



Measuring of happiness level of people in Tippanate's community, Chiang Mai province

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ABSTRACT

In this research, there are three purposes: to study a general condition of the residents in Thippanate's community, to study a level of happiness of those living in Thippanate's community and to analyze factors (playing an important part) important to the happiness of the population in, Muang district, Chiang Mai. The data was collected via a questionnaire with 300 samples out of the whole Thippanate's community population of 1,080 people. The finding showed that the numbers of male and female samples were not different with the average age of 43, the education background being in a primary and secondary level. Their statuses were mostly married, working at a company or working as labors or running a grocery shop, with the average incomes between B4,000-B12,000, but without any saving money nor any debts. The level of happiness of those living in Thippanate's community was in the middle being 62.7 percent. Having used Ordered logit model and Ordered probit model to analyze the factors affecting the happiness of the population of Thippanate's community, we found the age, the education, the family, the health and the society and culture very influential with a statistic significance.

Keywords: Happiness, Tippanate's community, Ordered Probit model,
Ordered Logit Model

JEL Classification: I31, J10, Z13

1. Introduction

According to 8th of The National Economic and Social Development plan (before 1997) which emphasized on economic growth through applied economic indicators mainly such as Gross Domestic Product: GDP, Gross National Product: GNP and National Income those regard that preceding Thailand had developed their economic by mean of emphasized on wealth building issue but those indicators were not indicated to live happily or happiness of population therefore The 10th Plan (2007-2011) turn to pay attention on Gross National Happiness on behalf of individual or personal more because happiness have to begin from the smallest point which are person earlier expand to the country those develop to wellbeing together of Thai society. (R.Tonsuchart, 2008)

Dr. Noppadol Kanika showed study result about Gross Domestic Happiness of domestic of Thai population in 2011 which divided into each region, found that population in the North of Thailand owned the Third place of GPH next below from the North East and the South which owned similar average. Those seem that population of the North own average happiness at high level cause of the North are center of many aspects all economic, social, culture, tourism and natural resource especially in Chiang Mai where regard as the center province of North, economic center and progressed a lot. Tourism brought a lot of income to Chiang Mai due to Chiang Mai own a beautiful nature, calm climate, ancient remains and antiques including ancient cultural and customs which are able to attract the tourist both Thai and foreigner. There are several factors affect to happiness of population in Chiang Mai but studying about happiness of Chiang Mai's population still rare. (The office of Chirovince, 2009)

Almost study about economic happiness or measurement of happiness of population in the country were macro level hence the researcher interested to study about happiness or happiness measurement in micro level or level of person, community and local because happiness must begin from small point or individual then expand to level of the country in order to term of wellbeing society and smoothly develop and motivate society further. Consequently in these study research the researcher had studied about "Measurement on Happiness level of people in Tippanate's Community, Chiang Mai Province" due to Tippanate's community were the first community where Chiang Mai Municipality had established since 1984. Population from various area had moved in until present then became to be slum, this community are prototype and pilot community in developing community of Chiang Mai municipality on various aspects but there were not studying about happiness and not own development plan yet. Therefore this study were interested in happiness level of people in Tippanate's community in order to bring result from study to apply in their community development plan for better living of population in community and live a living with happiness. (Technical Division and Chiang Mai municipality, 2012)

2. Theory

1) Utility Theory

Utility means to satisfactory of each consumer to their consuming of product and service ,utility are able to measure into digit unit which digit number of product and service consuming would much or less depend on volume of consumer needs to those product.(Mankiw,2005)

2) The Cardinal Utility Theory

The Cardinal utility theory is a method which assumes that satisfaction can be measured using the unit of util. Consist of rationality, cardinal utility, constant marginal utility of money, diminishing of marginal utility, total utility and marginal utility. (T.Sriwichailumpun,2008)

3) Gross National Happiness (GNH)

Bhutan's King Jigme Khesar Namgyel Wangchuk initiated philosophy for developing country through paid attention on happiness of population or that called "Gross National Happiness" by mean of emphasized on developing happiness and satisfactory of population rather developing on Gross Domestic Product in order to promote and create conjointly goal i.e. develop equally and sustainable economic ,stress on transparent and noble development closely with conservation of environmental and natural resource which these concept cause happiness to the population

Gross National Happiness is evolving as an inspiring set of principles for policy development. The core elements without promoting them as a dogma have been identified as the Four Pillars of GNH consist of the following four elements (Jigme Singye Wangchuck,1999; T.Puntricwiwat and P.Pronpiphat, 2007).

