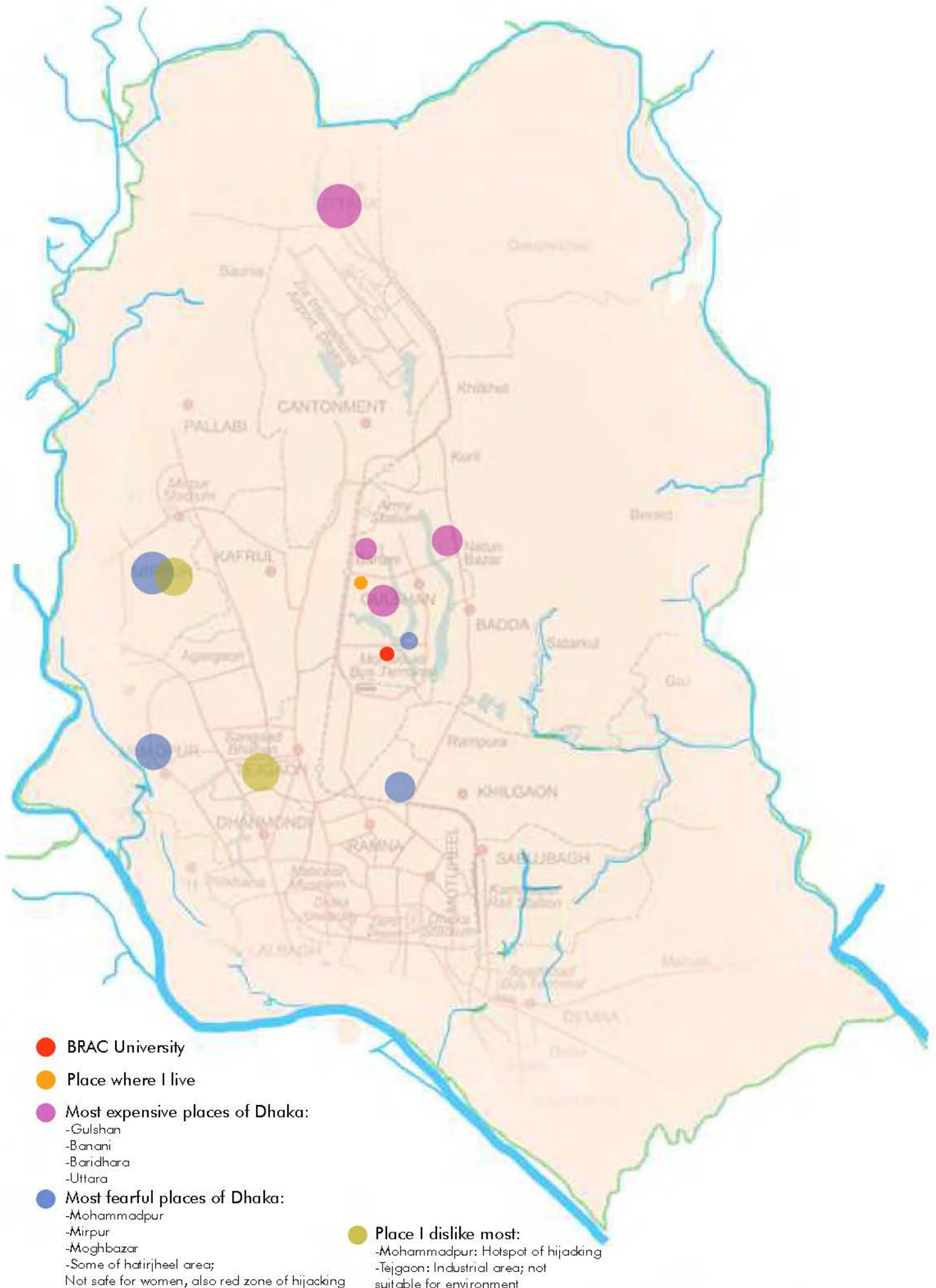


- BRAC University
- Place where I live
- Most joyful places for me:
 - Ramna Park: It is one of the few green and open space in Dhaka
 - Hatijheel: Fresh air and beautiful view creates positive impact
- Places I am proud of:
 - Lalbagh Fort: Historic site from Mughal era
 - Ahsan Manjil: Historical residential palace
 - Bangladesh National Parliament: Largest legislative complexes in the world
- Places of the city I consider affordable:
 - Rampura: Affordable accomodation
 - Mirpur: Provides good faailities in cheap rate

Name:.....Inaba.Sadaf.....

