

แบบฟอร์มข้อเสนอโครงการเพื่อขอรับทุนสนับสนุนการวิจัย  
คณะมนุษยศาสตร์ มหาวิทยาลัยเชียงใหม่

Funding Proposal for Research Project, Faculty of Humanities, Chiang Mai University  
ปีงบประมาณ 2568

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เลขที่หนังสือ อว8393(10),5/503.....

วันที่ 26 ธันวาคม 2567

1. ชื่อโครงการวิจัย (ภาษาไทย):

จักรวาลวิทยาน้ำ: มุมมองเรื่องน้ำ พื้นที่และการมองโลกจากภูมิทัศน์ชุมชนโบราณในเขตที่ราบเชียงใหม่

Research Title in English:

Water Cosmology: Perspectives on Water, Space, and Worldview from the Historical Communal Landscape at the Chiang Saen Basin

2. ประเภทของงานวิจัย | Types of Research Projects

งานวิจัยเดี่ยว | Solo Research Project

งานวิจัยกลุ่ม | Collaborative Research Project

3. สาขาวิจัยหลัก | Academic Fields or Areas of the Research Project

โบราณคดี ประวัติศาสตร์ มานุษยวิทยา การจัดการน้ำและผังเมือง การจัดการภัยพิบัติ สิ่งแวดล้อม

4. ความสอดคล้องกับยุทธศาสตร์ของมหาวิทยาลัยเชียงใหม่ | Alignment with the Research Strategy of Chiang Mai University

Environment and Energy

Food, Health, and elder care

Lanna Creative

Other Research Excellences and Innovations

5. ผลผลิตที่คาดว่าจะเกิดจากโครงการฯ | Expected output from the project

บทความวิจัยเพื่อตีพิมพ์ในวารสารวิชาการฐาน Scopus/ Web of Science | Manuscript for publication in Scopus/ Web of Science

CMU RL4-7

CMU RL8-9

อื่น ๆ (โปรดระบุ) XXXXXX

6. ชื่อหัวหน้าโครงการวิจัยและคณะผู้วิจัย | Project Leader's Name and Research Team Members

ชื่อ-สกุล หัวหน้าโครงการ | Project Leader: Piyawit Moonkham, Ph.D.

สังกัด | Affiliation : Department of History, Faculty of Humanities

สัดส่วนภาระงาน | Workload (%): 70%

ชื่อ-สกุล นักวิจัยร่วม | Research Team Members: Thanyarat Apiwong, Ph.D.

สังกัด | Affiliation : Department of History, Faculty of Humanities

สัดส่วนภาระงาน | Workload (%): 10%

ชื่อ-สกุล นักวิจัยร่วม | Research Team Members: Nattasit Srinurak, Ph.D

สังกัด | Affiliation : Multidisciplinary Research Institute, Chiang Mai University

สัดส่วนภาระงาน | Workload (%): 10%

ชื่อ-สกุล นักวิจัยร่วม | Research Team Members: Janjira Sukwai, Ph.D.

สังกัด | Affiliation : Multidisciplinary Research Institute, Chiang Mai University

สัดส่วนภาระงาน | Workload (%): 10%

7. นักวิจัยที่ปรึกษา (Mentor) (ถ้ามี) | Research Mentor (if any)