1. Cultural promotion
2. Equitable economic development
3. Good governance
4. Environmental conservation

4) Meaning of happiness on level of individual

Jeremy Bentham (1748-1832), the significant English philosopher and one of founder on Utility concept, said that "Happiness is the greatest good"

Alexandrova given definition of happiness on behalf of psychology that happiness are totally emotion which each person judge as much or less that depend on their current way of life, experience in the past and attitude toward living. (R.Gray, P.Rakoumneoykit et al.,2006)

5) Measurement on happiness of each individual

Level of happiness depend on various elements through create indicator ,which consist of various elements, and able to create into 2 types i.e. 1)from various

elements then assemble them to Composite index by offer weight of each element in equal or unequal 2)from totally emotion which are single question then consider element. (R.Gray, P.Rakoumneoykit et al.,2006)

6) Developing indicator which concerning to global wellbeing level

Since 1960 all international organizations paid attention to developing social indicator or novel indicator which apply to describe effect of country development replace GDP and GDP per capita through separate happiness indicator into 2 section i.e. first section are indicator which concerning to global wellbeing level and the second section are indicator which concerning to national wellbeing. (Office of the National Economic and Social Development Board,2007; S.Sriwattananukulkit,2009)

7) Developing happiness indicator in Thailand

Indicator in perspective level or national level ,mainly are execution role of associated government agency and academician through employ data collecting from document or indicator which made by all agency and improve them to be indicator of population development condition that often focus on life quality of population in material rather than happiness analysis directly. (Office of the National Economic and Social Development Board,2007)

8) Happiness indicator in community or regional level

Population sector and private development organization initiated their role to gather together for seeking solution way in suffering condition of population in society that lead to developing key concept of measurement on happiness in community or regional level i.e.

8.1) Happiness indicator of Thai population by Physician ,element of happiness divide to 8 categories i.e. own life guarantee , healthy body and soul ,warm family, vigorous community, fine environment, freedom ,pride and reach dharma of cohabitation.

8.2) Happiness indicator of Mahidol University made through employing qualitative research to measure wellbeing of population in region and brought to build questionnaire and quantitative indicator then applied Future Search method to seek for matter what create happiness to population in community afterward employed them as happiness indicator.

8.3) Happiness indicator of Isan Happily Community Project which developed by Thai Health Promotion Foundation and Sustainable Community Development for Well Life Quality Foundation through set happily condition whole body, soul, society and intellect as principle by mean of applied The four Noble Truths and Condition of Welfare of Buddha. (A.Thumrongwarangkul,2000)

3. Literature Review

Piriya Polpiroon and Pungpond Rakaumnoaykit (2550) studied in happiness of metropolitan ,analyzed data through multiple regression equation with 2 models i.e. Linear Probability and Probit Model whereas Happiness analysis employed Linear Ordinary Least Square due to dependence variable were continuous variable. Reungchai Tunsuchart (2551) studied in happiness indicator and wellbeing of population at San Sai District Chiang Mai with 400 samples and employed Accidental Sampling or pick sample as to convenience ,this study employed Ordered Probit model. Chettaphom Wannapaisarn (2552) studied in economics of happiness on case study : Dressmaking Labor Group of Phattaya Company, Ltd. ;analyzed data through descriptive statistics and Logit model including Maximum likelihood estimate(MLE) and Marginal effect.

