รายงานวิจัยฉบับสมบูรณ์

โครงการ “Health Consumption in Myanmar : A Study of using traditional and modern medicine of families in Mandalay.”

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คณะเศรษฐศาสตร์ มหาวิทยาลัยเชียงใหม่

กรกฎาคม 2557

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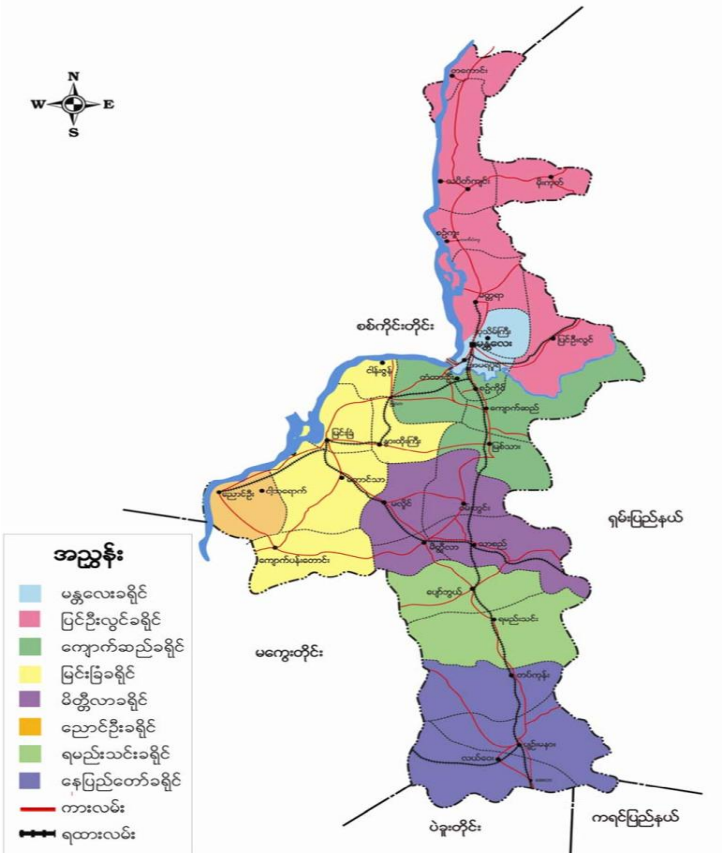
“Health Consumption in Myanmar: A Study of Using Traditional and Modern Medicine of Families in Mandalay”

Mandalay Region



Area 37,945.16sq.km

Location **east - Shan**
west - Sagaing
north - Kachin
south - Bago

Population *(2012)

Total	-	6,592,910
Urban	-	1,855,228
Rural	-	4,737,628

Population density - 173.75/sq.km

Abstract

The study in Health consumption in Myanmar: a study of using traditional and modern medicine of families in Mandalay, Myanmar will be carried out mainly to document the use of traditional and modern medicine consumption between rich and poor people in Mandalay. The study carried out with the use of primary and secondary data sources. The methods employed to collect the relevant information regarding the health consumption used included informal and formal discussions, field visits and focused semi-structured interviews. a prepared questionnaire developed from secondary literatures and suggestions of teachers and Myanmar officials which have been tested .The methodology employ descriptive statistics analysis, an analysis poverty with censored regression model and SEM model to test hypotheses of the research from the questionnaire of 384 households interviews.

The result of study found out majority of people in study area believe both traditional medicine and modern medicine (64% and 67% of respondents) can sure on serious treatment case and both of them are been accepted by the community . However, what they have problem is public hospitals are not enough for rural people. To observing the way of accessing traditional medicine , regarding with this objectives , it is observed from survey that 55% of respondent are using motorcycle seems the transportation is not that difficult for them. Households in Mandalay are using Traditional medicine not because of they are poor especially households in urban area but when considering for poor households in rural area this seem to be true for more using Traditional medicine than the rich household . Total female patients visiting to Traditional medicine clinic are more than total male patients in Mandalay region .We expected to see that traditional medicine expenditure will have somehow positive relationship on total female family members in household. However , the result of censored regression proved that there will be tendency for reducing traditional medicine expenditure if one more female in total family members at 95% significant level . Based on the result of estimation by SEM model in latent variables of expenditure potential variable from urban and rural area of Mandalay people was positively and directly influences access to traditional medicine and access to Modern Medicine , Traditional

and Modern Medicine attributed and knowledge satisfaction in healthcare. In urban area, the result was not confirm the poor people in urban area rely on traditional Medicine more than the rich people, but the results found out that poor people in rural area in Mandalay may more rely on access to Traditional medicine and more knowledge satisfaction in healthcare. Increasing share of healthcare (traditional and modern medicine) expenditure if households are coming from agriculture and livestock sectors . As people in study area prefers using made in Thailand modern medicine , this is signals from the market that can be penetrated systematically.

บทคัดย่อ

การศึกษา ในเรื่องการบริโภคด้านบริการสุขภาพในสหภาพเมียนมาร์ : เป็นการศึกษาการใช้บริการการแพทย์แผนโบราณและการแพทย์สมัยใหม่ของครอบครัวชาวมัณฑะเลย์ ในสหภาพเมียนมาร์ โดยหลักใช้เอกสารที่ได้จากข้อมูลการบริโภคทางการแพทย์แผนโบราณและการแพทย์สมัยใหม่ระหว่างคนรวยและคนจนในมัณฑะเลย์ วิธีการศึกษาใช้ข้อมูลทั้งจากแหล่งปฐมภูมิและทุติยภูมิ โดยใช้วิธีเก็บข้อมูลที่เกี่ยวข้องการบริโภคบริการด้านสุขภาพทั้งที่มีการอภิปรายอย่างไม่เป็นทางการและเป็นทางการ การออกงานภาคสนามและการเน้นการสัมภาษณ์กึ่งมีโครงสร้าง ในการเตรียมแบบสอบถามพัฒนาจากข้อมูลทุติยภูมิ จากสิ่งตีพิมพ์ และการเสนอแนะของคณาจารย์และเจ้าหน้าที่จากสหภาพเมียนมาร์โดยการนำมาใช้ทดสอบ วิธีการ ใช้การวิเคราะห์สถิติเชิงพรรณนา การวิเคราะห์ความยากจนด้วยวิธีแบบจำลองการถดถอยแบบตัดต่อ และแบบจำลอง SEM เพื่อทดสอบสมมุติฐานของการวิจัยจากแบบสอบถามของ 384 ครัวเรือนที่ได้จากการสัมภาษณ์

ผลการศึกษาพบว่าประชากรส่วนใหญ่ในพื้นที่ที่ศึกษาเชื่อว่าการแพทย์แผนโบราณและการแพทย์สมัยใหม่ (64% และ 67%ของผู้ตอบแบบสอบถาม)สามารถมีความมั่นใจได้ในการใช้รักษากรณีสาหัสและมีการยอมรับของชุมชนในการแพทย์ทั้งสองอย่าง อย่างไรก็ตามปัญหาที่มีอยู่คือโรงพยาบาลของรัฐมีไม่เพียงพอสำหรับประชากรในชนบท การสังเกตวิธีการเข้าถึงการแพทย์แผนโบราณ จากวัตถุประสงค์ส่วนหนึ่งในการศึกษาโดยสังเกตจากข้อมูลในการสำรวจ 55 % ของผู้ตอบแบบสอบถามมีมอเตอร์ไซค์ใช้ ทำให้การเดินทางไปรักษาไม่มีความยากลำบากสำหรับกลุ่มนี้ ครัวเรือนในเขตเมืองในมัณฑะเลย์ใช้บริการการแพทย์แผนโบราณไม่ใช่เพราะเขาเหล่านั้นยากจน แต่เมื่อพิจารณาครัวเรือนที่ยากจนในเขตชนบทดูเหมือนจะเป็นจริงสำหรับการใช้บริการการแพทย์แผนโบราณที่มากขึ้นกว่าผู้ที่เป็นครัวเรือนร่ำรวย ในเขตมัณฑะเลย์ จำนวนคนไข้หญิงจะไปคลีนิคการแพทย์แผนโบราณมากกว่าคนไข้ชาย เราคาดว่าจะได้เห็นความสำพันธ์ของการใช้จ่ายทางการแพทย์แผนโบราณในทางบวกกับจำนวนครัวเรือนที่มีสมาชิกโดยรวมของเพศหญิงในครัวเรือนมาก อย่างไรก็ตาม ผลจากการวิเคราะห์ถดถอยแบบตัดต่อได้รับการยอมรับว่ามีแนวโน้มที่จะลดการใช้จ่ายจ่ายทางการแพทย์แผนโบราณลงถ้ามีจำนวนสมาชิกเพศหญิงเพิ่มขึ้นในจำนวนสมาชิกของครัวเรือนทั้งหมดอย่างมีนัยสำคัญ ณ ระดับ 95% จากผลการวิเคราะห์โดยใช้ แบบจำลอง SEM ในตัวแปรแฝงของตัวแปรศักยภาพด้านการใช้จ่ายทั้งจาก

ประชากรในเขตชนบทและเขตเมืองในมัณฑะเลย์ มีความเป็นบวกและมีอิทธิพลโดยตรงต่อตัวแปรการเข้าถึงบริการทางการแพทย์แผนโบราณและทางการแพทย์สมัยใหม่ ตัวแปรคุณลักษณะทางการแพทย์แผนโบราณและทางการแพทย์สมัยใหม่ และตัวแปรความพอใจในความรู้ด้านสุขภาพ ในเขตเมืองผลการศึกษาไม่ได้ยืนยันประชากรที่ยากจนในเขตเมืองมีการพึ่งบริการการแพทย์แผนโบราณมากกว่าประชากรที่ร่ำรวย แต่ผลการศึกษาในเขตชนบทพบว่าประชากรที่ยากจนมีการเข้าถึงบริการการแพทย์แผนโบราณมากกว่าและมีความพอใจในความรู้ในด้านสุขภาพ สัดส่วนค่าใช้จ่ายด้านสุขภาพ (การแพทย์แผนโบราณและการแพทย์สมัยใหม่) มีเพิ่มขึ้นถ้าครัวเรือนมาจากภาคเกษตรและภาคปศุสัตว์ เนื่องจากผลการศึกษาประชากรในพื้นที่การศึกษาชอบใช้ผลิตภัณฑ์การแพทย์สมัยใหม่จากประเทศไทย นี่คือสัญญาณที่จะสามารถเจาะตลาดนี้ได้อย่างเป็นระบบ

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Many people and institutions from Mandalay region contributed to the study. First of all, we would like to thank Direct General Dr. Htun Naing Oo, Department of Traditional Medicine, NayPyiTaw, Myanmar who decides to support survey areas and researchers to be safe and comfortable during the survey. Secondly, we express our sincere thanks to Rector Dr. Than Maung, University of Traditional Medicine, Mandalay, Myanmar and his associates – Pro-rectors, administrative staff and teaching staff , without their energetic efforts, we could not have finished up our survey timely.

Furthermore, thanks are also due to officials from regional health office, Mandalay and traditional medicine officers from respective townships. We cannot miss our thanks to those government staff from township traditional medicine clinics, township administrative offices, wards and villages administrative offices. Our special thanks go to three teachers from University of Traditional Medicine, Mandalay who try to assist us not only in survey but also for necessary documents whatever we call to request the data ; and local interview teams - 9 students as they never said feeling tired during the hottest weather in April in Mandalay , Myanmar.

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It is the last but not the least, we thank to households and family members in our quantitative and qualitative survey. Without their cooperation, this study would not have been possible.

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Executive Summary

Myanmar is one of the high utilizes of traditional medicine by WHO Global Atlas data , using traditional medicine might be the affordable and effective local way to prevent and manage some common illness which can contribute to reducing poverty . At the same time, we will have to fulfill the one of the MDGs which is poverty alleviation and another one is to develop the global partnership for development in Goal 8. Under Goal 8, Target 8.e is to provide affordable essential drugs, especially for developing countries.

This study will be carried out mainly to document the use of traditional and modern medicine consumption between rich and poor especially we are going to observe whether individual is able to freely choose for his/her health consumption or not .

The study will be carried out with the use of primary and secondary data sources. In doing so, firstly we will have a focus group discussion with authorities who are from our study site. The methods employed to collect the relevant information regarding the health consumption used included informal and formal discussions, field visits and focused semi-structured interviews. a prepared questionnaire developed from secondary literatures and suggestions of teachers and Myanmar officials which have been tested .

The report has seven chapters. Chapter 1 and 2 covers introduction, methodology and conceptual framework. Chapter 3 emphasizes on the short view of socio-economic characteristics of study area. In chapter 4, descriptive statistics is presented. In Chapter 5, poverty analysis is performed . Structural Equation Model (SEM or RISREL) is emphasized in Chapter 6. Summary of health consumption in Myanmar: a study of using traditional and modern medicine of families in Mandalay, Myanmar is presented in Chapter 7.

Key findings

Maximum household member size in the study is 11 persons and minimum is one person. Average household member size is 5(~4.8) persons .Men on average in household is 2 persons while female is around 3 persons. Total of 1897 persons in which 856 males and 1041 females are in our study sample .Thus, male –female ratio is "0.82".

The occupations in survey areas come from multi diversity aspects. Some are doing business such as selling brick , calcify and sands , and selling commercial woods , furniture , marble stones , selling betel , optical shops , tea shops . Some are doing services such as carpenter, drivers, barbershop, car body and body painting, cycle taxi and repair, sewing, tailor , mason , massage, trishaw driver . A few of them are government staff and some are in agriculture and livestock sector .

Mostly, household leaders are working one job but there are 4 leaders who are working 2 jobs. Based on our sample, 111 out of 397(28%) household leaders are still working in at agricultural sector- farmer and livestock, gardening,

110 out of 397(27.7%) household leaders are working at services such as carpenter , driver ,barbershop ,car body repair and body painting , cycle taxi and repair ,car spare , child-minder ,sewing , tailor , workshop , drilling well, mason (Pa Yan) , massage , midwife(a yat lat thal), trishaw .

We expected majority of respondents to be female as generally wives are staying at home and working housework in Myanmar. Among 397 households, only 60 households have male respondents and the rest households have female respondents.

Most of respondents (42.8%) in the study finished their primary education level. 126 out of 397 (31.7%) respondents had finished the middle school education. 18 respondents are graduate persons and one respondent is post-grad person .

Per capita income in study area is 56,605 Kyats/month for our study area while maximum per capita income is 428,571 Kyats/month and minimum per capita income is 6250 Kyats/month .

The study result shows up to 52 % of respond households said NO saving in their family although 180 out of 377 respondents (47.7%) said they can save. Surprisingly only one family said they have debt in their family.

When the amount of saving is concerned , the maximum amount of saving in study area is Kyats 1,000,000 which is approximately 1,205 USD under USD1= Kyat 830 exchange rate and the minimum amount of saving is 10,000 Kyats per month among 179 respondents.

367 households respond to answer for that question , 122 out of 367(33.2%) households said their income is increasing and 189(51.5%) said it is normal condition but 56 (15.3%) reply their income is decreasing .

The maximum expenditure of household is Kyats 750,000 a month and the minimum amount is 15,000 Kyats /month in the study area .

No one thinks of that traditional medicine healthcare in Myanmar is not very expensive and highest expensive . More than 86 % of respondents (336 out of 389) consider as not expensive for traditional medicine although 38% of respondents (148 out of 389) seem not expensive for cost of modern medicine healthcare . Probably those households did not face any serious case. At the same time, the study check on families in which what kind of medicine they are using on their health – modern medicine or traditional medicine or both or not using any medicine .

79% of respondents are using both modern medicine and traditional medicine for their heath currently. Only 10 % on each section answer for traditional medicine and modern medicine alone .

For the causes of respondents to use traditional medicine, they are mostly using for indigestion as normal use . Based on our survey result, it shows that they are more relying on taking modern medicine when catching a headache, a vitamin, a cold and as hypertension .

For the modern drug users , mostly 48% and 30.23 % of 387 respondents on this question are buying as of seldom and convenient respectively . On the other hand ,27%

of 347 respondents in the study are daily purchasing traditional medicine and approximately 55 % of 347 respondents use the traditional medicine not often.

Majority of people normally go to private clinic which is 73.8% of 393 respondents proved to assert . Though this research is paying attention on traditional medicine, the result presented that 5.9% and 0.3% deal with traditional medicine clinics and traditional medicine practitioners.

For respondents' reasons to go to that specific health care institution, 67% of 390 respondents said that they went to those specific institutions because they preferred institutions' treatment system if they get ill .Secondly, they preferred history that they traditionally go there. Thirdly, 19 % of respondents said that they go to those specific ones since the institutions are not far from their home.

According to how the households go to health care institutions, most of them go to health care institution by motorcycle(55%) and on foot(34%) ,a few households go by car or bus or bicycle.

Majority of households, 161 out of 393, like to use " made in Thailand "product (modern medicine) while 34 out of 393 respond that they prefer "made in India products" . 11 out of 393 said that they like to use Korea , Germany , Japan , USA

On the other hand , 237 out of 393 respond that made in Myanmar traditional medicine are preferable for them . 5 and 2 out of 393 like to use made in China and India traditional medicine respectively.

Mostly, people are using modern medicines made in Thailand , made in China and made in India. Other countries are Philippines, Germany , Switzerland , Indonesia , and Austria while for traditional medicine ,almost all of them are made in Myanmar

Poverty Analysis

Based on the 2010 poverty line , 2013 poverty line can be calculated (as our study data collected in 2013 April) by inflating with GDP deflator. Then poverty condition in our study area could be shown in general .

Poverty line for 2013 comes to show up with 389801 Kyats/Year . However, there could be more or less data discrepancy on CPI inflating technique. Thus, 400,000 Kyats /year is taken as national poverty line for 2013.

Poverty incidence in study area, Mandalay has been falling from 27% in 2010 to 21.6% in 2013 which is a fall of 20% during 3 years.

The trends of poverty become lesser and lesser during 2005-2013 . Urban poverty in our study indicate that 13.5 might be lower than that of headcount 14 in 2010 and rural poverty can also be seen as lower which is 25.5 in 2013 compared with 2010 poverty incidence "32" in Mandalay region. Thus, it is said to be a success of MDGs poverty reduction in Mandalay region .

Similarly, our study found out the same trend in urban poverty gap in 2013 (0.028) which is lower than that of 2005 (0.045) but a bit higher than 2010 poverty gap in 2010 (0.021) .However, rural poverty incidence turns out to be lower and lower although poverty gap in 2013(0.07) is a little bit higher than 2010 figure (0.055) . Nevertheless, the break between rural and urban poverty indices are lesser during 2010 and 2013.

Though Myanmar GINI and income distribution data were absent to be shown in World Bank statistics, Gini in Mandalay from our study around "0.3" in 2013 has proved that income inequality in our study area is not that bad compare to ASEAN condition .

Our finding proved that lowest 20% of population is only sharing 9.3 % of total income and highest 20% of population occupies almost 38.77% of total income (= 100-61.23) in the study area . Income distribution in our study area is more favourable condition than that of some ASEAN countries.

Households in Mandalay are using Traditional medicine not because of they are poor .

In Chapter 3, the secondary data source indicated that total female patients visiting Traditional medicine clinic are more than total male patients in Mandalay

region although there had been found male patients over female patients in Pyigyitagon township. We expected to see that traditional medicine expenditure will have somehow positive relationship on total female family members in household. However , the result of censored regression proved that there will be tendency for reducing traditional medicine expenditure if there were one more female in total family members at 95% significant level .

Increasing share of healthcare (traditional and modern medicine) expenditure if households are coming from agriculture and livestock sectors .

Age of household leader is one more year older and older , then that household is more responsive to both traditional and modern medicine consumption .

We could not say about the village which is hard to reach with no other health facility and is poorer than general as their poverty headcount is lower than on average rural poverty incidence .

SEM model analysis

Based on the results of estimation by SEM model ,the study of Health Consumption in Myanmar: A study of using traditional and modern medicine of families in Mandalay ,it was found out that Demographic Character factors variable from urban and rural area of Mandalay people (*Demographic Character factors variable significant result effect from many variables* such as *age, gender, education , Household leader education, number of year household leader 's work*) were significantly positive and directly influenced access to Modern Medicine variable (*Modern Medicine variable significant result effect from many variables* such as *Frequently use to buy MM, Opinion about Cost of modern healthcare, like using Modern Medicine)* were significantly positive and directly influenced to access to Traditional Medicine variable (*Traditional Medicine variable significant result effect from many variables* such as *Frequently use to buy TM, Opinion about Cost of traditional medicine heath care ,like using Traditional medicine , Where do you get TM, From whom have you acquired the knowledge for using TM*) , were significantly

positive and directly influenced , Traditional and Modern Medicine attributed variables (*Traditional and Modern Medicine attributed variable*s *significant result effect from many variables* such as *TM can cure the serious case, government support to modern drug, government support to traditional drug, agree the integration of TM (Traditional medicine) and MM health (Modern medicine) care service system, What are the main reasons for the acceptance of Traditional medicine by the community? ,What are the main reasons for the acceptance of Modern Medicine by the community? ,Modern Medicine can cure the serious case)*

Demographic Character factors variable from urban and rural area of Mandalay people also were significantly positive and directly influenced to knowledge satisfaction in healthcare variable (*knowledge satisfaction in healthcare variable significant result effect from many variables* such as *need government support to get drugs easily, What kinds of drugs do you use for your health currently ? , Which institutions do you normally go to take for cure if you and your family have some diseases?*)

Based on the result of estimation by SEM model in latent variables of expenditure potential variable from urban and rural area of Mandalay people (*expenditure potential variable significant result effect from many variables* such as *expenditure for medicines (expenditure for assets (car,cycle) kyats/month, expenditure per day , Expenditure for medicines TM and MM) Kyats/month , Expenditure on Non-food items including clothing, phone , and shoes.*) positively and directly influenced access to traditional medicine and access to Modern Medicine , Traditional and Modern Medicine attributed and knowledge satisfaction in healthcare.

On the Hypothesis 3 and 4 (H3 and H4) testing : Income Potential variable from urban and rural area of Mandalay people (*Income Potential variable significant result effect from many variables* such as *Total years of Education, Income of leader per month, Average income of family member /month*) did not directly influence positive access to traditional medicine and access to Modern Medicine and knowledge satisfaction in healthcare variables . Based on the full model of SEM estimation , result seem to be found out that poor people in Mandalay may more rely on access to Traditional and Modern Medicine , and more knowledge satisfaction in healthcare.

However Income Potential was not significantly positively directly influence to Traditional and Modern Medicine attributed .

Based on the results of estimation by SEM model on Mandalay people data in urban area ,it was found out that to test on Hypothesis 2 (H2): Demographic Character factors on the urban area people in Mandalay significant positively and directly influences access to modern medicine, Traditional and Modern Medicine attributed and knowledge satisfaction in healthcare variables negatively and directly influences to access to traditional medicine variable. While considering about the Expenditure Potential variable in urban area,it was found out only positively and directly influences to knowledge satisfaction in healthcare variable but negatively and directly influences to access to traditional medicine ,access to modern medicine and Traditional and Modern Medicine attributed variables.

About the testing on Hypothesis 3 and 4 (H3)and(H4): Income Potential variable on the urban area was found out to be significant positively and directly influences to access to traditional medicine , access to modern medicine and knowledge satisfaction in healthcare variables but was significantly negatively to Traditional and Modern Medicine attributed . The result of income potential seem to confirm the hypothesis that rich people in urban area in Mandalay may rely on Modern Medicine but also still rely on Traditional Medicine as well. The result did not confirm that the poor people in urban area rely on traditional Medicine more than the rich people.

On the Hypothesis 1 (H1) testing: Demographic Character factors in the rural area positively and directly influences to access to modern medicine ,Traditional and Modern Medicine attributed and knowledge satisfaction in healthcare variables but negatively and directly influences to access to traditional medicine variable.

Testing on Expenditure Potential variable in the rural area was not significant to access to modern medicine and Traditional and Modern Medicine attributed variable but only was significant positively and directly influences to access to traditional medicine and knowledge satisfaction in healthcare variables.

On the Hypothesis 3 and 4 (H3)and(H4) testing : Income Potential variable in the rural area was found out to be significant negatively and directly influences to

access traditional medicine and knowledge satisfaction in healthcare variables but significant positively and directly influences to modern medicine and Traditional and Modern Medicine attributed variables .The results found out that poor people in rural area in Mandalay may more rely on access to Traditional medicine and more knowledge satisfaction in healthcare.

General recommendations

(1) As people in study area prefer using made in Thailand modern medicine , this is signals from the market that can be penetrated systematically

(2) Creating earning employment opportunities for those poor under poverty incidence.

(3) Not only formal education but also vocational education will give them skill and more money to earn since total female in family is, in fact, we cannot change to reduce total female in family. Even though education here is not significant 90% level but significant at 85% level , only thing can push female's skill up is education for both formal (learning in school) and vocational. Vocational training is crucial to fulfill the worker skill up within short period.

(4) When we had a survey time, lots of respondents responded that they don't have any idea .That means can be they don't like interviewing or they really do not have any idea based on their education level or they are afraid of people (outsider) whom they really don't know . As we have shown the relative importance of health in our theoretical background in Box(2.1) and Flowchart (2.1) , people in Mandalay lack knowledge and social communication skill for cooperation of research . Without their cooperation and interest , scientific research and implementation of result will be very difficult . Of course, traditional medicine officers in every township are trying to have more cooperation with families . The easiest way to upgrade the skill will be requesting townships officers and ward / village administrative officials to have more frankly relation in Public-Private (households) partnership for health knowledge distribution .

บทสรุปผู้บริหาร

สหภาพเมียนมาร์เป็นประเทศหนึ่งที่มีการนำเอาบริการการแพทย์แผนโบราณมาใช้ ข้อมูลโดย WHO Global Atlas data, บริการการแพทย์แผนโบราณ ซึ่งมีราคาที่คนในท้องถิ่นสามารถใช้จ่ายได้ และมีผลในการป้องกันและบรรเทาอาการเจ็บป่วยโดยทั่วไปได้ อาจจะสามารถช่วยขจัดปัญหาเรื่องความยากจนได้ ในขณะเดียวกันก็สามารถตอบสนองเป้าหมายการพัฒนาแห่งสหัสวรรษ (MDGs) ซึ่งมีเป้าหมายในการขจัดความยากจน และอีกประการหนึ่ง คือ การพัฒนาความร่วมมือระดับโลก เพื่อการพัฒนาในเป้าหมายที่ 8 ภายใต้เป้าหมายที่ 8 จุดมุ่งหมายที่ 8.e คือ การจัดหายาที่จำเป็น สามารถใช้จ่ายได้ โดยเฉพาะอย่างยิ่งกับประเทศที่กำลังพัฒนา

การศึกษาครั้งนี้ได้อาศัยเอกสารหลักในการใช้บริการการแพทย์แผนโบราณและการแพทย์สมัยใหม่ระหว่างคนรวยและคนจน โดยเฉพาะการสังเกตว่า คนแต่ละคนสามารถเลือกได้อย่างอิสระ สำหรับการเลือกใช้บริการด้านบริการสุขภาพของเขาหรือเธอหรือไม่ การศึกษาครั้งนี้ได้ใช้แหล่งข้อมูลปฐมภูมิ และข้อมูลทุติยภูมิ ในการดำเนินการเริ่มแรกเราจะได้ข้อมูลจากกลุ่มเป้าหมายในพื้นที่ที่มาจากการอภิปรายภายในกลุ่ม วิธีการศึกษาใช้ข้อมูลทั้งจากแหล่งปฐมภูมิและทุติยภูมิ โดยใช้วิธีเก็บข้อมูลที่เกี่ยวข้องการบริโภคด้านสุขภาพทั้งที่มีการอภิปรายอย่างไม่เป็นทางการและเป็นทางการ การออกงานสนามและการเน้นการสัมภาษณ์กึ่งมีโครงสร้าง การเตรียมแบบสอบถามพัฒนาจากข้อมูลทุติยภูมิจากสิ่งตีพิมพ์ และการเสนอแนะของคณาจารย์และเจ้าหน้าที่จากสาธารณรัฐแห่งสหภาพพม่าโดยการนำแบบสอบถามมาทดสอบ

รายงานมีทั้งหมด 7 บท บทที่ 1 และ 2 ครอบคลุมถึงบทนำ ระเบียบวิธีการศึกษา และกรอบแนวคิด บทที่ 3 เน้นมุมมองในแบบย่อของลักษณะทางเศรษฐกิจและสังคมของพื้นที่ในการศึกษา ในบทที่ 4 นำเสนอสถิติเชิงพรรณนา ในบทที่ 5 การวิเคราะห์ความยากจน บทที่ 6 จะเน้นวิเคราะห์โมเดลสมการโครงสร้าง Structural Equation Model (SEM หรือ RISREL) และในบทที่ 7 นำเสนอบทสรุปของการบริโภคบริการสุขภาพในสหภาพเมียนมาร์: การศึกษาการใช้บริการการแพทย์แผนโบราณและการแพทย์สมัยใหม่ของครัวเรือนในมัณฑะเลย์ สหภาพเมียนมาร์

ประเด็นสำคัญที่ค้นพบ

จากการศึกษามีครัวเรือนที่มีสมาชิกในครอบครัวสูงสุดถึง 11 คน และต่ำสุดมีเพียง 1 คน โดยเฉลี่ยสมาชิกในครัวเรือนจะอยู่ที่ 5 (~ 4.8) คน โดยเฉลี่ยในครัวเรือนจะมีเพศชาย 2 คน ในขณะที่เพศหญิงประมาณ 3 คน รวมทั้งหมด 1,897 คน เพศชายมี 856 คน และเพศหญิงมี 1,041 คน จากตัวอย่างในการศึกษาเราพบว่า อัตราส่วนเพศชายต่อเพศหญิง คือ "0.82"

จากการสำรวจในพื้นที่มีการประกอบอาชีพที่หลากหลาย บางคนทำธุรกิจ เช่น ขายอิฐ ปูน และทราย และค้าขายพวกไม้ เฟอร์นิเจอร์ หินอ่อน ขายใบพลู หมาก , ร้านเกี่ยวกับสายตา , ร้านน้ำชา บางคนทำงานด้านบริการ เช่น ช่างไม้, ขับรถรับจ้าง ร้านตัดผม , ออกแบบและวาดภาพตัวถังรถ แท็กซี่ครบวงจร

