

Measuring Individual Happiness in Relation to Gross National Happiness in Bhutan: Some Preliminary Results from Survey Data

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Abstract

This paper attempts to measure individual happiness and relate it to the GNH parameters. The most common GNH parameters have been converted into micro-working variables using the scaling technique. Data on such variables are collected using a field survey of 612 individuals, from both urban and rural areas, and we used econometric technique to establish the interconnection. The study concludes that while education has strong influence on the happiness of people in urban areas, it has an extremely low impact in rural areas. Enhancement in health would make people happy, more so in urban areas. Income has emerged as a weak variable influencing happiness both in rural and urban areas. Good governance, specifically the decentralisation of the government seems to be working well and has significantly added to people's happiness. Cultural participation and cultural identity have emerged as the strongest of all variables influencing individual happiness. The relationship turns out to be stronger in rural areas in comparison to urban areas. Deeply religious people seem to be happier. Religiosity does not bring as much happiness in urban areas as it does in rural areas. Thus, the stated parameters of GNH have a linkage with individual happiness, suggesting that a better performance in GNH parameters would, in all probability, lead to an enhancement in individual happiness.

The Study

Gross National Happiness (GNH), has emerged as a fitting paradigm of development in Bhutan and provides the overall philosophy and guidelines for the country's future progress. The nation today is on a path that many would envy as the concept of GNH directs its holistic growth in the face of globalization and subsequent fragmentation. To make the concept of GNH more meaningful and operational, there have been several attempts to quantify the concept which include a wide range of factors representing economic, social, political, environmental and cultural dimensions of the society. Fulfilling these factors lead to gross national happiness. However, any attempt to quantify such a noble concept as an absolute index for measuring the nation's growth would be akin to preconditioning individual happiness. Since national happiness would be

some kind of aggregate of individual happiness, presumably, the parameters constituting GNH are also contributing significantly to individual happiness. But are they? Answering this question calls for micro level evidences on what governs individual happiness. A more focused research question to be addressed here is: 'To what extent do factors constituting GNH contribute to individual happiness?' The dynamic question to be asked is: 'What factors, constituting GNH, contribute significantly to individual happiness?' Answering these questions would enable us to circumscribe GNH and relate it to the individual's happiness. This will also provide an indication to prioritize the various aspects of GNH. Against the above backdrop, the present study seeks to measure individual happiness on the yardstick of the constituents of GNH and comment on their linkages.

Is Happiness Measurable?

Scholars from various disciplines have approached the subject of happiness in different ways. Perhaps, the answers to the questions 'what is happiness?' and 'what makes us happy?' have varied as much as have the people who posed them. The more we chase happiness, the more it eludes us. Happiness is most often viewed as a highly personalized and dynamic phenomenon. Nevertheless, there seems to be an element of objectivity, developed over time, and the growing literature about happiness research suggests that individual happiness can be measured and its determinants quantified. For example, Triandis (2000) provides an extensive overview of the determinants of subjective well-being both for individual and a nation. A vast body of literature posted at <http://www.eur.nl/fsw/research/happiness/provides> studies attempting to quantify happiness in terms of well-being and life satisfaction. Individual happiness not only depends on the present circumstances but also on past experiences and future expectations of the individual. Interpersonal comparison also plays an important role in determining happiness. In this sense, happiness is a collective or aggregate expression. The growing literature on happiness indicates that such a subjective expression can be measured by asking questions about an individual's well-being. Several studies have found statistically valid and significant results. This has been referred to as the measurement of self-reported happiness.

Brief Review of Empirical Literature about Happiness

Jeremy Bentham provided one of the earliest accounts of the calculus of pain and pleasure while bringing the discussion on utility to the forefront in England in 1789 (Stigler, 1965). Bentham's thirty-two circumstances explained pleasure and pain. However, discussion in economics thereafter centered on discovering and rediscovering the principles of marginal utility and later on their measurement. Utility is akin to welfare. As such, an

enhancement in welfare can be measured in terms of changes in utility. More income brings enhanced consumption which increases utility and hence welfare. Therefore, as a matter of policy it is pertinent to aim at increasing national income and per capita income.

