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Model Reference Adaptive Theory on International Technology Transfer (III)

—— Focus on Mental Stability Function in Regional Development ——

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Abstract

The main purpose of this paper is to clarify the effort process of Development of Hokkaido by the adaptation of the introduction of the Mental Stability Function from advanced regions and countries.

The main results are as follows: (1) Among social facilities, the facilities of religion, school and hospital have had the greatest influence on the Mental Stability Function in the opening of Hokkaido. (2) The religious facilities have made a great contribution to personal acceptance of worry and suffering in the settler's life. (3) The school facilities have had an influence on settlers by providing hopes for obtaining education for their children in the future. (4) The hospital facilities provided medical treatment function as relief from illness and assurance of health security.

Key words: Model reference adaptive theory, Mental stability function, International technology transfer.

1. Introduction

Recounting the history of development of Hokkaido, it is clear that Hokkaido came into contact with the Mental Stability Function from advanced regions and countries. During that time the Mental Stability Function was introduced from advanced regions and countries as a model. This process can be likened to the Model Reference Adaptive Process.

This paper discusses the effort processes and the processes of adaptation in the development of Hokkaido upon the introduction of Mental Stability Function from the advanced regions and countries. We will focus on the period from 1911 (Meiji 44) to 1937 (Showa 12).

The framework of the study is represented as follows: First the background of the period under research and research area will be introduced. Second, the Mental Stability Function based on social facilities will be discussed. Third, the religious influence on development of Hokkaido will be discussed. And finally, the influence and characteristics of Mental Stability Function on regional development will be evaluated.

2. The Research Period and Area

The Research period of this study spans 27 years dated from 1911 (Meiji 44) to 1937 (Showa 12). On the historical study, we have the abject conditions of the period from the early years of Meiji era to the 1950's.

The Research period of this study saw the First and Second Colonial Plans of Hokkaido. The First Colonial Plan Period encompasses 15 years with took effects from 1910 (Meiji 43). However, under the violent situation resulting from the panic and depression after the First World War, the plan was forced to be revised. The plan finally ended in 1926 (Showa 1=Taisho 15) lasting for two more years.

The unprecented wave of prosperity due to the First World War brought a rapid progress of mining industry and also the industrial output of Hokkaido took the first place exceeding agricultural output at the end of 1920 (Taisho 9). The continuing panic and chronic depression that followed the unprecented wave of prosperity put the Japanese economy into a crisis.

There was a remarkably sharp drop in production as well as the increase of idle factories, labor unemployments, labor disputes and the sudden fall of prices. In particular, the World Panic had a strong tendency to induce agricultural panic in Hokkaido. There was the highest recorded crop in 1930 (Showa 5), but the crop prices showed a sudden drop. Hokkaido and Tohoku region, in the following year of 1931 (Showa 6), suffered crop damage from cold weather, wind and flood resulting in famine owing to bad crop production.

The total value of damages each year from 1932 (Showa 7) to 1935 (Showa 10) were 47, 864,000 yen, 88,763,600 yen, 24,341,000 yen (only rice farming) and 52,181,000 yen respectively and weighed seriously upon the farmers. And also, the fishery products amounted to a half of the average year and decreased in revenue by 41.9%. The processed goods decreased 34.7% by quantity and 29.1% in monetary value.

In this period, the Hokkaido Government Office adopted the policy of agricultural rationalization in order to avoid the agricultural crisis and to rehabilitate the farming and fishing villages. The extensive agriculture, the burnt fields farming and the isolated management of agriculture were vulnerable to national disasters and changing economic conditions. All villages had instituted to carry out the Farming Village Plan of 5 years starting from 1932 (Showa 7).

The Second Colonial Plan started in 1927 (Showa 2) complicated with the sudden occurrence of financial panic. The plan required to be reconsidered gradually facing the changing political and economic situation after the panic, as well as the long period of bad crops and the onset of the Manchurian Incident in 1931 (Showa 6).

The national defence budget after the Manchurian Incident in 1931 increased. Immigration to Manchuria due to the population and food problems also increased. The Second Colonial Plan was therefore was forced to be revised changing to reflect the changing conditions.

Corresponding to these changes, Hokkaido Government Office established the Hokkaido Investigative Preparatory Committee (the chairman was the chief of Hokkaido

Government Office) and also the Central Government established the Hokkaido Colonial Plan Investigation Committee (the chairman was the Minister of Home Affairs).

The research area of this study is Hokkaido with 14 regions represented by 14 branch offices. At that time (period under research) the data of Sapporo city, Otaru city, Asahikawa city, Hakodate city and so on were separated from the data of 14 branch offices. In this study, we have unified these data into the data of 14 branch offices. The 14 branch Affices of Hokkaido are shown in Figure 1.

Fig. 1 The Objective Area of This Study

3. The Mental Stability Function Based on Social Facilities

We have considered the influence on the mental stability of residents to understand religion in the regional social life. Religion teaches about being good and acceptance of personal suffering and worry. This helps people to become mentally stable, enduring hardships with resignation.

