# Integrating Place Names of the Early 20th Century into a Spatio-Temporal Gazetteer of Northeast Thailand

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#### **Abstract**

Place names used in old documents and datasets are key information to locate contexts or values of old sources onto the geographic space. Some places are stable in name for long years; however, not a few places were called in similar or much different from current names. To collect information on old place names of village level in Northeast Thailand in several generations ago, published set maps of Thailand and printed gazetteers in the early to the middle 20th century are source materials in this article. After attentive identification tasks to link old place names to current names, an overview situation of change in place name in Northeast Thailand show difference by area derived from environmental and social background of areas. Present-day place names in digital form are readily utilized in various applications; however, practical cases of integration of old place names precisely and widely in a wide region into a digital form are not much ready. This article describes a case study of integrating old place names in the region of Northeast Thailand into a spatio-temporal digital gazetteer as to be a springboard to further enriched historical gazetteer.

#### 1. Introduction

Place names at present day can be easily obtained on a paper map or more frequently through a Webbased map service. In contrast, place names in a record or a memory cannot be always identified with their corresponding places because of changes in name, or even a same name is assigned to a different place in a same area. In general, place names are not stable for long. Major reasons of change in name in modern society are a change born by an administrative demand and a standardization fit to the official language of the area. Beside such changes by the administration authority, many variants in transliterated scripts such Romanization are found in old materials prepared by foreign agencies. Information on the location of a place name in a record or in a memory is indispensable to spatially utilize old data connected with place names and to verify interview records relating with local communities.

The study area of this article is Northeast Thailand. Northeast Thailand accounts for about one-third of Thailand in both land and population. Most part of Northeast Thailand is on the Khorat Plateau and the Mekong River forms the border between Thailand and Lao P.D.R. in the north and the east of the region. In the west of the region, the Dong Paya Yen Mountains separates from the Central Thailand, and the border with Cambodia is along the Dangrek Mountains in the south. The dominant people in the region are Thai-Lao, and in the southern part of the region Khmer and Kuy

people are subdominant. Place names on modern maps are standardized under the so called Thaification process, but on old maps, many place names are found to keep original sounds or words at the time.

# 2. Objectives

In Northeast Thailand, a slight difference in place name on between an old map and a present-day map is often found because the language widely spoken in the region is slightly different from the standard Thai spoken in the central region of Thailand. In addition, as like as adjacent the left bank of the Mekong River in Lao P.D.R., many ethnic groups overlay in this region. In the southern part of the region, Khmer and Kuy people form thick overlays. Thus many place names including local expression derived from the language of the local majority are found in old materials. These old place names consist important information to describe the local background of communities, and must be shared and inherited in an integrated digital form for further uses as a geographical information infrastructure.

In this article, situation of similarity in place names in the first half of the 20th century is overviewed, and then some cases of change in place name are introduced. Since place names of village level are the major targets of observation, a prototype digital gazetteer born from this research may have a potential to provide suggestive information on continuity and discontinuity of communities in this region. The prototype gazetteer is also aimed to be a springboard for further discussions on effectiveness of a historical digital gazetteer for academic fields.

#### 3. Materials

Set maps which were firstly published in around 1920 by the Royal Survey Department, Thailand, are used as the source materials of high priority to collect place names of the early 20th century. Hereinafter the set maps are referred as to the RSD maps. On the RSD maps, place names are in Thai script. Since the RSD maps were the latest maps covering the whole country at the time of the Second World War, other materials with place names in non-Thai script were published by foreign agencies in that same period. The former Japanese army published editions duplicated from the RSD maps but written in Japanese script as a part of so called 'Gaihozu', the maps of the areas outside of Japan mainland. For a case in Romanized Thai, the U.S. Army Map Service published "Gazetteer to Maps of Thailand" in 1944. Some modern topographic set maps are also used for identifying corresponding locations of old place names. More details of source materials are as below.

# 3.1 RSD Maps Scaled 1 to 200,000

The RSD maps referred in this article are official set maps on a scale of 1 to 200,000 which were firstly published in around 1920 by the Royal Survey Department and the latest revised edition were published in mid-1950s. Place names are written in Thai. The coverage of one sheet is one degree square of the longitude and the latitude, and the regions of Northeast Thailand are consisted by 24 sheets. Early edition of the RSD maps are the original source to compile the Gaihozu maps below.