ชื่อ-สกุล นักวิจัยที่ปรึกษา | Research Mentor: XXXXXX

สังกัด | Affiliation: XXXXXX

8. รายละเอียดโครงการวิจัยที่เสนอขอรับทุน | Detail of Research Project

(1) ที่มาและความสำคัญของการวิจัย | Background and Significance of the Research

Several years ago in Chiang Saen, Northern Thailand, I conducted an interview at the temple and conversed with Phor Boonpan, a layperson, about the naga (a mythical serpent). For the Chiang Saen community, the naga plays a significant role in social and religious worldviews regarding bodies of water, water resources, rains, and communal landscape. Phor Boonpan told me that a recently established governmental agency had been formed and expanded many new roads. Since then, many floods have happened in Chiang Saen, which Phor Boonpan saw as a disturbance of the flow of waterways and the path of the naga; evidence that the naga had punished the communities (Moonkham 2021; see also Edgeworth 2011:83). On many occasions, the accounts of local knowledge holders like Phor Boonpan are often absent when it comes to understanding water resource management and social spaces and landscape in Mainland Southeast Asia. New government roads and dams were constructed without fully understanding the past landscape concept and management or consulting the communities who lived there and relied heavily on water resources for their farming for a long period of time (Boyd and Chang 2010; Guedes et al 2020; Welch and McNeill 1991)—creating tension and conflicts between governmental agencies and local

communities. In the Chiang Saen Basin, the symbolism of water and local folklores or myths (e.g., naga) that related to the rivers and bodies of water demonstrated how important these stories are to architectural design, temple layout, building compositions and orientation, and people's sense of belonging and the community prior to the 14<sup>th</sup> century. More importantly, the role of the naga myth and how both historical and contemporary community's understanding of this entity influenced the location, orientation, and spatial patterns of Buddhist temples, affecting decisions on where these structures should be constructed (Moonkham 2021:195). In addition, in the Chiang Saen Basin, the advent of Buddhism (c.800s-900s CE) and the religious reform from the 1300s to 1400s CE influenced many social and religious activities that took place in the temples, and the evidence shows a rather uniform and/or hierarchical form of interaction (Swearer 1995; 2002; Moonkham and Duff 2022); however, the locations and patterns of the temples demonstrate the important role of rivers and local folklores in the social and religious activities, and their layout displayed a rather diversified and/or heterarchical form of interaction (Moonkham and Duff 2022). This spatial characteristic of the temples, and the ways in which local communities interact, use, and commune within this space could answer questions about social complexity and worldview where the rivers or bodies of water are seen as culturally significances to their multi agent social interactions and cosmological belief (Van Dyke 2008).

(2) งานวิจัยที่เกี่ยวข้อง/ การทบทวนวรรณกรรม | Studies related to the research project/  
Literature Review

Archaeological works on landscape transformation and management and artistic and architectural development tend to be concentrated on large historical structures and/or monuments and archaeological sites predominantly on land (Evans et al 2013; Fletcher et al 2015; Moore 2009; Murphy and Revire 2014; Stark 2006; Tambiah 1976), but smaller sites, and/or the role of bodies of water are often absent. While I agree that monuments and topographical features on land are important to understand social worldviews and cosmological concepts, in places like the Chiang Saen Basin, rivers were seen as sacred places and were considered to some degree the epicentre of communal gathering to perform religious and social activities (Boomgaard 2007; Moonkham 2021). Furthermore, bodies of water in various cultures play a significant role in many parts of communities' livelihood, cosmological worldviews, natural boundaries, stories of origin, and rites of passage, e.g., births, comings of age, marriages, and funerals. Rivers, lakes, and oceans are also culturally constructed as centres of religious activities, cosmology, and social

interaction, as well as natural resources for food and place for trade (Edgeworth 2011; Källén 2004; Moonkham 2021). Despite these important necessities and characteristics, the focus of anthropological attention has been placed on land, with very little engagement with local knowledge of the aquatic world from a water perspective (Hirsch 1995; Morphy 1995). Thus, this research wishes to address the role of rivers, lakes, and all forms of the body of water in social worldview, religious practices, and spatial organization of historical communities in the Chiang Saen Basin.

(3) วัตถุประสงค์ของการวิจัย | Research Objectives

This research wishes to examine the role of rivers in social worldview, and water cosmology of historical communities in the Chiang Saen Basin from historical, archaeological, and spatial point of view.

(4) คำถามของการวิจัย | Research Questions

This research wants to understand if the concept of flow of river and other related aspects of bodies of water play a role in the temple construction, settlement pattern, and community's spatial adaptation as well as social worldview.