We have considered secondly the influence on the mental stability of residents to understand school facilities in the regional social life. The school as educational function provides knowledge making life better to people through students. The existence of school facilities had an influence on residents who hoped to get children in the future.

We have considered thirdly the influence on the mentality of residents to understand medical care in the regional social life. The Hospitals provide medical treatment function which relieves sick people from illness and ensure good health and strength for development.

The Mental Stability Function considers the interaction within a regional society by people who are sound in mind and body, a sense of well being. Of course, the various kinds of social facilities also aim to ultimately give peace of mind to people.

In this study, we consider Mental Stability Function as basically composed of three social facilities, namely, religious facilities, schools and hospital in the early stage of regional development.

These three social facilities can lead to mental stability of residents. Mental stability will make possible regional development by positively influencing population movement and industrial location to support regional development. Finally, the mental stability will contribute to the growth of settlements and the provision of social functions for regional socio-economic development. The concept of Mental Stability Function is shown in Figure 2.

In the early years of Meiji era, the social facilities were not completely provided in the prefectures. Later, all farm villages of prefectures were provided with social facilities. Concerning the new settlements in Hokkaido from other regions, the existence of the facilities was a very important attraction factor. However, these social facilities were not completed until about 1935 (Showa 10). That posed a considerable problem until the facilities were completed in Hokkaido.

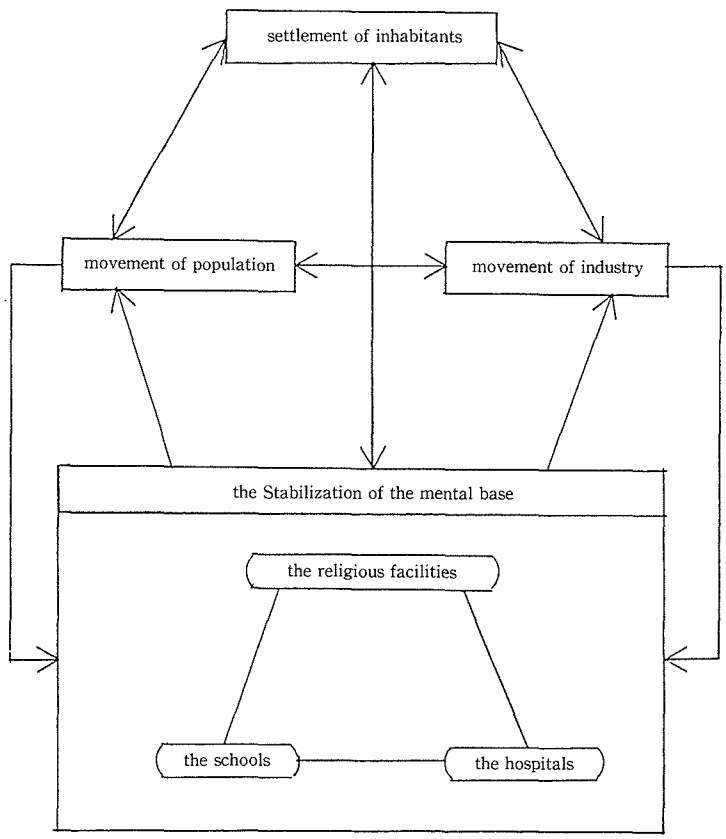

Fig. 2 The Concep of Mental Stability Function

3.1. Religious facilities

Migrants who had to depend on funds, labor and strong spiritual strength met with the problem of overcoming the difficult task of reclamation of land for settlements. They felt the necessity of religious facilities in Hokkaido because the influence of religious facilities was important for the stability of settlement.

The government provided help for the construction of Shinto shrines and propagation of Shinto -houses at government expense from 1927 (Showa 2). The government spread respect for God and ancestors to migrants and contributed to a unified consolation of the popular mind of the permanent residents. For this situation called for the founding of facilities, Shinto shrines were over 460 and the Temples were over 141 at that time.

Many villages in Hokkaido were wider in area than the county of prefectures (Gun). The government paid about 95 percent of the construction cost for only 15 buildings every year since 1927 (Showa 2). That help was available to the communities which would found specially Shinto shrines and Temples, and this could be considered a promotion effort of the government.

The constructing of Shinto shrines were against the regulation of Ministry of Home Affairs and so it could not be enforced. But, the government came to permit help for Shinto shrines which became officially recognized in 1932 (Showa 7).

As for Christianity, it came into being at Sapporo Agricultural School (the former Hokkaido University) whose purpose was to educate the leaders for opening up Hokkaido.

Christianity continued as a tradition so that many christians of the same school and the officials were active in the business world. And they developed an enlightened and social movement. That movement still exists in the merchant stratum of Sapporo and other cities. The movement had an influence on the spiritual climate of Hokkaido. There were many attempts to open up a new field of Christianity in Hokkaido due to immaturity of community control. The movement, not seen in Kumamoto and Yokohama bands, had influences on the regional development. As for a Sapporo band, a lot of them played a leading part in the circles such as education, commerce, agriculture, business and so on.

The trend of the Shinto shrines, the Temples and the Churches are shown in Figure 3 and Figure 4.

