



UNIVERSITY OF OXFORD

# MAPPING AGGLOMERATION AND TRADE IN EARLY MAINLAND SOUTHEAST ASIA

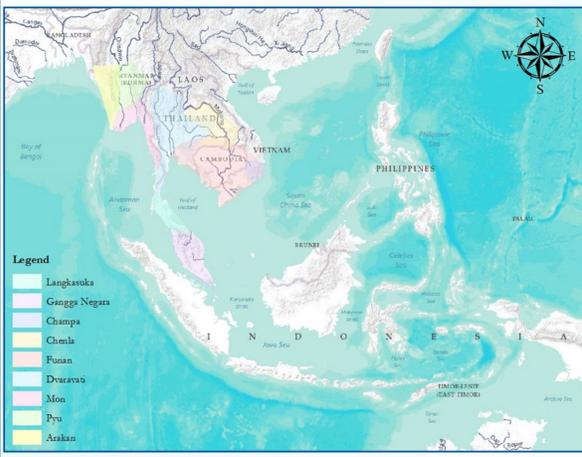
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Clarendon



## 1. OVERVIEW

- Between 300BCE to 1300CE environmental and climate stabilities opened lowlands for more permanent and larger settlements.
- There is evidence of earlier intraregional exchange across the South China Sea from Taiwan to Indonesia operated by Dong Son and Sa Huynh (modern day Vietnam) travellers from 1100 to 500BCE.
- Settlements before 300BCE are situated in highlands or caves.
- Environmental stability opened doors for large urban settlements with investments into large public infrastructures such as moats, soil trenches, brick or laterite walls, and religious structures.

- History of Southeast Asia is characterised by low population density and relatively late urbanisation.<sup>1</sup>
- Southeast Asian polities initially developed as maritime entrepôt and primary product producers for traders in the Indian Ocean and East Asia.
- Interactions with merchant shaped political and economic structures in Southeast Asia.<sup>2</sup>
- Due to the limited amount of written sources, little is known about the size, scale, and urban patterns during the first wave of urbanisation that swept Southeast Asia between 3rd century BCE to 13th century CE, when large empires emerged.

## 2. RESEARCH QUESTION AND DATA SOURCE

What are the relationships between settlement patterns and trading activities between 300 BCE to 1300CE?

This project establishes economic landscapes of different early polities and analyses the economic impact of trade on ancient settlement patterns.

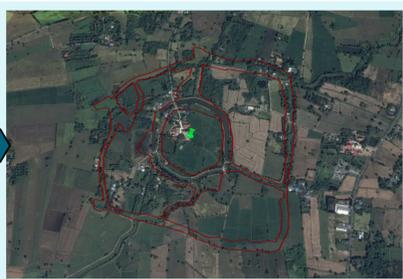
Thailand	Malaysia	Myanmar
<ul style="list-style-type: none"> <li>183 Archaeological Survey Reports from the Fine Arts Department of Thailand</li> <li>51 Excavation reports on first millennium sites from 12 Regional Offices</li> <li>12 Secondary Source on Excavations conducted by non-governmental bodies</li> <li>Field Surveys</li> <li>13 Museum Databases and Provenance Records</li> </ul>	<ul style="list-style-type: none"> <li>5 Excavation reports from Sungai Batu and Lembah Bujang Valley</li> <li>Field Survey</li> <li>Museum Display Records from Lembah Bujang Archaeological Museum</li> <li>3 Early surveys and archaeological Excavation reports in Perlis Area from the Journal of the Malayan Branch of the Royal Asiatic Society</li> </ul>	<ul style="list-style-type: none"> <li>3 Excavation Reports from Sri Ksetra Office, Department of Archaeology, Ministry of Culture</li> <li>Field Survey of Mon State Sites</li> <li>Mon State Excavation Report from U San Win (University of Yangon) and U Kyaw Myo Win (Ministry of Culture)</li> <li>2 Doctoral Thesis on Pre-Bagan Sites in Myanmar</li> <li>7 Reports in the Journal of Burma Research Society</li> <li>2 Reports from the Journal of Burma Studies</li> </ul>

## 3. SETTLEMENT

- Creation of new land measurement for archaeological settlement size.
- Settlement patterns and size can be determined using data from archaeological reports, land surveys, and satellite imagery.
- Location and size are fixed according to relative and absolute dating in each period.
- Geographical effects on agriculture are categorized into area with domesticated rice, wild rice, and no rice.