3.2 Gaihozu Maps of Thailand Scaled 1 to 200,000 So called 'Gaihozu' are the maps of the areas outside of Japan mainland prepared by the former Japanese army. In this article, Gaihozu maps of Thailand on a scale of 1 to 200,000 are used. The former Japanese army duplicated the RSD maps with place names in Japanese katakana which are transliteration of Thai script in original to make Japanese people easy to read. They were published in around 1940. These maps are hereinafter referred to as the Gaihozu maps or the GHZ maps in short.

# 3.3 Dainan'yo Chimei Jiten

Volumes of "Dainan'yo Chimei Jiten" or literally the gazetteer of the Greater South Sea, were compiled in Japanese, and the volume 4 published in 1943 covers Thailand and French Indochina. Place names listed in this gazetteer are in Roman with detailed descriptions in Japanese on their environments including geographic coordinates, but sources of place names are not mentioned individually. Numbers of entries are much less than that in the MOT below. Hereinafter, the DNY is used to refer this gazetteer.

# 3.4 Gazetteer to Maps of Thailand

In 1944, one year later than publication of the DNY above, the U.S. Army Map Service published "Gazetteer to Maps of Thailand". Place names listed in this gazetteer are in Roman which is transliteration of name in Thai. Unlike the DNY, no detailed description on a place is included; however, numbers of entries are much richer than the DNY. All entries are with geographic coordinates. Source of a place name is also mentioned, and many were collected on the RSD maps and on the Survey of India maps. Hereinafter, the MOT is used to refer this gazetteer.

# 3.5 Topographic Maps of L708 Series and L7017 Series Scaled 1 to 50,000

The L708 series maps are used as reference maps to identify place names in the middle 20th century and their locations. The L708 series were issued in late 1950s to 1960s by the Royal Thai Survey Department, RTSD, in cooperation with the U.S. Army Map Service. The L7017 series were issued in 1980s and later by the RTSD. Some adjacent maps of neighboring countries, Laos and Cambodia, are also referred to check the areas along the boundary. The L708 series is more referred than the L7017 series because year of issue of the L708 series is closer to those of the RSD maps. Place names in the L708 and the L7017 series are both in Thai script and in Romanized Thai. Hereinafter, these maps are referred to as the L708 maps and the L7017 maps respectively.

# 3.6 Thailand; Official Standard Names

"Thailand; Official Standard Names approved by the United States Board on Geographic Names" was published in 1966. Place names are mainly from the RSD maps, but their geographic coordinates are read on the L708 maps. As mentioned in later, this gazetteer includes many alias names of a place. Hereinafter, the OSN is used to refer this gazetteer (Figure 1).

#### 4. Methods

Three printed gazetteers list place names in Roman with geographic coordinates. So no further tasks more than inputting those entries into a database are required to digitize.

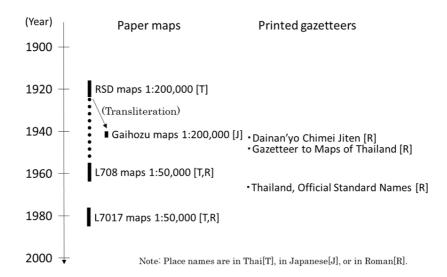


Figure 1: Chronological chart of set maps and gazetteers in 20th century

Table 1: Number of place names listed in Northeast Thailand

Source	Place names	Note
RSD maps	3,473	
Dainan'yo Chimei Jiten	461	*1
Gazetteer to Maps of Thailand	11,679	*1, *2
Thailand; Official Standard Names	3,407	*2

<sup>\*1)</sup> Place names located in the area of latitude between 14 and 18 degree north, and longitude between 101 and 106 degree east.

Since alias place names of a same location are listed in the OSN and the MOT, such alias names must be linked to a representative entry. This task can be systematically using the geographic coordinates and "See ..." description in the entry as key information. The RSD maps and their reprint edition in Japanese, the GHZ maps, are referred to collect place names of those days. Point features such as settlements, ponds, monasteries, railway stations, mountain peaks, and etc., are selected and their geographic coordinates are calculated based on the coordinate values of four edges of a sheet. In this process, both the RSD maps and the GHZ maps are overlaid manually to unify a place name in Thai script with its corresponding script in Japanese.