3.2. Educational facilities

The school system in which primary school education became compulsory was proclaimed in 1875 (Meiji 8). At that time, there were already primary schools everywhere on farm villages of the prefectures. But, there were a few places having educational facilities up to the junior high school level.

On entering school, children were in trouble because of the long distance between the existing schools and their homes as well as inconvenience of commuting due to the poor roads. Many areas required facilities of primary school as a compulsory education organization. It was difficult to construct various facilities at once because of a limited population in towns and villages and the lack of financial resources.

The towns and villages were subsidized in the form of teacher's salary to maintain the

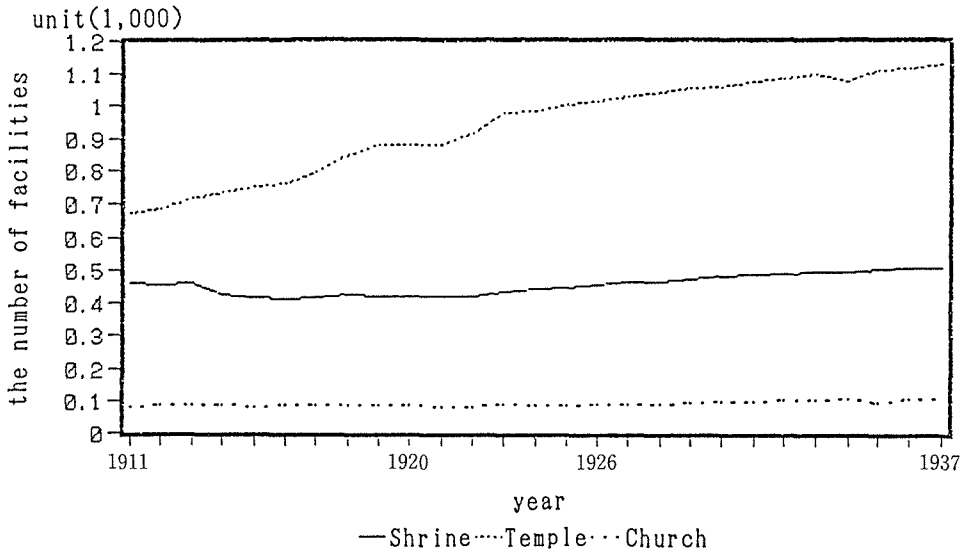

Fig. 3 The Trend Religious Facilities (each religion)

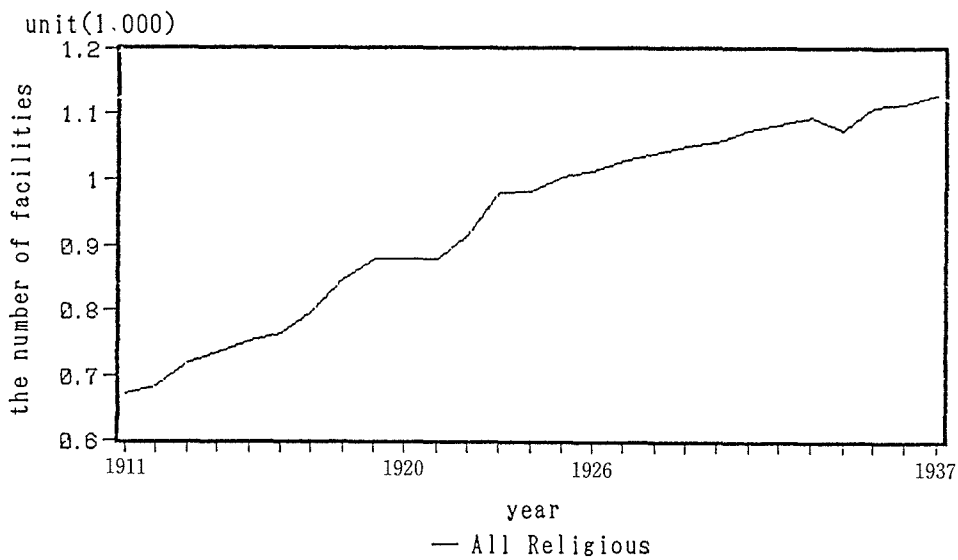

Fig. 4 The Trend of Religious Facilities (all religion)

education from 1918 (Taisho 7). The government started to help pay for the construction cost of school buildings from 1919 (Taisho 8). According to the support rules, there were 316 schools and the special training places which were subsidized until 1937 (Showa 12). In the same year, there were 73 schools which were also were subsidized with teachers' salary. The quality of teachers who were pleased with the education of children were changing for the better.

However, people were not satisfied with the subsidy only for primary schools, because

they were concerning with modern education and also hoped that measures were taken on the subsidy for the higher primary school.

School facilities have had much effect on colonization of Hokkaido directly and indirectly. The trend of primary schools and junior high schools are shown in Figure 5 and Figure 6.

