

Analyzing Census Data for Mon State, Thaton District

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Abstract

Data analysis is the process of evaluating data using analytical and statistical tools to discover useful information and aid in many decision making sectors. There are several data analysis methods including data mining, text analytics, business intelligence and data visualization. The goal is to transform raw data into understandable useful information. For developing country, data analysis is strongly needed to support useful information to decision maker. The census is most definitely important. The census helps us to see how our country is changing over the periodic. Census data are useful to lawmakers, marketing companies, political groups and even nosy neighbors curious about the family next door. In this paper, the 2014 Myanmar population and housing census Mon state, Thaton district report is used to compare and analysis in three sectors demographic characteristics, literacy rate and economic characteristic. Manual and REDATAM on-line process tool provided by department of population from ministry of labour, immigration and population is used for analysis. This analysis intends to know education and economic conditions of people and highlight some issues in this region.

1. Introduction

The census is a periodic activity and must be conducted regularly because it carries lot of benefits of the country. It allows us to compare different groups of people across the country. It provides information regarding parts of the country the government needs to develop policies for, plan and run public services in and allocate funding to. It tells us how many people work in

different occupations and industries, about new jobs and training policies; investment decisions are also made on the basis of the census. The government of the republic of the union of Myanmar conducted its latest census in April 2014, after three decades without a population and housing census. In the post-independence period, comprehensive population and housing censuses were only successfully undertaken in 1973, 1983 and most recently in April 2014. The census main results were launched in May 2015. These included The Union Report, Highlights of the Main Results, and reports of each of the 15 States and Regions. The reports on Occupation and Industry and Religion were launched in March 2016 and July 2016 respectively. We only focus on report of Mon state. Mon state has two districts: Mawlamyine district and Thaton district. Mawlamyine district has eight townships: Mawlamyine, Chaungzon, Kyaikemaraw, Mudon, Thanbyuzayat, Lamine (Sub-Tsp), Ye, Khawzar (Sub-Tsp). Thaton district has four townships: Kyaikto, Bilin, Thaton and Paung Township. The area of Mon state is 12,287 km². Points of interest are Kyaiktiyo Pagoda, Thanbyuzayat War Cemetery. There are three universities: Mawlamyine University, Technological University, Mawlamyaing and Computer University, Thaton.

In this paper, we will compare and analysis data for four townships in Thaton district in three sectors: demographic characteristics, Literacy rate and economic characteristics. The importance of demography lies in its contribution to helping government and society better prepare to deal for the issues and demands of population growth, aging and migration. The statistics and predications resulting from demographic studies can aid in the development of adequate school systems, estimate the required funding for senior

services and develop workable healthcare system. A wide variety of social outcomes are impacted by demographic processes and distributions. Moreover, demographics are important in marketing and planning product lines and end users. The analysis of human fertility is of central importance in demographic analysis. The need to monitor efforts to reduce population growth by reducing fertility highlights the importance of being able to measure fertility, fertility change and the sources of that change. For this work, we use 2014 census data and REDATAM online webserver tool published by Department of Population, Ministry of Labour, Immigration and Population.

2. Related Work

Many researchers do research on census data in most countries. Minnesota population center, University of Minnesota did harmonized census geography and spatio-temporal analysis: gender equality and empowerment of women in Africa [1]. From their analysis, they have shown that there are several constraints that related to analysis of outcomes with respect to space and time. They have demonstrated the utility of using a combination of year specific geographic data and harmonized data, rather than either of them, in order to increase accuracy in interpreting observed results. Another one is that University of Cape Town-center for actuarial research proposed monitoring the SDGs (Sustainable Development Goals) by means of the census [2]. They demonstrated that there is a need to develop methods for integrating and harmonizing data from a multiplicity of sources. Integrating and harmonizing these data offers the hope of a resolution to many of the issues raised. United States census released teacher version statistics census analysis report with the title “what role does geography play in the census?” [3]. The report includes a selection of geographic area choices for data user’s topic. This topic supported for geographic analysis in census data.

In Myanmar, The United Nations Population Fund (UNFPA) Myanmar released highlights of the main results of the 2014 Myanmar population

and housing census in May, 2015. Department of Population, Ministry of Immigration and Population did research on population density from 1995 to 2000 for Thailand, Myanmar, Laos, Vietnam and Cambodia and announced summary of the provisional results based on the census of Myanmar, 2014. According to my knowledge, rarely use Myanmar census data for research work at the present time. In this paper, we analysis census report for Thaton district by manually and using web tool.

3. Census Analysis on Thaton District

3.1. Data

For this analysis, the 2014 Myanmar population and housing census data from department of population, ministry of labour, immigration and population, is used. The data can be downloaded from dop.gov.mm website. The reports can get with two languages: Myanmar and English. Census information on each township includes demographic characteristics, religion, education, economic characteristics, identity cards, disability, housing conditions and household amenities and fertility and mortality categories. Analysis will be done on three categories already mentioned above.