(5) ประโยชน์ที่คาดว่าจะได้รับจากการวิจัย | Research Benefits or Significance

This project offers an innovative way to look at community-based social behaviors/activities through the views of the spatial analysis, community ontology, and historical documents to understand how people's behaviour and social worldview would be practiced in such a complex cultural waterscape. This project also spearheads a much-needed paradigm shift to reframe our research design from land to water, including both landscapes and waterscapes. It joins current efforts to recognize that Southeast Asia should be understood not just from the land, but also from the water (Walker Vadillo et al. 2022). The thesis of my conclusion will focus on revealing that by overemphasising cultural landscapes on land, we cannot fully understand how local communities use, interact, manage, and view their social space, which is inevitably intersected by water.

(6) สมมุติฐาน/ คำถามการวิจัย (ถ้ามี) | Research Hypotheses/ Research Questions (if any)  
N/A

(7) นิยามศัพท์ | Definitions of Key-term  
N/A

(8) ระเบียบวิธีวิจัย | Research Methodology

This work will combine community archaeology and spatial analysis to examine the large corpus of temple and community areas in the Chiang Saen Basin. To address the questions,

this project will apply space syntax (Hillier and Hanson 1984; Jiang et al 2000; Lilley 2018; Turner et al 2015; Valente 2012), and Geographical Information System (GIS)-based analyses, i.e., Angular Step Depth (Srinurak et al 2016; Srinurak and Mishima 2017), Viewshed (Van Dyke et al 2016), and Proximity Analyses (Hoffman-Hall et al 2019), to assess how the spatial organization and development of Buddhist temple sites were arranged and how they related to the role of water bodies in Northern Thai and Laos historical communities. To do this, I will apply the concept of heterarchy, i.e., water edge communities and temples as heterarchies (Crumley 1995; White 1995), and experiential approach (Van Dyke 2008; Jackson et al 2019) as alternative approaches to studying the sociopolitical organizations, which will be identified and analysed through spatial arrangements and patterns and will be framed in theoretical approaches that focus on human-environment interactions in watery spaces. This project will also apply the community-based archaeological approach to incorporate the contemporary communities' account regarding local perceptions, folklores, management, and utilisation of bodies of water (i.e., rivers and streams) and their social spaces to enhance our understanding of the relationship between bodies of water and communal landscape. This framework explores and using maps and countermaps, spatial analysis and individual narratives to document interaction between humans and their watery spaces, to demonstrate the integral nature of landscape and riverscape of past societies. Where other projects have focused on land, this project will extend a bridge into the aquatic world to gain a broader understanding of human-environment interactions in Northern Thai and Laos historical communities.

(9) ระยะเวลาทำการวิจัย | Duration

January -December 2025

(10) แผนการดำเนินงาน | Research Plan

This project will use the data of 131 Buddhist temple layouts and patterns from three archaeological sites in the Chiang Saen Basin: Chiang Saen (n=25), Wiang Nong Lom (n=77), and Suwanna Kom Kam (n=29). The spatial data of some temple sites were gathered from my previous fieldwork in 2016, 2018, and 2024 including past surveys and excavation reports from the Fine Arts Department of Thailand (FAD 1991; 2009; 2010). The project plans to conduct a cultural and archaeological survey of the unexcavated sites (i.e., some temple sites in Wiang Nong Lom and Suwanna Kom Kam) and topographical waterscapes in the Chiang Saen Basin in April – May 2025. The aim of this fieldwork is also to conduct the

participatory observation on communal landscape activities in the Chiang Saen communities to address the main research questions of the project.