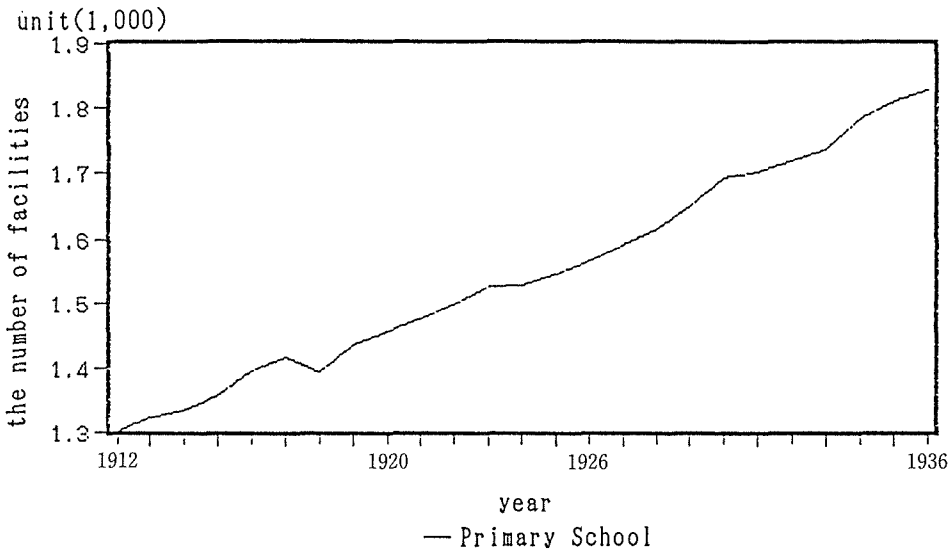

Fig. 5 The Trend of Primary Schools

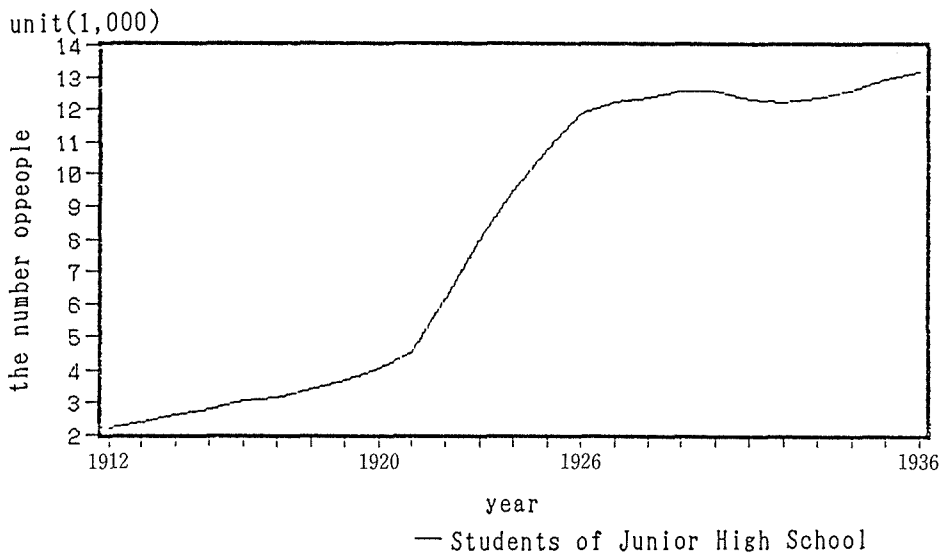

Fig. 6 The Trend of Students of Junior High Schools

3.3. Hospital facilities

Hospital facilities were spread by considerable efforts from the period of Hokkaido Development Agency. In Meiji and Taisho eras, people focused their efforts on hospital facilities. But, most of the facilities were existing only in towns. In new settlements, there were no places where people constructed hospital facilities at the same time. They were really to begin the construction of hospital facilities in the late Taisho era. The trend of public and private hospitals are shown in Figure 7 and Figure 8.