และซ่อมแซมเย็บผ้า, ก่ออิฐ, บริการนวด, ขับรถสามล้อ มีคนจำนวนน้อยที่เป็นเจ้าหน้าที่รัฐบาล และบางส่วนอยู่ในภาคการเกษตรและปศุสัตว์

ส่วนใหญ่ผู้นำครัวเรือนจะทำงาน 1 งาน แต่มีผู้นำ 4 คนที่ทำงาน 2 งาน ตัวอย่างเช่น จากครัวเรือนจำนวน 111 ครัวเรือน จาก 397 ครัวเรือน (28%) ผู้นำในครัวเรือนยังคงทำงานเกี่ยวกับการเกษตร และปศุสัตว์การทำสวน และ 110 ครัวเรือนจาก 397 ครัวเรือน (27.7%) ผู้นำในครัวเรือนทำงานในการให้บริการ เช่น ช่างไม้, ขับรถ, ร้านตัดผม, ออกแบบและวาดภาพตัวถังรถ แท็กซี่ครบวงจร ร้านซ่อมรถ รับดูแลเด็ก เย็บตัดเสื้อผ้า , ห้องเครื่อง ก่อสร้าง ขุดเจาะ, บริการนวด, พยาบาลผดุงครรภ์ ขับสามล้อ

เราคาดว่าผู้ที่ตอบแบบสอบถามส่วนใหญ่จะเป็นเพศหญิง โดยทั่วไปจะเป็นภรรยาที่อยู่บ้าน และทำงานบ้าน จากทั้งหมด 397 ครัวเรือน มีเพียง 60 ครัวเรือนที่ผู้ตอบแบบสอบถามเป็นเพศชาย และครัวเรือนอื่นๆที่เหลือผู้ตอบแบบสอบถามจะเป็นเพศหญิง

ส่วนใหญ่ของผู้ตอบแบบสอบถาม (42.8%) จบการศึกษาในระดับประถมศึกษา ใน 126 ครัวเรือนจาก 397 ครัวเรือน (31.7%) เป็นผู้ตอบแบบสอบถามที่จบการศึกษาระดับมัธยม และ 18 ครัวเรือน เป็นผู้ตอบแบบสอบถามที่จบการศึกษาในระดับปริญญาตรี และหนึ่งคนจบในระดับสูงกว่าปริญญาตรี ในพื้นที่ที่ทำการศึกษารายได้ต่อหัวอยู่ที่ 56,605 จ๊าต / เดือน พบว่า รายได้ต่อหัวสูงสุด คือ 428,571 จ๊าต / เดือน และรายได้ต่อหัวต่ำสุด คือ 6,250 จ๊าต / เดือน

ผลจากการศึกษาพบว่า 52% ของครัวเรือนที่ตอบแบบสอบถาม บอกว่า พวกเขาไม่มีเงินออมในครัวเรือน แม้ว่าใน 180 ครัวเรือน จาก 377 ครัวเรือน ผู้ตอบแบบสอบถาม (47.7%) กล่าวว่า พวกเขาสามารถออมเงินได้ น่าแปลกที่มีเพียงคนเดียวที่บอกว่า พวกเขามีหนี้ เมื่อถามถึงปริมาณของการการออมจากพื้นที่ที่ทำการศึกษา พบว่า จำนวนเงินออมมากที่สุด คือ 1,000,000 จ๊าตต่อเดือน ซึ่งจะอยู่ที่ประมาณ 1,205 เหรียญสหรัฐภายใต้อัตราการแลกเปลี่ยนที่ 1USD เท่ากับ 830 จ๊าต และจำนวนเงินออมต่ำสุด คือ 10,000 จ๊าตต่อเดือนจากผู้ตอบแบบสอบถามจำนวน 179 ครัวเรือน และจำนวน 122 ครัวเรือน จาก 367 ครัวเรือน (33.2%) บอกว่า พวกเขามีรายได้ที่เพิ่มขึ้น และ 189 ครัวเรือน (51.5%) บอกว่า รายได้เท่ากับปกติ แต่อีก 56 ครัวเรือน (15.3%) ตอบว่า พวกเขามีรายได้ลดลงเมื่อเทียบกับปีที่ผ่านมา

ค่าใช้จ่ายสูงสุดของครัวเรือนเป็น 750,000 จ๊าตต่อเดือน และค่าใช้จ่ายต่ำสุดอยู่ที่ 15,000 จ๊าต / เดือน โดยไม่มีใครคิดว่าการรักษาสุขภาพโดยใช้บริการการแพทย์แผนโบราณในสหภาพเมียนมาร์มีที่ไม่แพงมากและมีราคาแพงมากที่สุด เมื่อพิจารณาผู้ตอบแบบสอบถามมากกว่า 86% ของผู้ตอบแบบสอบถาม (336 จาก 389) มีความเห็นว่า ราคาไม่แพงสำหรับบริการการแพทย์แผนโบราณ แม้ว่า 38% ของผู้ตอบแบบสอบถาม (148 จาก 389) ดูเหมือนมีความเห็นว่ามีราคาที่ไม่แพงเลย สำหรับค่าใช้จ่ายของการดูแลสุขภาพโดยการแพทย์สมัยใหม่ซึ่งน่าจะเป็นครัวเรือนที่อาจจะไม่ได้เผชิญกับกรณี อาการโรคที่ร้ายแรง ในขณะเดียวกันการศึกษาโดยตรวจสอบจากครอบครัว ทั้งจากชนิดและประเภทของการใช้บริการการแพทย์จากการแพทย์สมัยใหม่ หรือการแพทย์แผนโบราณ หรือใช้บริการทั้งสองอย่าง หรือไม่ได้ใช้บริการการแพทย์ประเภทใดเลย มีครัวเรือน 79% ของผู้ตอบแบบสอบถามที่ใช้ทั้งบริการการแพทย์สมัยใหม่และการแพทย์แผนโบราณเพื่อดูแลสุขภาพของพวกเขา แต่มีเพียง 10% ที่บอกว่าใช้บริการการแพทย์แผนโบราณและการแพทย์สมัยใหม่เพียงอย่างเดียว

สำหรับสาเหตุของผู้ตอบแบบสอบถามที่ใช้บริการการแพทย์แผนโบราณ พวกเขาส่วนใหญ่จะใช้บริการเมื่อมีอาการอาหารไม่ย่อยโดยปกติทั่วไป จากผลการสำรวจจะเห็นว่าพวกเขาอาศัยการแพทย์สมัยใหม่มากขึ้น เมื่อมีอาการปวดหัว, ต้องการวิตามิน, เป็นไข้หวัดและความดันโลหิตสูง

สำหรับผู้ใช้ยาสมัยใหม่ส่วนใหญ่ 48% และ 30.23% ของผู้ตอบแบบสอบถามจาก 387 ครัวเรือน บอกว่า มีการซื้อนานๆครั้ง ตามแต่สะดวก ตามลำดับ ในทางตรงกันข้าม 27% ของผู้ตอบแบบสอบถาม จาก 347 ครัวเรือน จากการศึกษาพบว่ามีการจัดซื้อยาแผนโบราณทุกวัน และประมาณ 55% ของผู้ตอบแบบสอบถามจาก 347 ครัวเรือน ใช้ยาแผนโบราณไม่ค่อยบ่อยนัก

ผู้ตอบแบบสอบถาม ส่วนใหญ่มักจะไปใช้บริการของคลินิกเอกชน คิดเป็น 73.8% จาก 393 ครัวเรือน จากการยืนยันของผู้ตอบแบบสอบถาม แม้ว่าการวิจัยครั้งนี้จะให้ความสนใจในการแพทย์แผนโบราณ จากผลการวิจัย พบว่า 5.9% และ 0.3% ก็ให้ความสำคัญเกี่ยวกับคลินิกการแพทย์แผนโบราณ และผู้ปฏิบัติงานการแพทย์แผนโบราณด้วย

สำหรับเหตุผลที่ผู้ตอบแบบสอบถาม ที่ไปรับการรักษาที่สถาบันรักษาเฉพาะทาง 67% จาก 390 ครัวเรือนผู้ตอบแบบสอบถาม กล่าวว่า พวกเขาจะไปที่สถาบันรักษาเฉพาะเพราะ เขาชอบระบบการรักษาเมื่อไม่สบาย ประการที่สอง พวกเขาชอบที่จะปฏิบัติตามประเพณีของเขา ประการที่สาม 19% ของผู้ตอบแบบสอบถาม กล่าวว่า ที่ไปที่สถาบันเฉพาะทาง เพราะตั้งอยู่ไม่ไกลจากบ้านของพวกเขา

จากการศึกษาถึงวิธีการที่ครัวเรือนจะไปยังสถาบันรักษาสุขภาพอย่างไร ส่วนใหญ่จะไปสถาบันรักษาสุขภาพโดยรถจักรยานยนต์ (55%) และเดินเท้า (34%) มีไม่กี่ครัวเรือนที่ไปโดยรถยนต์ หรือ รถประจำทาง หรือจักรยาน

ครัวเรือนส่วนใหญ่ 161 จาก 393 ครัวเรือน, ชอบใช้ผลิตภัณฑ์จากแพทย์สมัยใหม่ ที่ผลิตในประเทศไทย ในขณะที่ 34 จาก 393 ครัวเรือน ตอบว่า พวกเขาชอบผลิตภัณฑ์ที่ผลิตในอินเดีย และ 11 จาก 393 ครัวเรือน ตอบว่า พวกเขาชอบใช้ผลิตภัณฑ์ที่ผลิตจากประเทศเกาหลี, เยอรมนี, ญี่ปุ่น และสหรัฐอเมริกา

ในทางกลับกัน 237 จาก 393 ครัวเรือน บอกว่า พวกเขาชอบผลิตภัณฑ์การแพทย์แผนโบราณของพวกเขาเองที่ผลิตในสหภาพเมียนมาร์ และครัวเรือนจำนวน 5 และ 2 จาก 393 ครัวเรือน ชอบใช้ผลิตภัณฑ์การแพทย์แผนโบราณที่ผลิตในประเทศจีน และอินเดีย ตามลำดับ

คนส่วนใหญ่มักจะใช้ผลิตภัณฑ์ทางการแพทย์สมัยใหม่ ที่ผลิตจากประเทศไทย ที่ผลิตจากจีน และที่ผลิตจากอินเดีย ส่วนประเทศอื่น ๆ เช่น ฟิลิปปินส์ , เยอรมนี, สวิตเซอร์แลนด์, อินโดนีเซีย, และออสเตรีย ในขณะที่การแพทย์แผนโบราณ คนส่วนใหญ่จะใช้ผลิตภัณฑ์ที่ผลิตในสหภาพเมียนมาร์

การวิเคราะห์ความยากจน

จากเส้นความยากจนในปี 2010 และ ในปี 2013 สามารถคำนวณเส้นความยากจนได้ (ข้อมูลที่เก็บรวบรวม เดือนเมษายน ปี 2013) โดยการพิจารณาดัชนีราคาผลิตภัณฑ์มวลรวมในประเทศ (GDP Deflator) ดังนั้น สภาวะความยากจนในพื้นที่ที่เราทำการศึกษาอาจจะแสดงให้เห็นโดยทั่วไป กล่าวคือ

สำหรับเส้นความยากจนในปี 2013 เป็น 389,801 จ๊าต / ปี อย่างไรก็ตามตัวเลขอาจจะผิดพลาดมากหรือน้อย ขึ้นอยู่กับการปรับของดัชนีราคาผู้บริโภคในด้านวิธีการคำนวณ ดังนั้น เส้นความยากจนแห่งชาติของปี 2013 จึงประมาณได้ 400,000 จ๊าต / ปี ภาวะความยากจนในพื้นที่ศึกษาใน มัณฑะเลย์ พบว่าลดลงจาก 27% ในปี 2010 เป็น 21.6% ในปี 2013 ซึ่งเป็นการลดลงถึง 20% ในช่วง 3 ปีที่ผ่านมา

ด้านแนวโน้มของความยากจน มีการลดน้อยลงเรื่อยๆ ในช่วงปี 2005 – 2013 จากภาวะความยากจนในเขตเมืองที่ทำการศึกษา ชี้ให้เห็นได้ว่า ความยากจนต่อหัวอยู่ที่ 13.5 อาจจะต่ำกว่า 14 ในปี 2010 และภาวะความยากจนในชนบทก็ชี้ให้เห็นว่าต่ำกว่า 25.5 ในปี 2013 เมื่อเปรียบเทียบกับภาวะความยากจนในปี 2010 ซึ่งเป็น 32 ในภูมิภาคมัณฑะเลย์ ดังนั้น จึงกล่าวได้ว่าเป็นความสำเร็จของ MDGs ในการลดความยากจนในภูมิภาคมัณฑะเลย์

ในทำนองเดียวกัน จากการศึกษา พบว่าแนวโน้มช่องว่างความยากจนในชนบทในปี 2013 (0.028) ซึ่งต่ำกว่าที่ในปี 2005 (0.045) แต่สูงกว่าในปี 2010 เล็กน้อย ช่องว่างความยากจนในปี 2010 (0.021) อย่างไรก็ตามในขณะที่ภาวะความยากจนในชนบทจะลดลงๆ ในขณะที่ช่องว่างความยากจนในปี 2013 (0.07) จะค่อนข้างสูงกว่าตัวเลข ในปี 2010 (0.055) เล็กน้อย อย่างไรก็ตามช่องว่างระหว่างดัชนีความยากจนทั้งในชนบทและในเมืองชี้ให้เห็นการลดลงในช่วงปี 2010 และ 2013

แม้ว่า สัมประสิทธิ์จีนี่และข้อมูลการกระจายรายได้ของสหภาพเมียนมาร์ ไม่อยู่ในการแสดงสถิติของธนาคารโลก จากการศึกษา สัมประสิทธิ์จีนี่ในมัณฑะเลย์ พบว่า สัมประสิทธิ์จีนี่ประมาณ 0.3 ในปี 2013 แสดงให้เห็นว่าความไม่เท่าเทียมกันของการกระจายรายได้ เมื่อเทียบกับกลุ่มสมาชิกในอาเซียนก็ไม่ได้เลวร้ายมากนัก จากการศึกษา พบว่า ค่าต่ำสุด 20% ของประชากรมีการกระจายรายได้ 9.3% ของรายได้รวม และค่าสูงสุด 20% ของประชากร ครอบครองเกือบ 38.77% ของรายได้รวม (เท่ากับ 100–61.23) ในพื้นที่ที่ทำศึกษา ด้านการกระจายรายได้ในพื้นที่ที่ทำการศึกษามีการกระจายรายได้ที่ดีกว่าบางประเทศในกลุ่มอาเซียน การใช้บริการการแพทย์แผนโบราณ ของครัวเรือนใน มัณฑะเลย์ ไม่ใช่เพราะพวกเขามีฐานะยากจน

ในบทที่ 3 จากข้อมูลทุติยภูมิ ชี้ให้เห็นว่า ผู้ป่วยเพศหญิงมาใช้บริการคลินิกแพทย์แผนโบราณมากกว่าผู้ป่วยเพศชายในภูมิภาคมัณฑะเลย์ แม้ว่าจะพบผู้ป่วยเพศชายมากกว่าผู้ป่วยเพศหญิงในเขตการปกครอง Pyigyitagon เราคาดว่าค่าใช้จ่ายในการเข้าใช้บริการการแพทย์แผนโบราณมีความสัมพันธ์เชิงบวกจากจำนวนสมาชิกในครอบครัวที่เป็นเพศหญิง อย่างไรก็ตามจากผลของแบบจำลอง censored regression แสดงให้เห็นว่าแนวโน้มของค่าใช้จ่ายในทางการแพทย์แผนโบราณมีแนวโน้มลดลง ถ้ามีจำนวนผู้หญิงที่เป็นสมาชิกในครอบครัวมากขึ้นหนึ่งคน ที่ระดับนัยสำคัญ 95%

ค่าใช้จ่ายในการดูแลรักษาสุขภาพ (การแพทย์แผนโบราณและการแพทย์สมัยใหม่) จะเพิ่มขึ้น ถ้าครัวเรือนมาจากภาคการเกษตรและปศุสัตว์ ครัวเรือนที่มีผู้นำที่มีอายุมากและเป็นคนรุ่นเก่า ครัวเรือนเหล่านั้นจะใช้บริการทั้งการแพทย์แผนโบราณและการแพทย์สมัยใหม่ เราไม่สามารถกล่าวถึงหมู่บ้านที่เป็นเรื่องยากที่คนในหมู่บ้านไม่มีเครื่องอำนวยสะดวกต่อการที่จะเข้าถึงบริการการแพทย์ได้ เนื่องจากพวกเขายากจนกว่าคนทั่วไป และความยากจนของพวกเขาต่ำกว่าความยากจนโดยเฉลี่ยของคนในชนบท

การวิเคราะห์แบบจำลอง SEM Model

จากผลของการประมาณค่าของแบบจำลอง SEM จากการศึกษาการบริโภคบริการสุขภาพในเมียนมาร์ :การศึกษาการใช้บริการการแพทย์แผนโบราณและการแพทย์สมัยใหม่ของครัวเรือนในมัณฑะเลย์ พบว่าปัจจัยทางลักษณะประชากรเป็นตัวแปรที่สำคัญ ของประชากรที่อาศัยอยู่ในเขตเมืองและชนบทในเมืองมัณฑะเลย์ (*ตัวแปรปัจจัยทางด้านประชากร มีตัวแปรที่ส่งผลอย่างมีนัยสำคัญจากหลายตัวแปร เช่น อายุ เพศ , การศึกษา, การศึกษาของผู้นำในครัวเรือน จำนวนปีที่ทำงานของผู้นำในครัวเรือน*) มีนัยสำคัญเชิงบวก และมีอิทธิพลทางตรงต่อการเข้าถึงการแพทย์สมัยใหม่ (*ตัวแปรการเข้าถึงการแพทย์สมัยใหม่ที่มีผลอย่างมีนัยสำคัญมาจากหลายตัวแปร เช่น ความบ่อยครั้งในการเคยซื้อยาสมัยใหม่, ความคิดเห็นเกี่ยวกับค่าใช้จ่ายในการรักษาสุขภาพสมัยใหม่ การชอบใช้บริการการแพทย์สมัยใหม่*) ,มีนัยสำคัญในเชิงบวก และมีอิทธิพลในการเข้าถึงทางการแพทย์แผนโบราณ (การเข้าถึง*การแพทย์แผนโบราณ มีตัวแปรที่ส่งผลอย่างมีนัยสำคัญจากหลายตัวแปร เช่น ความบ่อยครั้งในการซื้อบริการการแพทย์แผนโบราณ, ความคิดเห็นเกี่ยวกับค่าใช้จ่ายในการรักษาสุขภาพด้วยวิธีแผนโบราณ การชอบใช้บริการการแพทย์แผนโบราณ สถานที่ที่ใช้บริการการแพทย์แผนโบราณ การได้มาจากผู้ที่ให้ความรู้ในด้านการใช้บริการการแพทย์แผนโบราณ*) มีนัยสำคัญในเชิงบวก และมีอิทธิพลทางตรงต่อคุณลักษณะของ การแพทย์แผนโบราณและการแพทย์สมัยใหม่ (*คุณลักษณะของการแพทย์แผนโบราณและการแพทย์สมัยใหม่ มีตัวแปรที่ส่งผลอย่างมีนัยสำคัญ จากหลายตัวแปร เช่น การแพทย์แผนโบราณสามารถรักษากรณีที่ร้ายแรง การสนับสนุนของรัฐบาลที่มีต่อยาสมัยใหม่ การสนับสนุนของรัฐบาลที่มีต่อการยาแผนโบราณ การเห็นด้วยกับการบูรณการการแพทย์แผนโบราณและการแพทย์สมัยใหม่ในระบบการดูแลรักษาสุขภาพ , อะไรคือเหตุผลหลักในการยอมรับการแพทย์แผนโบราณโดยชุมชน , อะไรคือเหตุผลหลักในการยอมรับของการแพทย์สมัยใหม่โดยชุมชน, การแพทย์สมัยใหม่สามารถรักษากรณีโรคร้ายแรงได้*)

ปัจจัยทางด้านประชากร ที่มาจากเขตเมืองและชนบทของประชาชนในเมืองมัณฑะเลย์ มีนัยสำคัญเชิงบวกและมีอิทธิพลโดยตรงต่อความพึงพอใจในตัวแปรด้านความรู้ในด้านสุขภาพ (*ความพึงพอใจในตัวแปรด้านความรู้ในด้านสุขภาพ ส่งผลที่มีนัยสำคัญมาจากหลายตัวแปร เช่น ความต้องการให้รัฐบาลสนับสนุนการได้รับยาที่ง่ายขึ้น ยาประเภทใดที่ท่านใช้เพื่อรักษาสุขภาพในปัจจุบัน สถาบันไหนที่ปกติท่านไปเพื่อรักษาถ้าท่านและครอบครัวของท่านเจ็บไข้ได้ป่วย*)

จากผลของการประมาณค่าโดยแบบจำลอง SEM ในตัวแปรแฝงของตัวแปรศักยภาพในการใช้จ่ายจากประชาชนที่อาศัยอยู่เมืองมัณฑะเลย์ ในเขตเมืองและชนบท (*ตัวแปรศักยภาพในการใช้จ่ายมีนัยสำคัญที่ส่งผลมาจากหลายตัวแปร เช่น ค่าใช้จ่ายสำหรับการแพทย์ (ค่าใช้จ่ายสำหรับสินทรัพย์ (รถยนต์,จักรยาน) จ๊าต / เดือน ,ค่าใช้จ่ายต่อวัน , ค่าใช้จ่ายสำหรับการแพทย์แผนโบราณและการแพทย์สมัยใหม่ จ๊าต / เดือน ค่าใช้จ่ายในรายการที่ไม่ใช่อาหาร รวมถึง เสื้อผ้า , โทรศัพท์ และรองเท้า.*) มีนัยสำคัญเชิงบวกและมีอิทธิพลโดยตรงต่อการเข้าถึงการแพทย์แผนโบราณและการเข้าถึงการแพทย์สมัยใหม่ คุณสมบัติของการแพทย์แผนโบราณและการแพทย์สมัยใหม่ และความพึงพอใจในความรู้ด้านสุขภาพ

ในการทดสอบข้อสมมติฐานที่ 3 และ 4 (H3 และ H4) : ตัวแปรศักยภาพในด้านรายได้ ในเขตเมืองและชนบทของประชาชนเมืองมัณฑะเลย์ (*ตัวแปรศักยภาพด้านรายได้มีผลอย่างมีนัยสำคัญจากหลายตัวแปร*

เช่น จำนวนปีในการศึกษา รายได้ต่อเดือนของผู้นำครัวเรือน รายได้เฉลี่ยของสมาชิกในครอบครัว / เดือน) ไม่มีอิทธิพลเชิงบวกโดยตรงกับการเข้าถึงการแพทย์แผนโบราณและการเข้าถึงการแพทย์แผนปัจจุบัน และความพึงพอใจในด้านสุขภาพ จากแบบจำลองการประมาณ SEM แบบเต็มรูป พบว่าประชาชนที่มีฐานะยากจนในมัณฑะเลย์มีความพึงพอใจมากขึ้นในการเข้าถึงการแพทย์แผนโบราณและการเข้าถึงการแพทย์สมัยใหม่ และมีความพึงพอใจในความรู้ด้านสุขภาพ อย่างไรก็ตามพบว่าศักยภาพทางรายได้ไม่มีนัยสำคัญเชิงบวกและมีอิทธิพลทางตรงต่อคุณลักษณะการแพทย์แผนโบราณและการแพทย์สมัยใหม่

ผลจากการประมาณค่าโดยแบบจำลอง SEM จากข้อมูลของประชากรในมัณฑะเลย์ที่อยู่ในเขตเมือง พบว่า การทดสอบสมมติฐานที่ 2 (H2): ปัจจัยทางด้านประชากรในเขตเมืองมัณฑะเลย์มีนัยสำคัญเชิงบวก และมีอิทธิพลโดยตรงต่อตัวแปร การเข้าถึงการแพทย์สมัยใหม่ คุณลักษณะของการแพทย์แผนโบราณและการแพทย์สมัยใหม่ และความพึงพอใจในความรู้ด้านสุขภาพ แต่มีผลนัยสำคัญเชิงลบ และมีผลโดยตรงต่อการเข้าถึงการแพทย์แผนโบราณ ขณะที่พิจารณาเกี่ยวกับตัวแปรศักยภาพค่าใช้จ่ายในเขตเมือง ก็พบความสัมพันธ์ในเชิงบวก และมีอิทธิพลต่อโดยตรงเฉพาะความพึงพอใจในความรู้ด้านสุขภาพ แต่มีผลเชิงลบและมีผลโดยตรงต่อการเข้าถึงการแพทย์สมัยใหม่และการแพทย์แผนโบราณ และคุณลักษณะของการแพทย์แผนโบราณและการแพทย์สมัยใหม่

การทดสอบบนสมมติฐานที่ 3 และ 4 (H3) และ (H4): ตัวแปรศักยภาพด้านรายได้ในเขตเมือง พบว่ามีนัยสำคัญเชิงบวก และมีอิทธิพลโดยตรงต่อการเข้าถึงการแพทย์แผนโบราณ , การเข้าถึงการแพทย์สมัยใหม่ และความพึงพอใจในความรู้ด้านสุขภาพ แต่มีนัยสำคัญเชิงลบต่อคุณลักษณะของการแพทย์แผนโบราณและการแพทย์แผนสมัยใหม่ ผลจากตัวแปรศักยภาพด้านรายได้ดูเหมือนจะยืนยันสมมติฐานที่ว่า คนรวยในพื้นที่ในเมืองมัณฑะเลย์ยังคงพึ่งพาการแพทย์สมัยใหม่แต่ก็ยังคงพึ่งพาการแพทย์แผนโบราณด้วยเช่นกัน แต่ผลการศึกษาไม่ได้ยืนยันว่าคนยากจนในเขตเมืองพึ่งพาการแพทย์แผนโบราณมากกว่าคนรวย

ในการทดสอบสมมติฐานที่ 1 (H1) ปัจจัยทางด้านประชากรในพื้นที่ชนบทมีความสัมพันธ์เชิงบวกและมีผลโดยตรงต่อการเข้าถึงการแพทย์สมัยใหม่ และตัวแปรคุณลักษณะของการแพทย์แผนโบราณและการแพทย์แผนสมัยใหม่ และความพึงพอใจในความรู้ด้านสุขภาพ แต่มีความสำพันธ์เชิงลบและมีผลโดยตรงต่อตัวแปรการเข้าถึงการแพทย์แผนโบราณ

การทดสอบตัวแปรศักยภาพด้านค่าใช้จ่ายในพื้นที่ชนบท ไม่มีนัยสำคัญต่อการเข้าถึงการแพทย์แผนสมัยใหม่และการแพทย์แผนโบราณและตัวแปรคุณลักษณะของการแพทย์แผนโบราณและการแพทย์แผนสมัยใหม่ แต่มีเพียงนัยสำคัญในเชิงบวกและมีอิทธิพลโดยตรงต่อการเข้าถึงการแพทย์แผนโบราณและมีความพึงพอใจในความรู้ด้านสุขภาพ

ในการทดสอบสมมติฐานที่ 3 และ 4 (H3) และ (H4) : ตัวแปรศักยภาพด้านรายได้ในพื้นที่ชนบท พบว่ามีนัยสำคัญเชิงลบ และมีอิทธิพลโดยตรงต่อการเข้าถึงการแพทย์แผนโบราณและความพึงพอใจในความรู้ด้านการรักษาสุขภาพ แต่มีนัยสำคัญเชิงบวกและมีผลโดยตรงต่อการแพทย์แผนสมัยใหม่ และตัวแปรคุณลักษณะของการแพทย์แผนโบราณและการแพทย์สมัยใหม่ พบว่า คนยากจนในพื้นที่ชนบทในมัณฑะเลย์มีการพึ่งพาการเข้าถึงการแพทย์แผนโบราณและมีความพึงพอใจในความรู้ด้านสุขภาพ

คำแนะนำทั่วไป

(1) ประชากรในพื้นที่ที่ทำศึกษาต้องการใช้ผลิตภัณฑ์การแพทย์สมัยใหม่ที่ผลิตในประเทศไทย แสดงถึงสัญญาณที่สามารถเจาะระบบตลาดนี้ได้

(2) การสร้างโอกาสในการจ้างงานเพื่อสร้างรายได้สำหรับคนที่มีฐานะยากจน

(3) ไม่เพียงแต่การให้การศึกษาแบบเป็นทางการเท่านั้น แต่ยังต้องมีการให้การศึกษาสายอาชีพเพื่อให้ผู้หญิงที่เป็นสมาชิกในครอบครัว มีทักษะและสร้างเงินได้มากขึ้น เพราะ ในความเป็นจริง เราไม่สามารถเปลี่ยนแปลงเพื่อลดจำนวนผู้หญิงในครอบครัวลงได้ แม้ว่าผลของด้านการศึกษาที่นี่ไม่ได้มีนัยสำคัญที่ระดับ 90% แต่ยังคงมีระดับนัยสำคัญที่ระดับ 85%, สิ่งเดียวที่สามารถผลักดันทักษะของผู้หญิงขึ้นมาได้ คือ การให้การศึกษาทั้งที่เป็นทางการ (การเรียนรู้ในโรงเรียน) และในระดับอาชีวศึกษา การฝึกอบรมอาชีพซึ่งเป็นสิ่งสำคัญที่จะเติมเต็มทักษะของผู้ปฏิบัติงานภายในระยะเวลาอันสั้นได้

(4) จากที่เราได้สำรวจ ผู้ตอบแบบสอบถามจำนวนมาก มีการตอบว่า พวกเขาไม่มีความคิดเห็นใด ๆ อาจหมายความว่า พวกเขาไม่ชอบที่จะให้ข้อมูลในการสัมภาษณ์ หรือพวกเขาไม่ได้มีความคิดเห็นใด ๆ จริงๆ บนพื้นฐานระดับการศึกษาของพวกเขาหรือเพราะกลัวผู้คนแปลกหน้า บุคคลภายนอกคนที่พวกเขาไม่รู้จัก ในขณะที่ข้อมูลการศึกษาทีเกี่ยวข้องไว้และผังแสดงที่เกี่ยวข้องกับเรื่องสุขภาพ ทฤษฎีเบื้องหลัง ในกล่อง (2.1) และแผนผัง (2.1)ของประชากรในมัณฑะเลย์ แสดงการขาดความรู้และทักษะในการสื่อสารทางสังคม ซึ่งมีผลต่อความร่วมมือในการวิจัย หากปราศจากความร่วมมือและความสนใจ ในการวิจัยทางวิทยาศาสตร์ของกลุ่มคนเหล่านี้ ก็จะทำให้การดำเนินการวิจัยจะเป็นที่เรื่องยากมาก แน่นอนว่าเจ้าหน้าที่ทางการแพทย์แผนโบราณในเขตการปกครองกำลังพยายามที่จะขอความร่วมมือกับภาคครัวเรือนมากขึ้น วิธีที่ง่ายที่สุดในการพัฒนาทักษะการให้ความร่วมมือในการให้ข้อมูลก็คือ การขอร้องให้เจ้าหน้าที่เขตปกครองท้องถิ่น และเจ้าหน้าที่ที่บริหารหมู่บ้านพยายามสร้างความร่วมมือกันทั้งในภาครัฐและเอกชน ในการให้ข้อมูลความรู้ที่เกี่ยวกับงานวิจัยนั้นๆ

"Health Consumption in Myanmar: A Study of Using Traditional and Modern Medicine of Families in Mandalay"

Chapter I: Introduction, Objectives and Methodology

1.1 Introduction

The economic reforms which were introduced in response to deteriorating economic conditions since the mid-1980s aimed at opening up the economy to provoke FDI and to promote exports, in other words, to increase international trade; encourage the development of the private and co-operative sectors; and evolve a market-oriented economic structure. Hence, laws, orders, rules, regulations and notifications which have prohibited or restricted private sector participation in economic activities such as export and import business, were repeated. In addition, so as to strengthen the institutional framework for building up the market economic system, new legal measures including the most significant the ***Union of Myanmar Foreign Investment Law*** and the ***State-Owned Economic Enterprises Law,*** were promulgated and new legal instruments were instituted. However, during two decades from the mid-1980s, Myanmar is still in a developing countries status and poorest in ASEAN countries under government controls and poverty problem. Myanmar ends up with low level of per capita GDP among ASEAN members. Table (1.1) proves that Myanmar's per capita GDP is lowest since 1990.