ประมาณการงบประมาณ/ ค่าใช้จ่าย โครงการ | Estimated Project Budget\*

แบบประมาณการงบประมาณค่าใช้จ่ายโครงการฯ

Form of the Planning of Research Expense

รายการ	จำนวนเงิน (บาท)
1. หมวดค่าตอบแทน (Remunerations)	
1.1 ค่าจ้างเหมาโดรน (Drone)	50,000
1.2 ค่าจ้างผู้ช่วยวิจัย	11,500
2. หมวดค่าใช้จ่าย (Expenditures)	
2.1 ค่าที่พัก 7 คืน 2 ห้อง (1100 บาท x 7 คืน x 2 ห้อง)	16,000
2.2 ค่าจ้างเหมารถตู้เดินทาง เชียงใหม่-เชียงใหม่ (รวมค่าน้ำมันแล้ว 3000 บาท x7 วัน)	21,000
3. หมวดค่าวัสดุ (Materials)	
3.1 อุปกรณ์สำนักงาน (clipboard กระดาษกราฟ และอื่นๆ)	1,500
3.2 อุปกรณ์การสำรวจ	20,000
4. หมวดค่าสาธารณูปโภค (Utilities)	
4.1 XXXXXX	XXXX
4.2 XXXXXX	XXXX
5. หมวดค่าครุภัณฑ์ (Equipment's)	
5.1 XXXXXX	XXXX
5.2 XXXXXX	XXXX
<b>รวมทั้งสิ้น Total</b>	<b>120,000</b>

(11) เอกสารอ้างอิง | References

- I. Boomgaard, P. (2016). Environmental Histories of Southeast Asia. In *Routledge Handbook of the Environment in Southeast Asia* (pp. 49-63). Routledge.

- II. Daungthima, W., & Hokao, K. (2013). Analysing the possible physical impact of flood disasters on Cultural Heritage in Ayutthaya, Thailand. *International Journal of Sustainable Future for Human Security, J-SustainVol, 1*, 35-39.
- III. Edgeworth, M. (2011). *Fluid Pasts: Archaeology of Flow*. London: Bristol Classical Press.
- IV. Evans, D. (2010). The archaeological landscape of Koh Ker, northwest Cambodia. *Bulletin de l'École française d'Extrême-Orient*, 91-150.
- V. Evans, D. H., Roland J. F., Christophe Pottier, Jean-Baptiste Chevance, Dominique Soutif, Boun Suy Tan, et al. (2013). "Uncovering archaeological landscapes at Angkor using Lidar." *Proceedings of the National Academy of Sciences* 110(31): 12595–12600.
- VI. Fine Art Department of Thailand (FAD). (1991). *Borankhadee Chiang Rai (Archaeology of Chiang Rai)*. Bangkok: Archaeological Unit, Fine Art Department of Thailand (in Thai)
- VII. Fletcher, R., Evans, D., Pottier, C., & Rachna, C. (2015). Angkor Wat: an introduction. *Antiquity*, 89(348), 1388-1401.
- VIII. Hillier, B., & Hanson J. (1984). *The Social Logic of Space*. Cambridge: Cambridge University Press.
- IX. Hirsch, E., and Michael. O'Hanlon. (1995). *The Anthropology of Landscape : Perspectives on Place and Space*. Oxford: Clarendon Press.
- X. Hoffman-Hall, A., Loboda, T. V., Hall, J. V., Carroll, M. L., & Chen, D. (2019). Mapping remote rural settlements at 30 m spatial resolution using geospatial data-fusion. *Remote Sensing of Environment*, 233, 111386.
- XI. Jackson, S. E., Wright, J., & Brown, L. A. (2019). 'All those Rocks.... were Talking to Each Other': Three Scenes of Archaeologists at Work. *Norwegian Archaeological Review*, 52(2), 144-147.
- XII. Jiang, B., Claramunt, C., & Klarqvist, B. (2000). *Integration of space syntax into GIS for modelling urban spaces*. *International Journal of Applied Earth Observation and Geoinformation*, 2:3-4. 161-171.