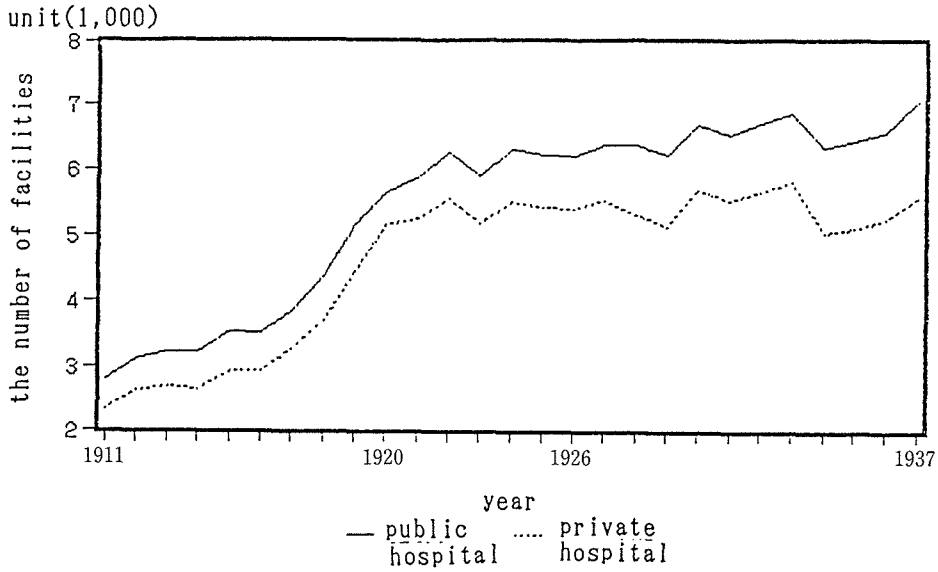

Fig. 7 The Trend of In-patients of Public and Private Hospitals

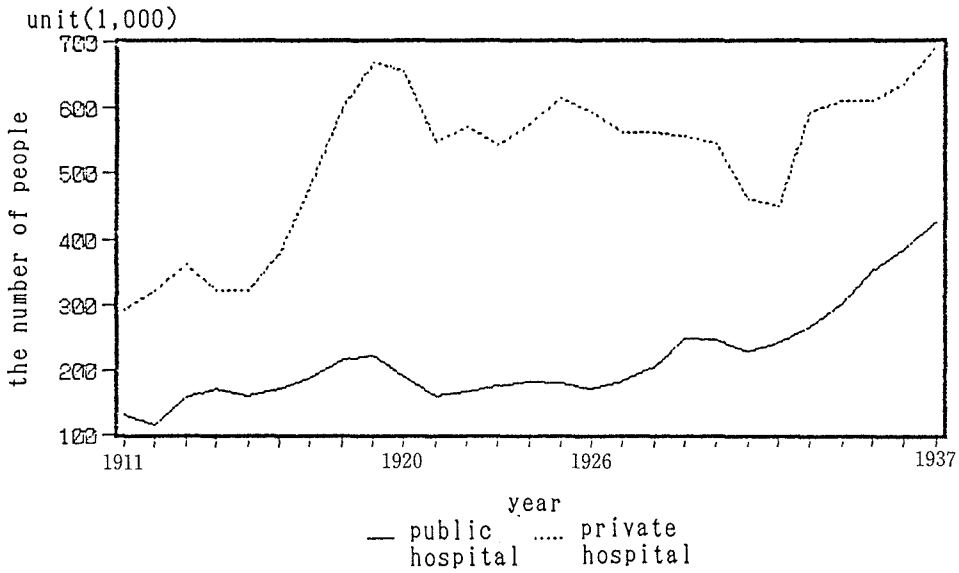

Fig. 8 The Trend of Capacity of Public and Private Hospitals

4. The Religious Influence on Hokkaido's Development

In this chapter, we consider the case studies of the religious influence on development of Hokkaido. In fact, it may be said that no direct influence of religion can be sum on the development. However, it can not be denied that religion has provided mental support for the regional development of Hokkaido which encounted a very difficult and challenging situation.

4.1. Cases of influence of Shrine on development

The Shinto Shrines of the whole Japan have ranks such as Government Shinto Shrine (Kanheishya), National Shinto Shrines (Kokuheishya), Prefectural Shrine (Fukenshya), District Shrine (Goshya), Village Shrine (Sonshya) and No Rank Shrine (Mukakushya).

In spite of the situation in which new Shinto Shrines have been controlled severely, it has been approved as a peculiar case in opening up Hokkaido. Many districts were marked with "the place of God" or the small village Shrine made of logs was the foundation of Shinto Shrine in the opening up of the land. It was national because the opening up Hokkaido was a planned national policy in the Meiji era.

Many migrants, as an example, carried symbols of the Ise Shrine on the way to Hokkaido. In addition, srine symbols duplicated from Shinto Shrines of home town was enshrined in many villages in case of a group migration.

For example, when the migrants of the Hokuetsu Colonization Co (Hokkaido takuminshya) settled in Ebetsu city from Niigata prefecture in 1890 (Meiji 23), Echigo Shrine of Niigata prefecture was enshrined in this place. Such a case was typical of Shinto Shrines foundation in the colonization of Hokkaido. Some of these Shinto Shrines became No Rank Shrine or Village Shrine rising to a higher status. Most Shinto Shrines have been maintained as "no prayer" Shrines by village people.

Officially appointing priest were a religious event requiring cooperation of a regional group. Therefore, a celebration has been held with deep concern in the community. In the early years of colonizing Hokkaido the celebration was to some extent a great pleasure to the people.

4.2. Cases of influence of Temple on development

Each Buddhist denomination temples were driven by necessity to found temples and sermonplaces for the supporters settled in Hokkaido. Maintenance of temples have been difficult due to a lack of population and poor transportation in the colonized land. As was the case, the economic support was provided by the head temple, but it was difficult for each colonized area to have all denominations complelety.

The foundation of the sermonplace in the colonized village has had various influence from outside religion because the clerical profession was the highest intellectual position of villages at that time. The priests were advisers for the migrants and sometimes gave a measure of political influence of regional interest. Many buildings of sermonplace in early years of colonization had influence on the education of children.

They played the role of simple educational buildings as temple-schools until formal

school education started in many villages. Some of the schools have become private schools such as Otani.

Priest *Gennyo* and many believers of Jhodo sect opened up the 103km road with hood ships from Usu to Sapporo.

4.3. Cases of influence of Church on development

The works and activities of Christians were noticed in the fields of medical treatment, welfare and education taking a leading part in mission schools.