4. Methodology

Ordered Probit and Ordered Logit are model which employ in measurement on happiness of population in Tippanate’s community, Chiang Mai province whereas these model contain characteristic of Latent Regression with following equation (A.Wiboonphong, 2006).

$$Y_i = x' \beta + \varepsilon \tag{1}$$

When Y_i are level of happiness
 x' are factor which influence to happiness
 β are parameter
 ε are error

Happiness Rating through Ordered Probit and Ordered Logit model which these study related level of happiness of people in Tippanate’s community into 5 levels that arrange from smaller to larger values: level 0 means to distressed and level 4 means to maximum happiness and happiness rating of each level were considered from following equation

$$Y = 0 \text{ if } y^* \leq 0 ; \Pr(Y=0 | X) = \Phi (-x' \beta) \tag{2}$$

$$Y = 1 \text{ if } 0 < y^* \leq \mu_1 ; \Pr(Y=1 | X) = \Phi (\mu_1 - x' \beta) - \Phi (-x' \beta) \tag{3}$$

$$Y = 2 \text{ if } \mu_1 < y^* \leq \mu_2 ; \Pr(Y=2 | X) = \Phi (\mu_2 - x' \beta) - \Phi (\mu_1 - x' \beta) \tag{4}$$

$$Y = 3 \text{ if } \mu_2 < y^* \leq \mu_3 ; \Pr(Y=3 | X) = \Phi (\mu_3 - x' \beta) - \Phi (\mu_2 - x' \beta) \tag{5}$$

$$Y = 4 \text{ if } \mu_3 < y^* \leq \mu_4 ; \Pr(Y=4 | X) = \Phi (\mu_4 - x' \beta) - \Phi (\mu_3 - x' \beta) \tag{6}$$

where y^* are Latent variable of Y in model

μ are Random variable which were not able to observe

Whereas factor which influence to happiness of population (x_i) considered from various happiness factors as this following model:

$$Y_i = f(SEX, AGE, EDU, JOB, MARR, INCOME, DEBT, SAVING, x_1, x_2, x_3, \dots, x_5) \quad (7)$$

Rewrite the equation into relationship as follows:

$$Y_i = \beta_0 + \beta_1 SEX_i + \beta_2 AGE_i + \beta_3 EDU_i + \beta_4 JOB_i + \beta_5 MARR_i + \beta_6 INCOME_i + \beta_7 DEBT_i + \beta_8 SAVING_i + \sum_{i=1}^{33} \gamma_{ij} x_{ij} \quad (8)$$

where Y_i are happiness level of population in Tippanate's community;

sample number i

$\beta_1 - \beta_8$ are coefficient of general factor of population

SEX_i are gender of sample number i

AGE_i are age of sample number i (years old)

EDU_i are level of education of sample number i

$MARR_i$ are marital status of sample number i

JOB_i are occupation of sample number i

$INCOME_i$ are income of sample number i

$DEBT_i$ are debt of sample number i

$SAVING_i$ are savings of sample number i

γ_{ij} are coefficient of factor which affect to happiness

x_1 are family factor

x_2 are economic factor

x_3 are health factor

x_4 are social and culture factor

x_5 are environmental factor

Interpreting of happiness level, obtain from model, with Marginal Effect which consider from marginal effect of happiness factor(x_{ij}) that are valuable to probability of each happiness level, marginal effect are consider from

$$\text{Marginal Effect (Y=0)} = \frac{\partial \Pr(Y = 0)}{\partial x_{ij}} \quad (9)$$

$$\text{Marginal Effect (Y=1)} = \frac{\partial \Pr(Y = 1)}{\partial x_{ij}} \quad (10)$$

$$\text{Marginal Effect (Y=2)} = \frac{\partial \Pr(Y = 2)}{\partial x_{ij}} \quad (11)$$

$$\text{Marginal Effect (Y=3)} = \frac{\partial \Pr(Y = 3)}{\partial x_{ij}} \quad (12)$$

$$\text{Marginal Effect (Y=4)} = \frac{\partial \Pr(Y = 4)}{\partial x_{ij}} \quad (13)$$

5. Data

Data in these study are primary data which gather data through accidental random from take 300 questionnaires from population in Tippanate's community, the researcher gather questionnaires by themselves together with leader of Tippanate's community through distribute questionnaire to population and gather back individually then apply data from questionnaires to codify and analysis whereas secondary data which associate to community and population in Tippanate's community obtain from 2012 community development annual plan, Chiang Mai Municipality and lance corporal Thongkum Mingtrakul; leader of Tippanate's community.