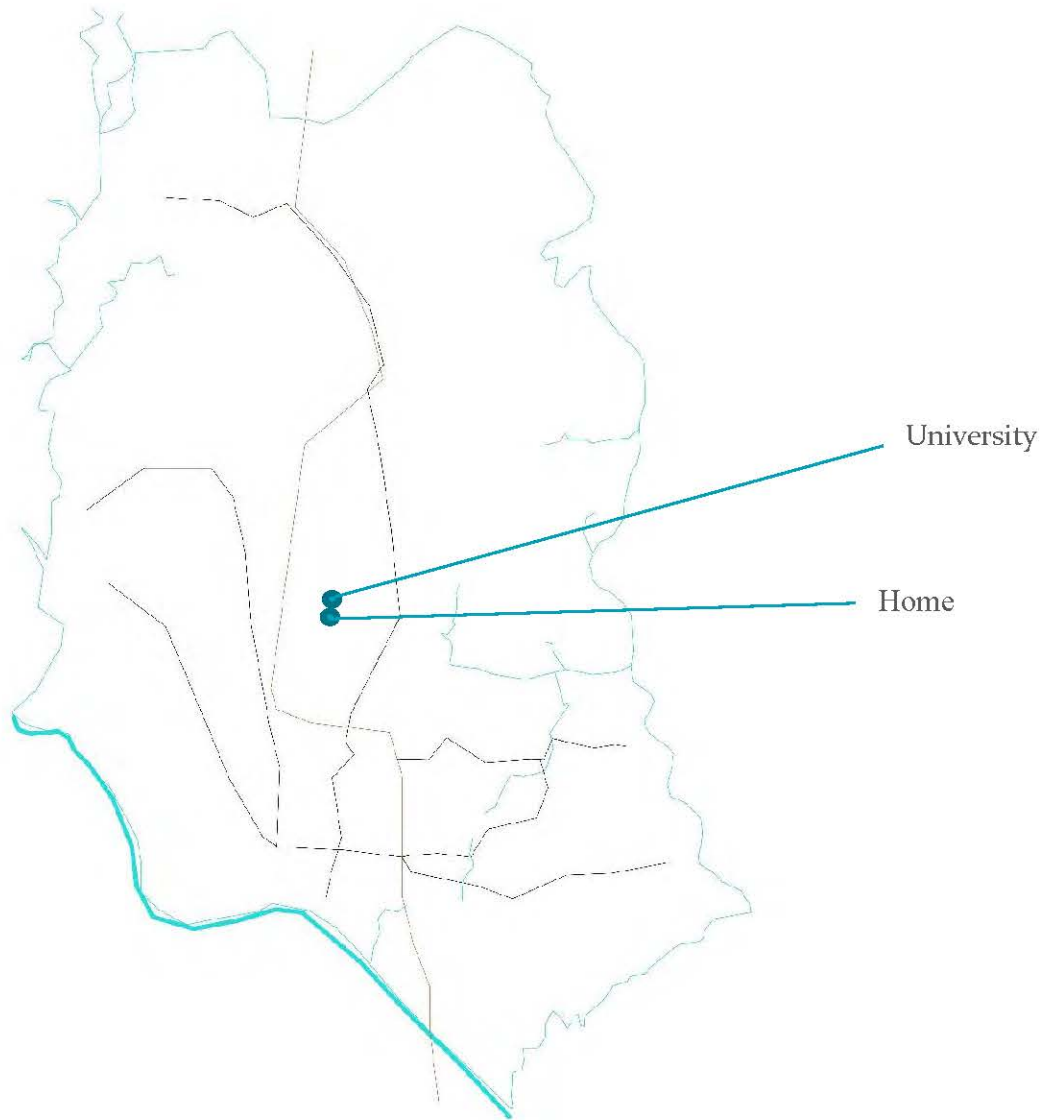
Date:.....08.01.2022404.....