It took a long time to realize that enhancement in income alone is not the determinant of economic growth. Alternatively, growth is to be perceived as holistic and happiness is a major and genuine concern of development. Studies have confirmed that happiness, not income, constitutes the ultimate goal of most individuals (Easterlin, 1995 and 2001; Oswald, 1997; Ng, 1997). Easterlin provided one of the earliest empirical works about self reported happiness. The decade of 1990s witnessed increased awareness on the subject and economists have shown that happiness is not an entirely personalized phenomenon; rather, it also depends on conditions like unemployment, inflation and income (Clark and Oswald, 1994; Oswald, 1997; Easterlin, 2002). Some scholars have also tried to quantify the effect of variables such as freedom (Frey and Stutzer 2000), air pollution (Welsch, 2002), aircraft noise (Praag and Baarsma, 2001) and climate (Rehdanz and Maddison, 2003). The growing body of knowledge about happiness suggests that talking about national happiness in Bhutan is timely.

The present study is not an attempt to quantify individual happiness in Bhutan; neither it's an attempt to identify the determinants of happiness as in the studies mentioned. We describe the most common constituents of GNH and convert them into operational variables. Then we utilize econometric technique to find out the significance of these variables on self-reported happiness. Data have been collected through the execution of a pre-designed and tested questionnaire.

Theory of GNH

GNH is the overall guiding principle for the development of Bhutanese society and the economy. GNH is essentially a summarization of the basic tenets of Vajrayana Buddhism, which embraces harmony and compassion. The document *Development Towards Gross National Happiness* (RgoB, 2000) describes GNH as "Bhutan's bridge over the gap between values and development" (p.23). The perspective planning document *Bhutan 2020: A Vision for Peace, Prosperity and Happiness* (Planning Commission, 1999) identifies GNH as a "single unifying concept of development" which does not essentially reject material progress, but takes it as a precondition for enlarging self-reliance, opportunities and choices (p.47). The *Ninth Five Year Plan 2002- 07* (Planning Commission, 2002) describes GNH as the overarching philosophical underpinning and the ultimate guideline of the country's future development proceeds (p.6). It would not be easy to

quantify how the country has progressed with GNH. Namgyal and Wangchuk (1998) tried to provide a framework for the measurement of GNH without actually attempting to measure it. The merit of their predictive model, which follows the path analysis tool for setting the variables, is that it considered population as a resource, which includes the ecosystem stressor impacts of people. The model adds to the explanatory strengths of GNH without throwing much light on quantification (Pankaj 2003, pp.20-21). At the operational level, the theory of GNH would mean that every policy and every project is to be planned and evaluated not simply in terms of the enhancement it makes to GNP and the material basis of society but also by its contribution to the total well-being of individual and society (RGoB, 2000: *Development Towards Gross National Happiness*, p.22). Therefore, enhancement in GNH must contribute to enhancement of individual well-being. Here the inter-linkage between individual happiness and GNH can easily be identified. GNH and individual well-being are inter-dependent.

What Does GNH Mean to Individual?

Based on the overall guiding principle of GNH, the “normative architecture of change and development” (Planning Commission 1999: *Bhutan 2020*, p.49) includes the following elements under various broad categories:

Social:	Human development
Economic:	Self-reliance, Sustainability, Flexibility, Balanced and Equitable development
Political:	Independence, Sovereignty and security of nation state and Governance
Cultural:	Identity, Unity and harmony, Preserving and Promoting culture and heritage
Environmental:	Preservation through environmentally sustainable development

If the country is able to pursue development and keep all above elements in balance, it is ostensibly adding to the GNH and creating individual well-being and happiness. The question here is--what does this mean to individuals? This requires the deconstruction of macro parameters into working variables to help articulate their meaning to individual. This would also help in constructing appropriate questions to collect primary data for the study.

Social Variables: Education and health are two widely used social variables in economic literature. At macro level, educational parameters are

the literacy rate and enrolment ratios. The plausible working variable at individual level for education would be educational accomplishment, state of being educated or illiterate. Macro indicators for health are many and varied but the most commonly used ones are IMR and life expectancy. For an individual, health would mean either being sick or not sick. These two parameters were converted into scale variables and the following two questions were asked during the survey: What is your level of education? How long were you been bed ridden or not been able to work due to illness during the last one year?