6. Results and Discussion

6.1 Demographic

From study found that mainly population are female rather than male, most of them are age 46-55 years old (68 person, 22.67%). On marital status found that most of them are marriage (206 person, 68.67%), on education level almost population finished from secondary education (150 person, 50%), on occupation majority population are company official (86 person, 28.67%), on average income found that almost population own average income 4,001-8,000 baht/month (121 person, 40.33%), on savings most of population has not savings (291 person, 97%) and on debt almost population has not debt more than has one (232 person, 77.33%).

6.2 Happiness Level of People in Tippanate's Community, Chiang Mai Province

The study results are following: Happiness level of people in Tippanate's community are equal to 1.897 through population own happiness in medium degree with percentage of 62.7 and the second our own happiness in high level with percentage of 35.3 whereas population whose own less degree happiness are only 2% as show in table 1.

TABLE 1. Happiness level of people in Tippanate's community, Chiang Mai province

Happiness degree	Total	Percentage	Cumulative Frequency	Mean of happiness degree
Bad	-	-	-	-
Less happiness	6	2.0	2.0	1
Medium Happiness	188	62.7	64.7	2
High Happiness	106	35.3	100.0	3
Maximum Happiness	-	-	-	-
Overall	300	100.0		1.897

6.3 Factors which affect to happiness of people in Tippanate's community, Chiang Mai province by mean of Chi-squared test (χ^2)

Factor of family which affect to happiness of people in Tippanate's community i.e. member in family love, get along well and bound with each other, member in family helping each other, member in family honor and pay respect with each other, family had nurture juvenile with quality, family look after the elder to living with happiness and member in family are honest to each other. Whereas factor of economy i.e. acquire sufficient, equitable and consecutively income, factor of health which affect to happiness of people in Tippanate's community i.e. none of congenital disease which must to continuously treat, feel distressed when found others faced suffer, persisting in merit and ethic, feel glad when able to resolve all problems. Factors of social and cultural which affect to happiness of people in Tippanate's community i.e. participating in cultural maintenance activity of community and happy when arranging social activity together with people in community. These factors own significance level at 0.000 which less than 0.01 signify that these factors had impact to happiness of people in Tippanate's community whereas environmental factor had not impact to happiness due to own significance level more than 0.01.

6.4 Factor affecting the happiness of people in Tippanate's community

The result analyzed by Ordered Logit model is shown in table 2 and the result from Ordered Probit model is displayed in table 3. The result from Ordered Logit revealed that age, education, family factor, health, and social and cultural factor affect the happiness of people in Tippanate's community. The result from Ordered Probit found that age and education affect the happiness of people. Family factor and social and cultural factor are also affect the happiness. However, health is insignificant in this model.

TABLE 2. Factor affecting the happiness of people in Tippanate's community analyzed by using Ordered Logit Model.

Factors which affect to happiness	Coefficient	Std. Err.	z	P> z
Gender	0.234	0.304294	0.77	0.442
Age	0.04686	0.014684	3.19	0.001
Education	0.746168	0.364888	2.04	0.041
Marital status	-0.18139	0.239658	-0.76	0.449
Occupation	-0.02007	0.070902	-0.28	0.777
Income	-0.07413	0.086476	-0.86	0.391
Debt	-0.40093	0.264447	-1.52	0.129
Savings	0.775987	0.575079	1.35	0.177
Family factor	44.22994	12.37962	3.57	0.000
Economic factor	-0.40616	0.247812	-1.64	0.101
Health factor	-0.95821	0.503641	-1.9	0.057
Social and Cultural factor	-1.10439	0.441367	-2.5	0.012

TABLE 3. Factor affecting the happiness of people in Tippanate's community analyzed by using Ordered Probit Model.