Table 1.1 Trends in Per Capita GDP in ASEAN during 1990-2013, (Market Prices, US$)

Economies	1990	1995	2000	2005	2010	2013
Brunei Darussalam	13,913	16,495	18,465	25,759	30,173	39,942
Cambodia	106	297	288	455	733	1016
Indonesia	699	1,144	807	1,300	3,023	3,509
Lao PDR	217	391	304	464	1,035	1476
Malaysia	2,432	4,358	4,030	5,213	8,260	10,547
Myanmar	68	123	178	216	715	868
Philippines	718	1,105	987	1,159	2,014	2,790
Singapore	12,388	23,716	22,791	28,500	43,898	
Thailand	1,521	2,826	1,983	2,825	4,735	5,674
Viet Nam	98	289	402	637	1,239	1901

Source: International Monetary Fund, World Economic Outlook Database, April 2011 and April 2014

As present in Growth and Development theories , low per capita income , education level and life expectancy make Myanmar to have low human development index which ranks 149in the world in 2012 and the lowest among ASEAN countries .

Table 1.2 Trends of HDI ranks

HDI Rank	Country	1980	1990	2000	2005	2010	2011	2012
..	Very high human development	0.773	0.817	0.867	0.889	0.902	0.904	0.905
..	High human development	0.605	0.656	0.695	0.725	0.753	0.755	0.758
..	Medium human development	0.419	0.481	0.549	0.589	0.631	0.636	0.64
..	Low human development	0.315	0.35	0.385	0.424	0.461	0.464	0.466
18	Singapore	..	0.756	0.826	0.852	0.892	0.894	0.895
30	Brunei Darussalam	0.765	0.782	0.83	0.848	0.854	0.854	0.855
64	Malaysia	0.563	0.635	0.712	0.742	0.763	0.766	0.769
103	Thailand	0.49	0.569	0.625	0.662	0.686	0.686	0.69
114	Philippines	0.561	0.581	0.61	0.63	0.649	0.651	0.654
127	Viet Nam	..	0.439	0.534	0.573	0.611	0.614	0.617
138	Lao People's Democratic Republic	..	0.379	0.453	0.494	0.534	0.538	0.543
138	Cambodia	..	..	0.444	0.501	0.532	0.538	0.543
149	Myanmar	0.281	0.305	0.382	0.435	0.49	0.494	0.498

Source: http://hdr.undp.org

The new government has turned a new chapter for Myanmar in March 2011 with the policy changes and reform measures. In the previous days, the economy was suffering from the textbook examples of mismanagement in various aspects. But, the political opening has given rise to a widespread expectation of economic progress and to a reduction of poverty. A series of socio-economic and political reforms have been taking place in the current government.

Presently, Myanmar's per capita GDP among ASEAN members is lowest. (See in Table (1.1) which shows the Per capita GDP trends of ASEAN during 1990-2013. Cambodia, Laos and Vietnam spent appreciable efforts to upgrade their per capita GDP during the years)

Not only Cambodia, Laos, Myanmar and Vietnam are common in ASEAN and GMS countries but countries are lowest in per capita GDP among ASEAN, Those countries' health situations are paid attention to observe among others. Table (1.3) Shows the health situation of CLMTV – Cambodia, Laos, Myanmar, Thailand and Vietnam – countries.

Table 1.3 Health Indicators in Cambodia, Laos, Myanmar, Thailand and Vietnam

Indicators	Country Name	2000	2005	2008	2010	2011	2012	2013
Birth rate, crude (per 1,000 people)	Cambodia	27.55	26.18	26.25	26.23	26.11	25.92	..
	Lao PDR	30.92	28.38	28.67	28.23	27.78	27.27	..
	Myanmar	20.92	18.95	18.31	17.90	17.67	17.44	..
	Thailand	14.57	12.63	11.63	11.03	10.75	10.49	..
	Vietnam	17.31	16.97	16.80	16.43	16.16	15.85	..
Death rate, crude (per 1,000 people)	Cambodia	8.53	6.89	6.31	6.12	6.07	6.02	..
	Lao PDR	8.44	7.18	6.72	6.41	6.25	6.09	..
	Myanmar	8.81	8.50	8.46	8.47	8.49	8.52	..
	Thailand	6.79	7.01	7.16	7.35	7.47	7.60	..
	Vietnam	5.40	5.44	5.54	5.61	5.64	5.68	..
Fertility rate, total (births per woman)	Cambodia	3.75	3.23	3.05	2.97	2.93	2.89	
	Lao PDR	4.19	3.56	3.43	3.29	3.20	3.11	..
	Myanmar	2.43	2.14	2.05	2.00	1.98	1.96	..
	Thailand	1.68	1.54	1.48	1.44	1.43	1.41	..
	Vietnam	1.98	1.90	1.86	1.82	1.79	1.77	..
Health expenditure per capita (current US$)	Cambodia	18.94	32.72	40.54	45.55	48.84	51.32	..
	Lao PDR	10.68	20.36	36.31	29.38	35.49	40.22	..
	Myanmar	3.14	4.72	9.80	15.19	18.99	19.79	..
	Thailand	66.84	95.45	161.59	182.94	213.91	215.10	..
	Vietnam	20.34	36.48	62.52	82.81	93.49	102.50	..
Health expenditure per capita, PPP (constant 2005 international $)	Cambodia	59.07	104.74	111.57	125.12	128.55	135.32	..
	Lao PDR	39.49	72.58	89.00	65.12	75.48	84.37	..
	Myanmar	11.99	18.02	22.99	22.79	23.48	24.72	..
	Thailand	167.73	240.97	324.17	337.66	372.30	385.46	..
	Vietnam	71.78	122.75	165.58	215.84	226.89	233.49	..

Health expenditure, public (% of government expenditure)	Cambodia	8.73	11.64	6.39	6.14	6.21	6.72	..
	Lao PDR	5.78	4.11	5.48	5.41	6.08	6.08	..
	Myanmar	8.56	0.99	1.24	1.59	1.50	1.50	..
	Thailand	11.00	12.36	15.82	13.93	15.35	14.21	..
	Vietnam	6.58	5.24	8.04	10.10	10.15	9.47	..
Life expectancy at birth, total (years)	Cambodia	61.89	67.04	69.54	70.64	71.05	71.41	..
	Lao PDR	61.64	64.50	65.97	66.90	67.35	67.81	..
	Myanmar	62.02	63.48	64.19	64.58	64.76	64.93	..
	Thailand	70.92	72.33	73.32	73.81	74.01	74.19	..
	Vietnam	73.63	74.63	75.04	75.31	75.46	75.61	..
Mortality rate, infant (per 1,000 live births)	Cambodia	81.60	51.90	41.80	37.30	35.50	33.90	..
	Lao PDR	84.70	71.00	63.10	58.20	56.00	54.00	..
	Myanmar	58.50	50.70	46.40	43.70	42.40	41.10	..
	Thailand	19.20	15.10	13.20	12.20	11.80	11.40	..
	Vietnam	24.60	20.80	19.20	18.70	18.60	18.40	..
Physicians (per 1,000 people)	Cambodia	0.16	..	0.23	0.23	..	0.22	..
	Lao PDR	..	0.27	..	0.27	..	0.18	..
	Myanmar	0.30	..	0.46	0.50	..	0.61	..
	Thailand	0.29	0.29	0.32	0.39	..	..	..
	Vietnam	..	..	1.22	1.22	1.16	..	..
Number of infant deaths	Cambodia	22000	18000	15000	13000	12000	12000	..
	Lao PDR	14000	11000	12000	12000	11000	10000	..
	Myanmar	60000	46000	43000	41000	40000	38000	..
	Thailand	17000	13000	10000	9000	8000	8000	..
	Vietnam	28000	34000	31000	28000	27000	26000	..

Source: World Development Indicators (WDI Database)
(http://databank.worldbank.org/data/views/reports/chart.aspx)

The lowest condition of health expenditure per capita and public health care expenditure prove that Myanmar needs to spend more private expenditures and there might not have a better health care system since Myanmar is one of the developing countries. Therefore, it seems the life expectancy at birth somehow is not good and stands the lowest among CLMVT. Apart from this, crude death rate, infant mortality and numbers of infant death condition among CLMVT countries are highest.

Table 1.4 Health facilities in Myanmar

Health Facilities	1988-89	2008-09	2009-10	2010-11	2011-12	2012-13
Hospitals (Public Sector)	631	846	871	924	987	1010
Hospitals under Ministry of Health	617	820	844	897	921	944
Hospitals under Other Ministries	14	26	27	27	66	66
Total No. of Hospital Beds	25309	38249	39060	43789	54503	55305
No. of Primary and Secondary Health Centers	64	86	86	86	87	87
No. of Maternal and Child Health Centers	348	348	348	348	348	348
No. of Rural Health Centers	1337	1481	1504	1558	1565	1635
No. of School Health Teams	80	80	80	80	80	80
No. of Traditional Medicine Hospitals	2	14	14	14	14	16
No. of Traditional Medicine Clinics	89	237	237	237	237	237

Source: Health in Myanmar 2013

Table 1.4 presents that health facilities in Myanmar have increasing figures, however, some figures which are stagnant such as school health teams and health centre indicate that Myanmar healthcare in some specific institutions need to be improved.

As Presented in Growth Theory, low per capita GDP among counties makes low health expenditure per capita. Needless to say, there will be high death rate, infant mortality rate and etc... That is important to note that how to find the way to overcome the current condition for Myanmar since health and education are fundamental to high productivity and, thereby, income. As a result, it has been found that low HDI ranks prevail among CLMVT countries.

Table 1.5 trends of HDI[1] ranks in CLMVT countries

HDI Rank	Country	1980	1990	2000	2005	2010	2011	2012
..	Very high human development	0.773	0.817	0.867	0.889	0.902	0.904	0.905
..	High human development	0.605	0.656	0.695	0.725	0.753	0.755	0.758
..	Medium human development	0.419	0.481	0.549	0.589	0.631	0.636	0.64
..	Low human development	0.315	0.35	0.385	0.424	0.461	0.464	0.466
18	Singapore	..	0.756	0.826	0.852	0.892	0.894	0.895
30	Brunei Darussalam	0.765	0.782	0.83	0.848	0.854	0.854	0.855
64	Malaysia	0.563	0.635	0.712	0.742	0.763	0.766	0.769
103	Thailand	0.49	0.569	0.625	0.662	0.686	0.686	0.69
114	Philippines	0.561	0.581	0.61	0.63	0.649	0.651	0.654
127	Viet Nam	..	0.439	0.534	0.573	0.611	0.614	0.617
138	Lao People's Democratic Republic	..	0.379	0.453	0.494	0.534	0.538	0.543
138	Cambodia	..	..	0.444	0.501	0.532	0.538	0.543
149	Myanmar	0.281	0.305	0.382	0.435	0.49	0.494	0.498

Source: http://hdr.undp.org/en/statistics/hdi

HDI is the composite index of life expectancy, income and educational attainment, the figures of low HDI rank explain that of those countries are low in income level, education and life expectancy.

1.2 Current Literatures and motivation of our research

Myanmar is one of the high utilizes of traditional medicine (see in FigureD1 in Chapter 2) (WHO Global Atlas), using traditional medicine might be the affordable and effective local way to prevent and manage some common illness which can contribute

[1] .The first Human Development Report introduced a new way of measuring development by combining indicators of life expectancy, educational attainment and income into a composite human development index, the HDI. (more details in http://hdr.undp.org/en/statistics/hdi)

to reducing poverty. At the same time, we will have to fulfill the one of the MDGs[2] which is poverty alleviation and another one is to develop the global partnership for development in Goal 8. Under Goal 8, target 8.e is to provide affordable essential drugs, especially for developing countries.

Regarding with health care and drugs, there might be a little research on health care system in Myanmar. However, since no published research and academic papers are found in public, our health consumption especially modern medicine consumption research, will be a pioneer for Myanmar at the moment. JICA (2006-2009) (Japan International Cooperation Agency) launched the project namely Traditional Medicine Project in Myanmar during 2006-2009. The project was basically designed to promote the skill of Traditional Medicine Practitioners to improve the basic health situation of Myanmar local peoples. Therefore, the project tried to analyze popular diseases and needs of herbal medicines in Myanmar. As WHO country cooperation strategy (2008-2011) stated, "The public health-care system, however, is critically under-resourced, with major problem areas concerning issues of access and coverage. Insufficient human resources at the periphery, paucity of drugs and lack of basic information for monitoring are critical." (WHO country cooperation strategy, pg-xi) . Role of Traditional medicine becomes important as Myanmar is full of constraints such as resources – medicines and experts. "The government accords high importance and provides considerable support to traditional medicine. Services and drugs are made available free of charge". (WHO country cooperation strategy, pg-15)

Based on the Health in Myanmar (2013) statistics , the Traditional Medicine manpower and facilities are in upward trend . Traditional medicine manpower and facilities throughout Myanmar are shown in Table (1.6).

[2] . Goal 1: Eradicate extreme poverty and hunger and Target 8.E under Goal 8 : In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries (more details in http://unstats.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm)

Table 1.6 Traditional Medicine, Manpower and Facilities in Myanmar

Health Manpower /facilities	1988-89	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13*
Traditional Medicine Practitioners (persons)								
-Public	290	889	945	950	890	890	885	875
-Private	2500	4952	5163	5397	5737	5737	5867	5979
Health Facilities								
No. of Traditional Medicine Hospitals	2	14	14	14	14	14	14	16
No. of Traditional Medicine Clinics	89	237	237	237	237	237	237	237

*provisional actual
Source: Health in Myanmar (2013)

In terms of per capita figure, the manpower and facilities do not seem to be of high ratio if we compare with modern medicine Practitioners .Based on the current literatures, we found out that our project will be supporting one of the goals of the state which tries to fulfill how to support health care consumption in Mandalay after getting our result that will tell us whether the people are using private health care expenditure in which medicines for what kind of disease.

At the same time ,WHO has traditional medicine strategy for 2014-2023 and is developed for *"World Health Assembly resolution on traditional medicine beneath the goals of strategy which are*

- *harnessing the potential contribution of TM to health, wellness and people-centered health care;*
- *promoting the safe and effective use of TM by regulating, researching and integrating TM products, practitioners and practice into health systems, where appropriate*

The strategy aims to support Member States in developing proactive policies and implementing action plans that will strengthen the role TM plays in keeping populations healthy. " (WHO Traditional Medicine Strategy 2014─2023, World Health Organization, Geneva Page- 11)

1.3 Study site and the scope

The main project looks at Myanmar in the modernization process and people health consumption, which individual has to choose among options provided but at the same time, he/she will be indirectly controlled by cultural norms and the socio-economic circumstance. The project emphasizes on looking at Myanmar in the context of modernization/globalization and especially its geographical location as the bridge between ASEAN and India and East Asia. Therefore Mandalay is our target area for our sub-project due to some other reasons too.

(1) Studying on the whole country might be superior, however, there have been lots of constraints on budget, time and human resource.

(2) Mandalay is not only the second capital city of Myanmar but also the center city which connects to the administrative city, Nay Pyi Taw, Yangon city and to the north, northwest and northeast parts of Myanmar.

(3) Traditional medicine institute is situated in that city

(4) Mandalay is presumed to be a cultural city of Myanmar

Not only above, some other significant reasons such as the first project was taken in Mandalay and easier to get the help of supporting resources in Mandalay force us to carry on the survey site in Mandalay.

1.4 Objectives

This study will be carried out mainly to document the use of traditional and modern medicine consumption between rich and poor especially we are going to observe whether individual be able to freely choose for his/her health consumption or not .

Specifically,

1. To examine how difficult to get traditional and modern medicine for them
2. To explore whether or not current economic situation of a country and their income level affect to get traditional and modern healthcare for them.
3. To observe the way of accessing traditional medicine such as how they afford to get modern medicine , how far is the clinic from their home , how to go there and how many times they go to the clinic .

1.5 Methods

The study will be carried out with the use of primary and secondary data sources. In doing so, firstly we will have a focus group discussion with authorities who are from our study site. The methods used to collect the relevant information regarding the health consumption included informal and formal discussions, field visits and focused semi-structured interviews. However, the constraint is coming out again in doing survey for choosing who is using health consumption or who is not and who is rich or who is poor.

Therefore, the sampling frame will be consisted of followings;

(1) Before we take survey , we will firstly stratify between urban and rural regardless of rich and poor

(2) We will try to take proportionate to population, for example, -we will survey 200 if urban population is 2 times larger than that of rural population if sample size is 300.

1.6 Sample Size

We do know that larger sample size gives better estimates. However, there has been a series of constraints such as time, money and labour to use in research. That is why choosing sample size becomes more important in doing research. Accuracy, confidence level, and population size are main determinants in choosing sample size. Since there are lots of constraints on making survey, it would be safer when we do have to refer to the standardized sample which are shown below.

Table1.7 Sample sizes for various degrees of accuracy and confidence levels

Desired Degree of Accuracy	Confidence interval		
	99%	95%	90%
1%	16576	9604	6766
2%	4144	2401	1691
3%	1848	1067	752
4%	1036	600	413
5%	663	384	271
10%	166	96	68
20%	41	24	17
Computing equation: $\sqrt{samplesize} =$ population variability*z-score for confidence interval*1/degree of accuracy.			

Source: O' Sullivan E., G. Rassel, and M. Berner, (2004) Research Methods for Public Administrators , 4th edition, Longman Press Pg. 156

Based on statistics, 600 households should be taken into our sample after taking 95% confidence interval and 4% degree of accuracy in our research. If it is not possible, we will take at least 384 interviewer for 95% confidence interval and 5% degree of accuracy in our research.

1.7 Survey Instrument

After we have visied to the authority and study site, a prepared questionnaire which is developed from secondary literatures and suggestions of teachers and Myanmar officials will be tested in the field. Based on field experience of first two days, then specific implementation will be taken into the use in the field. The questions will be translated from English language into Myanmar language so as to get interviewees' confidence on surveyors and researcher during survey.

1.8 Research Variables

The categories of variables used in our research are as follows;

(a) Demographic data including age , gender , education ,and marital status

(b) Their expenditures allocations on food, non-food and healthcare.

- for healthcare we then more emphasize on expenses between modern medicine and traditional medicine.
- So, the supporting logic will be added again in our questionnaire such as why Modern medicine? why traditional medicine ? expensive or traditional or beliefs or so and so .

(c) Their attitudes toward using traditional medicine are requested to be in final section.

1.9 The model used in research

We will have 2 types of applying, 1) simple descriptive statistics analysis to document the healthcare consumption in Mandalay, 2) poverty analysis to check whether the poor can be using more on traditional medicine or not and 3) structural equation model to test our hypotheses of the research.

1.9.1 Poverty Analysis

International poverty lines

Poverty lines, as reflections of the minimum income needed to meet basic needs, inevitably differ across countries and regions with variations in diets, infrastructure, market development, price levels and ratios. It is commonly agreed by the FAO and other sources that an adult male equivalent needs 2100 calories and 95 grams of protein intake per day. But as living expenses vary from country to country, minimal poverty lines of many developing countries may be as low as $1 or $ 1.25 a day, or as high as $1.45 or $2 a day; while poverty lines of some specific developed countries may reach $ 5 or even $ 10 a day (World Bank, 2008). For example, in the case of Malawi, the poverty line is just around $26.11 per month (Ravallion *et al.*, 2008).

Technical Poverty Measures

Foster-Greer-Thorbecke measures of absolute poverty

The incidence of poverty informs local governments and non-governmental organizations of the proportion of poor in society (“incidence” or “head count”), the “depth” or average level of under-fulfillment of basic needs, and the

"severity" or "intensity" to which specific households need urgent assistance. The incidence or "head count index" (HCI) is calculated as the share of the population whose income or consumption is below the poverty line; that is, the share of the population that cannot afford to buy a basic basket of goods (Coudouel et al., 2002).

HCI = m/n

Where

m = total number of poor

n = total population

This result is consistent with the general formula for the three FGT indices of inequality (Todaro and Smith, 2003):

$$FGT_{\alpha} = \frac{1}{n}\sum_{i=1}^{m}\left[\frac{z - y_i}{z}\right]^{\alpha}$$

Where

y_i = consumption or income of i-th poor individual or household

z= poverty line

n = total population

m = number of poor

α = the level of absolute poverty analysis 0 = incidence, 1 = depth, and 2 = intensity

Over the period of 1987-1998, the number of HCI-poor regions in the world declined, except for the East Asia and Pacific region (excluding China) for 1998 (Todaro 2003). While the share of population living on less than $ 1 a day was 26.6 percent in 1987, it edged down to 25.2 percent in 1993, and then fell to 14.9 percent in 1996.

Once the headcount index is calculated, it is helpful to know the average depth or "gap" of that poverty among the poor households on a per capita basis for the entire society. Among other advantages, this allows one to compare two societies, like China and Myanmar with populations of vastly different size. It also gives a direct estimate of the amount of taxation that must be levied per capita so as to theoretically bring all citizens up to the poverty line. The Poverty Gap Index is a special case of the FGT formula where "α" changes from 0 to 1. Therefore, the formula for the Poverty Gap becomes:

$$\text{PGI} = \frac{1}{n}\sum_{i=1}^{m}\left[\frac{z - y_i}{z}\right]$$

In order to gauge the fiscal impact of bringing everyone up to the poverty line, some policy makers sum individual household gaps across all households. "A poverty gap that measures the total amount income necessary to raise everyone who is below the poverty line up to that line" (Todaro and Smith 2003, p. 206). In other words,

$$\text{Total Poverty Gap (TPG)} = \sum_{i=1}^{H}(Y_p - Y_i)$$

Even when we know the average depth of poverty in a given region, public, community or non-government resources , it may be inadequate to bring relief to all of the poor. That is why we need to know which households, individuals, or male-equivalents suffer from the most acute poverty, which, in the case of food insecurity or health care access, may be life-threatening. This is why a third measure, the "intensity" or "severity" of poverty has been developed. This final FGT measure is calculated as the squared poverty gap and results when α changes from 1 to 2:

$$\text{Severity of poverty or SPG} = \frac{1}{n}\sum_{i=1}^{m}\left[\frac{z - y_i}{z}\right]^2$$

Apart from the above absolute measures, relative poverty may exert a psychic toll upon the least well-off households. Development planners are therefore also interested in exploring the inter-household variations in the distribution of income, typically reflected in the Gini or Theil indices. Under conditions of similar incidence and depth of absolute poverty, intervention programs should clearly target those villages, regions or countries where income distribution is the most skewed.

Censored Regression Model

A censored regression model is that the low or "left" end, or the high or "right" end or both can be cut to the natural extreme values of the actual sample (Franses and Paap 2004). This should theoretically provide a better fit and higher explanatory value to the model. Indeed, in the case of naturally -truncated data, "neglecting the truncation can lead to biased estimators" (Franses and Paap, 2004, p. 135).

In this study, the left censored is considered as our dependent variable, the share of total expenditures, naturally displays truncation. For our sample, the left-end share of healthcare expenditure equals 0 , and the right-end value could be opened . Shares of food expenditure which are =0 and >0 . Therefore the share of food expenditure is a truncated variable which lies between $0.0 < y_i < 1$ (100%).

General Censored Regression Model

$y^*_i = \beta' x_i + \varepsilon_i$,

Where $y_i = y_i^*$ is only observed if:

$a < y_i < b$, for i= 1, 2. ……., N.

'a' and 'b' are left and right censored value which are lower truncation and upper truncation. ε_i are residuals and independently and normally distributed with mean "0" and a common variance " σ^2 ". $\varepsilon_i = N(0, \sigma^2)$.

Two main hypotheses for this analysis are added to check under this model;

Hypothesis 1: *Using of traditional medicine will be reduced by severity of poverty since poor people need to spend more money on basic in general for those poor people in Mandalay and traditional medicine expenditure will be increased by working as farmers and rural people since farmers and rural have more beliefs by tradition as for a country staying as centrally planned economies for many years* .

Hypothesis 2: *Expenditures on modern medicine will be increased based on their education level and for those working in sector 1(Small and medium business - (selling brick, calcify and sands), shopkeeper , match production , selling and buying eggs , commercial woods, furniture, marble stone , betel seller) have more income than others* and share of saving rate .

1.9.2 Develop Structural Equation Model

A set of linear structural equations explains Health Consumption in Myanmar based their assumptions on the belief that the total demand of local households to all health care expense is best explained by economic variables. The model in its general form consists of a set of linear structural equations. Variables in the equation system may be either directly observed variables or unmeasured latent (theoretical) variables

that are not observed but relate to observed variables. It is assumed in the model that there is a causal structure among a set of latent variables, and that the observed variables are indicators of the latent variables. The model consists of two parts, the measurement model and the structural equation model: The measurement model specifies how latent variables or hypothetical constructs depend upon or are indicated by the observed variables. It describes the measurement properties (reliabilities and validities) of the observed variables. The structural equation model specifies the causal relationships among the latent variables, describes the causal effects, and assigns the explained and unexplained variances. The path diagram is the universal tool of the structural equation model. Three elements of the path diagram are a variable, which is represented in a square box, a causal arrow which hypothesises a causal relationship between two variables, and is represented by a straight arrow. In what might be termed the "hard" sciences, there is very little interest in the science of measurement. There is very little differentiation between the construct of interest and the process used to measure that construct. The types of constructs that are used in psychological economics are not able to be determined directly - instead the process has to measure their effects. The process is interested in measuring real world like satisfaction or depression. This real world cannot be measured directly - instead the process must measure their effects. If a local household has depression, this depression will manifest itself in a number of ways, including loss of money, loss of feelings of self-wealthy. Even when the variable that is being measured can be measured indirectly, the study is still interested in the underlying construct which is not measured. The process is not actually interested in "reaction time" but the mechanism underlying reaction time that causes reaction time to vary. To get an accurate measure of the weight of an object, the process weighs it once, carefully. To get an accurate measure of reaction time, the process measures it a number of times. The real power of SEM comes from its ability to do a type of modelling that cannot be done with other techniques, and this is modelling using latent variables.

The method estimates the unknown coefficients of the set of linear structural equations. It is principally designed to accommodate models that include latent variables, measurement errors in dependent and independent variables, reciprocal causation, simultaneity, and interdependence. Path diagrams, latent variables are drawn

as ellipses. Latent variables are seen as causing measured variables that cannot be directly assessed. A measured variable have two separate and uncorrelated causes: the latent variable and "other matter," referred to as error. This research expects higher travel cost satisfaction status to have a positive impact on total expenditure due to preference for Health Consumption in Myanmar as follows:

Figure 1 shows *a flowchart* of the structural equation modeling estimation. Based on the literature reviews and research modeling, this study seeks to investigate the relationship **of local household demographics**, **local household Income**(Sources of income, Average income per month, and Changes of income from last year) and **local households to all health care expense**(Public service vehicle costs, Total costs of TM, , Costs for drug purchased, Costs for Therapy and Frequency) with Product Usage of TM (Destination, Restore in health, Treatment, Therapy) ,TM attributes and properties (Clean, Cure duration, Safe, contained qualities) and Knowledge on Healthcare& Traditional uses(Attraction, Accessibility, Image, Amenities) in a structure equation model of health demand.

Figure 2 shows *a flowchart* of the structural equation modeling estimation. Based on the literature reviews and research modeling ,this study seeks to investigate the relationship of **local household demographics**, **local household Income**(Sources of income, Average income per month, and Changes of income from last year) and **local households to all health care expense**(Public service vehicle costs, Total costs of MM, , Costs for drug purchased, Costs for Therapy and Frequency) with Product Usage of MM (Destination, Restore in health, Treatment, Therapy) ,MM attributes and properties (Clean, Cure duration, Safe, contained qualities) and Knowledge on Healthcare& Traditional uses (Attraction, Accessibility, Image, Amenities) in a structure equation model of healthcare demand.