The L708 maps are used to identify a place name on the RSD/GHZ maps with its corresponding place at present. Geographic coordinates are also measured on a map. The L7017 maps are sometimes referred secondarily, since on the L708 maps some place names are not shown even the map symbol denoting a community is drawn. Horizontal datum applied in these two set maps is mentioned as the Indian Datum which had been a local standard for long before the current worldwide standard geodetic system, the WGS-84, was introduced. Values on the Indian Datum can be converted to values on the WGS-84, then to check errors of geographic

coordinates on other modern digital mapping tools can become easier. Provided that a name written on a RSD/GHZ map is same or similar to a name in the L708, it can be easily identified. But many place names found on the RSD/GHZ maps need further information of change in name to find corresponding current names on the L708 maps. Relative location of settlements along a stream may sometimes suggest proper corresponding settlements on the modern map.

Table 1 shows number of place names in Northeast Thailand listed in source materials used in this article. For the DNY and the MOT, numbers are counted provisionally by location with latitude of between 14 and 18 degree north, and longitude of between 101 and 106 degree east, since these two materials have no information on administrative district name of each entry. Numbers of alias names are excluded.

# 4. Discussions

When the place name is the same and the location is described in almost the same place among different sources, the designated place can be easily identified to be the same. But many cases exist that the place name does not accord. As in a previous study on locational accuracy of place names on the RSD/GHZ maps, many groups of places are shown

<sup>\*2)</sup> Entries of alias names are excluded.

in shifted areas by group of up to 25km away from locations (Nagata, 2017). proper identification of a place name on the RSD/GHZ maps with its corresponding name on the L708 or later maps is required to check its name and location with utilizing information of alias names obtained in the MOT and the OSN. At this moment, more than 40% of about 3,500 place names in total collected on the RSD/GHZ maps cannot be identified their corresponding names, whereas about 40% place names are same or similar to names on the L708 maps, and nearly 20% place names are slightly or quite different from their names on the L708 maps.

Figure 2 shows the similarity of place names on the RSD maps to their corresponding names on the L708 maps by map sheet of the RSD, one degree square of the latitude and the longitude. In this figure, 'similar' includes a case same in Romanized Thai but different in Thai script such as 'ชวก' (suak) and 'สวก' (suak). A typical case counted in 'slightly different' is that a later name is prefixed by a common noun to a former name such as 'ลาด' (lat) and 'ทาลาด' (tha lat) where 'ทำ' (tha) means 'a place on the waterside', or a modifier is attached in a later name such as 'นานว้า' (na wa) and 'นาหว้านั้อย' (na wa noi) where 'น้อย' (noi) means 'small'.

The similarity ratio is different from area to area. It is remarkably high ratio of unidentified place names as almost 60% in the two sheets designated as (A) in Figure 2. In the area (A), the Mun River, one of the two biggest branches of the Mekong River in Northeast Thailand, forms a wide watershed of lowland, so called 'Thung Kula Ronghai', where people had long suffered from the water management before modern irrigation systems were introduced. Not a few villages might discontinue at same places. Another possible background of preventing a smooth identification of name would be derived from the difference in spoken language since Khmer and Kuy people are dominant than Thai-Lao people in many parts of the area (A). To know more details about changes in name or discontinuity of communities, administration documents between the early to the middle 20th century and other snapshot maps of shorter interval than several decades must be further explored. In addition to the general situation of similarity in place names between the early and the middle 20th century in Northeast Thailand, some individual cases of change in name are described. Table 2, Table 3, and Table 4 show examples from three provinces, or 'changwat' in Thai.