Economic Variables: At macro level, economic variables are mainly growth rate and per capita income. For individuals the meaning of this parameter is individual income, wealth and assets. Since there is a greater chance that these three parameters are correlated, the present study used merely personal income as the economic variable. A simple question has been framed: What is your monthly/annual income?

Political Variables: The political variables are related to maintaining independence, sovereignty and security of the nation. Better governance and decentralization are indeed the part of the overall political goal. The survey first included the question relating personal security with that of national security. The question asked was—how much do you think national security is important for your individual security? The pilot survey indicated a heavy bias in favour of “extremely important” option. Consequently, the question was dropped from the survey. The next question framed is related to benefits from decentralized governance: How satisfied are you with the role played by your local public representatives?

Cultural Variables: Two questions were framed to capture cultural variables: one, representing cultural participation by individuals and two, representing individuals’ sense of cultural identity. This is made into a scale variable. The questions asked were: How often did you engage in cultural events and traditional sports during last one year? How often do you wear national dress?

Religious Variables: This is captured in terms of individuals’ religiosity. The question asked was: How often or how regularly did you engage in religious activity during last month?

Environmental Variables: Presumably, rural areas have a better natural environment than urban areas because of less degradation and damage. The study splits the information into rural and urban separately and thereby attempts to capture the impact of a better natural environment on happiness.

Happiness: Measurement of happiness followed a self-reported, single question approach. This is used as a five-step scale variable, an approach followed in all scale variables in this study. The question asked is: Taken all together, how would you say things are these days? Would you say that

you are...? Table-1 provides the summary of explanatory variables used in the study.

Study Design and Method

Questionnaire: The survey was carried out based on a pre-designed questionnaire. A pilot survey of 33 individuals was conducted to test the questionnaire. After necessary changes were made in the questionnaire, a full-fledged survey was conducted during the months of November-December 2003.

Table-1: Summary of Explanatory Variables Used

Broad Category of variable	Variable	Nature
Social	Education	Scale
	Health	Scale
Economic	Income	Nominal
Culture	Cultural Participation	Scale
	Cultural Identity	Scale
Religion	Religiosity	Scale
Environment	Rural/urban	Unit of analysis

Sampling: The survey covered 612 individuals, 246 from rural and 366 from urban areas respectively and the sampling design did not follow any fixed pattern. The only aim was to cover as wide a range of people as possible and categories included farmers, government employees, taxi drivers, carpenters, masons, cooks, business people, professionals, housewives and students. The range of age was 15 years to over 60 years. Table-2 provides the distribution of sample across occupation categories and age.

Table-2: Distribution of Sample across Occupation and Age

Category	Age in years				Total
	15-25	26-40	41-60	60+	
Govt. Employ	-	81	86		167
Farmer	10	67	76	08	161
Informal Occ	-	40	14	05	59
Business	06	19	28	12	65
Professional	-	01	04	-	5
Student	22	46	-	-	68
House wife	02	33	52	-	87
Total	24	273	52	25	612

Area: The survey was confined to three Dzongkhags in eastern Bhutan, namely Trashigang, Trashigang and Mongar.

Econometric method: Regression technique is used to explain happiness based on the chosen independent variables. Simple linear model is followed to explain the relationship. The suitability of the model is tested. While plotting the fitted curve, log estimation using SPSS software is also followed to provide a better understanding.

How happy are we? Happiness has been measured on a scale of 0 to 8, zero signifying not at all happy and 8 indicating extremely happy. The individual points have been averaged for the number of sample in each category. Therefore, the overall point represents an average for the sample considered. Table-3 reports the observed happiness across broad income groups, occupation categories and age. Panel A of Table-3 suggests that overall happiness for the entire sample is high at 7.04. This is observed to be slightly higher in rural areas (7.08) in comparison to urban area (7.01). The trend suggests that as income moves up, the happiness scale tends to increase. However, it seems that lower and higher incomes groups of rural area are happier than their counterparts in urban area. The middle income group seems to be happier in urban as opposed to rural area.