Identify Key Factors that Explain Structural Equation Model

The four hypotheses will be used to test in this research, also these hypotheses presented below that:

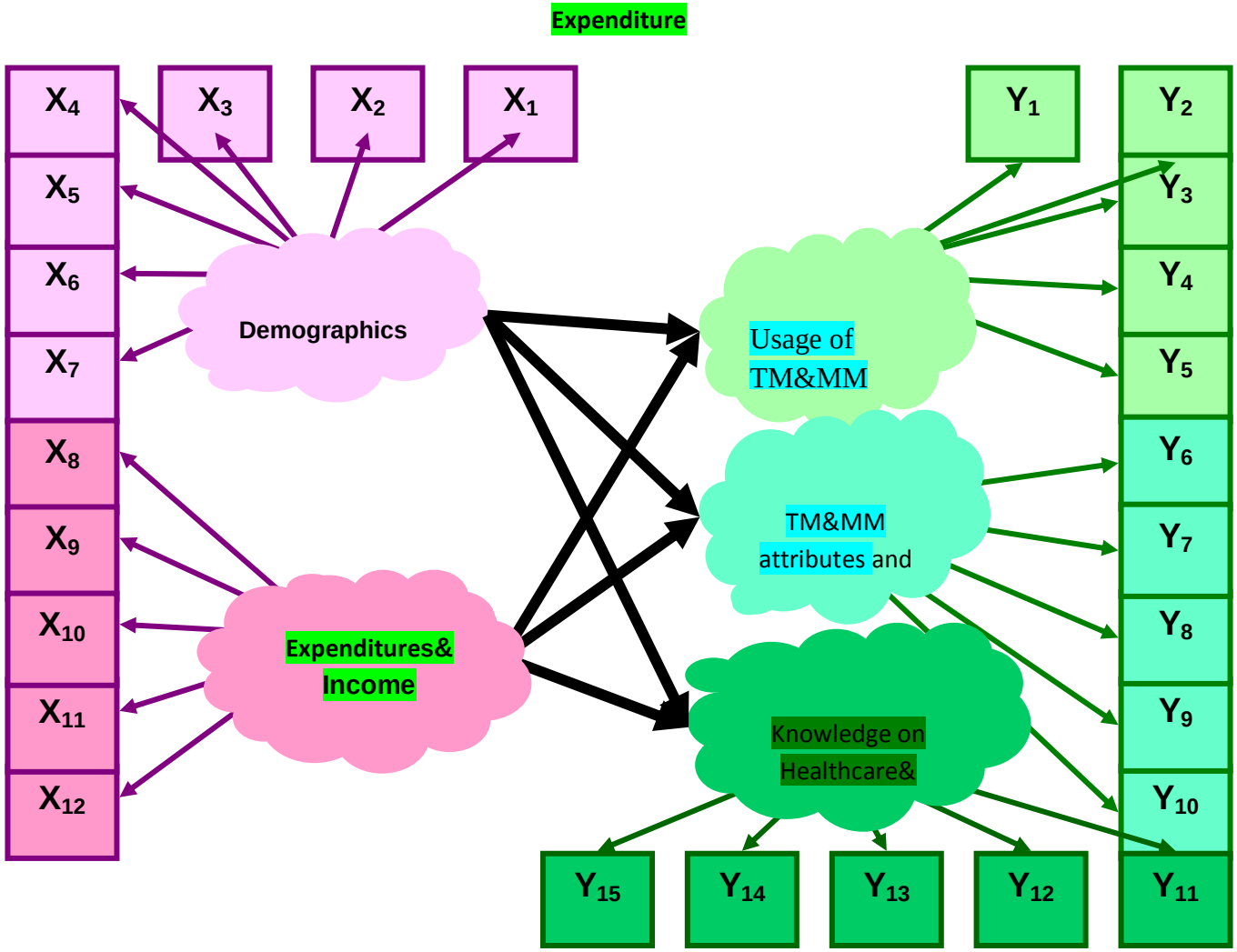
Hypothesis 1 (H1): Demographics factor – rural positively and directly influences **TM** (Usage of TM, TM attributes and TM Knowledge on Healthcare& Traditional uses**).**

Hypothesis 2 (H2): Demographics factor– urban positively and directly influences **MM** (Usage of MM, MM attributes and MM Knowledge on Healthcare& Traditional uses**).**

Hypothesis 3 (H3): Income satisfaction positively and directly influences **MM** (Usage of MM, MM attributes and MM Knowledge on Healthcare& Traditional uses**).** (Richer rely on MM)

Hypothesis 4 (H4): Income satisfaction positively and directly influences **TM** (Usage of TM, TM attributes and TM Knowledge on Healthcare& Traditional uses**).**(Poor more rely on TM)

Figure 1&2 Proposed Models



Subjects of the Study

A questionnaire survey was employed to examine the effects of **Demographics** and **Expenditure** on TM&MM. A convenient sampling approach is adopted to verify the hypotheses. A paper-and-pen questionnaire survey was conducted among respondents. Respondents were asked to complete the questionnaire by answering questions regarding the determination of healthcare demand. An investigation containing Likert-type scales was used in collecting data from Myanmar.

Statistical Treatment of Data

LISREL was used to test the connecting correlations. Myanmar in the modernization process and people health consumption, which individual has to choose among options provided but at the same time, he/she will be indirectly controlled by cultural norms and the socio economic circumstance. The project emphasizes on looking at Myanmar in the context of modernization/globalization and especially its geographical location as the bridge between ASEAN and India and east Asia. Therefore, Mandalay is our target area for our sub-project due to some other reasons on the following, 5-point Likert scale:

5-Point Likert Scale

1	2	3	4	5
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

The ratings assigned by survey respondents were also expressed within the context of the *diversity framework*, many factors that constitute what are generally regarded as the "best Opinions" in diversity healthcare.. Miscellaneous comments were voluntarily offered by survey respondents on the subject of diversity healthcare.

Chapter II : Conceptual Framework

And Role of Traditional Medicine Institutions in Myanmar

2.1 Role of Health in Economic Growth and Development

When health is concerned for the country's development, then education is just like a bystander and supportive facts to promote countr y's health status as education can absorb new and modern technology, new findings and develop the self-sustained growth of people. However, catching up to the new and modern technology and building up for the community will not be possible without being healthy. Thus health is the prerequisite condition for ability to learn and observe anything new in the world. Therefore, health and education can be said to be crucial factors for economic growth and development.

Box (2.1) Linkages between Investments in Health and Education

Health and education are investments made in the same individual.

- Greater health capital may raise the return on investment in education for several reasons:
  - Health is an important factor in school attendance.
  - Healthier children are more successful in school and learn more efficiently.
  - Deaths of school-age children also increase the cost of education per worker.
  - Longer life spans raise the return to investments in education.
  - Healthier individuals are more able to productively use education at any point in life.

- Greater education capital may raise the return to investment in health in the following ways:
  - Many health programs rely on skills learned in school (including literacy and numeracy).
  - Schools teach basic personal hygiene and sanitation.
  - Education is needed for the formation and training of health personnel.
  - Education leads to delayed childbearing, which improves health.
  - Improvements in productive efficiency from investment in education raise the return on a lifesaving investment in health.

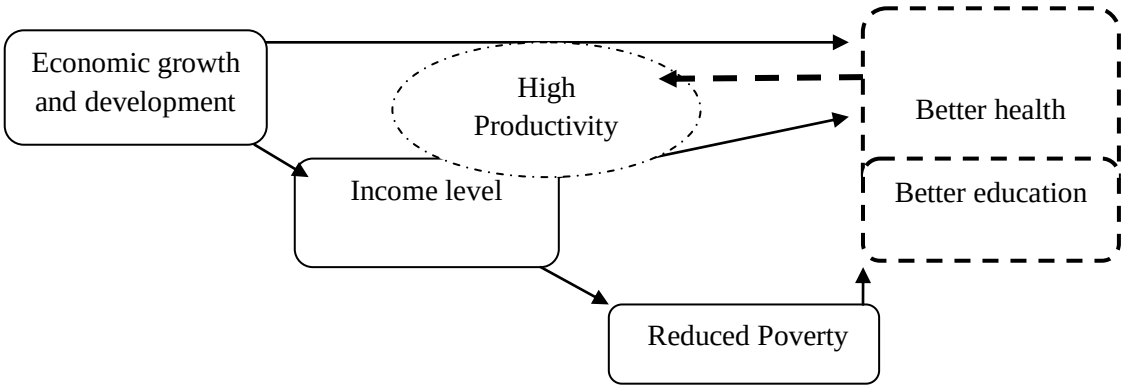
Source: original Box from Todaro (11^{th}ed) pg 362.

"The WHO defines health as a state of complete mental, physical, and social well-beings and not merely the absence of disease." (Perkins et al (2006) p-321). If so by looking at the life expectancy at birth, country's mortality rate, public expenditure on health care sector might be visible to see the country's health status and that condition will give the food for thought of how to upgrade the health status of the country. Based on the empirical data and findings, "there is a strong positive relationship between better health and economic growth, income levels, and poverty"(Perkins et al(2006) p-330). The vice versa will be corrected as less economic growth , low income levels and burden of poverty will give lack of better health .

Based on empirical data, health and education levels are much higher in developed countries or high-income countries as well. Conclusion can be seen as for the richer country, citizens are richer. For those countries, governments and peoples can afford to have more education which can focus on modern technology. People with more education will be possible to gain more productivity and income

Above relationships show that government should focus the development policy of a country on health, and education at the same time.

Flowchart 2.1 role of health and education on productivity and economic growth



Source: Author's creation Based on Literatures.

However, there will be importance of traditional medicine to upgrade having better health for country's citizens as using traditional medicine will also be concerned with beliefs, knowledge and practices.

It is the sum total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health, as well as in the prevention, diagnosis, improvement or treatment of physical and mental illnesses. The terms complementary/alternative/non-conventional medicine are used interchangeably with traditional medicine in some countries.

(Traditional Medicine's definition by WHO)
(http://www.who.int/medicines/areas/traditional/definitions/en/)

2.2 Why people are using Traditional medicine.

In Figure D1 which is presented by Gerard Bodeker (2005)(Original from WHO Global Atlas) , almost all over the world including US , Europe , China , Africa , Southeast Asia are using traditional medicine except some countries which have no data on it . Since using traditional medicine (complementary/alternative/non-conventional medicine) based on knowledge, skills and cultures , WHO suggested that there will not be uniform reason for using it but 3 general patterns for using traditional and complementary medicine are as follows;

1) Use in countries where TM is one of the primary sources of health care. It is typical of these countries that the availability and/or accessibility of conventional medicine-based health services is, on the whole, limited. The widespread use of TM in Africa and some developing countries can be attributed to its being present on the ground and readily affordable.[1]

2) Use of TM due to cultural and historical influences.[2].

3) Use of T&CM as complementary therapy.[3]

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[1] . For instance, the ratio of traditional healers to population in Africa is 1:500 whereas the ratio of medical doctors to population is 1:40 000. For millions of people in rural areas, native healers therefore remain their health providers. (WHO Traditional Medicine Strategy 2014–2023, World Health Organization, Geneva)

[2] . In some countries such as Singapore and the Republic of Korea where the conventional health-care system is quite well established, 76% and 86% of the respective populations still commonly use TM(WHO Traditional Medicine Strategy 2014–2023, World Health Organization, Geneva)

[3] . This is common in developed countries where the health system structure is typically well developed, e.g. North America and many European countries.(WHO Traditional Medicine Strategy 2014–2023, World Health Organization, Geneva)

WHO Traditional Medicine Strategy 2002─2005, World Health Organization, Geneva reported that many developed countries Complementary/ Alternative medicine (CAM) is popular and 70% of population used CAM therapy . In USA, Australia and France, about half of population is using CAM therapy.

Table 2.1 Percentage of population using CAM (Complementary/ Alternative medicine)

Developing Countries		Developed Countries	
Usage of CAM		Usage of CAM	
Uganda	60%	Belgium	31%
Tanzania	60%	USA	42%
Rwanda	70%	Australia	48%
India	70%	France	49%
Benin	80%	Canada	70%
Ethiopia	90%		

Source: WHO Traditional Medicine Strategy 2002─2005, World Health Organization, Geneva Page-11

As presented in Table 2.1 , more than 60 % of population in African countries rely on CAM therapy.

2.3 Role of Traditional Medicine in Myanmar

"Myanmar Traditional Medicine covers basic Myanmar traditional subjects of beliefs, practice, and culture, numerous treatises in medicine and different methods on prescribing enormous variety of traditional drugs that are potent and effective. It is now, time to act upon Myanmar traditional medicine to be Good Medical Practice (GMP) through proper standardization and quality assurance."

(http://www.searo.who.int/entity/medicines/topics/traditional_medicine_in_union_of_myanmar.pdf page-70)

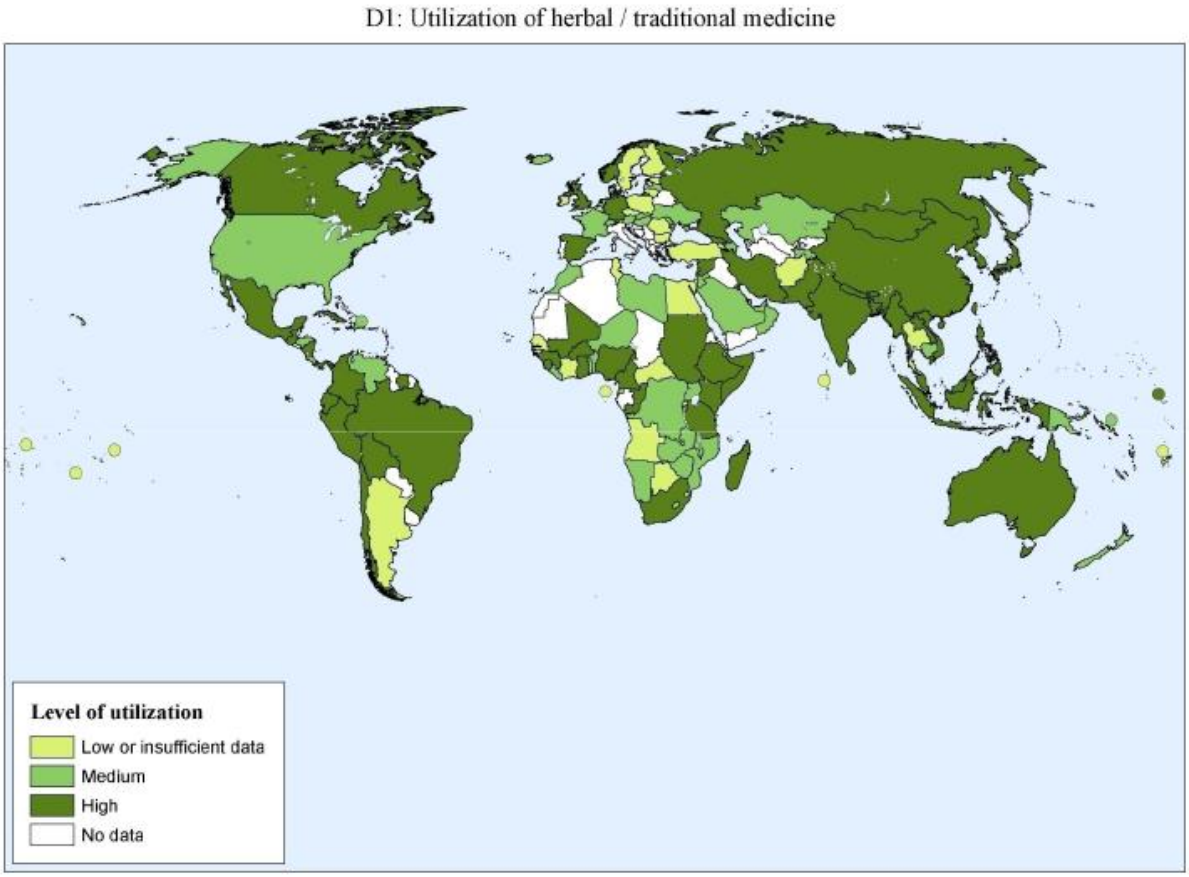
Although there is no specific Myanmar data on utilization of traditional medicine, Figure D1 demonstrates that Myanmar is one of the high level -utilization countries on traditional /herbal medicine. In the case of Myanmar, she is one of the

developing countries and the country closed the door for many years. Thus, historical cultures, and beliefs will influence on usage of traditional medicine.

Furthermore, Myanmar is one of the developing countries and recently starting to open into the world. As usual for developing countries, the major problem facing within country is poverty. Like a vicious circle, the poor cannot afford to have the modern medicine because of low income and spending money on food consumption makes them have low public health standard. At the same time, reducing share of expense on education make the poor not to get human development situation.

Underneath of poverty, there is a choice to use traditional medicine in order to compensate spending in modern medicine which is expensive as logically, poor people are hard to afford the modern medicine.

As WHO (World Health Organization) defined, people could be using traditional medicines not because of poverty but because of their beliefs and traditionally used by ancestors. Thus we hope to see our study area (Mandalay) people could be using in more weight for traditional medicine regardless of richness or poverty.



Source:Gerard Bodeker(2005) ,Linking Traditional knowledge with modern medicine and healthcare , PowerPoint slide no.4 (original from WHO global Atlas)

2.4 Emergence of Official Institution

In order to implement the integrating of TM products, practitioners and practice into the health system, the role of organized institution becomes very crucial in any country. Thus, traditional medicine institution plays essential role of distribution of traditional medicine knowledge, and practice. Even though Myanmar people have been using traditional medicines since time immemorial, Traditional Medicine promotion office was established under Department of Health in 1953. In 1989, Department of Traditional Medicine was established as a separate Department under Ministry of Health. The objectives of the Department are as follows:

(1) To provide entire nation by comprehensive traditional medicine services through existing health care system in line with National Health Plan.

(2) To develop standardized method of therapeutic criteria systematically.

(3) To review and find out ways and means for newly- developed therapeutic agents and medicine, which are safe and efficacious.

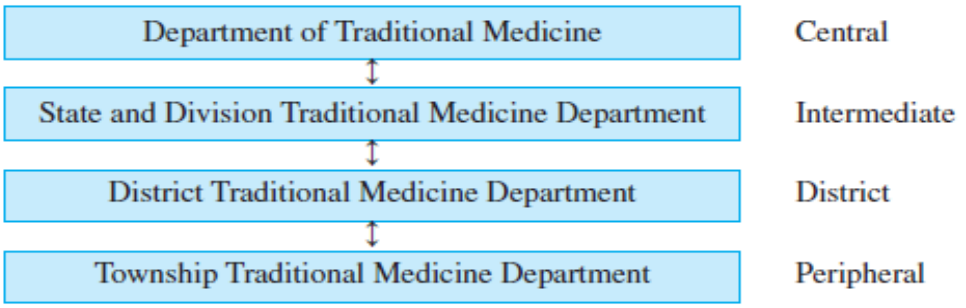
(4) To produce fully -quality Traditional Medicine Practitioners to be utilized in health service provision by means of skill- based and participatory approach training.[4].

Source: University of Traditional Medicine, Mandalay PowerPoint Slide –No.2, Myanmar

2.5 Traditional Medicine Health Care Delivery System

In Myanmar, provision of health care by traditional medicine is well established and covers central to peripheral level. At central level, Department of Traditional Medicine is responsible for the management of traditional medicine health care delivery system. At intermediate level, (14) State and Division traditional medicine departments manage prevention and curative programmed. At district level, (43) district traditional medicine clinics provide treatment and participating in prevention programmed. At peripheral level, (194) township clinics provide treatment and participate in prevention programmed. The flow of health care delivery system by traditional medicine is as mentioned below:

[4] . http://www.searo.who.int/entity/medicines/topics/traditional_medicine_in_union_of_myanmar.pdf



Meeting with Director General, Department of Traditional Medicine , Ministry of Health , Nay Pyi Taw

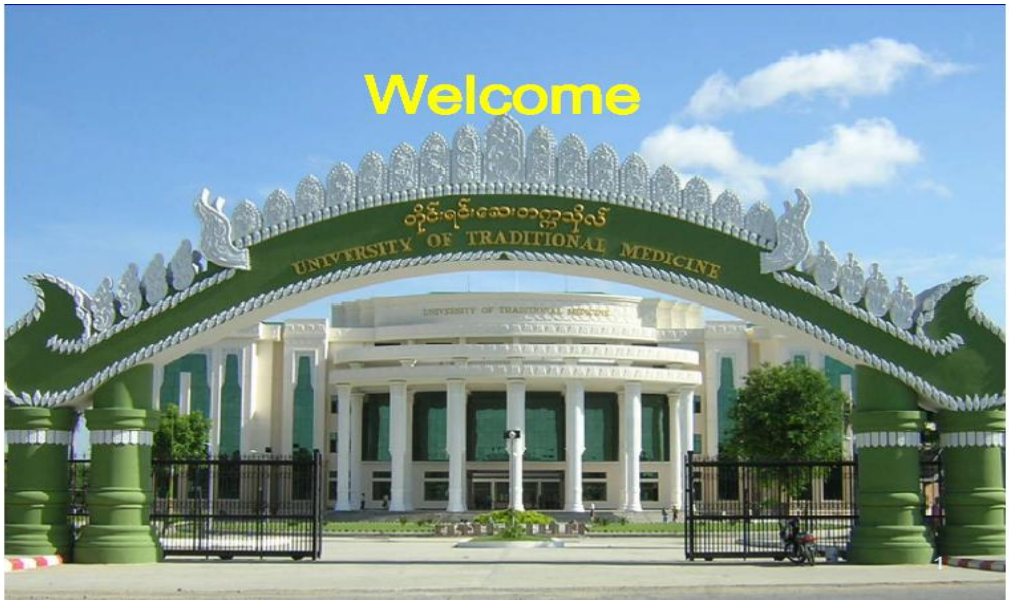
2.6 Human Resource Development of Traditional Medicine

Human resource development of traditional medicine is a major concern for every personnel who takes responsibility and traditional medical service. The responsible person realized that effectiveness and continuity of services are impossible without properly- trained practitioners. The traditional medicine practitioner who has conceptual orientation to traditional medicine and technical competency will only be able to carry over such medical profession from one generation to another.

Institute of Traditional Medicine

One traditional medical institute has been developed since 1976. It produces 100 candidates yearly. They received diploma after three year course. Up to 2008-2009 academic year, the number of students awarded diploma has totaled 2187. One (50) bedded hospital is attached to the institute for clinical practice of traditional medicine.

University of Traditional Medicine



Source: University of Traditional Medicine , Mandalay Power Point Slide-1, Myanmar

Two and half decade later, after establishment of Traditional Medical Institute, University of Traditional Medicine has emerged in year 2001.

Core Values of Traditional Medicine University , Mandalay

The University is going to produce 250 candidates yearly. This manpower production will fulfill the requirement of traditional medicine practitioner in terms of quality as well as quantity. It has planned to produce traditional medicine practitioners with different calibers and different capabilities from previous diploma holders. The students have to attend four- year academic course and additional one-year course for clinical practice to get skill- based competency. After the completion, eligible candidates are to be conferred Bachelor of Myanmar Traditional Medicine (B.M.T.M) degree. After that, they are going to be posted in Government services.

Traditional Medicine Library and Museum at University of Traditional Medicine , Mandalay

Traditional Medicine Library and Museum at University of Traditional Medicine, Mandalay

Traditional Medicine Library and Museum at University of Traditional Medicine , Mandalay

Chapter III. Overview of General Socio- Economic Characteristics in Survey Area.

In this chapter, we mainly focus on an overview of the study area such as population profile of township, health facilities in survey townships, the m ost frequently occurred problem for the patients who visited to township traditional medicine clinics.

3.1 Survey of Townships

As our research is a collaboration research under supervision of experienced teachers and researchers who are presently high-ranking officials (Myanmar government staff) from Department of Traditional Medicine, Nay Pyi Taw, Myanmar and University of Traditional Medicine, there for to choose survey areas mainly depended on their suggestions. Under the guideline of the Department of Traditional Medicine, Ministry of Health, Myanmar, and University of Traditional Medicine, officials are taking care of survey groups to be safe, sound and smooth during the survey.

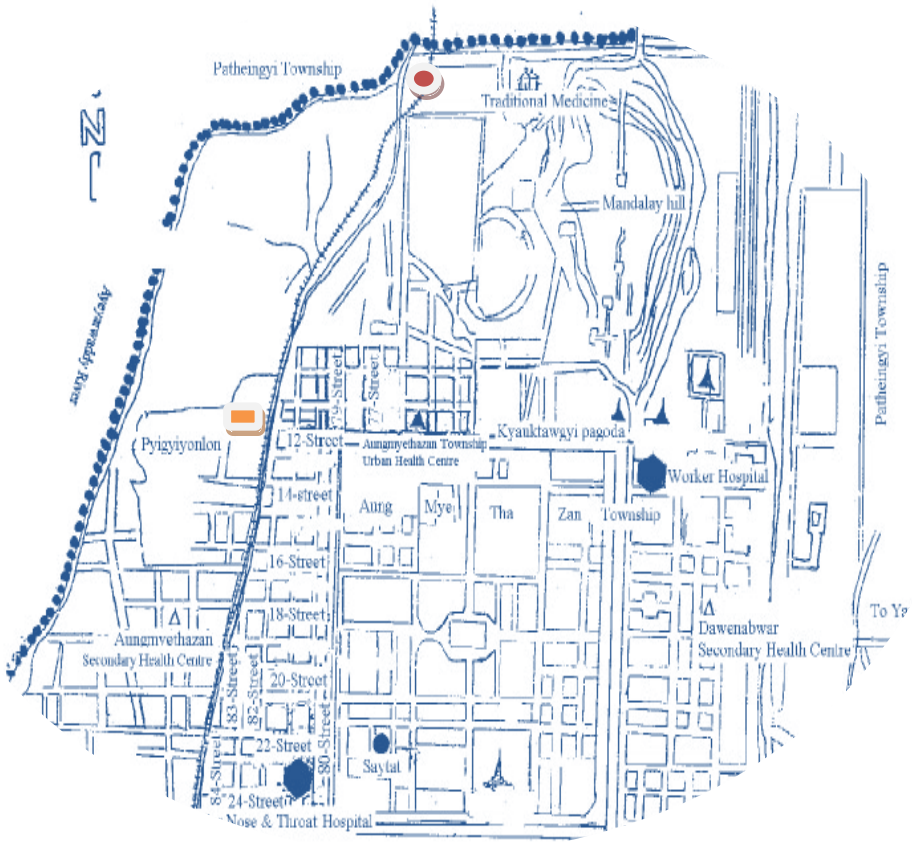
As the authority has permitted us to do survey in 3 townships –

(i) Aungmyaethazan Township ,

(ii) Pyigyitagon Township and

(iii) Patheingyi Township, we have been emphasizing on those 3 townships and tried to manage to have sample survey area. Those 3 Townships are shown in the following Maps ;

Map (3.1) Aungmyaythazan Township Map



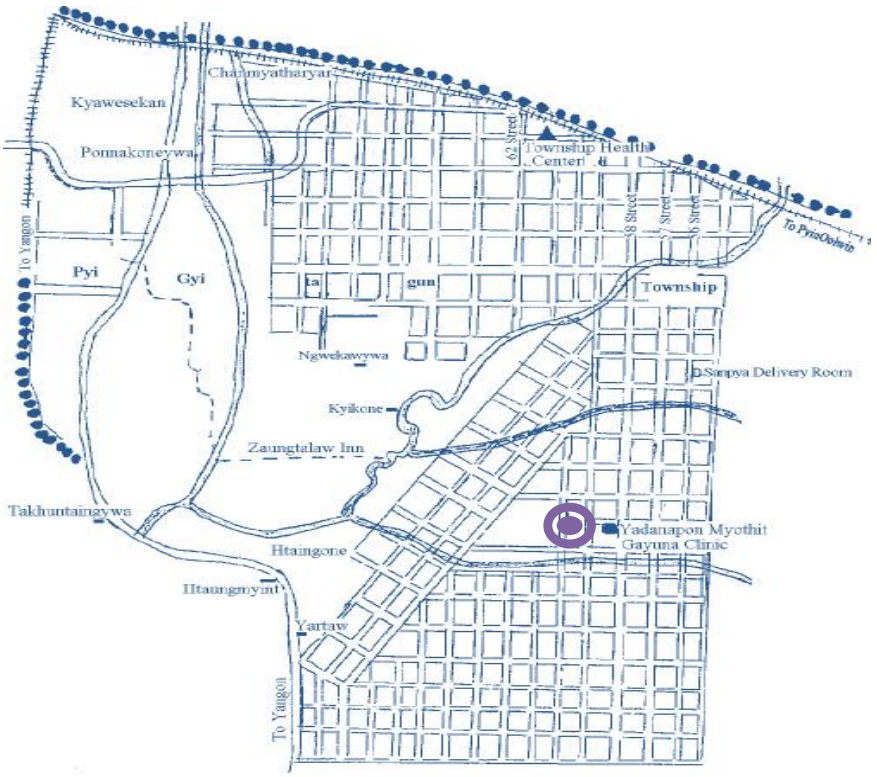
Oboshwekyin ward

Pyigyiyanlon ward

Source: Department of Health, Regional Health Office, Mandalay, Myanmar

Aungmyaythazan township borders with Patheingyi in the east and north, Ayeyawaddy River in the west ; and Chanayetharzan in the south . Its total area is 25.56 square miles. The township is really urban and 19 wards belonged to the township.