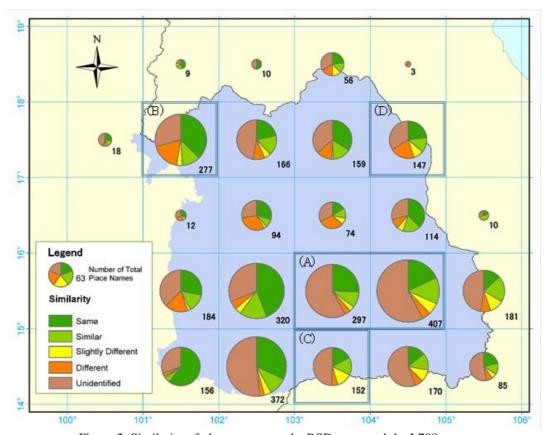


Figure 2: Similarity of place names on the RSD maps and the L708 maps

Table 2: Examples of change in name in Changwat Loei

Source	Place name	Latitude (N)	Longitude (E)	
(1) Ban Na Thong				
L708	บ้านนาทอง / Ban Na Thong	17°26′ 14″	101°11′42″	
OSN	Ban Na Thong	17°26′	101°12′	
	Ban Naung Baun			
	Ban Nong Bon			
MOT	Ban Nong Bon	17°30′	101°10′	
RSD	บ.หนองบอน (Ban Nong Bon*)	17°27′40″	101°08′ 23″	
GHZ**	_			
(2) Ban P	ang Khom			
L708	บ้านปางขอม / Ban Pang Khom	17°04′ 15″	101°09′ 45″	
OSN	Ban Pang Khom	17°04′	101°10′	
	Ban Man Nua			
MOT	Ban Man Nua	17°05′	101°05′	
RSD	บ.มันเหนือ (Ban Man Nua*)	17°06′ 29″	101°05′ 59″	
GHZ**				
(3) Ban K	aeng Muang			
L708	บ้านแก่งม่วง / Ban Kaeng Muang	17°27′ 49″	101°09′ 44″	
OSN	Ban Kaeng Muang	17°28′	101°10′	
	Ban Huai Lak			
	Ban Huai Sak			
MOT	Ban Huai Lak	17°30′	101°05′	
RSD	บ.หัวยลัก (Ban Huai Lak*)	17°28′ 52″	101°05′ 54″	
GHZ**				

The case of 'Ban Na Thong' in Changwat Loei shown in Table 2 explains its change in name. The place name was formerly described 'บ.หนองบอน', literally 'the Bon swamp village', in the RSD issued in 1941, or 'Ban Nong Bon' in Romanized Thai in the MOT which refers the RSD. 'บ.' is the abbreviation for 'บ้าน', or village. No information is obtained on the time of change in name; however, current place name 'บ้านนาทอง', 'Ban Na Thong' in Romanized Thai, or literally 'the golden rice field village' is found on the L708 compiled in 1960. Information of change in name is based on alias names listed in the OSN. For the case of 'Ban Na Thong', two different scripts, 'Ban Naung Baun' and 'Ban Nong Bon', are listed as aliases of 'Ban Na Thong', and these entries including 'Ban Na Thong' share the same values in latitude and longitude. Without such alias information in the OSN, change in name can be merely one possibility but not confidently identified. The geographic coordinates listed in Table 2 are for reference. Each value on different sources is based on the geodetic datum applied to the source at the time of publication. So the values are different from those on based on the present-day worldwide geodetic system. In the OSN, the source of 'Ban Na Thong' is mentioned as the L708, but the sources of the two alias names are not mentioned. 'Ban Naung Baun' and 'Ban Nong Bon' are variants in Romanization transliterated from Thai script. This example clearly show that two patterns in Romanization can be found to present the sound of a long vowel. Romanized script is indispensable to identify a place name for a person who is not familiar to Thai script; however, variants brought by different approaches of Romanization in different source maps thus ineluctably remain.

The other two cases in Table 2 show change in name which can be also identified by alias information in the OSN. For the case of 'Ban Kaeng Muang', two similar alias names 'Ban Huai Lak' and 'Ban Huai Sak' are listed in the OSN. The reason of difference between 'Lak' and 'Sak' can be guessed that the letter 'a' and 'a' in Thai, presenting '1' and 's' respectively, are similar type face and easily misread by foreigners. Cases shown in Table 2 are from the area (B) in Figure 2.