Negative Vibes of Dhaka City



Name:.....Inaba.Sadaf.....

Date:.....08.01.2022405.....

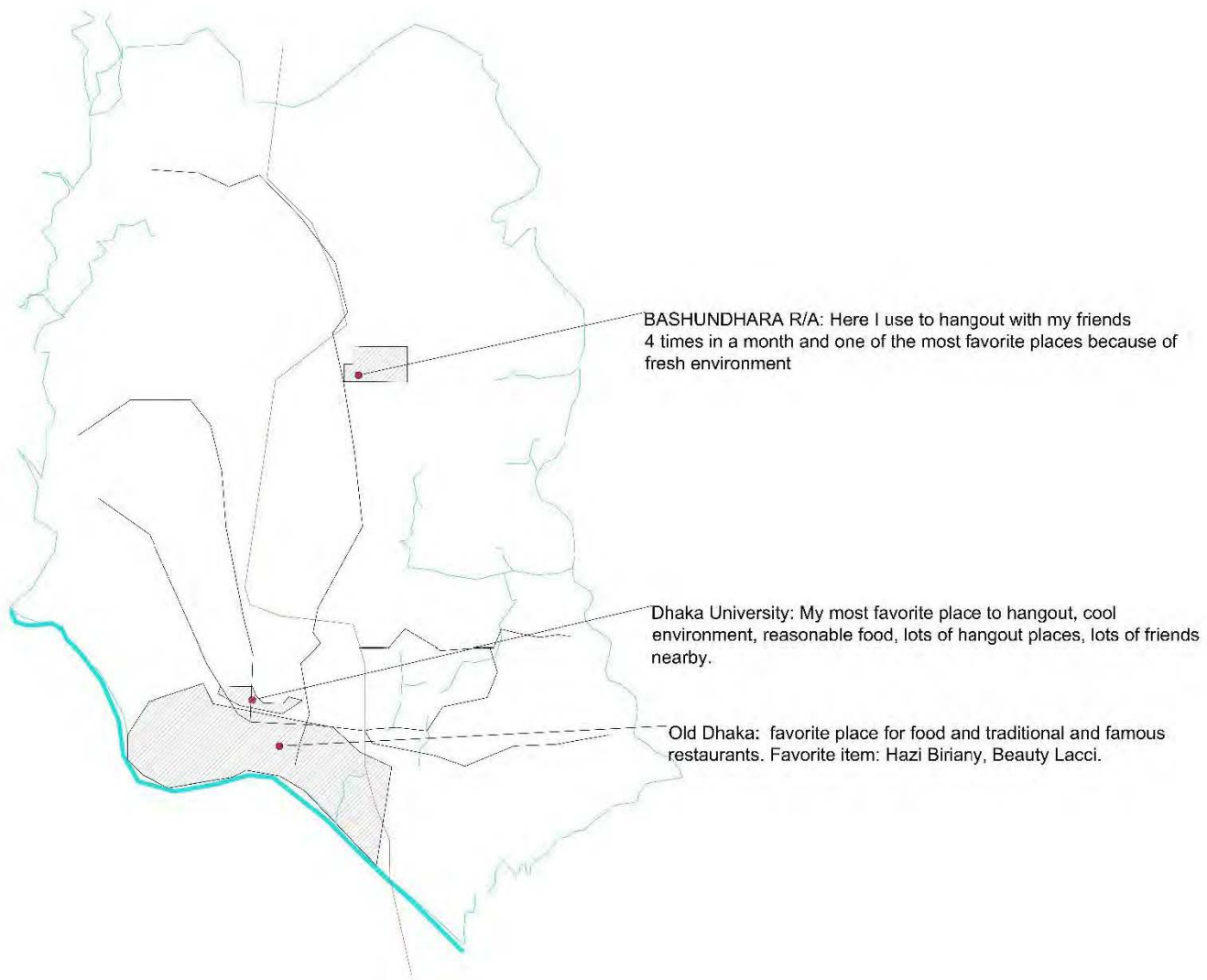


MAPPING DHAKA

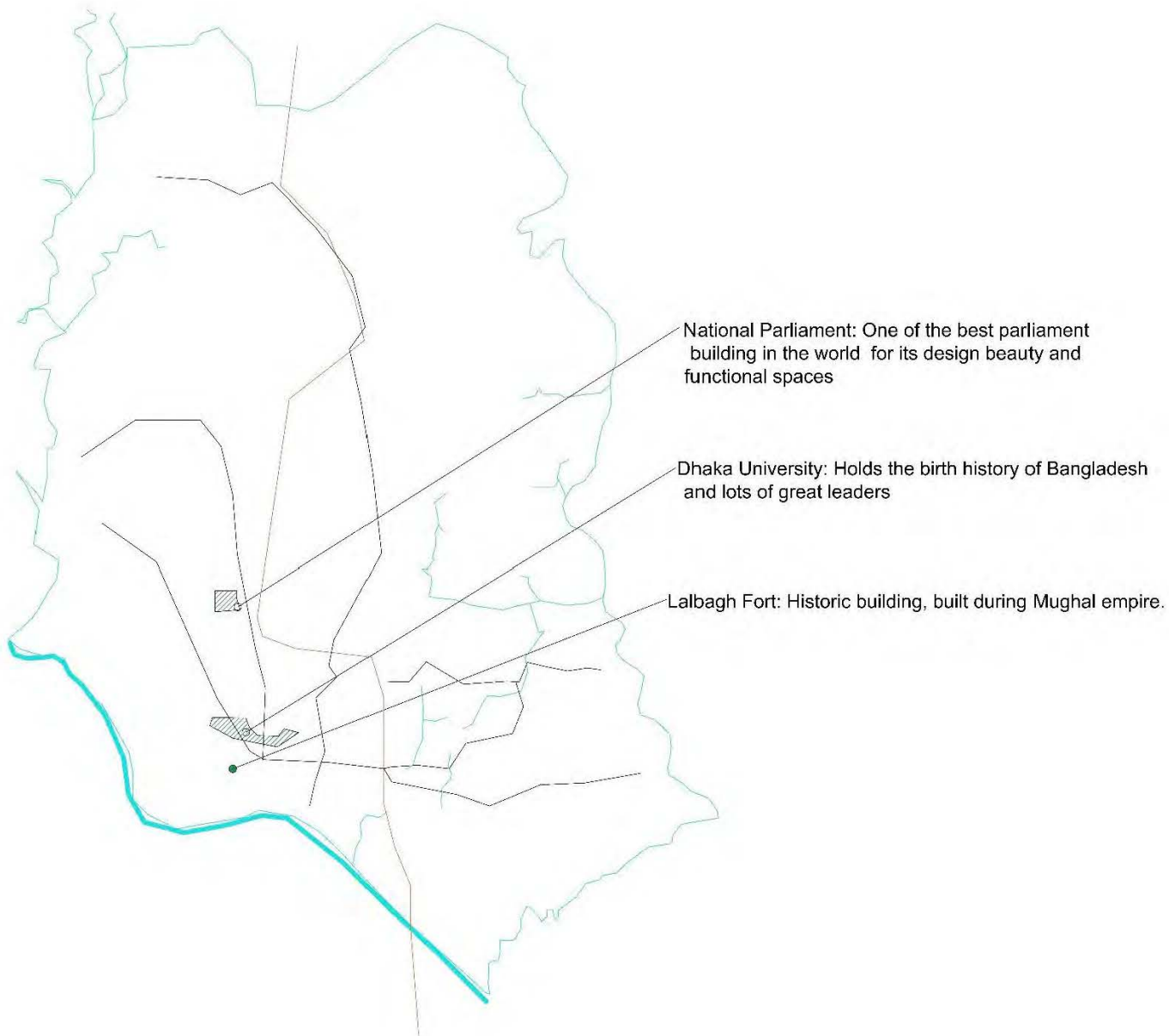
LOVES AND HATES

A.H.M. MAHMOOD HASAN | 10 JANUARY, 2022