Map (3.2) Pyigyitagon Township Map

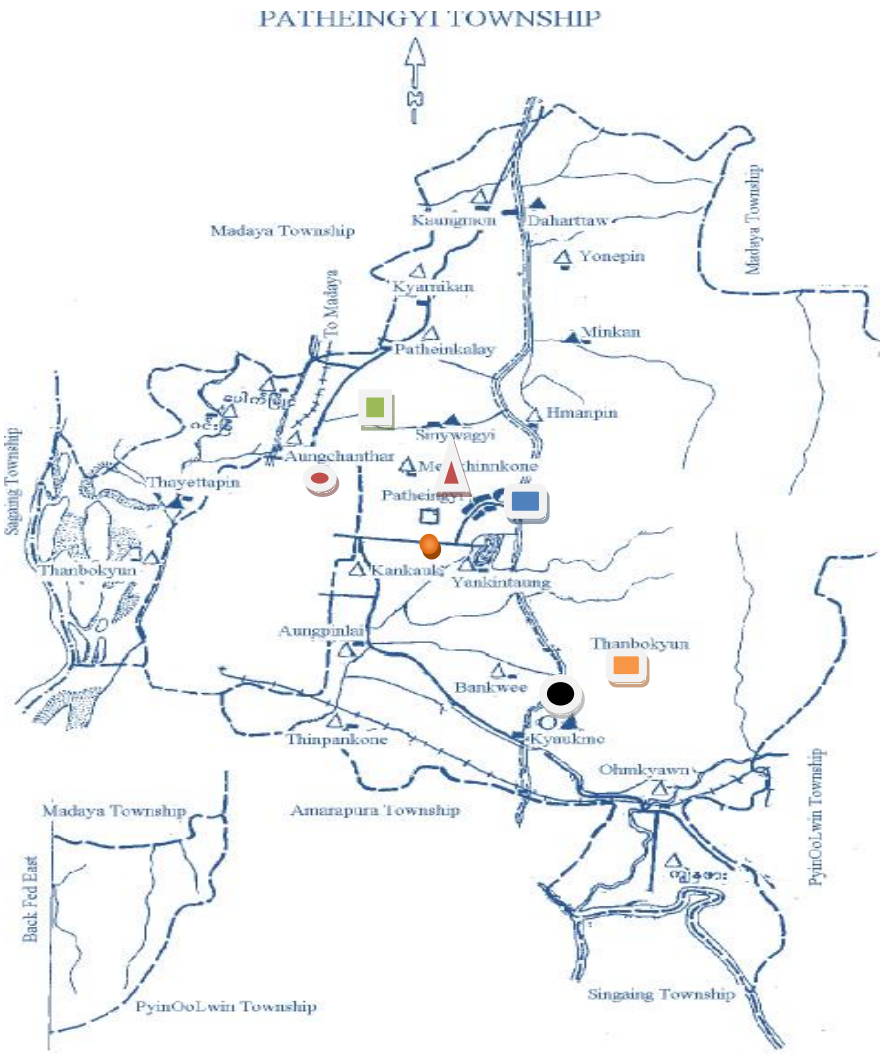


Thinpangon Ward

Source: Department of Health, Regional Health Office, Mandalay, Myanmar

For Pyigyitagon, it has 66.38 sq Km and it borders with Patheingyi in the east , Amarapura in the west and south and Chanmyatharzi in the west and north . 28882 households live in the township in 2011.

Map (3.3) Patheingyi TownshipMap



Aungchantha Village
Kyaweyaygon Village
Nyaungpintha
Zechogone
Latthit
I-Gyi
Maekingone

Source: Department of Health, Regional Health Office, Mandalay, Myanmar

For Patheingyi Township , it is the widest area among sample townships with 600.38 Sq Km . Pyinoolwin , Singaing , Mandaya and Amarapura are in the east , west , north and south, respectively, for its boundaries . However, the township has majority of rural population with less health facilities there.

3.2 Population Profiles of our survey townships

In Mandalay region, Mandalay is one of the 8 districts and it has 7 townships in it which includes out survey townships. Population profile of surveyed township is shown in Table (3.1). More Than 524,000 persons are living in surveyed townships according to 2012 data.

Table 3.1 Population Profiles of the Townships in 2012

	Aungmyethazan	Patheingyi	Pyigyitagon
Total	192,403 100%	186,065 100%	153,611 100%
Urban	192,403 100%	18,551 10%	
Rural	-	167,514 90%	
Male	93,275 48.5%	90,456 48.6%	69,778 45.4 %
Female	99,128 51.5%	95,609 51.4%	83,833 54.6%
Sex Ratio	0.000712	0.000707	0.000708
<5 yr.	23,865 12.4%	23,152 12.4%	17,645 11.5%
0 - 14 yr.	62,701 32.6%	55,312 29.7%	32,986 21.5%
15 - 49 yr.	44,017 22.9%	53,214 28.6%	15,631 10.2 %
Population Density	19,264.42 Sq. Km	310 Sq Km	2,314.1 Sq Km

Source: Department of Health, Regional Health Office, Mandalay, Myanmar

Except Patheingyi Township, Aungmyethazen and Pyigyitagon are only urban areas. Table (3.2) Shows that 11 wards and 133 village tracts belonged to the PatheinGyi Township.

Table 3.2 Wards and Villages in Township, Patheingyi Township (2012)

Wards	11
Villages	133
Villages Tracts	58

Source: Department of Health ,Regional Health office , Mandalay, Myanmar

3.3 Health Statistics in Study Areas

With the help of Department of Traditional Medicine, Ministry of Health, Myanmar, the authorities who are high ranking officials from Nay Pyi Taw and University of Traditional Medicine Mandalay, the sample wards and villages are chosen. Although medicinal terms and usage are not familiar with researchers who come from economics field, some of heath statistics has been provided to run through the condition of sample areas in following Tables.

Table 3.3 Health Facility in Aungmyethazan Township (2012)

1.	District Hospital (100) Bedded	-	1
2.	Station Hospital	-	1
3.	M.C.H	-	1
4.	Rural Health Centers(Theingone, Shwedha, Myohla, Pyarsi)	-	
5.	Sub Health Centers	-	1
6.	School Health Center	-	2
7.	Private Clinics and Maternity Homes	-	117

Source: Department of Health ,Regional Health Office , Mandalay, Myanmar

Table 3.4. Nutrition (Sentinel Surveillance) in Aungmyetharzan Township. (2012)

PERCENT OF	2010	2011	2012
Under Weight Children(Under 1 year)	8.6	6.4	6.7
Under Weight Children(Under 3 years)	4	4.8	4.1
Severe Under Weight (Under 3 years)	0.27	0.99	0.37
Targeted nutritional care coverage with the jurisdiction of MW	98	95.7	97

Source: Department of Health ,Regional Health Office , Mandalay, Myanmar

Table 3.5. Reproductive Health in Aungmyetharzan Township. (2012)

Item	2010	2011	2012
% of Home Deliveries (Health Staff)	22	22	23
% of Home Deliveries (AMW)	0	0	0
% of deliveries at RHC delivery room	15.8	14.3	14.8
Low Birth Weight %	0	0.02	0.01
Rate of Referral %	5.9	6.9	7.2
Avg. no. of Attendance (AN)	4	3.9	4
Avg. no. of Attendance (PN)	2	1.93	3
AN Care Coverage %	99.4	88.9	90

Source: Department of Health ,Regional Health Office , Mandalay, Myanmar

Table3.6. Environmental Health in AungMyetharzan Township. (2012)

PERCENT OF	**2010**	**2011**	**2012**
Coverage of Sanitary Latrines (Urban)	91.6	92	95
Coverage of Sanitary Latrines (Rural)	0	0	0
Coverage of Sanitary Latrines (Total)	91.6	92	95

Source: Department of Health ,Regional Health Office , Mandalay, Myanmar

Table3.7. Health Facility in Patheingyi Township.

1.	Township Hospital (100) Bedded	1
2.	Station Hospital	1
3.	M.C.H	1
4.	Rural Health Centers(Theingone, Shwedha, Myohla, Pyarsi)	4
5.	Sub Health Centers	24
6.	School Health Center	0
7.	Private Clinics and Maternity Homes	49

Source: Department of Health ,Regional Health Office , Mandalay, Myanmar

Table 3.8 Health Facility in *Pyigyitagon Township* (2012).

Urban Health Center	1
Secondary Health Center	-
MCH	-
School Health	-
Private Clinic	41
Private Hospital	1

Source: Department of Health ,Regional Health Office , Mandalay, Myanmar

Table 3.9. Health impact indicator in *Pyigyitagon Township* (2012).

IN HEALTH SERVICE COVERED AREA	2010	2011	2012
Population Growth Rate%	1.7	2.4	2.13
IMR/1000 Live Births	11	11	10.9
U5 MR/1000 Live Births	16	16	15.3
MMR/1000 Live Births	1	3	1.9
Crude Birth Rate(CBR)	25	25	26.5
Crude Death Rate(CDR)	8	7	6
Abortion Rate	0.13	0.42	0.39

Source: Department of Health ,Regional Health Office , Mandalay, Myanmar

3.4 Rural-Urban Sample Households

Based on the Mandalay Region population, rural-urban population ratio is "2.5:1". Thus, our sample population has been collected on the basis of that rural-urban population ratio at least we make 2:1 in our survey to be proportionate sample for Mandalay region.

Table 3.10 Survey Area and Households

	Township	Total Wards	Total Village tracts	Total Villages	Wards/ Quarter /Village tracts/ Village	Total Surveyed Households
1	Aungmyethazan	19			Oboshwekyin ward	30
2	Patheingyi	11	58	133	Aungchanthar Village tract	41
3	Pyigyitagon	16			Thinpangone ward	50
4	Patheingyi	11	58	133	Zechogone village tract	40
5	Patheingyi	11	58	133	Nyaungpintha village	35
6	Aungmyethazan	19			Pyigyiyanlon ward	50
7	Patheingyi	11	58	133	Kyaweyaygone village	40
8	Patheingyi	11	58	133	Maekingone Village	39
9	Patheingyi	11	58	133	I-Gyi Village	40
10	Patheingyi	11	58	133	Latthit Village	36
					Total surveyed Households	401

3.5 Interviewees

Since our questionnaire is something to know for not only traditional medicine knowledge and income but also expenditure for households such as food, non-food and medicine also their satisfaction, the age limit has been tried to provide for surveyors to do so for interviewees. Person in households with ages between 25-60 have been more weighted to be interviewed. In case Traditional medicine officer guaranteed that age below or above our age limit are knowledgeable for TM, has been also interviewed.

Regarding with sample village selection, there has been 2 types again because some villages are selected to have traditional medicine box for those villages which are hard to get there and no other health facilities (shown in picture (3.1) given by the authority. And some village are not selected. (Selection criteria are presented in

Appendix). Therefore, we also choose the villages with no traditional medicine box in order to get people in those villages satisfaction on traditional medicine and their usage and poverty could be checked due to their village characteristics – (hard to reach and no other healthcare facility)

Picture 3.1 Traditional Medicine Box /Kits

Table 3.11 will present to see our selection households based on urban , rural with TM Box and rural without TM Box .

Table3.11 Selected households based on urban and rural- with TM Box and without TM Box

	Township	Wards/ Quarter /Village tracts/ Village	Total Surveyed Households	Knowledge on TM wards/villages level	TM Clinic	TM Box	No TM box
1	Aungmyethazan	Oboshwekyin ward	30	TM Clinic	30		
2	Pyigyitagon	Thinpangon ward	50	TM Clinic	50		
3	Aungmyethazan	Pyigyiyanlon ward	50	TM Clinc	50		
4	Patheingyi	Zechogon village tract	40	TM box		40	
5	Patheingyi	Nyaungpintha village	35	TM box		35	
6	Patheingyi	Kyaweyaygon village	40	TM box		40	
7	Patheingyi	Mekingon Village	39	TM box		39	
8	Patheingyi	I-Gyi Village	40	No TM box			40
9	Patheingyi	Aungchanthar Village tract	41	No TM box			41
10	Patheingyi	Latthit Village	36	No TM box			36
		Total Households	401		130	154	117

TM Clinic – Traditional Medicine Clinic

TM Box- Villages which receive Traditional Medicine Box

No TM Box- Villages which do not receive Traditional Medicine Box

3.6 Presents to Households

As Thailand Research Fund permits us, some presents had been given to households since they gave us their time and energy, though those small presents do not cover their time and energy, (1) Towel (2) Soap (3) Toothpaste and (4) Toothbrush as shown in the following picture.

Picture 3.2 Presents to households

Picture (3.3) Students help pack the presents for households on the way to survey

Hired car for convenience in survey (this car is not for going to government offices and another car forgoing to see and attend the meeting for survey)

3.7 Patients (Traditional Medicine) in Survey Areas

According to official statistics, a total of 218,252 patients came to Traditional medicine clinics and hospital in 2011. In 2012, 198,961 patients were registered at traditional medicine clinics and hospitals. Table below presents the total patients who visited to traditional medicine clinics and hospitals in Mandalay Region during 2011-2012.

Table 3.12 Total Patients for Mandalay Region

Year	Gender		Total
	Male	Female	
2011	102,080	116,172	218,252
2012	92,226	106,735	198,961

Source: Mandalay Region Traditional Medicine Statistics , Mandalay

Total Patients in Pyigyitagon Township Traditional Medicine Clinic

Based on Township traditional medicine officer, patients rely on the Township Traditional Medicine clinic which is less costly compared with cost in using modern medicine . The following Table 3.13 shows the total patients who came to Township traditional medicine clinic at Pyigyitagon Township .

Table 3.13 Total Patients who Visited to Township Traditional Medicine Clinic Pyigyitagon

	Gender		New patients	Old patients	Total
	Male	Female			
2011	6,181	5,602	8,892	2,891	11,783
2012	5,776	4,551	6,423	3,904	10,327

Source: Township Traditional Medicine Statistics, Pyigyitagon , -Mandalay Region

Picture 3.4 Traditional medicine clinic in Pyigyitagon Twonship

Source: Author's attempt based on permission

Table 3.14 Total Patients who Visited to Township Traditional Medicine Clinic Aungmyethazan

Status	Gender		New patients (clinic)	New Patients(out-reached)	Old patients	Total
Year	Male	Female				
2011	8,689	8,752	1,853	5,052	10,563	17,441
2010	9,975	9,271	1,852	7,855	9,539	19,246

Source: Township Traditional medicine statistics, Aungmyaythazan, -Mandalay Region

Based on key informant interviews with township traditional medicine officer and staff, most ailment in patients in 2011 were body pain and stiffness in the neck or back . Catching a cold problem took second place and third was injuries. In 2012, the

body pain and stiffness in the neck or back still ranked first in patients. However, Injuries and catching a cold were second and third, respectively. The following table presents total patients who came to Patheingyi Traditional Medicine Clinic during 2011 -2012.

Table 3.15 Total Patients who Visited to Township Traditional Medicine Clinic Patheingyi

Year	Gender		Total
	Male	Female	
2011	5,030	7,248	12,278
2012	3,215	5,617	8,832

Source: Township Traditional Medicine Statistics, Patheingyi-Mandalay Region

Regarding Mandalay Region level, it can be observed that Mandalay people rely on traditional medicine because of their body pain and suffer stiffness in the neck or back, catching a cold problem and skin problem in 2011. In 2012, the top and the second ailment problems in patients were still the same but the third place was indigestion. (Table 3.16)

Table3.16 The Most frequent problems of patients in Mandalay Region in 2011 and 2012 .

Rank/Year	**1**	**2**	**3**	**Total patients**
2011	body pain and suffer stiffness in the neck or back	Catching a cold	Problem in skin	
Total Patients	25,081	20,815	20,690	218,252
%	11.49	9.54	9.48	
2012	body pain and suffer stiffness in the neck or back	Catching a cold	indigestion	198,961
Total Patients	31,351	17,087	12,191	
%	15.76	8.59	6.13	

Source: Mandalay Region Traditional Medicine Statistics, Mandalay

When we look at the regional statistics for Mandalay, number of female patients was more than male patients. However, in our study areas, more than 50% are male patients visiting to Pyigyitagon Township when more than 50% of patients are female visiting to Patheingyi . It seems that female are more relying on traditional medicine and we are going to test whether females use more traditional medicine or not.

Key respondents interview had been taken in survey areas as ward authorities and village authorities (Township Administration Authority and Village Administration Authority) had been requested to have an interview for general socio-economic of those specific wards and village tracts or villages. Generally, transportation condition, economic status of citizens, diseases in those areas, education condition and etc; were be requested for knowing those wards and villages tracts/villages.

Chapter IV : Summary and Descriptive Statistics of the Study

This chapter presents an important summary of statistics for our study .such as average family member religion, education, their average income condition, expenditure and saving condition, preferences on using medicine and so on .

4.1 Family Members in the Sample Households.

As shown in Tables 4.1 and 4.2, 397 households are used in our sample. Among 397 households, there are 13 households which do not have male family members and one household does not have female family members. Maximum family member size in our sample is 11 members which are 4 males and 7 females.

Table 4.1 Family Members in the Sample Households.

Male /Female (numbers)	0	1	2	3	4	5	6	7	8	(blank)	Grand Total
0		1	8	3	1						13
1		24	26	37	17	6					110
2		25	47	28	23	7	2	1	2		135
3		18	30	21	13	2	2	2			88
4	1	11	9	4	6	1	3	1			36
5		3	1	3	3	1					11
6				1							1
7				1							1
(blank)											2
Grand Total	**1**	**82**	**121**	**98**	**63**	**17**	**7**	**4**	**2**	**2**	**397**

Source: Survey in Mandalay, Myanmar, April 2013

Table 4.2 Summary of Statistics for Household Members in the Study.

Male		*Female*		*Total*	
Mean	2.167088608	Mean	2.635443038	Mean	4.802531646
Standard Error	0.057968575	Standard Error	0.067709793	Standard Error	0.090569158
Median	2	Median	2	Median	5
Mode	2	Mode	2	Mode	4
Standard Deviation	1.152102637	Standard Deviation	1.345705519	Standard Deviation	1.800026416
Sample Variance	1.327340487	Sample Variance	1.810923344	Sample Variance	3.240095097
Kurtosis	0.501279982	Kurtosis	1.229136329	Kurtosis	0.755309123
Skewness	0.640584698	Skewness	0.931091899	Skewness	0.770381934
Range	7	Range	8	Range	10
Minimum	0	Minimum	0	Minimum	1
Maximum	7	Maximum	8	Maximum	11
Sum	856	Sum	1,041	Sum	1,897
Count	395	Count	395	Count	395

Source: Survey in Mandalay, Myanmar, April 2013

Maximum household member size in the study is 11 persons and minimum is one person. Average household member size is 5(~4.8) persons .Men on average in household is 2 persons while female is around 3 persons. Total of 1897 persons in which 856 males and 1041 females are in our study sample .Thus, male –female ratio is "0.82".

4.2 Religion[1]

In our questionnaire, religion has been coded as Buddhist=1, Hindu=2, Islam=3, Christianity=4, and others=5. Summary of statistics for religion is shown in the following Table 4.3

Table 4.3 Religion in Households Survey in Mandalay.

Religion	Buddhist	Hindu	Islam	Christian	Others	Total
Households	391(98.7%)	-	3(0.8%)	2(0.6%)	-	396
Missing data						1

Source: Survey in Mandalay , Myanmar , April 2013

With reference to Table 4.3 , 98.7% of households survey believe in Buddhism while only 0.8% and 0.6% of households survey believe i Islam and Christian respectively.

4.3 Ethnics Group

Among 396 households sample in our study, 392 or 99 % are Bamar . One household is Shan and 2 households are Kayin . The rest one household is Chinese as shown in Table (4.4)

Table 4.4 Ethnics Group of Households Survey in Mandalay.

Ethnics Groups	Bamar	Shan	Kayin	Chinese	Total
Households	392(99.0%)	1(0.3%)	2(0.5%)	1(0.3%)	396
Missing data					1

Source: Survey in Mandalay, Myanmar, April 2013

[1] . During the time of survey , we have followed the guidance of Myanmar Traditional Medicine officials and Township and village administrative staff so that surveyors and researchers could proceed the survey process easily and safely as there had been some conflicts among groups in Mandalay region and Yakhine State.

4.4 Job Classification Code and Household Leader's Occupation

When we developed the questionnaire, we have developed the sectors such as manufacturing, services, agriculture and so on. However, we have modified the data entry and sector classification based on finding of our sample condition in Mandalay.

Table 4.5 Job Classification Code of Households Survey in Mandalay.

Original titles for house leader 's occupation	Code
Smallbusiness -(selling brick, calcify and sands), shopkeeper , match production , selling and buying eggs , commercial woods, furniture, marble stone , betel seller , optical shop, Lathe(Twin Khone), selling lottery , selling papers , tea shop, hawker(latpweYaungthu) , rebar work(than chi than kway)	small businesses
services -carpenter , driver ,barbershop ,carbody and body painting , cycle taxi and repair, spare , child-minder .Sewing , Tailor , workshop , drilling well, Mason (Pa Yan) , massage , midwife(a yatlatthal), trishaw	Services -1
services- goldsmith , music band owner , hostel owner , photographer, broker	Services -2
dependent	Dependent
Retired	Retired
government employee/ company employee/salary earner	Gov / Com staff /salary earners
NGO	NGO
Labourer	Labourer
farmer and livestock, gardening,	Agri sector
pharmacy for indigenous medicinal ingredients	

Currently, we divide services job into 2 parts- 1 and 2 as those jobs in services-2 normally give the higher income than those in services-1.

Mostly household leaders are working on one job but 4 leaders are working on 2 jobs. Based on our sample, 111 out of 397(28%) household leaders are still in

working at agricultural sector- farmer and livestock, gardening, Table 4.6 shows household leaders 'occupation based on sectoral classification

Table4.6 Household Leaders[2]' Occupation

Numbers of Job	small businesses	services -1	Services -2	Retired	Dependent	NGO	Labourer	Gov / Company staffs /salary earners	Agri sector	pharmacy for indigenous medicinal ingredients
0										
1	58	109	12	19	50	1	16	19	109	1
2	1	1							2	
Total	**59(14.9)**	**110(27.7)**	**12(3.0)**	**19(4.8)**	**50(12.6)**	**1(0.3)**	**16(4.0)**	**19(4.8)**	**111(28.0)**	**1(0.3)**

( )Percentage

Source: Survey in Mandalay, Myanmar, April 2013

Almost the same leaders of agriculture work , 110(27.7%) out of 397 household leaders are working at services such as carpenter , driver ,barbershop ,car body repair and body painting , cycle taxi and repair, car spare , child-minder ,sewing , tailor , workshop , drilling well, mason (Pa Yan) , massage , midwife(a yatlatthal), trishaw.

59 (14.9%) out of 397 household leaders are working in small business such as selling brick, calcify and sands), shopkeeper, match production, selling and buying eggs, commercial woods, furniture, marble stone, betel seller, optical shop, Lathe(Twin Khone), selling lottery, selling papers, tea shop, hawker(latpweyaungthu), rebar work(than chi than kway).

19 leaders (4.8%) and 50 leaders (12.6%) are in retired and dependent, respectively. One household leader is working in NGO and another one opens the **indigenous**
medicinal ingredients(in Myanmar language called Pa-Ra Say) . Another 19 leaders are salary earners as government and company staff.

2 . In Myanmar culture , generally, household leaders come out as parents or grand-parents or retired parents or elder siblings even though he/she is not working . Thus , some of household leaders show up as dependents and retired .

4.5 Genders of Respondents

We expected majority of respondents to be female as generally wives are staying at home and working housework in Myanmar. Our statistics for respondents prove that our thought is true .Genders of respondents in the study are presented in Table 4.7

Table 4.7 Gender of Respondents

Gender	**Male**	**Female**	**Grand Total**
Count of Gender of Respondents	**60 (15.1)**	**337 (84.9)**	**397**

( )Percentage

Source: Survey in Mandalay, Myanmar, April 2013

Among 397 households, only 60 households have male respondents and the rest households have female respondents. The respondents' highest education is showned in Table 4.8

Table 4.8 Highest Education Level of Respondents in the Study

Levels	**Count of Household -Respondents**
Non education or just read and write	22 (5.5)
Primary school education level	170(42.8)
Middle school education level	126(31.7)
High school education level	59(14.9)
Graduate	18(4.5)
Post-grad	1(0.3)
No answer	1(0.3)
Grand Total	**397**

( )Percentage

Source: Survey in Mandalay, Myanmar, April 2013

Most of respondents (42.8%) in the study finished their primary education level. 126 out of 397 (31.7%) respondents finished the middle school education. 18 respondents are graduate persons and one respondent is post-grad person.

Basic education system in Myanmar consists of 3 ranks- basic primary school education which starts from 1- 5 years of schooling; basic middle school education which has 6-9 years of schooling; and basic high school education which includes 10-11 years of schooling. For the higher education level, normal bachelor's degree, currently, 4 years for sciences and arts degrees and some institute such as Institute of Economics. For Forestry, regular bachelor degree needs 5 years of schooling. For medical field, the first degree needs 7 years of schooling .

Generally, years of education (reading and learning) enables people to upgrade their skills and knowledge. Although Myanmar is one of the developing countries, adult literacy rate is rather high at average 95.08% overall in 2011-2012. In our study, average years of schooling which is total years of schooling divided by the family members is shown in Table 4.9

Table 4.9 Average Years of Schooling of Family Members

Mean	6.021579721
Standard Error	0.130449056
Median	5.666666667
Mode	3
Standard Deviation	2.592623714
Sample Variance	6.721697722
Kurtosis	-0.446460062
Skewness	0.339064895
Range	13.5
Minimum	0
Maximum	13.5
Sum	2378.52399
Count	396
Missing data	1

Source: Survey in Mandalay, Myanmar, April 2013

Minimum years of schooling "0" provides the evidence that there is no formal schooling person still present. However, for those who have "0" years of schooling may

read and write or have monastic education level .Family member has on average 6 years of schooling education.

4.6 Income, Expenditure and Saving Section

4.6.1 Income

Exchange rate[3] is important to note when it compares countries' income and expenditures since countries use the different money. Myanmar money is so called 'Kyat' which value USD 1 equals Myanmar Kyat around 830 at the time of survey. . Maximum per capita income of family member is 428,571Kyats/ month (which was approximately 516 USD under USD1= Kyat 830 exchange rate) . Without considering no response on income, average minimum income per person per month is only 6,250 Kyats (which is only about 7.5 USD under USD1= Kyat 830exchange rate)(Table4.10) . It shows altogether 4 family members in that family and their total years of education for all family members are 19 years. Main income is from Masonry job as minimum per capita income is checked.

3 . Currently , Myanmar exchange rate is UUSD 1= MM Kyats 970~980

Thein Phyu (TPMCC) - Official Forex Rates

14-1-2014	Rate	Sell	Buy	Change %
USD MMK	986	982	990	0%
EUR MMK	1347.3	1338	1355	0%

Table 4.10 Average Income of Family Member *(Kyats/ month)* (Per capita income)

Average income of family member	
Mean	56605.92553
Standard Error	2105.128013
Median	50000
Mode	50000
Standard Deviation	41626.21175
Sample Variance	1732741505
Kurtosis	32.9238136
Skewness	4.761567865
Range	422321.4286
Minimum	6250
Maximum	428571.4286
Sum	22132916.88
Count	391
Missing data*	6

*Not count Income = "0"

Source: Survey in Mandalay, Myanmar, April 2013

4.6.2 Saving

As household saving is important for country's or community's investment, our study examines whether households in the study area have saving or not. Of course, Myanmar households are not used to answering survey questionnaires and people in Myanmar are normally not familiar with the importance of tax system, so some respondents (5%) do not answer this kind of question. Thus, majority of people are afraid of answering income section and saving as they think that something not good may happen in their income.

The study result shows that 196 respondents (52 %) said NO saving in their family although 180 out of 377 respondents(47.7%) said they can save. Surprisingly,

only one family said they have debt in their family. Saving condition of the study is shown in the following Table 4.11

Table 4.11 Households' Saving Condition.

	Save	**No Save**	**Debt**	**Total**
Count of Saving Condition	180(47.7)	196(52.0)	1(0.3)	377 (95.0)
No Answer	-	-	-	20 (5.0)
Total				397(100)

( )PercentageSource: Survey in Mandalay, Myanmar, April 2013

When the amount of saving is checked, the maximum amount of saving in study area is Kyats 1,000,000 which is approximately 1,205 USD under USD1= Kyat 830 exchange rate and the minimum amount of saving is 10,000 Kyats per month among 179 respondents.

Table 4.12 Statistics for Amount of Saving per Month (Kyats per month) for the Whole Family

Mean	82,653.63128
Standard Error	9,994.676452
Median	40,000
Mode	30,000
Standard Deviation	133,719.6574
Sample Variance	17,880,946,770
Kurtosis	20.31470497
Skewness	4.178353094
Range	990,000
Minimum	10,000
Maximum	1,000,000
Sum	14,795,000
Count	179

Source: Survey in Mandalay, Myanmar, April 2013

For the question on their income level compared with last year, the question is coded to be easy and comfortable to answer as income increase equals 1, if decrease equals 2 and the same income earn which is normal equals 3.

As shown in Table 4.13, 367 households respond to answer for that question , 122 out of 367(33.2%) households said their income is increasing and 189(51.5%) said it is normal condition but 56 (15.3%) reply their income is decreasing .

Table 4.13 Changes in Income from Last Year.

	Increase	**Decrease**	**Normal**	**Total**
Changes in Income from Last Year	122(33.2)	56(15.3)	189(51.5)	367(100)

()Percentage Source: Survey in Mandalay, Myanmar, April 2013

4.6.3 Expenditure

Expenditure is also important to check whether their income answer is correct or not. Especially whether we are calculating poverty level, many times poverty line based on expenditures gives sensible answer. The following Table shows the monthly expenditure of households in our study.

Table 4.14 Monthly Expenditure (Kyats)

Mean	155,747.449
Standard Error	4,684.213728
Median	150,000
Mode	150,000
Standard Deviation	92,742.70016
Sample Variance	8,601,208,433
Kurtosis	12.57346645
Skewness	2.884800239
Range	735,000
Minimum	15,000
Maximum	750,000
Sum	61,053,000
Count	392
Missing data	5

Source: Survey in Mandalay, Myanmar, April 2013

The maximum expenditure of household is Kyats 750,000 a month and the minimum amount is 15,000 Kyats /month in the study. Regarding, their opinion on their economic condition whether it is good or not we have 5 ranks which are very good= 5 and, if good=4, if Fair=3, if Bad=2, and if Downing=1. Their perception on their economic condition illustrates in the following Table.