Identification of village names on the RSD/GHZ maps and their corresponding names on the L708 maps in the area of Changwat Loei is rather easier than that in other areas in Northeast Thailand, since Changwat Loei is in the mountainous area and many villages are lined along streams in valleys. Place names on the RSD maps in the southern part of

Northeast Thailand show more information of background of communities than place names on the L708. For the case of 'Ban Kron' in Changwat Surin shown in Table 3, the earlier place name found on the RSD map is 'ดระเป็นงโกรล', or 'Trapiang Kron' in Roman for reference, which is a name in Khmer in Thai script. As far as the legend in the L7016 series maps covering Cambodia, 'Trapeang' means 'pond'. In the OSN, 'Trapiang Krol' and 'Trapiang Kron' are both listed as alias names of 'Ban Kron'. Since the script 'โกรล' comes from local sound, 'Krol' but not 'Kron' may phonetically suitable Romanization for this case which cannot be revived from the current place name in Thai script 'บ้านกรอน' (Ban Kron).

The case 'Ban Ta Miang' in Table 3 shows another typical example frequently found in the southern part of Northeast Thailand. Formerly it was described as 'Phum Tamiang', and 'Phum' is a word representing a settlement which is widely used to show a village on maps of Cambodia, whereas 'Ban' is used in Thailand. So the later place name 'Ban Ta Miang' inherits 'Ta Miang' from the earlier

name, and 'Phum' is replaced to 'Ban'. 'Ban Tamieng' is also listed in the DNY though number of place names listed in the DNY is relatively scarce than other areas. The place 'Ban Tamiang' might be an important landmark of this area at the period of publication of the DNY.

'Ban Kho Kho' case in Table 3 shows another typical example similar to above. 'สรกฆ่าโค' or 'Sarok Kha Kho' is its former name. 'สรกฆ่าโค' or 'Sarok', might be used at a settlement larger than 'Phum' since 'Srok' represents the secondary administrative division which is mentioned in the legend of the L7016 series maps covering Cambodia. It can be easily understood that 'Ban Kho Kho' has been a large settlement since a century ago.

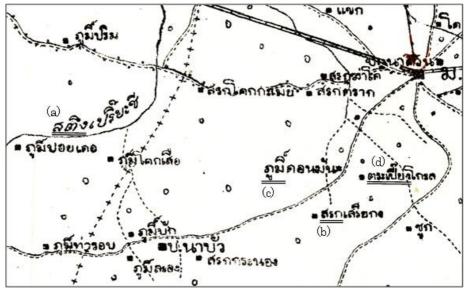
In Figure 3, many place names start with Khmer words in Thai script, such as 'stoeng', 'srok', 'phum', and 'trapiang' which represent stream, larger settlement, settlement, and pond, respectively. These examples are marked with (a), (b), (c), and (d), respectively with double underline in Figure 3.

Table 3: Examples of change in name in Changwat Surin

OSN I	on บ้านกรอน / Ban Kron Ban Kron Trapiang Krol Trapiang Kron Trapiang Kron	14°50′ 28″ 14°50′	103°27′ 52″ 103°28′		
OSN I	Ban Kron Trapiang Krol Trapiang Kron				
,	Trapiang Krol Trapiang Kron	14°50′	103°28′		
r	Trapiang Kron				
MOT '	Trapiang Kron				
		14°50′	103°25′		
RSD	ตระเปียงโกรล (Trapiang Kron*)	14°51′ 00″	103°27′ 22″		
GHZ**					
(2) Ban Ta	Miang				
L708	บ้านตาเมียง / Ban Ta Miang	14°25′ 46″	103°15′41″		
	Ban Ta Miang	14°26′	103°16′		
]	Phum Tamiang				
MOT 1	Phum Tamiang	14°30′	103°15′		
DNY	Ban Tamieng	14°24′	103°15′		
RSD :	ภูมิตาเมียง (Phum Tamiang*)	14°28′ 09″	103°16′ 17″		
GHZ**					
(3) Ban Tro	om Phrai				
L708	บ้านตรมไพร / Ban Trom Phrai	14°51′ 01″	103°47′ 16″		
OSN	Ban Trom Phrai	14°51′	103°47′		
'	Traum Pria				
	Trom Pria				
MOT '	Trom Pria	14°50′	103°45′		
RSD	ตรอมเปรี๊ย (Trom Pria*)	14°49′ 58″	103°46′ 40″		
GHZ**					
(4) Ban Kh	(4) Ban Kho Kho				
L708	บ้านคอโค / Ban Kho Kho	14°52′ 54″	103°26′ 30″		
MOT	Sarok Kha Kho	14°55′	103°25′		
RSD i	สรกฆ่าโค (Sarok Kha Kho*)	14°53′ 15″	103°26′ 30″		
GHZ**	,				

<sup>\*)</sup> Romanization is for reference

<sup>\*\*)</sup> Japanese script transliterated from Thai script here is omitted.