Sekishin company founded by *Suzuki Kiyoshi* was a reclamation company with the aim of contributing to national growth by sending poor people to the fertile and vast land of Hokkaido for engagement in development in 1880 (Meiji 13). Sekinshin company has played an important part in many fields such as the establishment of private schools and churches in Urakawa Village. Hokkaido government decided that anyone could get free land if he reclaimed land.

Christianity had the largest influence on education for Sapporo city. On Sunday school, the teachers and students of Hokkaido University worked very hard. The children were not only children of believer but also ordinary children who made up nearly 10 percent of the school children.

The *abbess Guadiloup* of the Franciscan Monastic Order and 6 French nuns built a little hospital and an abbey in Sapporo in 1911 (Meiji 44). Because Sapporo did not have medical facilities until then, the devoted medical activities of nuns, combined with affection and virtuousness, led to the establishment of Tenshi hospital.

5. The Characteristics and Influence of Mental Stability Function on Regional Development

We will analyze the characteristics of movement of each Shrine-rank and religious denomination. This analysis seeks to find out how each Shrine-rank and religious denomination contributed to the regional development through Mental Stability Function. The research covers 14 areas of branch offices in Hokkaido. In each area, the Shrines, Temples and Churches are classified into 19 Shrine-ranks and religious denomination in all.

The Shrine-ranks are the Official, Prefectural, Village, No-rank Shrine. The religious denomination of Temples are the Tendai, Shingon, Jhodo, Rinzai, Shotho, Shin, Nichiren and Hohsho Sect. The religious denominations of Churches are the Tenshukoh, Haristos Saint, Japan Christian, Union Christian, Japan Seikoh, Shinrei, Methodist and Other Churches.

5.1. The characteristics of religions movement

To study the characteristics of movements, we will take two indices such as the correlation between the population and religious denominations facilities, and the growth rate of Shrine-rank. The population index means total population of each area which supports the regional society. The indices are from 1911 (Meiji 44) to 1937 (Showa 12) and 27 years of research period. These indices are shown as the correlation coefficient on horizontal axis and the growth rate on vertical axis.

The dots of all 14 areas are shown in Figure 9. We will classify the religions facilities based on characteristics of growth.

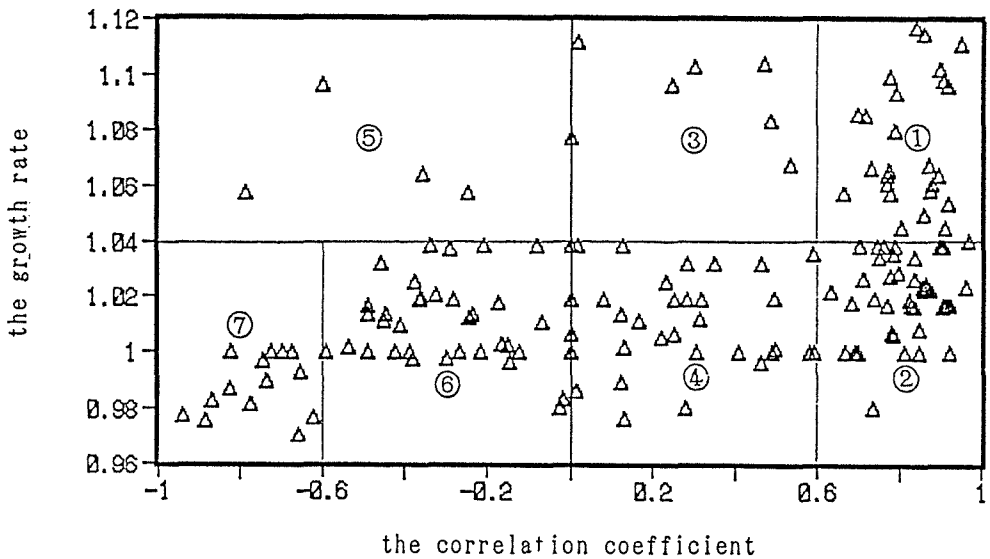

Fig. 9 The Categories on Classification of Religious Facilities

⑤ The corelation coefficient is over −1.0 and less than 0.0 and the growth rate is over 1.04.

This correlation coefficient with population is the opposite contrary correlation. We can see that great personal effort is better than the effect by population. This category has the characteristic of filling with pioneer spirit on growth.

⑥ The correlation coefficient is over −0.6 and less than 0.0 and the growth rate is less than 1.04.

The facilities of this category did not adapt to the regional society and were on the decline. This category has been characterized by the position of dots as the classificatory criterion. The dots are classified into 7 categories. We will represent the concrete numerical value and characteristics of each category as follows.

① The correlation coefficient is over 0.6 to 1.0 and the growth rate is over 1.04.

The correlation coefficient with population and the growth rate are both high. The facilities of this category increased naturally on the movement of population. This category has excellent characteristic because of the growth with self-help effort.

② The correlation coefficient is over 0.6 to 1.0 and the growth rate is less than 1.04.

This correlation coefficient with population is high and the growth rate is almost over 1.0. We can say that the facilities of this category increased on normal situation.