Table4.15 Perception of Family Members on Their Economic Condition (compared with last year)

Perception of Family Members on Their Economic Condition	**Respondents**
not answering	4 (1.0)
Downing	2 (0.5)
Bad	45 (11.4)
Fair	219 (55.3)
Good	123 (31.1)
Very Good	3 (0.8)
Total households	**396**
Missing data	**1**

Source: Survey in Mandalay, Myanmar, April 2013

The possible reason why 4 households do not respond in the sample is due to those respondents are not involved in family businesses .They might be pure housewife and dependents who just got money for household expenditures or pocket money from husbands or the main income earners.

Compared with last year economic condition, 3 and 123 respondents (31.9%) said that their economic conditions are very good and good enough this year. However, 55.3 % (219 respondents) said that the economic condition this year is just fair .Only 47 respondents (11.9%) view on their economic condition as bad and downing .

4.7 Healthcare Consumption

Healthcare consumption is the essence of our study which intends to investigate healthcare consumption, particularly for traditional medicine consumption in Mandalay. The starting of question for healthcare consumption opens with respondents' opinion on

cost of healthcare in Mandalay, Myanmar is expensive or not. Their answers will be based on their income and what kind of medicine they are using.

4.7.1 Cost and Type of Medicine Healthcare

Table 4.16 Cost of Healthcare in Myanmar

Condition on Cost of Healthcare	Cost of Health Care in Myanmar	Cost of Modern Medicine Healthcare	Cost of Traditional Medicine Healthcare
not expensive	169(43.9)	148(38.0)	336(86.4)
somewhat expensive	94(24.4)	85(21.9)	30(7.7)
expensive	109(28.3)	140(36.0)	23(5.9)
very expensive	13(3.4)	14(3.6)	
highest expensive		2(0.5)	
Total	385	389	389
Missing data	12	8	8

Source: Survey in Mandalay, Myanmar, April 2013

As shown in Table 4.16 no one thinks that traditional medicine healthcare in Myanmar is very expensive and highest expensive. More than 86 % of respondents (336 out of 389) consider as not expensive for traditional medicine although 38% of respondents (148 out of 389) seem not expensive for cost of modern medicine healthcare. Probably, those households did not face any serious case. At the same time, the study check on families in which what kind of medicine is using on their health – modern medicine or traditional medicine or both using or not using any medicine.

Table 4.17 Type of Medicine Health Care for Households Currently Use on Their Health.

Households currently use medicine on health	Number of households	percentage
Modern Medicine	40	10%
Traditional Medicine	38	10%
Modern Medicine and Traditional Medicine	307	79%
Not using anything	6	2%
Grand Total	391	100%
Missing data	6	

Source: Survey in Mandalay, Myanmar, April 2013

When the respondents' answer has been checked, 307 respondents (79%) are using both Modern Medicine and Traditional Medicine for their heath currently. Only 10 % on each section answer for traditional medicine and modern medicine alone 38and 40 respondents, respectively. Only 6 of respondents (2%) were not using any drugs. From this point, people can be more sensible in healthcare.

Table 4.18 Drugs that Households Used to Consume in the Past.

Drugs that households used to consume in the past.	Number of households	percentage
Modern Medicine	47	12%
Traditional Medicine	49	13%
Modern Medicine and Traditional Medicine	265	69%
Not using anything	25	6%
Total	**386**	100%
Missing data	11	

Source: Survey in Mandalay, Myanmar, April 2013

Regarding the modern medicine types, the study data shows that some households are using modern medicine for headache and as a vitamin. In addition, people are using modern medicine when catching a cold as not for serious case. Apart from this, 58 out of 393 respondents are using modern medicine for the problem of liver, kidney, and heart diseases. The summary of result of respondents is presented in Table 4.19

Table 4.19.Causes of Respondents to Use Modern Drugs..

Causes to use modern drugs	Indigestion	Catching a cold	Headache	Hypertension	Vitamin	To cure other disease case
No	386	296	203	309	279	335
Yes	7	97	190	84	114	58
Grand Total	393	393	393	393	393	393
Missing data	4	4	4	4	4	4

Source: Survey in Mandalay, Myanmar, April 2013

For the causes of respondents to use traditional medicine, they are mostly using for indigestion as normal use. Based on our survey result, it shows that they are more relying on the taking modern medicine in having a headache, a vitamin ,catching a cold and hypertension.

Table4.20 Causes of Respondents to Use Traditional Drugs.

Causes to use traditional drugs.	Indigestion	Catching a cold	Headache	Hypertension	Vitamin	To cure other disease
No	238	322	360	350	321	303
Yes	154	70	32	42	71	89
Grand Total	**392**	**392**	**392**	**392**	**392**	**392**
Missing data	**5**	**5**	**5**	**5**	**5**	**5**

Source: Survey in Mandalay, Myanmar, April 2013

4.7.2 Medicine usage

Since drug usage of Mandalay people have been intended to check whether they use both drugs daily, weekly, seldom and not using at all, the question has been added to the study questionnaire. (Daily =1, weekly =2, seldom=3, as convenient =4 and no=0). Students are trained to collect the data as seldom if respondents respond they buy drugs more than 2or 3 weeks. If respondents answer they are buying the drugs monthly or more or less the same, then it will be convenient. (For using those data in behavioral model, the codes have been changed into as 5=daily, 4=weekly, 3= seldom (2 weeks or 3 weeks), 2=convenient (monthly or more or less a month or more).1= no)

Table 4.21 How Frequently Respondents Buy Modern and Traditional Medicines

Frequently Respondents Buy MM or TM	Frequently Use to Buy Modern Medicines (MM)		Frequently Use to Buy Traditional Medicines (TM)	
No	8	2.07%	14	4.03%
Daily	35	9.04%	94	27.09%
weekly	40	10.3%	46	13.3%
seldom	187	48.3%	189	54.5%
as convenient	117	30.2%	4	1.2%
Grand Total	387		347	
Missing data	10		50	

Source: Survey in Mandalay, Myanmar, April 2013

For the modern drug users, mostly 48% and 30.23 % of 387 respondents on this question are buying as of seldom and convenient, respectively. On the other hand, 27% of 347 respondents in the study are daily purchasing traditional medicine and approximately 55 % of 347 respondents use the traditional medicine not often.

As traditional medicine is the study's objective, the study question had been added to ask at which institutions in the study area -people normally go to take for cure if they and their family have some diseases. Then the research had asked a variety of institutions as follows;

1. Public hospitals
2. Private hospitals
3. Public clinics
4. Private clinics
5. Traditional medicine clinics
6. Take the doctor to home
7. Take the practitioner to home
8. Others (specify)
9. Not doing anything

Table 4.22 The Health Care Institutions when the People and Family Get Ill

The health care institutions	Institutions normally go when member of households is ill	
Public hospital	16	4.1%
Private hospital	11	2.8%
Public clinic	17	4.3%
Private clinic	290	73.8%
TM clinic	23	5.9%
take doctor to home	20	5.1%
take TM practitioner to home	1	0.3%
others	12	3.1%
not doing	3	0.8%
Grand Total	393	
Missing data	4	

Source: Survey in Mandalay, Myanmar, April 2013

As shown in Table 4.22 our samples showed up majority of people normally go to private clinic which 73.8% of 393 respondents proved to assert. Though this research is paying attention to traditional medicine, the result presented that 5.9% and 0.3% deal with traditional medicine clinics and traditional medicine practitioners. One of the respondents who answered "others" said that they take traditional medicine self-treatment at home .Therefore, the continuous question has been asked for those respondents that why they are going to that institution purposely. With regard to this question, respondents can answer more than one answer.

Table 4.23 Respondents Reasons for Going to that Specific Health Care Institution

Respondents reasons	treating system is more preferable		not much conjunction there		not far from home		traditionally go there		use that since ancestor	
No	127	33%	324	83%	314	81%	232	59%	337	86%
Yes	263	67%	66	17%	76	19%	158	41%	53	14%
Total	390	100%	390	100%	390	100	390	100 %	390	100 %
Missing data	7		7		7	%	7		7	

Source: Survey in Mandalay, Myanmar, April 2013

For respondents' reasons to go to that specific health care institution, 67% of 390 respondents said that they went to those specific institutions because they preferred institutions' treatment system if they get ill .Secondly they preferred history that they traditionally go there. Thirdly, 19 % of respondents said that they go to those specific one since the institutions are not far from their home.

Then we followed about how do they get there when they go to health care institution. Before this, the checking question for how far is it from their homes. For this event, most of respondents and their health institutions place for their answers "are not too far from them (77%)" but only 20% for "far" and "very far places".

Table 4.24 How Far from the Households to Health Care Institutions

How far from the households to health care institutions	Households number	
don't know	11	3%
not too far	295	77%
far	70	18%
very far	6	2%
Grand Total	382	
Missing data	15	

Source: Survey in Mandalay, Myanmar, April 2013

According to how the households go to health care institutions, most of them go to health care institution by motorcycle (55%) and on foot(34%), a few households go by car or bus or bicycle.

Table 4.25 How Households Go to Health Care Institution.

How	Households number	
car	15	4%
bus	2	1%
Motorcycle	211	55%
bicycle	12	3%
on foot	131	34%
don't know	10	3%
Grand Total Missing data	381 16	

Source: Survey in Mandalay, Myanmar, April 2013

4.7.3 Country Sources of Modern Medicines that Respondents Use.

Mostly, people are using modern medicines made in Thailand, China and India. Other countries are the Philippines, Germany, Switzerland, Indonesia, and Austria (Table 4.26). However, for traditional medicine, almost all of them are made in Myanmar (Table4.27)

Table 4.26 Country Sources of Modern Medicines

Country	Myanmar	Thailand	China	India	Korea	Japan	USA	Europe	Others
No	350	245	298	326	358	376	388	388	360
yes	42	147	94	66	34	16	4	4	32
Total	392	392	392	392	392	392	392	392	392
Missing data	5	5	5	5	5	5	5	5	5

Source: Survey in Mandalay, Myanmar, April 2013

Table 4.27 Countries Sources of Traditional Medicine.

Country	Myanmar	Thailand	China	Others
No	46	391	389	390
Yes	347	2	4	3
Total	393	393	393	393
Missing data	4	4	4	4

Source: Survey in Mandalay, Myanmar, April 2013

Regarding reasons of using that specific modern medicine and traditional medicine, the question asked the respondents that whether there is one of the followings facts or not. The question has been formed as 1=cheap, 2=quality, 3=easy to get, 4=traditionally, 5=randomly. ***(Note- students had been trained to ask the households if respondents had more than one answers and more idea than questionnaire)***. The summary of statistics for why they used is presented in the following Table 4.28

Table 4.28 Reasons for Using Those Specific MM or TM

Reasons for using	Reasons for using specific MM		Reasons for using specific TM	
No answer	39	10%	37	9%
cheap	2	1%	5	1%
quality	235	60%	278	71%
easyto get	54	14%	11	3%
traditionally	17	4%	26	7%
randomly	45	11%	35	9%
Total	392	100%	392	100%
Missing data	5		5	

Source: Survey in Mandalay, Myanmar, April 2013

Among 392 respondents, around 10% have "does not have anything to say" about reasons for using those specific MM and TM. Surprisingly, respondents presently are more emphasized on quality in both medicines. At the same time, households made sure where they have that specific medicine. The variables are created as 1=hospital, 2=clinics, 3=drug stores, 4=neighbours, 5=others(own products))

Table 4.29 Where Do Households Get Those Specific MM or TM

Places	Where do you get Specific MM		Where do you get Specific TM	
No answer	39	10%	37	9%
hospital	13	3%	7	2%
clinics	163	42%	75	19%
drug stores	166	42%	243	62%
neighbors	7	2%	27	7%
others(own products)	4	1%	3	1%
Total	392	100%	**392**	100%
Missing data	5		**5**	

Source: Survey in Mandalay, Myanmar, April 2013

4.7.4 Knowledge

This section has investigated on how households get knowledge of using those specific medicines via the question of knowledge that using MM and TM from whom as 1 if households know from relatives, and 2=family, 3=myself,4=neighbors, 5=religious books /books ,6=TV commercial,7=no opinion, 8=doctor . ***Note: Actually the question is only coded as 1-7 but interviewers had been trained to ask households' actual response which leads to create new variable)***

Table 4.30 The persons whom households get MM- or TM-Knowledge to use specific medicines.

Knowledge persons	from whom MM- Knowledge		from whom TM- Knowledge	
No answers	30	8%	22	6%
relatives	27	7%	24	6%
family	43	11%	38	10%
myself	187	48%	174	44%
neighbors	41	10%	87	22%
religious books /books	3	1%	1	0%
TV commercial	34	9%	40	10%
no opinion	11	3%	5	1%
doctor	17	4%	2	1%
Total	393	100%	393	100%
Missing data	5		5	

Source: Survey in Mandalay, Myanmar, April 2013

4.7.5 Preference on Source of Using Medicine

Table 4.31 shows that Majority of households, 161 out of 393, like using made in Thailand product (modern medicine) while 34 out of 393 respond that they prefer made in India products. 11 out of 393 said that they like to use Korea, Germany, Japan, USA.

Table 4.31 Preference on Sources of Modern Medicine

Preference	Thailand	India	China	Myanmar	Others	No Idea
No	232	359	364	376	382	267
Yes	***161***	***34***	***29***	***17***	***11***	***126***
Total	393	393	393	393	393	393
Missing data	4	4	4	4	4	4

Source: Survey in Mandalay, Myanmar, April 2013

It will be a good chance for Thai business men that Myanmar will be the market for Thai and they can penetrate lots of Myanmar market share.

On the other hand, table 4.32 show that, 237 out of 393, respond that made in Myanmar traditional medicine are preferable for them. 5 and 2 out of 393 like using made in China and India traditional medicine, respectively.

Table 4.32 Preference on Sources of Traditional Medicine.

Labels	Thailand	India	China	Myanmar	No Idea
No	393	391	388	156	267
Yes	***0***	***2***	***5***	***237***	***126***
Total	393	393	393	393	393

Source: Survey in Mandalay, Myanmar, April 2013

Heath care system that prefer 0=No idea, 1=traditional, 2=modern,3=both . From the Table (4.33), most people (59%) prefer traditional and modern medicine together, secondly prefer modern and traditional medicine (18% and 17%), respectively

Table 4.33 Current healthcare system preference

Labels	Healthcare system that prefer	
No idea	28	7%
Traditional	66	17%
Modern	69	18%
Traditional and Modern	230	59%
Total	393	100%
Missing data	4	

Source: Survey in Mandalay, Myanmar, April 2013

Households had been requested to answer the question as shown in above format and questions so that the researcher would know how households could rely on modern or /and traditional medicines. Then, it is coded “1” if respondents answered Yes and “2” if answered No and will be “0” if answered No idea.

Table 4.34 Households' Opinion on Attribute of MM and TM

Labels	MM can cure serious case		TM can Cure serious case		Government supports to MM		Government supports to TM		Agree with integration of TM&MM		MM accepted by community		TM accepted by community	
No idea	72	18%	70	18%	53	13%	30	8%	45	11%	58	15%	83	21%
yes	265	67%	252	64%	306	78%	354	90%	316	80%	304	77%	273	69%
no	57	14%	72	18%	35	9%	10	3%	33	8%	32	8%	38	10%
Total	394	100%	394	100%	394	100%	394	100%	394	100%	394	100%	394	100%
Missing data	3		3		3		3		3		3		3	

Source: Survey in Mandalay, Myanmar, April 2013

As results show, traditional medicine is important in Mandalay peoples' mind. 64% of households in our sample agree that traditional medicine can cure serious case and 69% believe that traditional medicine is accepted by the community.

Regarding final section, the question is structured for households to answer their most approximately true feeling to improve the healthcare system in Myanmar. There have been 5 stratifies on answers as 1=strongly disagree, 2=disagree, 3=not sure, 4=sure, 5=strongly agree .

Table 4.35 Households' Perception on Improvement of the Healthcare System in Myanmar

Labels	satisfy with current health care system in Myanmar		you like using modern medicine		you like using traditional medicine		Need government support to get drugs easily		Public hospitals are not enough for rural people (need to upgrade and extend)		Medicines are not enough for people (need to finance for poors)		Need to train healthcare personnel		Need training for public using the effective way	
No answer	7	2%														
strongly disagree	78	20%	6	2%	4	1%	5	1%	4	1%	4	1%	3	1%	3	1%
disagree	29	7%	16	4%	8	2%	9	2%	13	3%	7	2%	6	2%	11	3%
not sure	28	7%	54	14%	39	10%	32	8%	32	8%	16	4%	11	3%	16	4%
agree	177	45%	250	63%	260	66%	218	55%	146	37%	127	32%	115	29%	144	37%
Strongly agree	75	19%	68	17%	83	21%	130	33%	199	51%	240	61%	259	66%	220	56%
Total	394	100%	394	100%	394	100%	394	100%	394	100%	394	100%	394	100%	394	100%
Missing data	3		3		3		3		3		3		3		3	

Source: Survey in Mandalay, Myanmar, April 2013

From Table4.35, The results show that firstly from households' perception on improvement of the healthcare system in Myanmar, most of them strongly agree with "need to train healthcare personnel" (66%), "medicines are not enough for people (need to finance for poor people) (61%)", "need training for public using the effective way"(56%) and "public hospitals are not enough for rural people (need to upgrade and extend) (51%)" respectively.

Secondly from households' perception on improvement of the healthcare system in Myanmar, most people agree with, "like using traditional medicine" (66%), " like using modern medicine" (63%), "Need government support to get drugs easily'' (55%), "satisfy with current health care system in Myanmar" (45%), respectively.

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Chapter V: Poverty Analysis for Study Area in Mandalay, Myanmar.

We will analyze the well-known poverty measures for our study areas and the trends of poverty indices are emphasized. Based on theory and literatures, traditional medicines can be used by the poor as they are cheaper than modern medicine in general. As a result, we would like to test whether population in the study area are using traditional medicines because they are poor . We will test the hypotheses in this section and make decision whether those who are poor are using more on traditional medicine or not. Thus following hypotheses will be tested in order to have evidence on effects of poverty;

Hypothesis 1: *Using traditional medicine expenditure will be reduced by severity of poverty since poor people need to spend more money on basic needs in general for those poor people in Mandalay and Share of traditional medicine expenditure will be increased by working as farmers and rural people since farmers and rural people have more beliefs by tradition as for a country staying as centrally planned economies for many years* .

Hypothesis 2: *Expenditures on modern medicine will be increased based on their education level and for those working in sector 1(Small and medium business - (selling brick, calcify and sands), shopkeeper , match production , selling and buying eggs , commercial woods, furniture, marble stone , betel seller) have more income than others* and share of saving rate .

5.1 Myanmar Poverty Measures in 2004-2005 and 2009-2010

Within more than decades, Myanmar could not conduct for nationwide household income – expenditure survey. However, in 2004-2005 and 2009-2010, Myanmar conducted the Integrated Household Living Conditions Assessments (IHLCA) I and II for multi-purpose household surveys with the help of the United Nations Development Programme, the United Nations Children's Fund (UNICEF) and its partner organizations . As usual household characteristics ; housing ; education and literacy ; health , nutrition and mortality ; Consumption expenditure ; household assets , gifts and remittances; labour and employment ; business activities ; and finance and saving condition questionnaire were launched for collecting nationwide data [1] . General food poverty line and poverty line for Myanmar are presented Table5.1.

Table 5.1 Actual (Nominal) values of poverty line per adult equivalent per year 2005 and 2010

Kyats	2005	2010
Food poverty line	118402	274990
Poverty Line	162136	376151

source: IHLCA survey 2004-2005 and IHLCA Survey 2009-2010

Market exchange rate in 2004 was on average 900 Kyats and market exchange rate in 2009 was on average 1000 Kyats. Thus, poverty lines for Myanmar in 2005 and 2010 were 180 USD and 376USD, respectively . During the five years (2005-2010), actual values of poverty line per adult become 2 times larger[2].

National "poverty incidence or poverty headcount ratio (P_0)"[3] in Myanmar during 2005-2010 have been falling 32% to 26 % . During 5 years, there was total 20% change in national level. Likewise, urban poverty incidence and rural poverty incidence

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1 . More details on Integrated Household Living Conditions survey in Myanmar (2009-2010) , Poverty Profile and on Integrated Household Living Conditions survey in Myanmar (2007) , Poverty Profile

2 . Under the new base year 2005/06 , the consumer (food) price index increased from 100 to 153.7 and non-food price index increased from 100 to 160.1 . (more detail in ADB , Key indicators for Asia and Pacafic2013) www.adb.org/statistics

3 . the proportion of population whose annual per capita income falls below the per annual per capita **poverty** threshold to the total number of population.

can be seen as falling figures. Regarding with Mandalay region, poverty incidences in both areas – rural and urban, are falling significantly during five years. Total poverty incidence in Mandalay is falling from 39% to 27% during 5 years.

Table 5.2 Trends in Poverty Incidence, 2005-2010

State and Region	Urban			Rural			Total		
	2005	2010	% Change 2005-2010	2005	2010	% Change 2005-2010	2005	2010	% Change 2005-2010
Kachin	38 (2.34)	23 (3.22)	-38	47 (8.83)	31 (2.57)	-35	44 (5.70)	29 (2.62)	-35
Kayah	26 (7.45)	2 (2.82)	-91	38 (3.31)	16 (2.52)	-57	34 (1.64)	11 (0.37)	-66
Kayin	8 (3.36)	17 (3.08)	115	12 (4.09)	18 (0.39)	41	12 (4.14)	17 (0.51)	48
Chin	46 (3.41)	52 (3.88)	14	81 (10.31)	80 (4.20)	-1	73 (6.10)	73 (2.18)	0
Sagaing	22 (2.57)	16 (2.51)	-27	27 (4.58)	15 (1.43)	-46	27 (3.88)	15 (1.49)	-43
Tanintharyi	21 (15.67)	17 (12.53)	-20	37 (5.85)	37 (7.96)	1	34 (7.58)	33 (9.43)	-3
Bago	31 (5.40)	19 (2.54)	-38	32 (4.99)	18 (2.13)	-43	32 (4.95)	18 (2.00)	-42
- Bago (E)	35 (6.97)	21 (2.39)	-40	30 (6.73)	20 (4.03)	-33	31 (7.00)	20 (3.57)	-34
- Bago (W)	23 (2.32)	16 (6.83)	-32	34 (7.13)	16 (0.62)	-53	33 (6.74)	16 (1.07)	-51
Magwe	26 (4.65)	16 (5.20)	-39	44 (7.44)	28 (3.85)	-36	42 (7.58)	27 (2.98)	-36
Mandalay	24 (3.20)	14 (2.04)	-41	45 (5.27)	32 (7.25)	-29	39 (4.07)	27 (5.77)	-32
Mon	23 (5.84)	18 (2.05)	-21	21 (9.26)	16 (1.95)	-25	22 (7.73)	16 (1.53)	-24
Rakhine	26 (2.66)	22 (1.38)	-14	41 (2.66)	49 (4.37)	19	38 (2.88)	44 (7.24)	14
Yangon	14 (3.68)	12 (1.99)	-17	17 (17.39)	29 (2.93)	65	15 (6.19)	16 (1.68)	7
Shan	31 (9.27)	14 (7.56)	-55	50 (4.66)	39 (4.96)	-22	46 (6.75)	33 (7.22)	-28
- Shan (S)	26 (14.81)	8 (11.28)	-68	44 (10.79)	31 (10.44)	-30	40 (14.32)	25 (14.77)	-37
- Shan (N)	35 (12.01)	16 (6.07)	-53	55 (4.93)	43 (8.09)	-22	51 (6.86)	37 (8.72)	-26
- Shan (E)	37 (7.41)	29 (5.81)	-23	56 (11.03)	52 (4.06)	-7	52 (9.23)	46 (3.77)	-10
Ayeyarwady	24 (6.14)	23 (3.16)	-5	30 (2.49)	34 (2.87)	12	29 (1.91)	32 (2.94)	10
UNION	**22 (1.86)**	**16 (1.08)**	**-27**	**36 (1.90)**	**29 (1.55)**	**-18**	**32 (1.67)**	**26 (1.36)**	**-20**

Source: IHLCA Survey 2004-2005, IHLCA Survey 2009-2010

Poverty gap Ratio (P_1) [4] in Mandalay region is also showing downward trend by 39% which is above the union level falling 35% during 2005-2010. Rate of poverty falling in urban area seems to be much faster rate (54%) than that of rural area (36%) between 2005 and 2010.

Table 5.3 Poverty Gap Ratio by State/ Region, 2005-2010

State and Region	Urban			Rural			Total		
	2005	2010	% Change 2005-2010	2005	2010	% Change 2005-2010	2005	2010	% Change 2005-2010
Kachin	0.070 (0.018)	0.037 (0.007)	-47	0.108 (0.026)	0.045 (0.006)	-58	0.098 (0.017)	0.043 (0.004)	-56
Kayah	0.044 (0.02)	0.002 (0.00)	-97	0.085 (0.01)	0.019 (0.01)	-77	0.070 (0.00)	0.013 (0.00)	-81
Kayin	0.007 (0.003)	0.020 (0.009)	178	0.018 (0.005)	0.018 (0.005)	1	0.016 (0.006)	0.018 (0.003)	12
Chin	0.064 (0.01)	0.076 (0.00)	18	0.273 (0.07)	0.196 (0.03)	-28	0.227 (0.03)	0.167 (0.01)	-26
Sagaing	0.035 (0.006)	0.024 (0.005)	-32	0.052 (0.013)	0.017 (0.003)	-67	0.050 (0.010)	0.018 (0.003)	-63
Tanintharyi	0.055 (0.05)	0.029 (0.03)	-48	0.080 (0.01)	0.077 (0.02)	-3	0.074 (0.02)	0.066 (0.02)	-12
Bago	0.061 (0.015)	0.032 (0.005)	-47	0.051 (0.009)	0.023 (0.004)	-55	0.052 (0.010)	0.024 (0.004)	-54
- Bago (E)	0.072 (0.02)	0.040 (0.00)	-44	0.047 (0.01)	0.028 (0.01)	-41	0.051 (0.01)	0.030 (0.01)	-42
- Bago (W)	0.040 (0.004)	0.018 (0.008)	-54	0.056 (0.014)	0.017 (0.001)	-69	0.054 (0.013)	0.017 (0.001)	-68
Magwe	0.051 (0.01)	0.022 (0.01)	-57	0.088 (0.01)	0.040 (0.01)	-54	0.085 (0.01)	0.039 (0.01)	-54
Mandalay	0.045 (0.007)	0.021 (0.004)	-54	0.086 (0.011)	0.055 (0.017)	-36	0.075 (0.009)	0.045 (0.013)	-39
Mon	0.047 (0.02)	0.024 (0.01)	-48	0.034 (0.02)	0.025 (0.00)	-28	0.037 (0.02)	0.025 (0.00)	-32
Rakhine	0.045 (0.006)	0.032 (0.002)	-28	0.080 (0.008)	0.087 (0.014)	9	0.073 (0.009)	0.076 (0.019)	4
Yangon	0.028 (0.01)	0.016 (0.00)	-44	0.034 (0.03)	0.043 (0.01)	25	0.030 (0.01)	0.023 (0.00)	-24
Shan	0.062 (0.026)	0.025 (0.015)	-60	0.117 (0.011)	0.071 (0.012)	-39	0.105 (0.017)	0.060 (0.016)	-43
- Shan (S)	0.049 (0.04)	0.019 (0.03)	-62	0.093 (0.02)	0.057 (0.03)	-39	0.083 (0.03)	0.047 (0.03)	-44
- Shan (N)	0.079 (0.036)	0.028 (0.010)	-65	0.136 (0.015)	0.081 (0.017)	-41	0.124 (0.020)	0.070 (0.017)	-44
- Shan (E)	0.059 (0.01)	0.040 (0.01)	-33	0.133 (0.05)	0.084 (0.01)	-37	0.117 (0.04)	0.073 (0.01)	-37
Ayeyarwady	0.053 (0.017)	0.037 (0.004)	-31	0.060 (0.006)	0.056 (0.008)	-8	0.059 (0.005)	0.053 (0.007)	-11
UNION	**0.042** (0.005)	**0.023** (0.002)	**-44**	**0.071** (0.004)	**0.047** (0.004)	**-34**	**0.064** (0.004)	**0.041** (0.003)	**-35**

Source: IHLCA Survey 2004-2005, IHLCA Survey 2009-2010

4 . poverty gap ratio = $\frac{1}{n}\sum_{i=1}^{p}(z - y_i / z)$ (average ratio of poverty gap to poverty line) where n=population , p= population living at or below poverty line , z =poverty line , y_i =income of poor individual i.

5.2 Calculation for Poverty Line 2013

In order to decide the poverty line 2013 that we are going to use to calculate poverty indices for study areas, general consumer price index for Myanmar and the poverty lines for 2005 and 2010 have been used . Poverty line for 2013 has been estimated with the use of 2010 poverty line by inflating CPI year by year.

Table 5.4 Calculation Poverty Line in 2013

Year	CPI (general CPI –food + non-food)	Poverty lines(Kyats /year)
2010	155.7	376151
2011	163.32	358600.9717
2012	167.94	368745.0844
2013	177.53	389801.8033

Source: Author's calculation based on Myanmar data CD Rom 2012 and https://www.mnped.gov.mm/html_file/foreign_trade/s19MA02.htm

Poverty line for 2013 comes to show up with 389801 Kyats/Year . However there could be more or less data discrepancy on CPI inflating technique. Thus , 400,000 Kyats /year is taken as national poverty line for 2013 and then poverty incidence for study area as follow;

Table 5.5 Poverty Incidence in Study Area

Poverty Line= 400000Kyats	% of People living under poverty
household under poverty lines(84 households)	21.6
household above poverty (305 households)	78.4

Source: Author's Calculation

Poverty incidence in study area, Mandalay has been falling from 27% in 2010 to 21.6% in 2013. which is a fall of 20% during 3 years.

Table5.6 Poverty Condition In Mandalay 2013 (Poverty Line= 400000 Kyats/ year/ adult)

Poverty Headcount	21.6
Poverty Gap	0.06
Poverty Severity (squared of poverty gap)	0.04

Source: Author's Calculation

Thus, trends of poverty in Myanmar reduce during 2005-2010.