Factors which affect to happiness of	Coefficient	Std. Err.	z	P> z
Gender	0.15096	0.199197	0.76	0.449
Age	0.03361	0.011133	3.02	0.003
Education	0.576879	0.273686	2.11	0.035
Marital Status	-0.04214	0.168123	-0.25	0.802
Occupation	-0.00338	0.046971	-0.07	0.943
Income	-0.07274	0.062916	-1.16	0.248
Debt	-0.28357	0.179467	-1.58	0.114
Savings	0.168845	0.381805	0.44	0.658
Family factor	18.59585	4.026565	4.62	0.000
Economic factor	-0.26517	0.169254	-1.57	0.117
Health factor	-0.50457	0.355696	-1.42	0.156
Social and Cultural factor	-0.70793	0.312473	-2.27	0.023

6.5 Comparisons of Ordered Logit and Ordered Probit models

Considering to Model Selection as for estimating Ordered Logit and Ordered Probit from AIC and BIC value which are the least value, found that Model Selection of Ordered Logit had value less than Ordered Probit so that estimating of Ordered Logit were fitted to analyze data then the researcher applied Ordered Logit Model for data analysis. Hence there were considered in Marginal effect of Ordered Logit which could explained that when age added up 1 year that would affected to addition of happiness for 0.3%, when education level added up 1 level that would affected to addition of happiness for 0.64%, when family factor added up 1 level that would affected to addition of happiness for 43.98%, when health factor added up 1 level that would affected to reduction of happiness for 0.99% and when social and cultural factor added up 1 level would affected to reduction of happiness for 1.13% as show in Table 4.

TABLE 4. Shows considering on Marginal Effect of Ordered Logit model

Factors affecting the happiness of people in Tippanate's community	dy/dx	Std. Err.	z	P>z	[95% C.I.]		X
Age	0.038351	0.01432	2.68	0.007	0.01028	0.066423	42.65
Education	0.641252	0.3421	1.87	0.061	-0.02926	1.31176	2.74333
Family factor	43.97605	12.35	3.56	0.000	19.7697	68.1824	2.19056
Health factor	-0.9955	0.44124	-2.26	0.024	-1.86032	-0.13068	2.11917
Social and cultural factor	-1.12547	0.39082	-2.88	0.004	-1.89147	-0.35947	2.43667

7. Concluding remarks

This research selected Thippanate's community, Muang district, Chiang Mai as a case to study a level of happiness of the population because it is the first community that Chiang Mai municipality established and is the prototype for Chiang Mai municipality to make a development project of a community. The data collected was a primary source of the information gained through a questionnaire from 300 samples of the population in Thippanate's community, Muang district, Chiang Mai. The finding revealed that the numbers of the male and female samples at Thippanate's community were not different with their ages mostly in a studying group and working group - between 16-65 years old. The education background of the residents was in elementary and secondary levels, which was considered relatively low. Most of them were married with jobs at companies or doing labor jobs or running a grocery shop. Their incomes seemed to be in the middle or lower ranging between B4,000-B12,000 per month resulting in their not having any money savings. The level of happiness of the people in Thippanate's community, Muang district, Chiang Mai appeared to be 1.897 being a

medium level (62.7%). And with the help of Ordered Logit model and Ordered Probit model to analyze factors affecting the happiness of the people live in Thipanate's community, Muang district, Chiang Mai, it indicated that the age and the education background had a positive influence to their happiness : with a positive correlation : the more their ages and education, the happier they were. However, the other factors positively causing the happiness of the population in the community were the family: the members of the family loved, cared and had a strong tie to one another as well as giving respect and honor to one another including taking good care of the elderly to live happily, the health: the people became happy when seeing others succeed and grew bitter when learning those were facing trouble. Moreover, they would turn to moral and the religion (Buddhism) as well as the public assistance, so they could moderate their emotions (moods) when facing danger and would feel glad when solving problems successfully, the society and culture: those felt happy when participating in such activities that preserved the cultural arts of their community and when their leaders appeared to be good. Nevertheless, the factors on the economy created a negative effect to those in Thipanate's community, it did not cause much happiness to them apparently because most people there were not well educated resulting in their having low incomes making them have hard time feeling satisfied with their work and finance as well as making them feel unfairly treated. This led to their unable to live in accordance with the sustainable economy. In addition, the factor on the environment also caused much suffering to them obviously due to their unpleasant location of the community, which is near a major garbage dump of Haiya district, resulting in having a lot of fouling smell in the air including water pollution in the canal running through the community. To make it worse, there were not any specific authorities to supervise the safety of the residents in the community, which caused both physical and mental persecution. In conclusion, for the development of Thipanate's community, the authority needs to focus on both the economic and environmental improvements so that the members of the community will have a better living standard and lastly, everyone will become happy (happier).

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