- XIII. Källén, A. (2004). *And through flows the river: Archaeology and the pasts of Lao Pako* (Doctoral dissertation, Afrikansk och jämförande arkeologi)
- XIV. Lilley, K. D.(2018).The Analysis of Urban Landscapes. *The Oxford Handbook of Later Medieval Archaeology in Britain*, 275.
- XV. McNiven, I. (2004). Saltwater people: spiritscapes, maritime rituals and the archaeology of Australian indigenous seascapes. *World Archaeology*, 35(3), 329-349.
- XVI. Mentzafou, A., & Dimitriou, E. (2022). Hydrological Modeling for flood adaptation under climate change: the case of the ancient Messene archaeological site in Greece. *Hydrology*, 9(2), 19.
- XVII. Moonkham, W. (2007). "Phummithat khong laeng borankhadi Wiang Kum Kam (Ancient Landscape of Wiang Kum Kam)," in Nakbunlung, Supaporn (ed.), *From the Pleistocene Ice Age to Lanna Period*, November 2007. Chiang Mai: Northern Archaeology Center, Chiang Mai University (in Thai)
- XVIII. Moonkham, P. (2021). Ethnohistorical Archaeology and the Mythscape of the Naga in the Chiang Saen Basin, Thailand. *TRaNS: Trans-Regional and -National Studies of Southeast Asia*, 9(2), 185-202. doi:10.1017/trn.2021.3
- XIX. Moore, E. (2009). "Archaeology of the Shan Plateau: The Bronze to Buddhist Transition." *Contemporary Buddhism* 10(1), 91–110.  
<https://doi.org/10.1080/14639940902969044>
- XX. Morrison, K. D. (2015). Archaeologies of flow: Water and the landscapes of Southern India past, present, and future. *Journal of Field Archaeology*, 40(5), 560-580.
- XXI. Murphy, S. A., and Revire, N. (2014). *Before Siam: Essays in art and archaeology*. Bangkok: River Books and the Siam Society.
- XXII. Ng, S., Wood, S. H., & Ziegler, A. D. (2015). Ancient floods, modern hazards: the Ping River, paleofloods and the 'lost city' of Wiang Kum Kam. *Natural Hazards*, 75, 2247-2263.
- XXIII. Ongsakul, S. (1994). *Wiang Kum Kam: An historical study of an ancient*



- community in lanna research report. *Chiangmai University. Chiangmai.*
- XXIV. Oliver, J. (2007). Beyond the water's edge: towards a social archaeology of landscape on the Northwest Coast. *Canadian Journal of Archaeology/Journal Canadien d'Archéologie*, 1-27
- XXV. Palka, J. W. (2024). Ancestral Maya domesticated waterscapes, ecological aquaculture, and integrated subsistence. *Ancient Mesoamerica*, 35(1), 208-236.
- XXVI. Srinurak, N., & Mishima, N. (2017). *Urban Axis and City shape evaluation through spatial configuration in 'Lan Na' Northern Thailand Historic city*. *City, Territory and Architecture*. 4:1. 10.
- XXVII. Srinurak, N., Mishima, N., Sukwai, J. (2016). "Angular Segment Analysis to Support the Reinvention of Religious Spaces in Chiang Mai's Historic Town." In 11th International Symposium on Architectural Interchange in Asia, edited by Masayoshi Nakashima, 1:D5-1. Tohoku University, Sendai, Japan: Architectural Institute of Japan.
- XXVIII. Stark, M. T. (2006). Early Mainland Southeast Asian Landscapes in the First Millennium A.D. *Annual Review of Anthropology* 35(1): 407-432.  
<https://doi.org/10.1146/annurev.anthro.35.081705.123157>
- XXIX. Stark, M. T., Evans, D., Rachna, C., Piphah, H., & Carter, A. (2015). Residential patterning at Angkor Wat. *Antiquity*, 89(348), 1439-1455.
- XXX. Tambiah, S. J. (1976). *World Conqueror and World Renouncer: A Study of Buddhism and Polity in Thailand Against A Historical Background*. Cambridge Studies in Social Anthropology; Cambridge: Cambridge University Press.
- XXXI. Turner, A., Penn, A., & Hillier, B. (2005). *An algorithmic definition of the axial map*. *Environment and Planning B: planning and design*, 32(3), 425-444.
- XXXII. Valente, V. (2012). *Space syntax and urban form: the case of late medieval Padua*. *Post-Classical Archaeologies* 2: 147-166.
- XXXIII. Van Dyke, R. M. (2008). *The Chaco experience: landscape and ideology at the*