③ The correlation coefficient is over 0.0 and less than 0.6 and the growth rate is over 1.04.

The correlation coefficient of the population is low and the growth rate is high.

Providing examples of this category, some groups migrants brought in religion which took root in the regional society successfully. The category represents the growth characteristic of self Support by dedicated residents.

④ The correlation coefficient is over 0.1 and less than 0.6 and the growth rate is less than 1.04.

The situation of this category shows that new religious facilities are generally accepted in regional society. This category has the characteristic of maintaining the facilities.

⑦ The correlation coefficient is less than −0.6 to −1.0 and the growth rate is less than 1.04.

Both the correlation coefficient and the growth rate are low and the contribution and necessity of facilities of this category are low. And they did not become popular and had the declining characteristics.

The results mentioned above are arranged in Table 1.

5.2. The influence of mental stability function of regional development

Firstly, we estimate the extent to which the facilities which make Mental Stability Function contribute to the settlement. The numbers of population, household and the total of cities and villages are criterion variables as the indices of settlement. And, the explanatory variables are facilities for Mental Stability Function such as the numbers of religious facilities, primary schools, and public and private hospitals.

The multiple regression analysis with sample data for 27 years from 1911 (Meiji 44) to 1937 (Showa 12) is shown as follows.

$$Y=0.28867X_1+1.40204X_2+0.24624X_3-0.94732$$

the multiple correlation coefficient: 0.835419

where,

Y : the 3 term -moving average of total average of annual increase rates of populations, households and sum of cities and villages in Hokkaido.

X_1: the 3 term -moving average of total average of annual increase rates of religious facilities.

X_2: the 3 term -moving average of total average of annual increase rates of primary schools.

X_3: the 3 term -moving average of total average of annual increase rates of in-patients of public and private hospitals. The various statistics are shown in Table 2.

From the analysis of variance, the regression shows statistically signifycant results as a whole. Because F-Value is $F_0=15.40197$ $F^3_{20}(0.05)=3.10$ and also the multiple correlation coefficient is above to 0.8.

The selection of representative indexes for Mental Stability Function used as explanatory variables were correct. And also the constructed facilities of Mental Stability Function were useful to estimate the number of settlers.

From the standard regression coefficient, the explanatory variable X_3 (hospitals) first contribute to the number of settlers, X_2 (primary school) and X_1(religious facilities) are

Table1. The Result of Features of Shinto Shrine Ranks and Religious Denominations on Each Area

Category	Concrete Numerica Value	Ishikari	Sorachi	Kamikawa	Shiribeshi	Eyama	Oshima	Iburi	Hidaka	Tokachi	Kushiro	Nemuro	Abashiri	Sohya	Rumoi
①	C.C. over 0.6 A.G.R. over 1.04	Village S Tendai S Rinzai S Hohsoh S Others C	Off&Pre.S Village S J.Seikoh C	Off&Pre.S Village S Shingon S Rinzai S Sohtoh S Nichiren S					Shingon S	Off&Pre.S Village S No-Rank S Rinzai S Sohtoh S Shingon S Nichiren S	Village S		Village S Sohtoh S Shin S J.Christ.C Others C		
②	C.C. over 0.6 A.G.R. less than 1.04	Off&Pre.S Shingon S Jyohdo S Sohtoh S Shin S J.Method.C	Shingon S Sohtoh S Shin S Nichiren S	Jyohdo S Shin S U.Christ.C Others C		U.Christ.C	Tendai S Jyohdo S Sohtoh S Shin S J.Method.C	Village S Shin S	Jyohdo S	Jyohdo S Hohsoh S	Shin S	Sohtoh S Shin S Others C	Off&Pre.S Tendai S Jyohdo S Rinzai S	Village S Shingon S Jyohdo S Sohtoh S Shin S Nichiren S	
③	C.C. over −0.0 less than 0.6 A.G.R. less than 1.04	U.Christ.C				U.Christ.C	Others C		J.Seikoh C		Jyohdo S	Village S	No-Rank S Shingon S Nichiren S		
④	C.C. over 0.0 less than 0.6 A.G.R. less than 1.04	Nichiren S Tensyukoh C Haristos C J.Seikoh C	Tendai S Jyohdo S Rinzai S Hohsoh S Tensyukoh C Haristos C J.Christ.C U.Christ.C Shinrei C J.Method.C	Tendai S Hohsoh S Tensyukoh C U.Christ.C J.Seikoh C Shinrei C J.Method.C	No-Rank S Tendai S Rinzai S Nichiren S Hohsoh S Tensyukoh C Haristos C J.Christ.C U.Christ.C J.Method.C	Off&Pre.S Village S Tendai S Shingon S Rinzai S Nichiren S Hohsoh S Tensyukoh C Haristos C J.Christ.C Shinrei C J.Method.C Others C	Off&Pre.S Shingon S Rinzai S Nichiren S Hohsoh S Tensyukoh C Haristos C J.Christ.C U.Christ.C Shinrei C	Off&Pre.S Tendai S Shingon S Rinzai S Sohtoh S Nichiren S Hohsoh S Haristos C U.Christ.C Shinrei C J.Method.C Others C	Off&Pre.S Tendai S Rinzai S Shin S Nichiren S Hohsoh S Tensyukoh C Haristos C J.Christ.C Shinrei C J.Method.C Others C	Tendai S Tensyukoh C J.Christ.C U.Christ.C Shinrei C J.Method.C Others C	Tendai S Shiogon S Rinzai S Sohtoh S Nichiren S Hohsoh S Tensyukoh C Haristos C U.Christ.C J.Seikoh C Shinrei C	Off&Pre.S Tendai S Shingon S Jyohdo S Rinzai S Nichiren S Hohsoh S Tensyukoh C Haristos C J.Christ.C U.Christ.C J.Seikoh C J.Method.C	Hohsoh S Tensyukoh C Haristos C U.Christ.C Shinrei C	Off&Pre.S Tendai S Rinzai S Honsoh S Tensyukoh C Haristos C J.Christ.C U.Christ.C J.Seikoh C Shinrei C J.Method.C Others C	Village S Shingon S Rinzai S Tensyukoh C Haristos C J.Christ.C U.Christ.C Shinrei C J.Method.C Others C
⑤	C.C. over −1.0 less than 0.0 A.G.R. over 1.04	J.Chrish.C					J.Seikoh C	Tensyukoh C J.Christ.C							
⑥	C.C. over 0.6 less than 0.0 A.G.R. less than 1.04	Shinrei C	Others C	No-Rank S	Off&Pre.S Village S Shingon S Jyohdo S Sohtoh S Shin S J.Seikoh C Shinrei C Others C	No-Rank S Jyohdo S Sohtoh S Shin S	Village S	No-Rank S	No-Rank S Sohtoh S Shin S U.Christ.C	Shingon S	Off&Pre.S	No-Rank S	J.Method.C		Off&Pre.S No-Rank S Jyohdo S Sohtoh S Shin S Nichiren S Hohsoh S J.Seikoh C
⑦	C.C. less than −0.6 A.G.R. less than 1.04	No-Rank S	No-Rank S	Haristos C			No-Rank S	Jyohdo S J.Seikoh C	Village S	Haristos C J.Seikoh C	No-Rank S	Shinrei C	J.Seikoh C	No-Rank S	Tendai S