3.2. Demographic Analysis

Demographic characteristics includes males and females population, sex ration, percentage of urban population, population density, number of wards and village tracts, population in conventional households and number of conventional households. Total population and sex population of four townships in Thaton district are shown in figure1. Among four townships, Kyaiko has the high number of wards although its area is smaller than other townships. The highest population density in Kyaiko is 194.9 persons per km² and the lowest is in Bilin 83.7 persons per km². The population density of an area can be one of the most important determining factors for business and marketing planning. It is not enough to know how many consumers live in

a specific state or city. Planner has to know how many people live in a particle radius. This will allow us to choose a location for a business that is accessible to the largest amount of people. According to population density for Thaton district, Kyaikto is nice place for business men among four townships. Especially, Kyaikto also has famous the golden rock “Kyaiktiyo” pagoda. Thus, kyaikto is the best place for business. To identify the type of business for this place, we should need to consider basic information such as age, race and family status. Bilin has lowest population density.

There are some factors for this condition: first, region with few natural resources such as lack of famous places or natural resources for business, second region with extreme climates for hot or cold or flooding or something, third limited in job opportunities for people. Bilin has these three conditions mentioned above. Raining season of every year, Bilin suffers heavy flooding rather than other township. Bilin is the lowest developing region in Thaton district.

Government should support more fund for natural disaster in Bilin. To develop business in this region, economic characteristic should be considered. The size of the urban community is much larger than that of a rural community. In percentage of urban population characteristic, Thaton has highest percentage 23.1 % and Bilin has lowest percentage 10.2%.

According to data, most people in Thaton district live in rural area. Thus, rural development have to do in this district such as support and promote efforts to harmonize modern technologies with traditional and indigenous knowledge, built the resilience of rural communities to cope with and recover from natural disasters, improve access by rural people and communities to information, education, extension services and learning resources, knowledge and training to support sustainable development planning and decision-making.

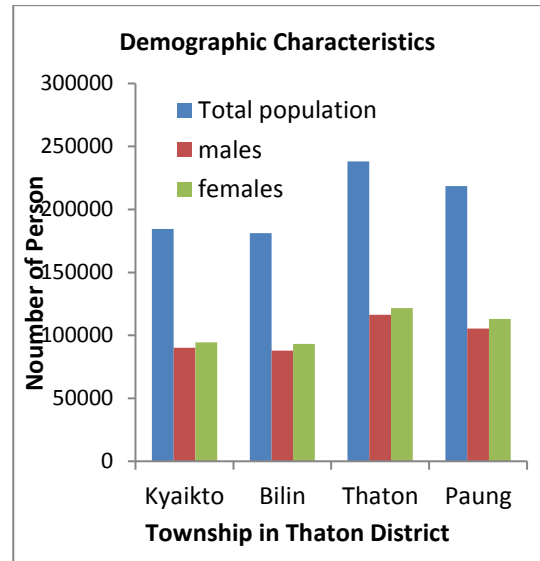


Figure 1. Total population and sex population of four townships in Thaton district

3.2. Education Analysis

Literacy is critical to economic development as well as individual and community well-being. Economy of the region is enhanced when learners have higher literacy levels. Effective literacy skills open the doors to more educational and employment opportunities. Thus, people are able to pull themselves out of poverty. At the present time, increasingly complex and rapidly changing technological world, it is important that individuals continuously expand their knowledge and learn new skills in order to keep up with the pace of change.

In our country, government is trying to improve literacy rate in every region. The figure2 shows that 11.8%, 18%, 17.8% and 21.1% of the population aged 25 and over have never been to school in Kyaikto, Bilin, Thaton and Paung Township respectively. Moreover, most people in never been to school category is female in rural area in relevant township. Most people in this category may become jobless in future. Moreover criminal rate and fraud can be increased in these regions. Therefore, rural development projects such as rural education, integrated agricultural

development, training, craft training center for females, health education should be done for low-income rural population. Moreover school attendance in four townships drops after age 10 or 11 for both males and females. According to this data, children left the school after grade 5 or 6. This factor reduces high quality human resource for region. Moreover, it may include child labour rate in region especially for low-income family. Children who do not have access to books or read regularly are vulnerable to falling behind in school. Parents and families are a child's first and most important teacher. Therefore, parents are also needed to educate to encourage their children for study. Government should increase education costs for those people. Among these four townships, Kyaikto is high in literacy rate.

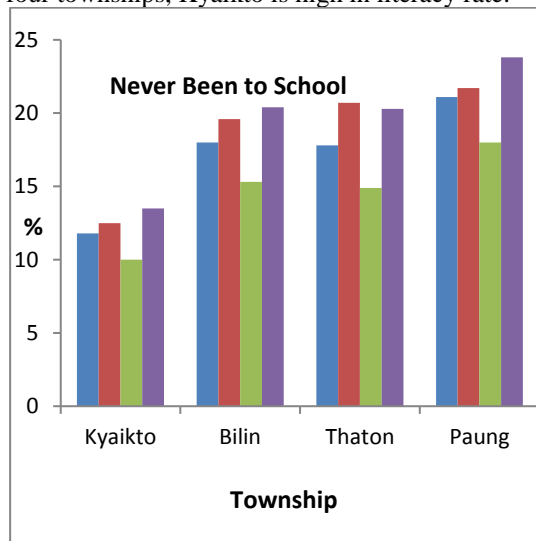


Figure 2. Never been to school population aged 25 and over

3.4. Analysis on Economic in Region

At Kyaikto Township, 29.9 percent of the employed person aged 15-64 are skilled agricultural, forestry and fishery worker and is the highest proportion, followed by 22.6 percent in