(Source: สุรินทร์ (Surin); No.4-48-43, Map of Thailand, Royal Survey Department, Thailand, 1927)

Figure 3: Place names near Surin city on the RSD map

No example is found starting with 'o' or creek in Figure 3, but many 'o' can be found on the RSD maps of nearby areas. In later period, these place names are described using Thai common nouns on the L708 maps, such as 'lam' for 'stoeng', 'huai' for 'o', 'nong' for 'trapiang', and 'ban' for both 'phum' and 'srok'. Cases shown in Table 3 and the cropped image of the map shown in Figure 3 are from the area (C) in Figure 2.

Table 4 shows three cases of change in name in Changwat Nakhon Phanom which is located on the right bank of the Mekong River and on the opposite side of Lao P.D.R. These cases are from the area (D) in Figure 2.

The case of 'Ban Kurukhu' shows slight differences in expression among sources, but no other place name with similar sound can be found in nearby. A senior village leader interviewed in 2017 explained to the author that the reason of change in name was in consideration of preferable meaning in similar sound to the former name.

The case of 'Ban Nong Kung' in Table 4 shows that the center of Renu Nakhon district was once located at Ban Nong Kung until 1940 at earliest as the RSD map of this area referred in this article is the revised edition published in 1940. At present, the district office of Renu Nakhon is located about 10km east of Ban Nong Kung.

The case of 'Ban Chanot' in Table 4 suggests that different editions of the RSD maps must be explored. The place names shown on the GHZ map and that on the RSD map are neither same nor similar. The GHZ map of this area was published in 1941 but its base, the RSD map, was published in

1919. And the RSD map of this area referred in this article is the revised edition published in 1940. Though contour lines, stream lines, and passages are drawn as same on the both maps, some villages on the GHZ map are disappeared and some villages are added on the RSD map of later period. If different editions of the RSD maps are available, information on change in name and continuity and discontinuity of settlement can become richer.

Among place names described in non-Thai script, some names are seemed to be wrongly read by a person who engaged in a task of transliteration into different scripts. A typical case of misreading comes from confusing 'A (kh) and 'A (d), as far as observations on the Gaihozu maps. More unclassifiable careless misreadings can be found on the Gaihozu maps, since the quick duplication should be the first priority at the time of publication. However, such misread descriptions might be possibly referred in materials and documents in non-Thai of the same age. Therefore, misread scripts must be indispensably integrated into a historical gazetteer as place names used in past.

Results of linking place names on the RSD maps with later place names on the L708 maps and linkages with place names in non-Thai scripts in the DNY, the MOT, and the OSN are integrated into a prototype Web-based digital gazetteer shown in Figure 4. Major targets of this article are place names on early modern cartographic maps of the early 20th century. The study (Pasuk and Stott, 2004) shows identification of place names in Thai which are described on maps of 19th century or before with current place names.

Table 4: Examples of change in name in Changwat Nakhon Phanom

Source	Place name	Latitude (N)	Longitude (E)		
(1) Ban Kurukhu					
L7017	บ้านกุรุคุ / Ban Kurukhu	17°19′ 43″	104°33′ 31″		
L708	บ้านกุลุคุ / Ban Kulukhu	17°19′ 43″	104°33′ 31″		
OSN	Ban Kulukhu	17°20′	104°33′		
	Ban Kut La Gu				
	Ban Kut La Khu				
MOT	Ban Kut La Khu	17°20′	104°30′		
DNY	Ban Kotla Gu	17°20′	104°30′		
RSD	บ.กุตฬาคู่ (Ban Kut La Khu*)	17°20′ 14″	104°30′ 03″		
GHZ**					
(2) <b>Ban</b>	Nong Kung				
L708	บ้านหนองกุง / Ban Nong Kung	17°04′ 42″	104°35′ 28″		
OSN	Ban Nong Kung	17°05′	104°35′		
	Muang Renu Nakhon				
MOT	Muang Renu Nakhon	17°05′	104°35′		
DNY	Renounahoun	17°05''	104°33′		
RSD	เมืองเรณูนคร (Muang Renu Nakhon*)	17°06′ 09′′	104°33′ 36″		
GHZ**					
(3) Ban Chanot					
L708	บ้านชะโนด / Ban Chanot	17°14′ 35″	104°46′ 00″		
OSN	Ban Chanot	17°15′	104°46′		
	Chanot				
MOT	Ban Chanot	17°15′	104°45′		
GHZ	チャノード村 (Ban Chanot*)	17°15′45″	104°42′38″		
RSD	บ.เสนียต (Ban Saniat*)	17°15′ 45″	104°42′ 38″		