note: Off$Pre. S Stands for The official & prefectural shrine
Village S Stands for The village shrine
No-Rank S Stands for The no-rank shrine
Tendai S Stands for The Tendai sect
Shingon S Stands for The Shingon sect
Jyohdo S Stands for The Jyohdo sect
Rinzai S Stands for The Rinzai sect
Sohtoh S Stands for The Sohtoh sect
Shin S Stands for The Shin sect
C.C. Stands for the correlation coefficient

NIchiren S Stands for The Nichiren sect
Hohsoh S Stands for The Hohsoh sect
Tensyukoh C Stands for The Tensyu-koh church
Haristos C Stands for The Haristos-sei church
J.Chrish.C Stands for The Japan christian church
U.Christ.C Stands for The Union christian church
J.Seikoh C Stands for The Japan sei-koh church
Shinrei C Stands for The Shinji church
J.Method.C Stands for The Japan Methodist church
Others C Stands for The others church
A.G.R. Stands for the average growth rate

Table2. The Various Statistics

No.	Regression Coefficient	Standard Regression Coefficient	Partial Correlation Coefficient	Standard Error	Standard Error of Std.Reg.Coef.	F value
X1	0.28867	0.19828	0.28473	0.21732	0.14927	1.76445
X2	1.40204	0.41051	0.52619	0.50665	0.14834	7.65781
X3	0.24624	0.82698	0.81313	0.03942	0.13238	39.02850

the multiple correlation coeffieient: 0.835419

next in order.

Hospitals have had the most influence among facilities constructed for Mental Stability Function. For the settlements hospitals are considered the essential facilities in human life.

The educational facilities have had the next influence and conferred enough education on children. Most of settlers were with family and hoped that the next generation could have peace of mind to receive education.

The religious facilities did not have any influence on settlement as much as hospitals and educational facilities. Some religious facilities, however, have been used to provide medical and educational function in early period of colonizing Hokkaido.

From the analysis mentioned above, the facilities of religion, hospital and education have provided Mental Stability Function for the settlement of Hokkaido.

6. Conclusion

We have studied the influences of Mental Stability Function on the settling and development of Hokkaido and analyzed the influences quantitatively by using the numbers of facilities such as religion, school and hospital.

The influences of Mental Stability Function were recognized to be effective by the analysis of these characteristics. These influences were displayed on the settlement in the development of Hokkaido. Some facilities of Mental Stability Function grew in difficult situations with the low growth rate of population. This is proof that Mental Stability Function was been effective. In the same way, the facilities of Mental Stability Function have contributed to the mental stability of the settlers.

The results of this study will promote a better understanding of the regional social structure in the history of Hokkaido. We hope that this study will make a useful contribution to this new field. We are aware of many problems of development in developing countries with severe national environmental conditions. On these developments, we will be proud if this study can provide solid data for consideration in settlement policy.

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