5.3 Urban Vs Rural Poverty

The trends of poverty become lesser and lesser during 2005-2013 . Urban poverty in our study found that 13.5 might be lower than that of headcount 14 in 2010 and rural poverty can also be seen as lower which is 25.5 in 2013 compared with 2010 poverty incidence "32" in Mandalay region. Thus, it is said to be success of MDGs poverty reduction in Mandalay region.

Table5.7 Urban and Rural Poverty in Mandalay , Myanmar

Indices	Whole Sample	Urban Sample	Rural Sample
Poverty Headcount	21.6	13.5	25.5
Poverty Gap	0.06	0.028	0.07
Poverty Severity (squared of poverty gap)	0.04	0.009	0.05

Source: Author's Calculation

Similarly, our study found out the same trend in urban poverty gap in 2013 (0.028) which is lower than that of 2005 (0.045) but a bit higher than 2010 poverty gap in 2010 (0.021) .However rural poverty incidence turns out to be lower and lower although poverty gap in 2013(0.07) is a little bit higher than 2010 figure (0.055) . Nevertheless, the break between rural and urban poverty indices are lesser during 2010 and 2013.

Ni Lar *et,al*. (2011) had analyzed the policy base poverty condition for Mawlamyine, Mon State, Myanmar. They found out that poverty head count index for 2009 has been increased as ADB estimated (ADB 2010) although current study finds that poverty head count in Mandalay is reducing although poverty gap is a bit increasing . As we decide for poverty line as 400000 kyats per year , poverty line in 2013 is 1.3 USD per day (at the time of exchange rate 850- 870 Kyats/ USD) . The figure show that rural people have more opportunity to earn money or to have jobs than previously.

Our key informant interviews reported that rural area has some job opportunities for 4 or 5 years since transportation is better . Rural people have chance to work and learn easier than before since sound transportation system has been provided as shown in picture which is the road to one of sample villages become sound .

The urban sample in our study is just like a semi-urban area although we haven't confirmed their standards in authorities yet. Township authorities notify that majority of people in urban sample are middle class and grassroots people and job opportunities for grassroots are such as factories . Thus, they could have poverty condition

GINI[5] coefficient (income poverty) has been calculated to see how large the gap between poor and rich household is. World Bank presented on GINI index for ASEAN countries in the following Table.

Table 5.8 Gini index and Share of income for the poor in ASEAN countries.

	Gini index		Percentage share of income or consumption						
			Fourth 20%	Highest 10%	Highest 20%	Lowest 10%	Lowest 20%	Second 20%	Third 20%
	Survey year								
Brunei Darussalam	..	..	..	..	..	..	..	..	..
Cambodia	2009	36.3	21	30	44	4	8	11	15
Indonesia	2011	38.3	21	31	46	3	7	11	15
Lao PDR	2008	37.4	21	30	45	3	8	11	15
Malaysia	2009	46	22	35	51	2	5	9	14
Myanmar	..	..	..	..	..	..	..	..	..
Philippines	2009	43.4	21	34	50	3	6	9	14
Singapore	1998	42.3	22	33	49	2	5	9	15
Thailand	2010	39.3	21	31	47	3	7	11	15
Vietnam	2008	36	22	28	43	3	7	12	16

Source: http://data.worldbank.org/indicator/SI.POV.GINI/countries?display=map

Though Myanmar GINI and income distribution data were absent to be shown in World Bank statistics, Gini in Mandalay from our study around "0.3" in 2013 has

5 . Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly -equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.(http://data.worldbank.org/indicator/SI.POV.GINI/countries?display=map)

proved that income inequality in our study area is not that bad compared to ASEAN condition shown in above Table.

Table 5.9 Gini Index in Study Area

	The whole sample	Rural Sample	Urban sample
Gini coefficient G(x)	0.294	0.3	0.27

Source: Author's Calculation

As presented , rural sample GINI "0.30" supports to confer the income inequality in rural area is more than that of urban area "0.27" albeit the whole sample GINI has been shown as "0.294".

Table 5.10 Percentage Share of Income for Poor in Study Area

% Households	20%	40%	60%	80%	100%
cumulative income (the whole sample)	9.30%	22.62%	39.31%	61.23%	100%
Rural sample	9.07%	21.85%	38.76%	60.22%	100.00%
Urban Sample	10.20%	23.79%	41.39%	63.40%	100.00%

Source; Author's calculation

Our finding proved that lowest 20% of population is only sharing 9.3 % of total income and highest 20% of population occupies almost 38.77% of total income (= 100-61.23) in the study area. Income distribution in our study area is under more favorable condition than that of some ASEAN countries. (see Table(5.8)).

Figure (5.1) Lorenz Curves for Study Area (whole sample, urban and rural sample)

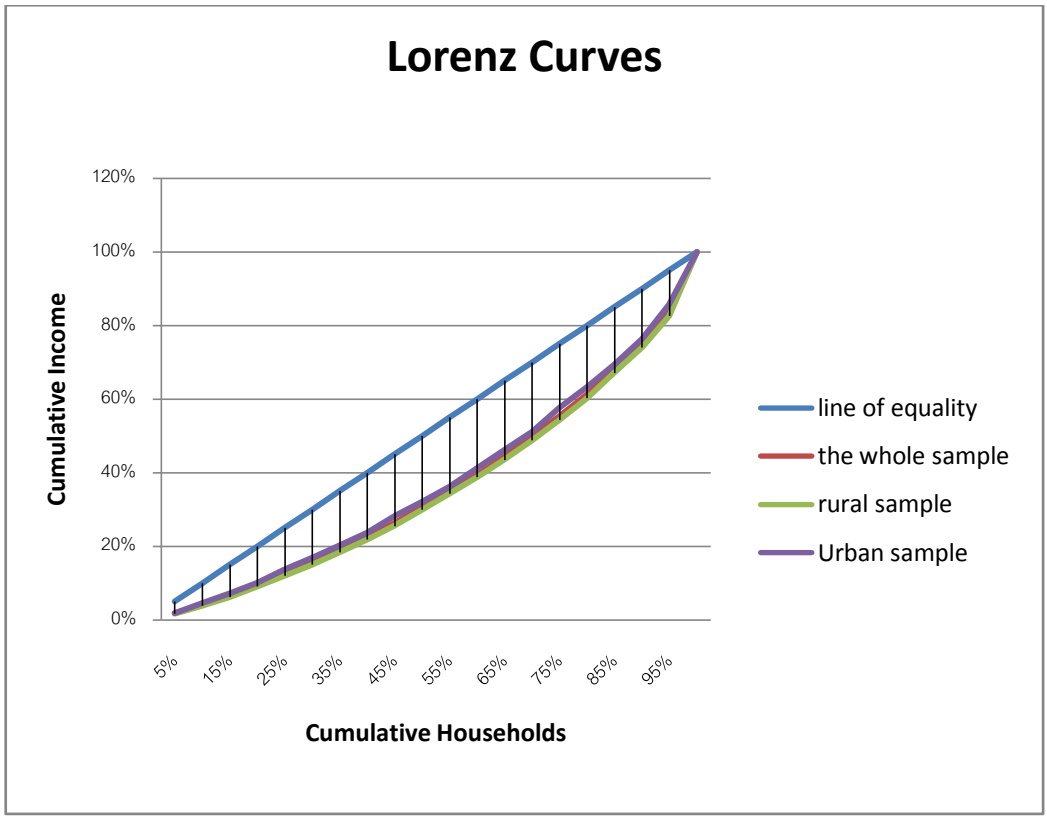


Table 5.11 Effect of Poverty on Health Expenditures (left- censored regression model)

Dependent Variable	share of healthcare expenditure				share of traditional medicine expenditure				share of modern medicine expenditure			
	Coefficient	Std. Error	z-Statistic	Prob.	Coefficient	Std. Error	z-Statistic	Prob.	Coefficient	Std. Error	z-Statistic	Prob.
constant term	1.43	1.44	0.99	0.32	1.32	0.58	2.26	0.02**	-1.11	1.46	-0.76	0.45
poverty condition												
severity of poverty in income	-1.03	1.24	-0.83	0.41	0.96	0.75	1.28	0.20	-0.82	1.89	-0.43	0.67
Household structure												
female-headed household	0.36	0.61	0.59	0.56	0.05	0.24	0.22	0.82	0.41	0.61	0.67	0.50
living in rural area	-0.45	0.52	-0.87	0.38	0.01	0.21	0.06	0.95	-0.53	0.52	-1.03	0.31
distance from the city (old palace)	0.00	0.05	-0.05	0.96	-0.01	0.02	-0.52	0.60	-0.07	0.05	-1.30	0.19
average years of education per person	0.01	0.09	0.06	0.95	-0.05	0.04	-1.48	0.14+	0.18	0.09	1.94	0.05**
age of household leader	0.03	0.02	1.71	0.09*	0.01	0.01	1.77	0.08*	0.03	0.02	1.89	0.06*
total females in family	-0.08	0.16	-0.50	0.62	-0.14	0.07	-2.15	0.03**	0.01	0.16	0.09	0.93
Consumption Behaviour												
saving rate	0.01	0.01	1.35	0.18	0.01	0.00	2.50	0.01***	0.01	0.01	0.64	0.52
employment condition												
working as farmers	1.29	0.58	2.24	0.03**	0.54	0.23	2.39	0.02**	1.23	0.56	2.20	0.03**
working in sector 1	-0.86	0.70	-1.23	0.22	-0.23	0.28	-0.83	0.41	0.03	0.70	0.04	0.97
working in services sector	-0.94	0.62	-1.51	0.13	-0.27	0.25	-1.10	0.27	-0.37	0.62	-0.59	0.56
Avg. log likelihood	-2.587				-628.5				-725			
Akaike info criterion	5.241				3.719				4.281			

Source: Authors' own calculations.

Note:***= significant at the .01 level or better; ** at the .05 level; * at better than .10.

Based on the result in Table 5.11, we fail to accept the Hypothesis 1 : *Using traditional medicine expenditure will be reduced by severity of poverty since poor people need to spend more money on basic needs in general for those poor people in Mandalay and share of traditional medicine expenditure will be increased by working as farmers and rural people since farmers and rural people have more beliefs by tradition as for a country staying as centrally planned economies for many years* . As results presented, severity of poverty is not significant at 80 percent of confident interval although sign of poverty severity has positive (+) in share of expenditure dependent variable as we expected though people living in rural areas has no significant effect on share of traditional medicine expenditure. Additionally, it has unexpected sign not only on share of traditional medicine expenditure which is negative (-) but also on share of modern medicine expenditure as well. However, working as farmer and agriculture sector has significant positive effects on share of traditional medicine expenditure.

Here again we fail to accept Hypothesis 2: *Expenditures on modern medicine will be increased based on their education level and for those working in sector 1(Small and medium business -(selling brick, calcify and sands), shopkeeper , match production , selling and buying eggs , commercial woods, furniture, marble stone , betel seller) have more income than others and share of saving rate* . According to the result of our analysis, working in sector 1 does not mean to spend more on modern medicine expenditure by households and saving rate has no significant effect on share of modern medicine expenditure. However, their education level (average years of education) has significant effect on more spending pattern in modern medicine expenditure.

5.4 Poverty in Rural with Traditional Medicine Box.

As traditional medicine kits are distributed based on some criteria under following facts;

Village : hard to reach village
: No health care facility

Volunteer : Age between 25-55 years
: Gender is not specific
: Reside in selected village

: Literate person

: Recommended by local authority (more detail in Appendix), we presumed that those villages might have more poor condition since villages are hard to reach and no other health facilities there. Consequently, poverty condition has been calculated for those villages in our sample and those villages have been chosen with the suggestion of the authority. In our sample, 4 villages are chosen to provide traditional medicine kits. Thus, we check how many of them from those villages are under poverty.

Table 5.12 Overview of Poverty in Selected Villages with Traditional Medicine Kits

Indices	Whole Sample(389)	Rural whole sample (263)	Rural Sample with BOX (149)
Poverty Headcount	21.6	25.5	23.5
Poverty Gap	0.06	0.07	0.08
Poverty Severity (squared of poverty gap)	0.04	0.05	0.06

Source; Author's calculation

The results of poverty headcount for rural sample with Traditional Medicine box support to answer that households in those village are not poorer than general although villages are hard to reach and no other health facilities. On the other hand, those villages have more poverty gap and more severity condition there.

5.5 Causes of Poverty

It'd better know the causes of poverty or factors associated with poverty or factors that reduced poverty before we implement the policy implication. Normally female-headed family is much harder to settle when there are many school- age children in family. As we see the poverty index that rural poverty is more than urban poverty, we expected that household in rural area will have more chance to face incidence of poverty. Age of household leader is important to define causes of poverty if age of the leader is over retirement in general. We apply multiple regression to check the factors associated with poverty severity. Previous finding on effects of poverty on healthcare

expenditure regression model, severity of poverty is chosen as one of the explanatory variables since it measures the depth of poverty for the poorest. However here we chose to use the poverty incidence (headcount) as dependent variable for seeing how to reduce general poverty instead of seeing how deeper in poorest ones.

Table 5.13 Factors Explained to the Severity of Poverty (dependent variable: poverty headcount)

	Coefficient	Std. Error	t-Statistic	Prob.
own a asset (car , cyc, bi) (1,0)	0.04	0.07	0.61	0.55
average years of education	-0.01	0.01	-1.45	0.1473 +
age of household leader (years)	0.00	0.00	2.87	0.0043***
saving rate of family	-0.00	0.00	-6.23	0.00***
female-headed households (1,0)	-0.10	0.06	-1.65	0.0988*
total female in family (persons)	0.06	0.01	4.09	0.0001***
working as Labourer (1,0)	0.14	0.10	1.42	0.16
Adjusted R-squared			0.111	
Durbin-Watson stat			1.8	
S.E. of regression			0.4	
observations			389	

Source: Authors' own calculations.
Note:***= significant at the .01 level or better; ** at the .05 level; * at better than .10. (+ better at .15 level)

The results present that poverty incidence will be released if average years of education under 85% significant level . Age of household leader can be explained into our equations for association of poverty as it is significant under 99 percent level .Therefore, sign of those coefficients are neglected. However, general beliefs on female-headed household will be more chance to happen under poverty is rejected that it has negative significant coefficient for 90%. Not surprisingly, total females in family affect to family's poverty incidence . Thus, females (female-headed household) in our study could have employed not just a dependent owning an asset of car, cycle and bicycle cannot be explained by our equations.

5.6 Conclusion

As a result, we will have some conclusion on poverty severity and using traditional medicine as following –

(i) Households in Mandalay are using Traditional medicine not because they are poor.

(ii) In Chapter 3, the secondary data source presented that total female patients visiting to Traditional medicine clinic are more than total male patients in Mandalay region although there had been found more male patients than female patients in Pyigyitagon township. We expected to see that traditional medicine expenditure will have somehow positive relationship on total female family members in household. However, the result of censored regression proved that there will be tendency for reducing Traditional medicine expenditure if there is one more female in total family members at 95% significant level.

(iii) Increasing share of healthcare (traditional and modern medicine) expenditure if households are coming from agriculture and livestock sectors.

(iv) Age of household leader is one more year older, then that household is more liable to both traditional and modern medicine consumption.

(v) We could not say the village which is hard to reach and no other health facility is poorer than general as their poverty headcount is lower than an average rural poverty incidence .

Accordingly, how to solve the problem of poverty incidence will be

I. Creating earning employment opportunities for those poor under poverty incidence.

II. Not only formal education but also vocational education will give them skill and more money to earn since total female in family is, in fact, we cannot change to reduce total female in family. Even though education here is not significant 90% level but significant at 85%, only thing that can push female's skill up is education of both formal (learning in

school) and vocational. Vocational training is crucial to fulfill the worker skill up within short period.

Chapter VI: Structural Equation Model Analysis for Study Area in Mandalay, Myanmar.

This chapter provides LISREL (linear structural relation) model that uses structural equations. The model composes of two parts, a measurement model and a structural equation model. The first one is how the latent variable or hypothetical constructs are measured by the observed variables. The latter one describes the causal relation among the latent variables. Unlike the conventional regression techniques, LISREL model will present the consumer satisfaction (latent variables) and other construct of interests such as demographics and expenditures on healthcare.

A questionnaire survey was employed to examine the effects of Demographics and Expenditure on traditional medicine and modern medicine. A convenient sampling approach is adopted to verify the hypotheses. A paper-and-pen questionnaire survey was conducted among respondents. Respondents were asked to complete the questionnaire by answering questions regarding the determination of healthcare demand. An investigation containing Likert-type scales was used in collecting data from Myanmar. The following, 5-point Likert scale:

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

The ratings assigned by survey respondents were also expressed within the context of the *diversity framework,* many factors that constitute what are generally regarded as the "best opinions" in diversity healthcare.. Miscellaneous comments were voluntarily offered by survey respondents on the subject of diversity healthcare.

6.1 Estimation Procedure for SEM

Path analysis is frequently applied to test causal models that specify causal relationships between particular variables. Structural equation models (SEM) are the most powerful instruments for path analysis in marketing and consumer research, and have been widely applied in activity and behavior research during recent decades. LISREL, a computer program, has become the most popular software for performing

structural equation modeling .LISREL enables the estimation of measuring error in multiple regression equations and allows all the relationships among residuals. Furthermore, LISREL allows the simultaneous estimation of all direct and indirect effects. The analysis employed confirmatory factor analysis to develop a measurement model that achieves an acceptable fit to the data and tests the theoretical model (or structural model) by path analysis to demonstrate a meaningful and statistically-acceptable structural model. In linear regression, the relations between two variables are approximated by their correlation and error terms. The LISREL method assumes that the correlation of a set of variables is independent of the error terms, and uses both correlations and error term covariances to test structural models. In doing so, it captures a truer representation of the variation of variables. Structural models consist of two levels. The first is the construct level. A construct is made of several indicators (i.e., observed variables) that form a higher - order variable, representing common latent properties of the indicators. The second level in structural models is the formation of causal relationships between constructs. The analysis of relations at construct level corresponds to an intermediate level between theory and empirical observations.

The research tool was a questionnaire. The statistics used for Health Consumption in Myanmar: A Study of Using Traditional and Modern Medicine of Families in Mandalay were mean, standard deviation, coefficient of variation, minimum score, maximum score, skewness, and kurtosis, for the casual relation were Pearson'correlation coefficient. Structural Equation Modeling (SEM) analyses with a logical sequence of five processes; model specification, model identification, model estimation, model testing, and model modification. The model estimation from LISREL was selected from 6 methods such as Instrumental variables (IV) ,Two-stage least squares (TS) ,Unweighted least squares (UL) , Generalized least squares (GL) ,Generally Weighted least squares (WL) and Maximum likelihood (ML) method (Joreskog & Sorbom, 2012).Variables selection from the questionnaires passing through several methods in LISREL and found the best fit model research results as follows :

Statistical Treatment of Data

Number of Input Variables	31
Number of Y - Variables	18
Number of X - Variables	13
Number of ETA - Variables	4
Number of KSI - Variables	3
Number of Observations	397

Demograph

X1 = age

X2 = gender

X3 = education

X4 = marital status

X5 = Household leader's education

X6 = number of years Household leader's work

Expendit

X7 = expenditure for assets (car,cycle) kyats/month

X8 = expenditure per day

X9 = expenditure for medicines (TM and MM) Kyats/month

X10 = Expenditure on Non-food items including clothing, phone , and shoes

Income

X11 = Total years of Education

X12 = Income of Leader per month

X13= Average income of family member

Usesage_MM

Y1 =Frequently use to buy MM

Y2 =Opinion about Cost of modern healthcare

Y3 = like using modern medicine (1=strong ly disagree, 2=disagree, 3=not sure,4=sure,5=strongly agree)

Usesage_TM

Y4 = Frequently use to buy TM

Y5 =Opinion about Cost of traditional medicine heath care (Not expensive, Somewhat expensive, Expensive, Very expensive , High very expensive)

Y6 = like using Traditional medicine (1=strongly disagree, 2=disagree, 3=not sure, 4=sure, 5=strongly agree)

Y7 =Where do you get TM? (Hospitals , Clinics, Drug stores, Neighbours, Others (own products))

Y8 =From whom have you acquired the knowledge for using TM ?(Relatives, Family , myself Environment (neighbours) , Religious books , TV commercial ,No opinion)

Y9 =TM can cure the serious case

TM & MM attributes

Y10 = government support to modern drug

Y11 = government support to traditional drug

Y12 = agree the integration of TM (Traditional medicine) and MM health (Modern medicine) care service system

Y13 = What are the main reasons for the acceptance of Traditional medicine by the community? (TM) (Effectives , Cheap , Easy to get in drug store ,Easy to cure the disease , All the things combined , No idea)

Y14 =What are the main reasons for the acceptance of modern medicine by the community? (MM) (Effectives , Cheap , Easy to get in drug store ,Easy to cure the disease , All the things combined , No idea)

Y15 = Modern Medicine can cure the serious case (1=strongly disagree, 2=disagree, 3=not sure,4=sure, 5=strongly agree)

KSH

Y16 = need government support to get drugs easily(1=strongly disagree, 2=disagree, 3=not sure,4=sure, 5=strongly agree)

Y17=What kinds of drugs do you use for your health currently ? (Modern medicine ,Traditional medicine, Both , Not using anything)

Y18 =Which institutions do you normally go to take for cure if you and your family have some diseases?

Latent Variables (ETA and KSI)

Demograph = Demographic Characters

Expendit = Expenditure Potential

Income = Income Potential

Usesage_MM = Access to Modern Medicine

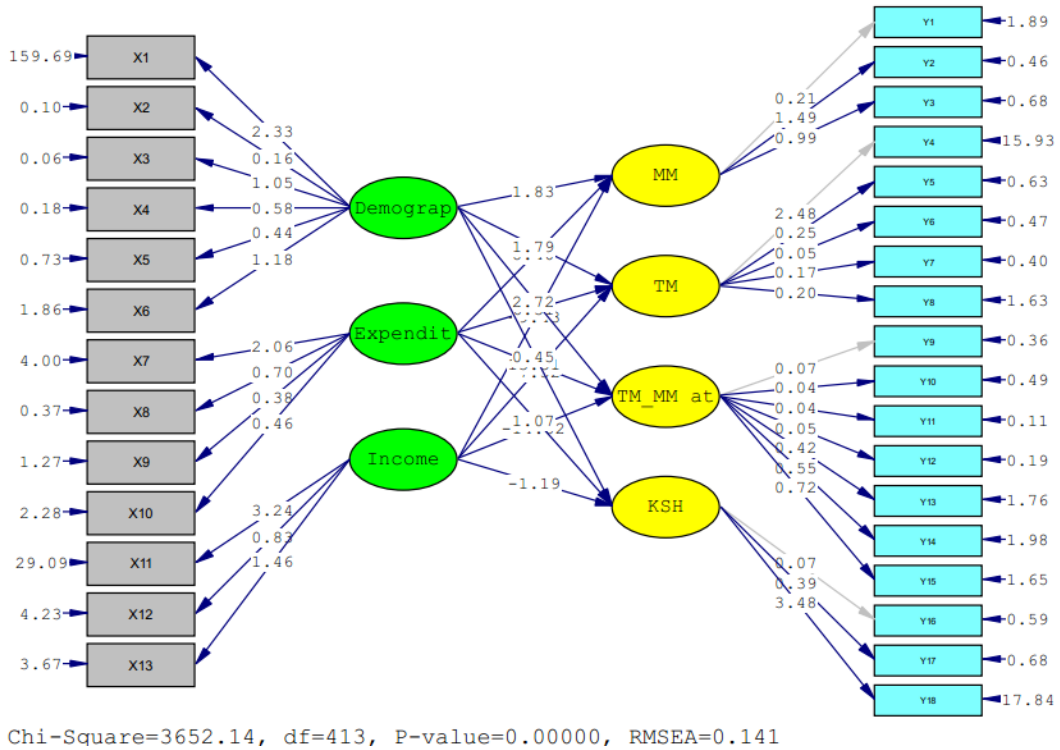
Usesage_TM = Access to Traditional Medicine

TM & MM attributes = Traditional and Modern Medicine attributed

KSH = knowledge satisfaction in healthcare

6.2 The results of SEM estimation for the whole area

Picture 6.1 Full area (urban area and rural area)



Source: The researchers estimation

Table 6.1 Parameter result from GAMMA

	Demograph	**Expendit**	**Income**
Usage_MM	1.83120694 (0.00941508)	8.40336727 (0.02733458)	-9.42824623 (0.02529044)
Usage_TM	1.78697517 (0.14651588)	6.51477524 (0.26785346)	-7.51620546 (0.32494037)
TM_MM at	2.72324936 (0.00476695)	13.31127977 (0.01627460)	********** (0.01419956)
KSH	0.44830759 (0.00122557)	1.07257723 (0.00691408)	-1.19045808 (0.00755000)

Source: The researchers' estimation

* ( ) P-Value

Root Mean Square Residual (RMR) = 0.39504212

Goodness of Fit Index (GFI) = 0.99504588

Adjusted Goodness of Fit Index (AGFI) =0.99405026

Parsimony Goodness of Fit Index (PGFI) = 0.82853618

For all areas that include data collecting from urban area and rural area in Mandalay, the best fit model found chi-square (3652.14) and P-Value equal (0.00) with Lower RMSEA and RME and GFI (Goodness of Fit Index)(0.99) and also AGFI (0.99),PGFI (0.83).

The hypotheses will be used to test in this research, also these hypotheses presented below :

Hypothesis 1 (H1): Demographics factor – rural positively and directly influences **TM** (Usage of TM, TM attributes and TM Knowledge on Healthcare& Traditional uses**).**

Hypothesis 2 (H2): Demographics factor– urban positively and directly influences **MM** (Usage of MM, MM attributes and MM Knowledge on Healthcare& Traditional uses**).**

Hypothesis 3 (H3): Income satisfaction positively and directly influences **MM** (Usage of MM, MM attributes and MM Knowledge on Healthcare& Traditional uses**).** (Richer rely on MM)

Hypothesis 4 (H4): Income satisfaction positively and directly influences **TM** (Usage of TM, TM attributes and TM Knowledge on Healthcare& Traditional uses**).**(Poor more rely on TM)

Based on the full model of SEM (*the data using from urban and rural area of Mandalay people in Structure Equation Model*) estimation was described that all of hypothesis testing variables were accepted in significant relation except Traditional and Modern Medicine attributes. However considering about income potential it was found out that access to traditional medicine (TM) , access to Modern medicine (MM)and also knowledge satisfaction in healthcare variables were directly influenced but with negative sign which means that the higher in their income, the less access to traditional medicine (TM) , the less access to Modern medicine (MM)and also the less knowledge satisfaction in healthcare. (see picture 6.1and Table 6. 1). It was also found out that the poor people in Mandalay may rely on both traditional medicine and Modern medicine and more knowledge satisfaction in healthcare . The result may reject that the rich people in Mandalay may rely on Modern medicine . All of hypothesizes were conducted for test by SEM estimation and were written as follow:-

On the Hypotheses 1 (H1)and (H2) testing : Demographic Character factors variable from urban and rural area of Mandalay people (*Demographic Character factors variable significant result effect from many variables* such as *age, gender, education , marital status ,Household leader education, number of years Household leader 's work*), were found out to positively and directly influences to access to Modern Medicine variable (*significant result effect from many variables* such as *Frequently use to buy MM, Opinion about Cost of modern healthcare, like using modern medicine)* and also positively and directly influences to access to traditional medicine variable (*significant result effect from Frequently use to buy TM, Opinion about Cost of traditional medicine heath care ,like using Traditional medicine , Where do you get TM, From whom have you acquired the knowledge for using TM*)

Demographic Character factors variable from urban and rural area of Mandalay people were also found out to positively and directly influence on Traditional and Modern Medicine attributed variable (*Modern Medicine attributed variable significant result effect from many variables* such as *TM can cure the serious case, government support to modern drug, government support to traditional drug, agree the integration of TM (Traditional medicine) and MM health (Modern medicine) care service system, What are the main reasons for the acceptance of Traditional medicine by the*

community? ,What are the main reasons for the acceptance of modern medicine by the community? ,Modern Medicine can cure the serious case)

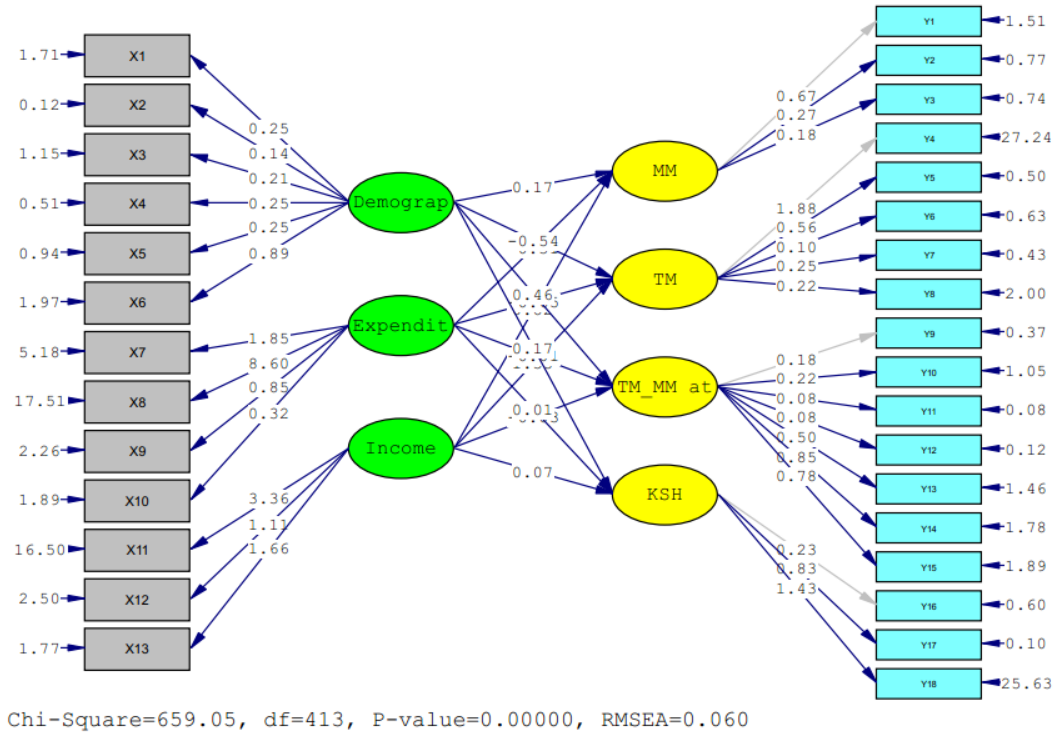
Demographic Character factors variable from urban and rural area of Mandalay people were positively and directly influenced to knowledge satisfaction in healthcare (*knowledge satisfaction in healthcare significant result effect from many variables* such as *need government support to get drugs easily, What kinds of drugs do you use for your health currently ? , Which institutions do you normally go to take for cure if you and your family have some diseases?*)

Testing on Expenditure Potential variable from urban and rural area of Mandalay people (*Expenditure Potential significant result effect from many variables* such as *expenditure for medicines (expenditure for assets (car,cycle) kyats/month, expenditure per day, Expenditure for medicines TM and MM) Kyats/month, Expenditure on Non-food items including clothing, phone , and shoes.)* was found out to positively and directly influences on access to traditional medicine and access to Modern Medicine, Traditional and Modern Medicine attributes and knowledge satisfaction in healthcare variables.