Most Favorite Places



Proud of



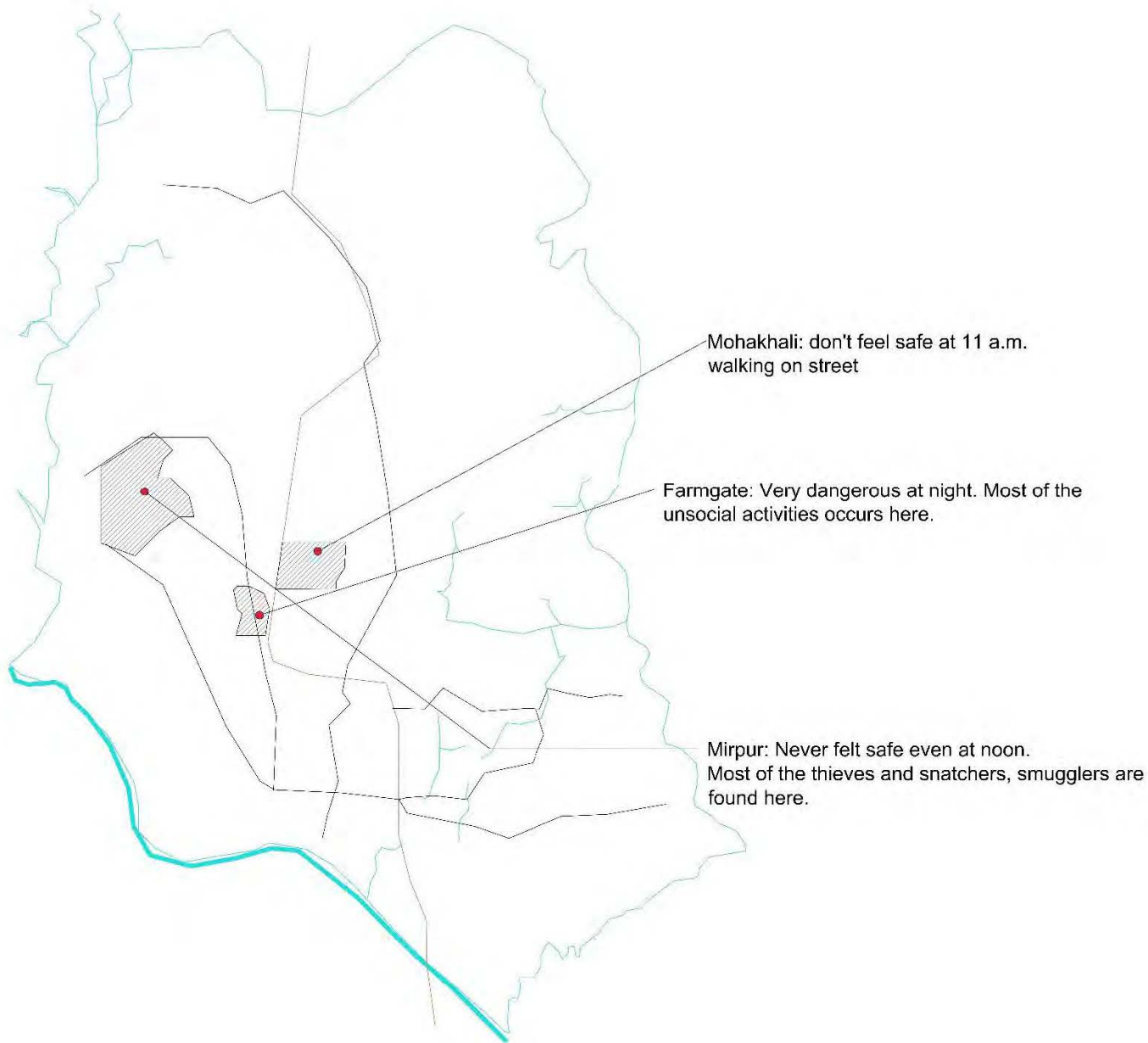
Affordable



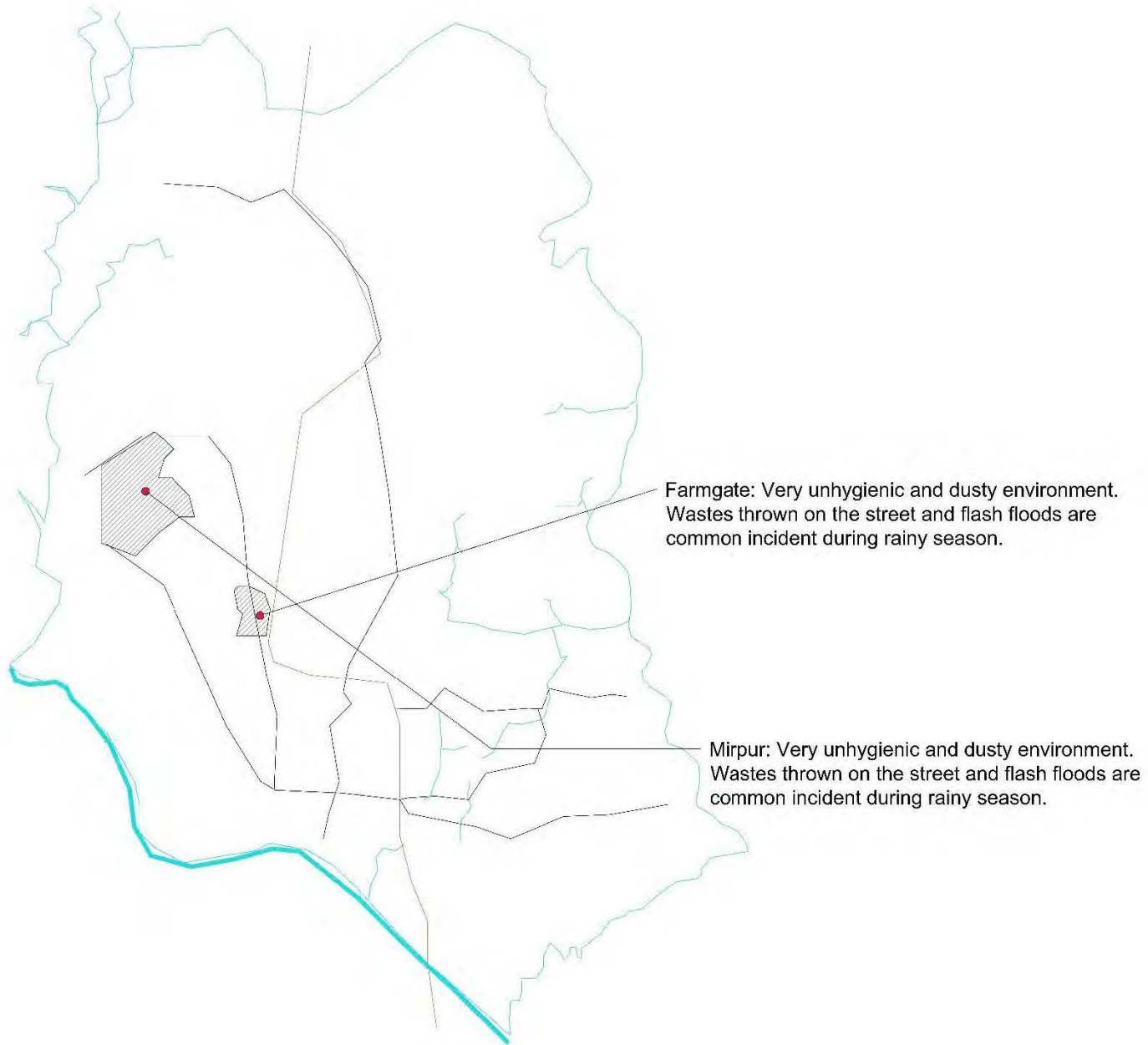
Most Costly And Expensive Zones



Scary at Night



Environmentally hazardous



Research Methods
ARC522

Mapping Vibes in Dhaka

Tasnia Bari
18108014



Dhaka City

Name:.....Tasnia Bari.....

Date: 10th January 2022.....

Positive Vibes

- 1.Home. Where I'm living for 23 years.
2. Where I love to hangouts with my friends. Most joyful place for me because of its crowdedness.
- 3.Suitsble as a workplace because of its flexibility.
- 4.One of the popular place in Dhaka city. Almost everyone visited there at least once who lives in Dhaka or came to visit Dhaka.



