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GIS を用いたアジア鉄道史の解明に向けて
Revealing Railway History in Asia by Using GIS

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Introduction

- My previous & present research subject: Development of transport and change in commodity flow in Thailand
 - History of urban transport in Bangkok
 - Transport development in the GMS
 - Japanese military transport in Thailand during WW II
- Why selecting railways?: Easier to find the opening date of each line
 - Relatively easier to gain sources
 - Availability of transport data
- 1 Stage 1: Revealing the process of railway network expansion (in SEA)
 - Work: Making railway route map with opening date of each line
 - Inputting date of improvement (i.e. dual-tracking, electrification)
 - Sources: Secondary sources are available except Indonesia (as far as I know).
 - Thailand: Kakizaki [2005]
 - Vietnam: Lien Hiep Duong Sat Viet Nam [1994]
 - Cambodia: Whyte [2010]
 - Burma: Maung [1964]
 - Malaya: Kaur [1985]
 - The Philippine: Corpuz [1999]
 - Problems: How to divide the line in a map into several sections?
 - How to show those lines that are excluded in maps?
 - Opening date of Indonesian railways are available or not?
 - Reitsma [1925] and Reitsma [1928] may include such data.

2 Stage 2: Inputting data of transport volume (in SEA)

- Work: Inputting data regarding to transport on railway route maps.
- Data to be used:
 - 1: Volume of passenger transport (in passengers or passenger-kilometer)
 - 2: Volume of freight transport (in tons or ton-kilometer)
 - 3: Volume of each freight item (in ton)
- Sources: Available data differ according to country.
 - Thailand: 1, 2, 3 (in ARA)
 - Vietnam: 1, 2, 3 (certain years only) (ASI)
 - Cambodia: 1, 2, 3 (certain years only) (ASI)
 - Burma: 1, 2, 3 (up to 1913) (ARRI, SABI)
 - Malaya: 1, 2 (in Kaur [1985])
 - The Philippines: 1, 2, 3 (between 1918-1938) (Corpuz [1999])
 - Indonesia: 1, 2 (Knaap [1989])
- Data of each line or station: Only few countries have such data:
 - Thailand: Station-level data available.
 - Vietnam: Line-level (section-level) data available only in certain years.
 - The Yunnan-Vietnam line has more detailed data. (RCLHY)
 - Malaya: Data may be available in Annual Report.
 - Indonesia: Data in certain private lines available. (as Uemura [2004], [2009])
 - It is not clear whether Reitsma [1925], and Reitsma [1928] contain such data or not.
- Problems: How to show transport volume on the maps?
 - Is it better to focus on only specific freight items?

3 The expansion of target area

- Expansion of railway networks: British India: ARRI
 - China: Ma et al. [1983] (check needed)
 - Korea: Railway Department of the Korean Governor-general's Office ed. [2004(1940)] (check needed)
 - Taiwan: Railway Department of the Taiwan Governor-general's Office [1910-1911]

- Transport volume: British India: Transport volume of each company (ARRI)
Statistics of rail and river-borne trade (ITRR) (check needed)
China: Committee of Transport History Compilation, Department of Transport and Railways [1935] (check needed)
Fragmentally available in Takahashi [1995] (Manchuria, Northern China and Central China)
Korea: Railway Department of the Korean Governor-general's Office ed. [2004(1930)] (check needed) [2004(1930)]
- Problems: The work should be difficult, especially in India, since railway density in India is high and the limited my knowledge about India.
Is it more practicable to compare transport volume in certain lines?

4 Present hypothesis

- Railways and passenger movement: Number of passenger should be proportional to population density.
Level of fare should influence in the number of passenger.
→The number of passenger in each line can be estimated if railway timetables of each country are available.
- Railways and freight transport: Transport volume should be large in the section where competition with navigation did not exist.
Transport between entrepôt and hinterland should have been the center of transport.
→It may be better to compare several inland lines between entrepôt and hinterland.

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