### Archaeology Plan

Georeferenced in Google Earth → Shape File conversion and import into ArcGIS



Settlement Size, Man-made enclosure size (Wall/Trench/Moat), Distance Between Settlements

TABLE 1: SUMMARY OF MOATED SETTLEMENT SIZE (UPDATED JULY 2014)

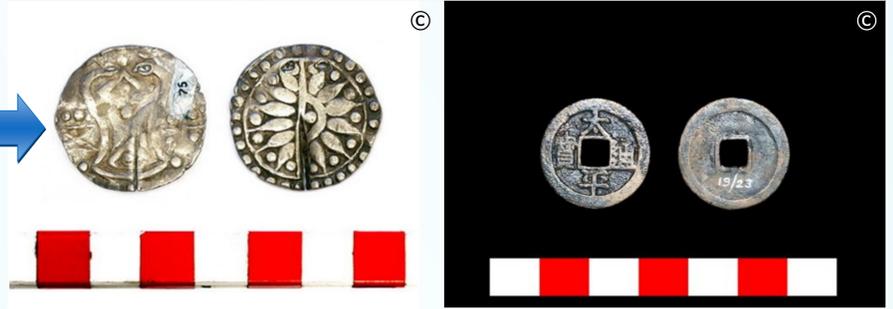
	< 12.8 hectares	12.8 – 32 hectares	32 – 64 hectares	>64 hectares	Total
Number of Sites	282	279	164	144	896
Percentage	12.45	32.1	18.9	16.6	100

NEXT STEP: Basic Population Estimates

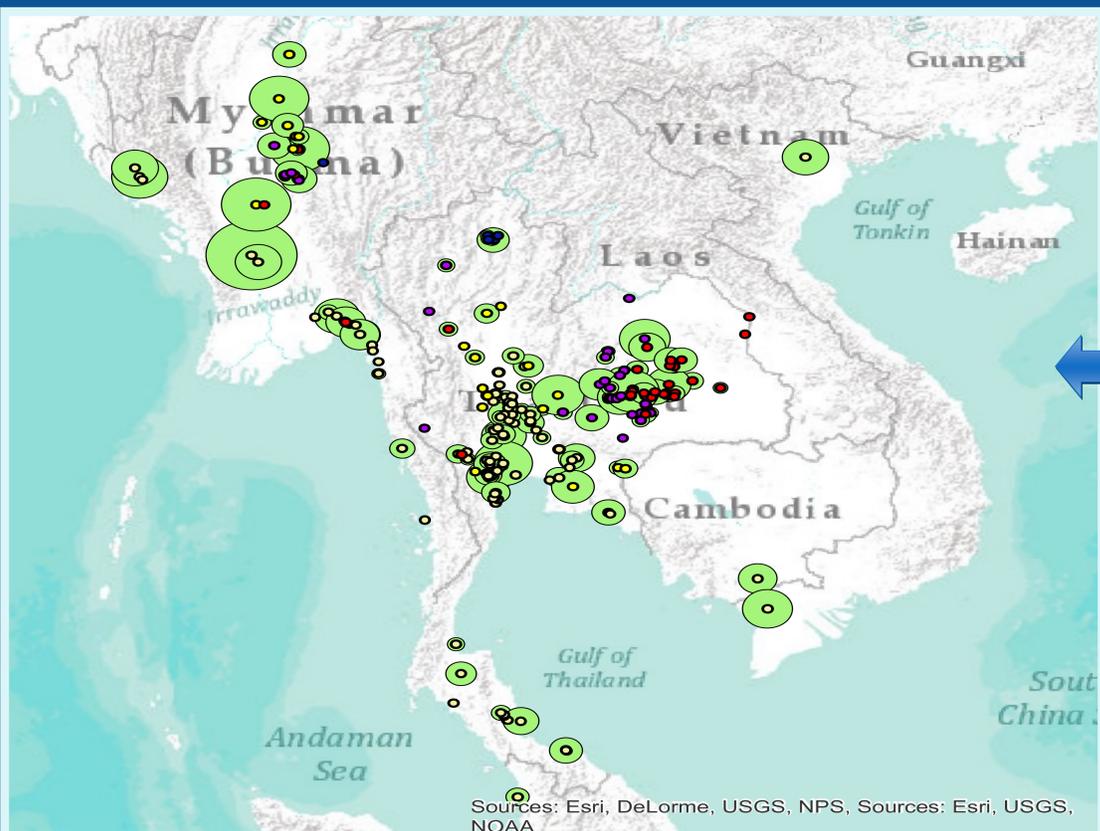
## 4. TRADE

Material goods and natural resources appear in different location. Cultural affinity demonstrates contact between different settlements. Trade items are ranked according to density (amount found) and categorized in to short, medium, and long distance trade.

Understanding early landscapes by mapping Locations, size, distance to water bodies, production activities, and material culture



Map out material clustering and distribution to determine “economic boundaries”.



## REFERENCES

- Hudson, B., A Pyu Homeland in the Samon Valley: A New Theory of the Origins of Myanmar’s Early Urban System (2vols., 2005).
  - Kathirithamby-Wells, J. and Villiers, J., The Southeast Asian Port and Polity: Rise and Demise (1990).
- © The King Narai National Museum Archive, Fine Arts Department, Ministry of Culture, Thailand  
A. Sri Thep Historical Park, National Museum of Thailand, Bangkok, Ministry of Culture (2007)

Sources: Esri, DeLorme, USGS, NPS, Sources: Esri, USGS, NOAA