services and sales workers. Only 4.4 percent of the employed people are professionals, technicians and associate professionals. The third highest is 19.5 percent at elementary occupations. Other townships: Bilin, Paung and Thaton, the highest proportion of the employed people are skilled agricultural, forestry and fishery worker. Profession and technicians percent is very low in these townships also. But Thaton has a little high percent in this occupation. Their economies mostly depend on agriculture in this district. Myanmar's agricultural development strategy (ADS) is officially launched at 7th June, 2018.

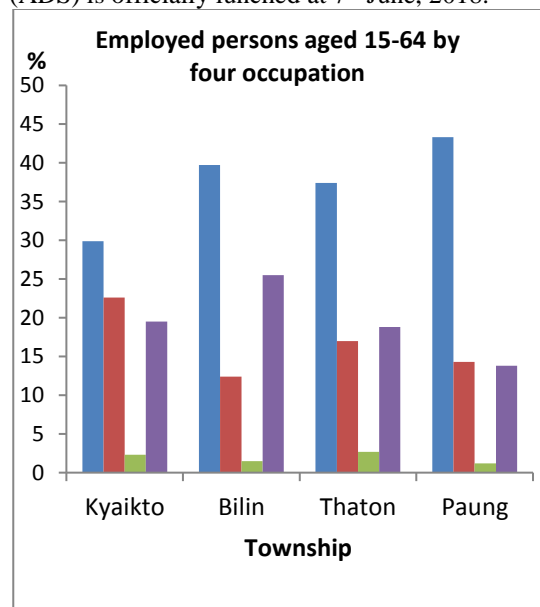


Figure3. Employed persons aged 15-64 by four occupations

Development of agriculture in Myanmar was based on cooperation between government, farmers and private businesses. Minister of Agriculture spoke that by using the ADS for the development of agriculture, all should work with great effort to achieve full life expectancy by having nutritious food, being healthy and increasing the incomes of smallholder farmers

and rural people. Profession and technicians percent is very low. Thus, technician training in every sector such as truck and bus mechanics, electrical and electronics, pharmacy should be provided by government or private non-profit organization. Moreover, in order to grow innovate create jobs and contribute to community welfare, SMEs and entrepreneurs must possess a range of internal capacities. Promoting and empowering small and medium size enterprises in rural areas can help jobless or low-income problems.

4. Discussion and Future work

From our analysis, we have shown that literacy rate, jobless percent and economic condition are related in every township. To pull out people from poverty, balance development is needed in all sectors. In the Kyaikto Township, the majority of the people live in rural areas with only 19.1% living in urban areas. In Paung Township, only 13.5% of people live in urban areas. Among four townships the highest percent in living in urban area is 23.1% in Thaton. Therefore, this district needs to support highly rural development strategy. In this strategy, natural disasters especially flooding should be considered in this region. Dams and sluice gates can benefit to local farmers to facilitate the crop cultivation. However, irrigation department need to ensure safe from natural disasters and guarantee adequate irrigation water for local farmers. Thaton district has state agricultural Institute (SAI), Thaton. Local people should focus on improvement of literacy rate across the district by cooperating with government and nonprofit organization. All should try to ensure inclusive and equitable quality education and promote life-long learning, including basic education in rural area opportunities for all by implementing of non-formal education programs. Rural areas are the location of agricultural (forestry, animal husbandry, and fishing) activities. In addition, it is needed to encourage developing a large number of small businesses. Rural areas also have a high share of tourism. Among four townships, Kyaikto attracts travel service businesses in large number.

Rural hospitality businesses can reduce jobless rate in local area.

In the future, we intends to analysis changes in the regions using the last three censuses in 1973, 1983 and 2014. To analysis the whole country data, machine learning and predication methods will be applied to this work. We can compare literacy rate, economic condition, worker force, health care, social characteristic among states in the country. Moreover, income and housing prices prediction can be done using census data in the future.

5. Conclusion

The census is most definitely important. The census helps with the equitable distribution of public funds; state funding for educational programs, health care, law enforcement and highways is allocated based on population. Moreover, the census helps us see how the country is changing in which regions. In this paper, we analysis the 2014 census data over three category on four townships in Thaton district by manually and using web tool. The result demonstrates that Bilin is the lowest development region in this district. Kyaikto is the recommended place for business and that has the highest population density but low in Literacy rate. All townships need agriculture development strategy. To increase literacy rate in this district is one of the challenges for local people. We need to analysis changes in these regions during the specific period using 1973 and 1983 census data. In the future, we will be applying machine learning methods and predication methods on Myanmar census dataset.

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