Testing on the Hypotheses 3 and 4 (H3 and H4): Income Potential variable from urban and rural area of Mandalay people (*Income Potential significant result effect from many variables* such as *Total years of Education, Income of leader per month, Average income of family member /month*) was found out to directly influence access to traditional medicine and access to Modern Medicine and knowledge satisfaction in healthcare variables but in negative way. Based on the full model of SEM estimation, results seem to be found out that poor people in Mandalay may more rely on access to Traditional and Modern Medicine , and more knowledge satisfaction in healthcare. However, in Income Potential variable was not significantly positive directly influence to Traditional and Modern Medicine attributes .

6.3. The Results of SEM Estimation for Urban Area

Picture 6.2 Urban area



Source: Source: The researchers' estimation

Table 6.2 Parameter result from GAMMA in Urban area data

	Demograph	Expendit	Income
Usage_MM	0.16537084 (0.04133941)	-0.31006392 (0.06358183)	0.81813086 (0.05797334)
Usage_TM	-0.54070926 (0.06600107)	-0.65375328 (0.07723290)	1.34915986 (0.07056843)
TM_MM at	0.45998084 (0.01329740)	-0.00640190 (0.01464541)	-0.03238381 (0.01202784)
KSH	0.17189290 (0.01244492)	0.00835843 (0.01666336)	0.07197391 (0.01191786)

Source: The researchers' estimation
* ( ) P-Value

Root Mean Square Residual (RMR) = 0.28605586
Goodness of Fit Index (GFI) =0.99437719
Adjusted Goodness of Fit Index (AGFI) = 0.99324715
Parsimony Goodness of Fit Index (PGFI) = 0.82797939

Considering only the data collected from urban area in Mandalay, the best fit model indicated that chi-square (659.05) and P-Value equal (0.00) with Lower RMSEA and RME and GFI (Goodness of Fit Index)(0.99) and also AGFI (0.99),PGFI (0.83)

Based on the SEM (only Urban area was employed to estimate by Structure Equation Model).Based on the SEM estimation on urban area in Mandalay, it was found out that Demographic Character factors were significantly accepted in direct influences positively on most variables in hypotheses except access to traditional medicine (TM) variable which directly influenced negatively. While as access to traditional medicine, access to Modern medicine and Traditional medicine and Modern Medicine attributes variables were not directly influenced positively by Expenditure Potential. Testing on income potential variable, it was found out not to be directly influenced positively to Traditional medicine and Modern Medicine attributed. (see picture and table 6.2)

The hypotheses were conducted to test by SEM on the urban area data people in Mandalay , the estimation results were written as follow:-

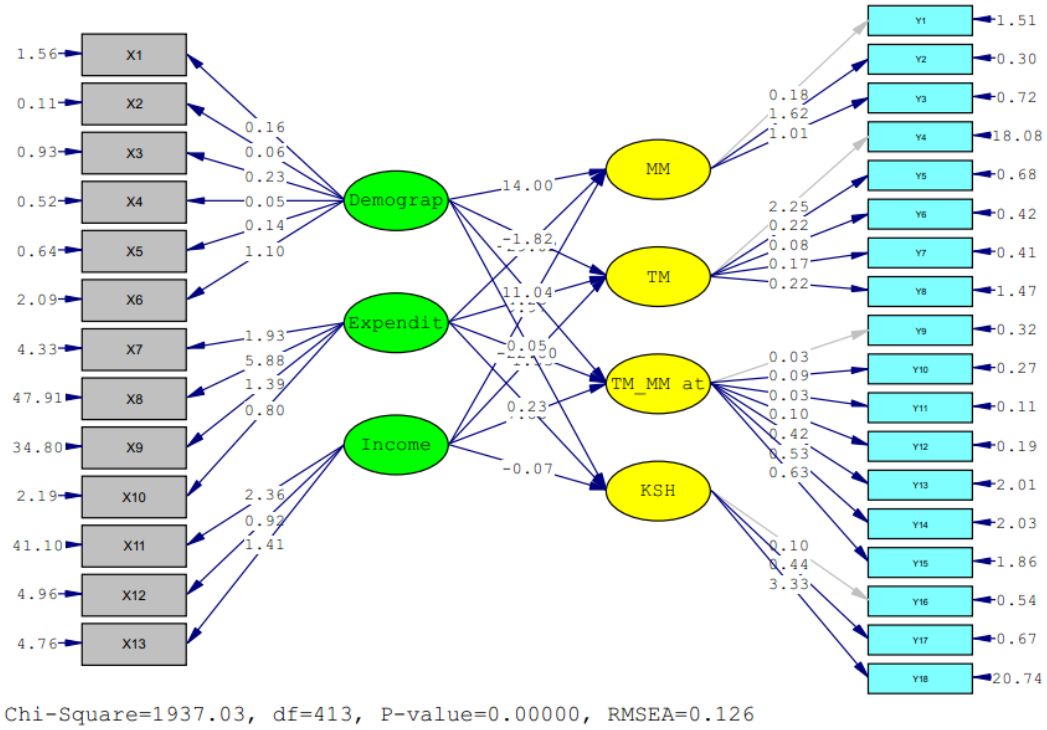
On Hypothesis 2 (H2) testing : Demographic Character factor on the urban area people in Mandalay significantly, positively and directly influences on access to modern medicine, Traditional and Modern Medicine attributes and knowledge satisfaction in healthcare variables but negatively and directly influences access to traditional medicine variable.

Considering about the Expenditure Potential, it was found out only positively and directly influences to knowledge satisfaction in healthcare but negatively and directly influences to access to traditional medicine, access to modern medicine and Traditional and Modern Medicine attributes variables.

On the hypotheses 3 and 4 (H3and H4) testing: About Income Potential variable,it was found out significant positively and directly influences to access to traditional medicine , access to modern medicine and knowledge satisfaction in healthcare variables but was significantly negatively to Traditional and Modern Medicine attributed variable . The result of income potential seem to confirm the hypothesis that rich people in urban area in Mandalay may rely on Modern Medicine but also still be rely on Traditional Medicine as well. The result did not confirm that the poor people in urban area rely on traditional Medicine more than the rich people.

6.4 The Results of SEM Estimation for Rural Area

Picture 6.3 Rural Area



Source: The researchers' estimation

Table 6.3 Parameter Result from GAMMA in Rural Area Data

	Demograph	**Expendit**	**Income**
Usage_MM	13.9956068 (0.33747210)	********** (0.70189199)	9.97000807 (0.24035497)
Usage_TM	-1.81639672 (2.92659603)	4.25433919 (6.15756458)	-1.53184015 (2.12952599)
TM_MM at	11.03506509 (0.03780464)	********** ((0.07752895)	7.88105789- (0.02660378)
KSH	0.04513576 (0.07690583)	0.22918576 (0.16117500)	-0.06558929 (0.05590008)

Source: The researchers' estimation

* ( ) P-Value

Root Mean Square Residual (RMR) = 0.35318161

Goodness of Fit Index (GFI) =0.99144210

Adjusted Goodness of Fit Index (AGFI) = 0.98972225

Parsimony Goodness of Fit Index (PGFI) = 0.82553546

Considering only the data collected from rural area people in Mandalay, the best fit model indicated that chi-square (1937.03) and P-Value equal (0.00) with Lower RMSEA and GFI (Goodness of Fit Index)(0.99) and also AGFI (0.99),PGFI (0.83) .

Based on the SEM (only rural area was employed to estimate by Structure Equation Model), it can be described that almost of hypotheses were significant to be accepted in direct influences but have different signs. Based on the SEM estimation on rural area, it was found that most of variables in hypotheses were accepted in directly influences positively except access to traditional medicine (TM) variable which was directly influenced negatively by Demographic Character factors. Testing on the income potential variable was directly significant positively to access to Modern medicine variable and Traditional and Modern Medicine attributes variable but did not directly influence positively to access to traditional medicine , and also knowledge satisfaction in healthcare variables. (see picture 6.3and Table 6.3). It may be found out that the poor people in Mandalay may rely more on access to traditional medicine and more to

knowledge satisfaction in healthcare . The result may be accepted that the rich people in Mandalay may rely on access to Modern medicine. All of hypotheses were conducted to test by SEM estimation and were written as follow:-

On Hypothesis 1 (H1) testing: Demographic Character factors positively and directly influence to access to modern medicine, Traditional and Modern Medicine attributes and knowledge satisfaction in healthcare variables but negatively and directly influences access to traditional medicine variable.

Testing on Expenditure Potential variable was not significant to access to modern medicine and Traditional and Modern Medicine attributes variable but significant only positively and directly influences to access to traditional medicine and knowledge satisfaction in healthcare variables.

On the Hypotheses 3 and 4 (H3and H4) testing : Income Potential variable was found to be significant negatively and directly influences to access traditional medicine and knowledge satisfaction in healthcare variables but was significant positively and directly influences to modern medicine and Traditional and Modern Medicine attributes variables .The results found out that poor people in rural area in Mandalay may rely more on access to Traditional medicine and more knowledge satisfaction in healthcare.

6.5 Conclusion

Based on the results of estimation by SEM model the study of Health Consumption in Myanmar: A Study of using traditional and modern medicine of families in Mandalay, it was found out that Demographic Character factors variable from urban and rural area of Mandalay people (*Demographic Character factors variable significant result effect from many variables* such as *age, gender, education , Household leader education, year number of Household leader 's work*) were significantly positive and directly influences access to Modern Medicine variable (*Modern Medicine variable significant result effect from many variables* such as *Frequently use to buy MM, Opinion about Cost of modern healthcare, like using modern medicine)* were significantly positive and directly influences to access to traditional medicine variable (*traditional medicine variable significant result effect from many variables* such as *Frequently use to buy TM, Opinion about Cost of traditional medicine heath care ,like using Traditional medicine , Where do you get TM,*

From whom have you acquired the knowledge for using TM) , were significantly positive and directly influences to Traditional and Modern Medicine attributes variable (*Traditional and Modern Medicine attributed variable significant result effect from many variables* such as *TM can cure the serious case, government support to modern drug, government support to traditional drug, agree the integration of TM (Traditional medicine) and MM health (Modern medicine) care service system, What are the main reasons for the acceptance of Traditional medicine by the community? ,What are the main reasons for the acceptance of modern medicine by the community, Modern Medicine can cure the serious case)*

Demographic Character factors variable from urban and rural area of Mandalay people also were significantly positive and directly influences to knowledge satisfaction in healthcare variable (*knowledge satisfaction in healthcare variable significant result effect from many variables* such as *need government support to get drugs easily, What kinds of drugs do you use for your health currently ?, Which institutions do you normally go to take for cure if you and your family have some diseases?*)

Based on the result of estimation by SEM model in latent variables of expenditure potential variable from urban and rural area of Mandalay people (*expenditure potential variable significant result effect from many variables* such as *expenditure for medicines (expenditure for assets (car,cycle) kyats/month, expenditure per day , Expenditure for medicines TM and MM) Kyats/month , Expenditure on Non-food items including clothing, phone , and shoes.*) was positively and directly influences access to traditional medicine and access to Modern Medicine , Traditional and Modern Medicine attributed and knowledge satisfaction in healthcare.

On the Hypotheses 3 and 4 (H3 and H4) testing : Income Potential variable from urban and rural area of Mandalay people (*Income Potential variable significant result effect from many variables* such as *Total years of Education, Income of leader per month, Average income of family member /month*) did not directly influence positively access to traditional medicine and access to Modern Medicine and knowledge satisfaction in healthcare variables . Based on the full model of SEM estimation, result seem to be found out that poor people in Mandalay may more rely on access to Traditional and Modern Medicine , and more knowledge satisfaction in

healthcare. However, Income Potential was not significantly positive directly influence to Traditional and Modern Medicine attributed .

Based on the results of estimation by SEM model on Mandalay people data in urban area, it was found out that to test on Hypothesis 2 (H2): Demographic Character factors on the urban area people in Mandalay were significant positively and directly influences access to modern medicine, Traditional and Modern Medicine attributed and knowledge satisfaction in healthcare variables but were negatively and directly influences to access to traditional medicine variable. While considering about the Expenditure Potential variable in urban area was found out only positively and directly influences to knowledge satisfaction in healthcare variable but was negatively and directly influences to access to traditional medicine ,access to modern medicine and Traditional and Modern Medicine attributes variables.

About the testing on hypotheses 3 and 4 (H3and H4): Income Potential variable on the urban area was found out to be significant positively and directly influences to access to traditional medicine , access to modern medicine and knowledge satisfaction in healthcare variables but was significantly negatively to Traditional and Modern Medicine attributed . The result of income potential seem to confirm the hypothesis that rich people in urban area in Mandalay may rely on Modern Medicine but also still rely on Traditional Medicine as well. The result did not confirm that the poor people in urban area rely on traditional Medicine more than the rich people.

On the Hypothesis 1 (H1) testing: Demographic Character factors in the rural area positively and directly influence to access to modern medicine ,Traditional and Modern Medicine attributes and knowledge satisfaction in healthcare variables but negatively and directly influences to access to traditional medicine variable.

Testing on Expenditure Potential variable in the rural area was not significant to access to modern medicine and Traditional and Modern Medicine attributes variable but only was significant positively and directly influences to access to traditional medicine and knowledge satisfaction in healthcare variables.

On the Hypotheses 3 and 4 (H3)and(H4) testing : Income Potential variable in the rural area was found out to be significant negatively and directly influences to access traditional medicine and knowledge satisfaction in healthcare variables but was

significant positively and directly influences to modern medicine and Traditional and Modern Medicine attributes variables .The results was found out that poor people in rural area in Mandalay may more rely on access to Traditional medicine and more knowledge satisfaction in healthcare.

Chapter VII. Summary of Health Consumption in Myanmar: A study of Using Traditional and Modern Medicine of Families in Mandalay, Myanmar

7.1 Research Objectives and Finding on its Needs

1. To examine how difficult it is to get traditional and modern medicine

Majority of people in study area believe that both medicines (64% and 67% of respondents in TM and MM) can cure serious case and 69% and 77% of respondents in TM and MM said that TM and MM are accepted by the community . However, what they have problem is public hospitals are not enough for rural people (need to upgrade and extend). For those opinions 51% of respondents said to be strongly agree. 61% of respondents think that medicines are not enough for people (need to finance for poor) which is strongly agree option. 19% of respondents are "strongly agree" on satisfy with current health care system in Myanmar while 20% of respondents are showing strongly disagree option.

2. To explore whether or not current economic situation of the country and their income level affect to get traditional and modern healthcare for them.

According to poverty analysis (censored regression model), poverty severity does not have significant effect on using traditional and modern medicine. However age of the household leader has positive effect to use more healthcare expenditure.

Based on the result of estimation by SEM model in latent variables of expenditure potential variable from urban and rural area of Mandalay people (*expenditure potential variable significant result effect from many variables* such as *expenditure for medicines (expenditure for assets (car,cycle) kyats/month, expenditure per day , expenditure for medicines TM and MM) Kyats/month , expenditure on Non-food items including clothing, phone , and shoes.*), it positively and directly influences access to traditional medicine and access to Modern Medicine , Traditional and Modern Medicine attributes and knowledge satisfaction in healthcare.

While considering about the Expenditure Potential variable in urban area, it was found out only positively and directly influences to knowledge satisfaction in healthcare

variable but was negatively and directly influences to access to traditional medicine ,access to modern medicine and Traditional and Modern Medicine attributes variables. Income Potential variable on the urban area was found out to be significant positively and directly influences to access to traditional medicine, access to modern medicine and knowledge satisfaction in healthcare variables but was significantly negatively to Traditional and Modern Medicine attributes . The result of income potential seem to confirm the hypothesis that rich people in urban area in Mandalay may rely on Modern Medicine but also still rely on Traditional Medicine as well. The result did not confirm that the poor people in urban area rely on traditional Medicine more than the rich people.

Testing on Expenditure Potential variable in the rural area was not significant to access to modern medicine and Traditional and Modern Medicine attributes variable but only was significant positively and directly influences to access to traditional medicine and knowledge satisfaction in healthcare variables. Income Potential variable in the rural area was found out to be significant negatively and directly influences to access traditional medicine and knowledge satisfaction in healthcare variables but was significant positively and directly influences to modern medicine and Traditional and Modern Medicine attributed variables .The results showed that poor people in rural area in Mandalay may more rely on access to Traditional medicine and more knowledge satisfaction in healthcare.

3. To observe the way of accessing traditional medicine such as how they afford to get modern medicine, how far the clinic from their home, how to go there and how many times they go to the clinic.

Regarding with this objectives, it is observed from survey that 55% of respondents are using motorcycle which seems the transportation is not that difficult for them presently as key respondents interview answer support their household answers that rural people are easier to go somewhere as transportation sector –roads are renovated and sound . 77 % of respondents said health institutions that they normally go are not that far . Only 2% and 18% of respondents said that the institutions they normally go are very far and far from their home.

7.2 Other Findings

Poverty incidence in study area, Mandalay has been falling from 27% in 2010 to 21.6% in 2013 which is a fall of 20% during 3 years. Thus, the trends of poverty become lesser and lesser during 2005-2013 . Urban poverty in our study showed that 13.5 might be lower than that of headcount 14 in 2010 and rural poverty can also be seen as lower which is 25.5 in 2013 compared with 2010 poverty incidence "32" in Mandalay region. Thus, it is said to be success of MDGs poverty reduction in Mandalay region.

Similarly, our study found out the same trend in urban poverty gap in 2013 (0.028) which is lower than that of 2005 (0.045) but a bit higher than poverty gap in 2010 (0.021) .However rural poverty incidence turns out to be lower and lower although poverty gap in 2013 (0.07) is a little bit higher than 2010 figure (0.055) . Nevertheless, the break between rural and urban poverty indices are lesser during 2010 and 2013.

Our finding proved that lowest 20% of population is only sharing 9.3 % of total income and highest 20% of population occupies almost 38.77% of total income (= 100-61.23) in the study area. Income distribution in our study area is more favorable than that of some ASEAN countries.

The results of poverty headcount for rural sample with Traditional medicine box support to answer that households in those villages are not poorer than general although villages are hard to reach and no other health facilities. On the other hand, those villages have more poverty gap and more severity condition there.

As a result, we will have some conclusion on poverty severity and using traditional medicine as following –

(i) Households in Mandalay are using Traditional medicine not because they are poor, especially households in urban area but when considering for poor households in rural area, this seems to be true for more using Traditional medicine than the rich household .

(ii) In Chapter 3, the secondary data source presented that total female patients visiting to Traditional medicine clinic are more than total male

patients in Mandalay region although there had been found male patients over female patients in Pyigyitagon township. We expected to see that traditional medicine expenditure will have somehow positive relationship on total female family members in household. However, the result of censored regression proved that there will be tendency for reducing traditional medicine expenditure with one more female in total family members at 95% significant level.

(iii) Increasing share of healthcare (traditional and modern medicine) expenditure if households are coming from agriculture and livestock sectors.

(iv) Age of household leader is one more year older and older, then that household is more liable to both traditional and modern medicine consumption.

(v) We could not say the village which is hard to reach and no other health facility is poorer than general as their poverty headcount is lower than on average rural poverty incidence.

7.3 General recommendations and suggestions

(1) As people in study area prefer using made in Thailand modern medicine, this is signal from the market that can be penetrated systematically

(2) Creating earning employment opportunities for those poor under poverty incidence.

(3) Education is important to reduce the poverty headcount under 85% significant level .Thus ,not only formal education but also vocational education will give them skill and more money to earn since total female in family is, in fact, we cannot change to reduce total female in family. Even though education here is not significant at 90% level but significant at 85%, only thing that can push female's skill up is education for both formal (learning in school) and vocational. Vocational training is crucial to fulfill the worker skill up within short period.

(4) When we had a survey time, lots of respondents responded that they don't have any idea .That means can it be they don't like interviewing or they really do not have any idea based on their education level or they are afraid

of people (outsider) who they really don't know . As we have shown the relative importance of health in our theoretical background in Box(2.1) and Flowchart (2.1), people in Mandalay lack of knowledge and social communication skill for cooperation research . Without their cooperation and interest, scientific research and implementation of result will be very difficult. Of course, traditional medicine officers in every township are trying to have more cooperation with families. The easiest way to upgrade the skill will be requesting townships officers and ward / village administrative officials to have more concern relation in Public-Private (households) partnership for health knowledge distribution.

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Appendices

Meeting with UTM authority in April 25,2013

Some pictures from visiting outreached Traditional Medicine Healthcare

Field survey to Latthit Village which is one of sample villages

President of village administrative - Latthit Village and Traditional Medicine officer from other Township

Surveyed household at Latthit Village

Surveyed household at Latthit Village

Surveyed household at Latthit Village

On the way to find interviewers at Latthit Village

Visiting to Regional Traditional Medicine Office , Mandalay

Visit to Regional Traditional Medicine Office and meeting with Regional Traditional Medicine Officer in April 29,2013

Visit to Regional Traditional Medicine Office and meeting with Regional Traditional Medicine Officer in April 29,2013

The rental car was taking us to Government offices and study sites

Some Pictures During Survey at Urban and Rural

Hired car for convenience in survey (this care is not for going to government offices and another car is for going to see and attend the meeting for survey)

Discussion with Township authority before survey at Pyigyitagon Township

105- year- old Grandma in Zechogon Village (Still can walk , talk and eat by herself)

Maekingon Village

Maekingon Village

Meeting with Deputy Director General and Director of Department of Traditional Medicine, Nay Pyi Taw , Myanmar

A Small Ceremony which is funded by TRF (funds) for giving honorarium to Research Assistants and Students

Rector Dr. Than Maung delivered the speech for TRF's donation

On behalf of TRF , Dr. Kanchana's Special Thanks to UTM at ceremony

Traditional Medicine Box Selection criteria

Village : hard to reach village

: No health care facility

Volunteer : Age between 25-55 years

: Gender is not specific

: Resided in selected village

: Literate person

: Recommended by local authority

Training : Training for assigned villagers who took the responsibility for kits management are conducted by government traditional health staff of respective areas.

Replenishment : Reasonable cash is collected from the patients for replenishment of the drugs. But in some state, Area Commander paid estimated cost for drug replenishment year round. That is the evidence of household traditional medicine kits are well accepted by public as well as local authority.

Supervision : The continuous monitoring and supervision on benefits of medicine kits are conducted by responsible public practitioners from respective areas. According to the data and report from township level, provision of Traditional Medicine kits are definitely effective and beneficial to rural population.

This is the pure academic and collaborative research project between University of Traditional Medicine , Mandalay , Myanmar and Faculty of Economics , Chiang Mai University , Thailand . And nothing to do with any economic and political organizations .

Questionnaire for Healthcare Consumption

Part (1) : Demographic Data

1. Name of respondent :---------- (Agree to answer) ----------
   Name of House leader :----------
2. Age :---------- Years
3. Gender : -------- male --------- female
4. Marital Status : --------single ,----------married ,---------- divorce,---------- window
5. Household leader ‘s occupation :
6. ( ) Municipal area ( ) Non-municipal area ( ) Semi-urban area
   Religion Buddhism: , Christianity : , Muslim: ,Others (Specify)
7. Ethnics (Bamar , Shan , Kachin , Chinese , …) :
8. Highest Education of respondents ( ) and Highest education of house leader:----------

   none / elementary / junior high school / high school / Bachelor / higher than Bachelor

9. Total years of education of all members ((Input all the members including respondent)

Sr.	Members	Relationship to household leader (husband , wife , daughter , son and etc	Age	Education (none / elementary / junior high school / high school / Bachelor / higher than Bachelor)

10. Number of household members

Male(persons)	Female(persons)	Total (persons)

11. Major and secondary occupations (if husband and wife works , then fill another forms) House leader ‘s occupation

Agriculture	
Services	
Run a small shop	
Working at manufacturing	
Government employees	
Others (specify)	

Wife or major income earner occupation

Agriculture	
Services	
Run a small shop	
Working at manufacturing	
Government employees	
Others (specify)	

Part (2) . Income

12. What are the major sources of income ? Please rank from the most to the least. (e. g . 1 is the most to)

Agriculture	
Services	
Run a small shop	
Working at manufacturing	
Government employees	
Others (specify)	

13. Average income per month. ( ) Kyats/ month (average among leader + other working peoples)
    Income of leader :----------
    Income of other working peoples :----------
14. Do you have any saving ? :Yes/ No
15. If Yes , how much do u usually save per month?
    ( ) Kyats / month
16. Changes of income from last year
    ( ) % increase / decrease

    What is condition of this year compare with last year ?

Very good	good	Fair	bad	Downing

Part (3) Expenditure

17. Generally how much does it cost for household expenditures a day ? ( )Kyats/ day

Then we will compute the expenditure for a month .

Pls give us to take the a bit detailed on expenditure sections .

18. Consumption (**excluding health care expenditure**)

Consumption Expenditures	Expenses (kyats/day)	Remark
Food items including meat , tea , coffee , spices		
Non-food items including clothing, phone , and shoes ?		
Special government fees		

Others (children pocket money etc ……				
	car	cycle	bicycle	
Do you have any of these assets				
How much costs per month for those assets . Kyats (maintenance cost / fuels)				

19. Health care consumption part

May I ask whether the general cost of health care in Myanmar is expensive or not ?

	Not expensive	Somewhat expensive	Expensive	Very expensive	very highly expensive
Cost of health care in Myanmar					
Cost of modern healthcare					
Cost of traditional medicine heath care					

	Modern medicine	Traditional medicine	Both	Not using anything
What kinds of drugs do you use for your health currently ?				
How much ? (Kyats / week or Kyats/ Month)				
What kinds of drugs do you use previously?				

	Indigestion	Catching a cold	Headache	Hypertension	As Vitamin	To cure serious case Cancer , Malaria
Types of modern drugs that you use ? (or) What kind of modern do you usually use ?						
Types of TM drugs that you use ? (or) What kind of TM do you usually use ?						

Usage

	Yes Daily	Yes Weekly	Seldom	No	( ) times
Frequently used to buy MM ? And How many times a week ?					
Frequently used to buy T M ? And How many times a week ?					

Which institutions do you normally go to take for cure if you and your family have some diseases?	i. Public hospitals ii. Private hospital iii. Public clinic iv. Private clinic v. Traditional medicine clinic vi. Take the doctor to home vii. Take the practitioner to home viii. Others (specify) ix. Not doing anything
Let us know the reason(s) why you are going to that specific institutions .(may answer more than one)	i. treating system is more preferable ii. not much congestion there iii. not far from home iv. we traditionally go there v. we use that since ancestor

		Very far	Far	Not too far	Don't know	
How far from your place						
	By car	By bus	cycle	bicycle	On foot	Don't know
How do you get there						
How much does it cost to get there ? (give us the approximate costs) Kyats/ time						

	Myanmar	Thailand	China	India	Korea	Japan	USA	Europe	Others
You are using modern drugs from									
You are									

using traditional medicine from									
					Cheap	Quality	Easy to get	Traditionally (others encourage to use it)	Randomly
Why do you use that specific MM ?									
Why do you use that specific TM?									

Where

	Hospitals	Clinics	Drug stores	Neighbours	Others (own products)
Where do you get MM ?					
Where do you get TM?					

Knowledge

	Relatives	Family	myself	Environment (neighbours)	Religious books	TV commercial	No opinion
From whom have you acquired the knowledge for using MM?							
From whom have you acquired the knowledge for using TM ?							

Preference

Made in	Thailand	India	China	Myanmar	No Idea
Which product do you prefer for MM ? (answer more than one)					
Which product do you prefer for TM ? (answer more than one)					
		Traditional	Modern	Both	No preference
Which health care system do you prefer ?					

Opinion

	Yes	No	No Idea
Do you think MM can cure the serious case ?			
Do you think TM can cure the serious case ?			

Do you agree with government support to modern drugs ?			
Do you agree with government support to TM?			
Do you agree the integration of TM and MM health care service system?			
Do you believe that modern medicine is accepted by the community			
Do you believe that traditional medicine is accepted by the community If , yes then need to ask main reasons !!!!!!!!!!			

Sometimes , pls write down their opinion in notes:----------

Main reasons for acceptance of MM or TM

	Effectives	Cheap	Easy to get in drug store	Easy to cure the disease	All the things combined	No Idea
What are the main reasons for the acceptance of modern medicine by the community?						
What are the main reasons for the acceptance of Traditional medicine by the community?						

Sometimes , pls write down their opinion in notes:----------

In answering the questions that follow,
Select the number that most closely approximates your true feeling about each item, using the following scale:

1	2	3	4	5
Strongly Disagree	**Disagree**	**Not Sure**	**Agree**	**Strongly Agree**

.Let us know the your idea to improve the health care system in Myanmar?

	Choose one				
1. Do you satisfy with current health care system in Myanmar ?	1	2	3	4	5
2. Do you like using modern medicine ?					
3. Do you like using traditional medicine ?					
4. Need government support to get drugs easily					
5. Public hospitals are not enough for rural people (need to upgrade and extend)					
6. Medicines are not enough for people (need to finance for poors)					
7. Need to trained healthcare personnel					
8. Need training for public using the effective way of treating system					

Sometimes , pls write down their opinion in notes:----------

Things I answer above are correct and true . (---signature) ----------