center place. Santa Fe, N.M.: School for Advanced Research Press.

XXXIV. Velechovsky, M., Sinthusan, A., & Pitragool, S. (1987). Geological aspects of the burial by flood of the ancient city of Wiang Kum Kam, Chiang Mai, Thailand. Chiang Mai University. *Center for the Promotion of Arts and Culture, unpublished report, 18.*

XXXV. Walker Vadillo, V., Mataix Ferrándiz, E., & Holmqvist-Sipilä, E. (2022). *Down by the Water: Interdisciplinary Studies in Human-Environment Interactions in Watery Spaces.* Oxford: BAR Publishing.

9. คำชี้แจงเพิ่มเติม (ระบุรายละเอียดอื่น ๆ ที่จะช่วยให้การพิจารณาจัดสรรทุนอุดหนุนการวิจัยเป็นไปได้ชัดเจนยิ่งขึ้น) (ถ้ามี) | Other details or declarations (relevant information that will help the committee see more clearly why this research project needs to be funded) (if any)

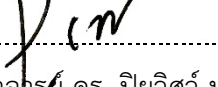
10. โปรดแนบเอกสารดังต่อไปนี้

CV ของหัวหน้าโครงการ และคณะผู้วิจัยฯ

11. ผู้ขอรับทุนฯ ขอให้คำรับรองว่าจะปฏิบัติตามระเบียบและแนวปฏิบัติที่เกี่ยวข้องกับการขอรับทุนสนับสนุนการวิจัยฯ ดังนี้

ระเบียบมหาวิทยาลัยเชียงใหม่ว่าด้วยการจัดซื้อจัดจ้างและการบริหารพัสดุเพื่อการวิจัยและพัฒนาของนักวิจัย พ.ศ. 2562

หลักเกณฑ์และแนวปฏิบัติการตั้งค่าใช้จ่ายโครงการวิจัย หรือโครงการผลิต/ปรับปรุงผลงานทางวิชาการ คณะมนุษยศาสตร์ มหาวิทยาลัยเชียงใหม่


ลงชื่อ .....  ..... หัวหน้าโครงการ (ผู้ขอรับทุน)  
(อาจารย์ ดร. ปิยวิศว์ มูลคำ)

12. (ถ้ามี) ความเห็นของนักวิจัยที่ปรึกษา (Mentor) เกี่ยวโครงการ พร้อมทั้งลายมือนักวิจัยที่ ปรึกษาและวัน เดือนปี | (If any) The mentor's opinions regarding the research project which are signed and dated.

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ลงชื่อ ..... ที่ปรึกษาโครงการ  
( )

13. คำอนุมัติและรับรองของหัวหน้าภาควิชา/สาขาวิชา (เกี่ยวกับการอนุญาตให้ใช้สถานที่และอุปกรณ์การวิจัย การ ควบคุมและติดตามการดำเนินงานวิจัยจนเสร็จสิ้นโครงการ ตลอดจนเรื่องอื่น ๆ ที่เกี่ยวข้องกับการวิจัย) | Approval from the head of the department, division, or center with which the primary researcher is affiliated

ลงชื่อ  หัวหน้าภาควิชา  
(ผู้ช่วยศาสตราจารย์ ดร.ธัญญารัตน์ อภิวงค์)