<sup>\*)</sup> Romanization is for reference.

They also discussed about variations of Thai spellings of place names among different maps. On such earlier maps before the early 20th century, numbers of place names are rather limited to bigger settlements at the time, but their results can provide an important extension of a spatio-temporal gazetteer of Thailand in a historical aspect.

# 5. Conclusions

Place names at the time of almost one century ago can be browsed on the RSD maps which covers the whole Thailand provided that difference in publication year of sheet is ignored. Among about 3,500 place names on the RSD maps of Northeast Thailand, about 2,000 place names are identified with their corresponding place names on the L708 maps. Still about 1,500 place names on the RSD maps are left to be identified with their corresponding locations or current place names, but this task is not so easy to be accomplished because important information to link old names to current names is insufficient for those place names at this moment. In average, about one third place names on the RSD maps are same or similar through a half century, and the rest two-thirds place names show changes in name or even difficult to identify their corresponding names or places.

In Japan, a huge dataset of historical place names in Japan is open to public through the Web page of the National Institutes for the Humanities, Japan to provide a geocoding service mainly to aim embedding locational information into a digitized text from old documents and materials as one of fundamental information infrastructures. The major source of this historical dataset of place names comes from a printed gazetteer published in the early 20th century, and Oketani for many years had been developing a digital gazetteer of about 50,000 place names with identifying their geographic coordinates on modern maps (Oketani, 2009). More than 250,000 place names with geographic coordinates in hamlet level collected from the topographic maps of the early 20th century in Japan in a scale of 1 to 50,000 consist another important dataset integrated into the service (Yotsui et al., 2010).

To verify the reliability, the effectiveness, and the extensibility is left to future users, but the priority issue is to integrate huge historical datasets into a digital form for wider usability.

<sup>\*\*)</sup> Japanese script transliterated from Thai script here is omitted.

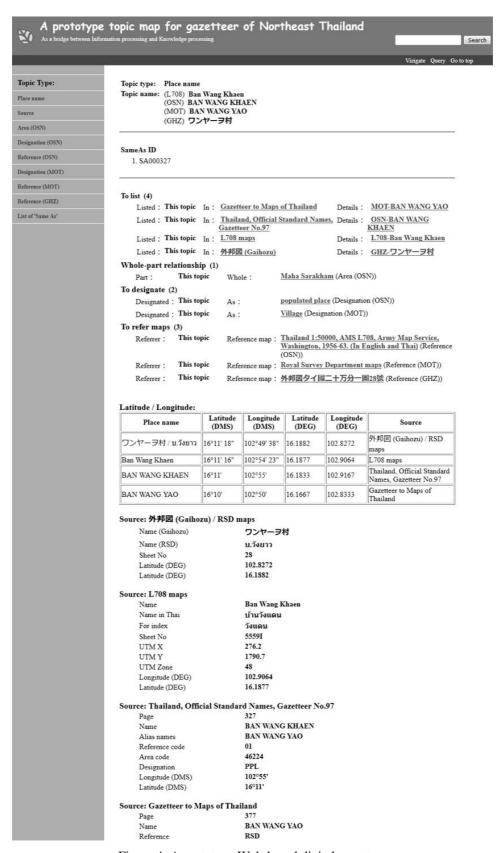


Figure 4: A prototype Web-based digital gazetteer

Tough the volume of the spatio-temporal gazetteer of Northeast Thailand in this article is still much smaller than the model case of Japan mentioned in above, the author hopes that this would become one of base digital gazetteers for continuous expansion to provide historical and spatial information of old place names in Northeast Thailand.

# Acknowledgement

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