Dhaka City

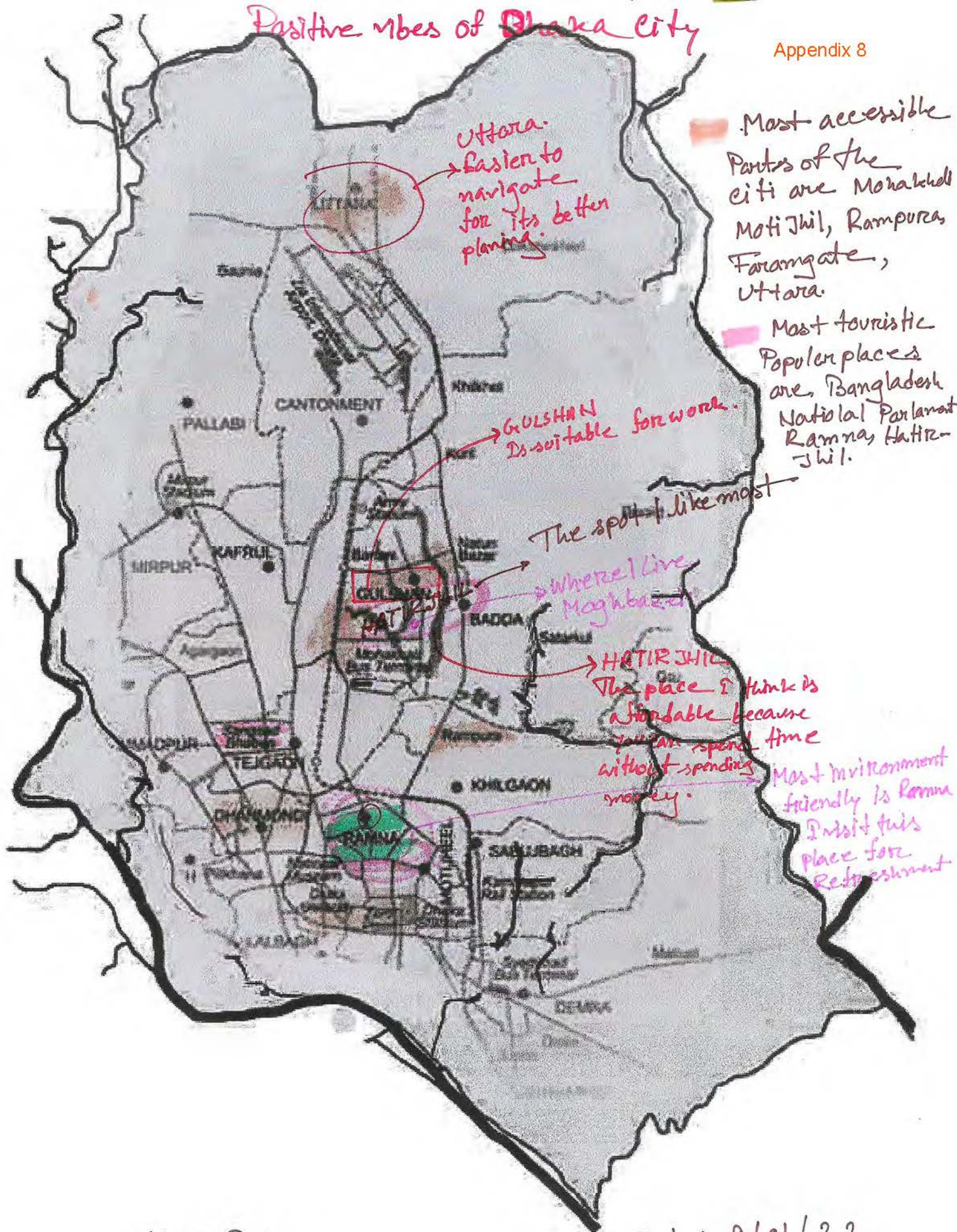
Name: Tasnia Bari

Date: 10th January 2022

Negative Vibes

1. This is one of the most expensive place in Dhaka city. The restaurants and shopping malls are comparatively more expensive than other places.
2. This is the place that I don't like at all because of its traffic congestion.
3. This place is unsafe at night . Mugging or any other crime can be occur and women's are not safe alone at this place.

Positive mbes of Dhaka City



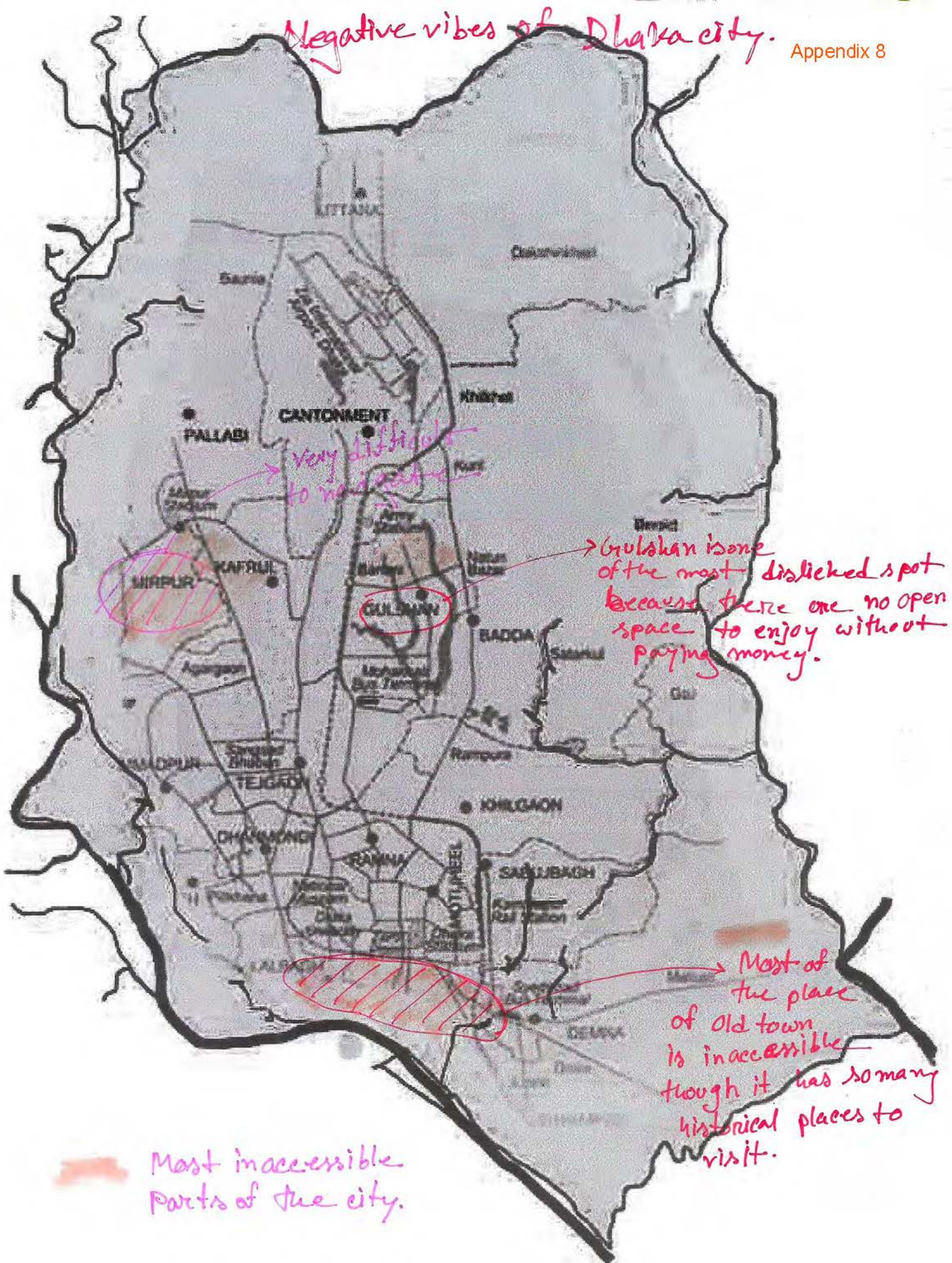
Most accessible Parts of the city are Mohakhali, Moti Jhil, Rampura, Farangate, Uttara.

Most touristic Populer places are, Bangladesh National Parliament Ramna, Hatirjil.

Name: Yasir Rahman

Date: 9/01/22

Negative vibes of Dhaka city.



Name: Yasir Rahman

Date: 9/01/22