Table-3: Happiness Scale (0 to 8) across Income Group, Occupation and Age

A. Happiness across broad income group (N=612; N(urban)=366, N(rural)=246)			
Income Group	Happiness Scale		
	Urban	Rural	Entire Sample
Low (upto Nu.10,000 p.a.)	6.01	6.35	6.18
Middle (Nu. 10,000 to 1,00,000)	7.42	7.05	7.23
High (Nu. 100,000 +)	7.61	7.84	7.72
Entire Sample	7.01	7.08	7.04
B. Happiness across occupation categories (N=612)			
Occupation Category	Happiness Scale		
Farmer	7.74		
Student	7.62		
Government Employee	7.55		
Housewife	7.25		
Businessman	7.11		
Professional	6.75		
Informal Occupation	5.26		
Entire Sample	7.04		
C. Happiness across age groups (N=612)			
Age Group (in years)	Happiness Scale		
15 to 25	7.55		
26 to 40	7.31		
41 to 60	6.85		

60 +	6.44
Entire Sample	7.04

Panel B of Table-3 demonstrates that farmers are the happiest people with a high happiness scale of 7.74, followed by students (7.62), government employees (7.55), housewives (7.25), businessmen (7.11) and professionals (6.75). People working in the informal sector are the least happy lot with happiness scale of 5.26. Panel C of Table-3 clearly suggests that happiness tends to decrease with age. The younger population is happier than middle aged and middle aged is happier than the elderly.

The Regression Results

The variables in this study have been scaled uniformly and the size of the sample is small. The averaging across income groups has produced 10-12 observations with 8 explanatory variables. In all its probabilities, the multiple regression estimation is likely to produce serious multicollinearity problems. The estimation is tried and it produced high R² but only few significant t-ratios. This also demonstrates high pair-wise correlations among regressors with low tolerances which was expected. Despite the presence of multicollinearity, estimation could have been tried if the sole purpose of regression analysis was prediction. Therefore, Blanchard's suggestion to "do nothing" as multicollinearity is "God's will" (see for detail quote Kennedy 1998, p.190) could not have been tried. Instead, single variable regressions have been estimated. This provided the flexibility of comparison, easy plotting and of course no multicollinearity. This serves the purpose of establishing inter-linkages of each explanatory variable with happiness. The estimation results along with plotting is presented below:

Happiness and Education

Urban

Estimation and Model Summary

	B	S.E.	t	Sig.
Constant	5.599	0.278	20.15	0.000
Education	0.318	0.073	4.35	0.001
R ²	0.654			
Adj. R ²	0.620			

S.E. of Est.	0.498
DW	0.622
F	18.91 (Sig. 0.001)

Happiness and health***Rural***

Estimation and Model Summary

	B	S.E.	t	Sig.
Constant	3.89	0.899	4.33	0.002
Health	0.459	0.139	3.31	0.009
R ²	0.549			
Adj. R ²	0.498			
S.E. of Est.	0.565			
DW	1.072			
F	10.93 (Sig. 0.009)			

Happiness and Income***Urban***

Estimation and Model Summary

	B	S.E.	t	Sig.
Constant	6.30	0.200	31.43	0.000
Income 7.3E-06	0.000	3.20	0.009	
R ²	0.506			
Adj. R ²	0.457			
S.E. of Est.	0.595			
DW	0.409			
F	10.25 (Sig. 0.009)			

Rural

Estimation and Model Summary

	B	S.E.	t	Sig.
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Constant	6.45	0.199	32.39	0.000
Income	7.4E-06	0.000	3.40	0.008
R ²	0.563			
Adj. R ²	0.514			
S.E. of Est.	0.556			
DW	1.306			
F	11.57 (Sig. 0.008)			

Happiness and Governance

Urban

Estimation and Model Summary

	B	S.E.	t	Sig.
Constant	2.20	0.597	3.69	0.004
Decentralization	0.752	0.100	7.52	0.000
R ²	0.850			
Adj. R ²	0.835			
S.E. of Est.	0.328			
DW	0.750			
F	56.50 (Sig. 0.000)			

Rural

Estimation and Model Summary

	B	S.E.	t	Sig.
Constant	-6.17	3.94	-1.56	0.152
Decentralization	1.815	0.550	3.29	0.009
R ²	0.547			
Adj. R ²	0.497			
S.E. of Est.	0.566			
DW	1.21			
F	10.88 (Sig. 0.009)			

Happiness and Cultural Participation

Urban

Estimation and Model Summary

	B	S.E.	t	Sig.
Constant	-0.353	0.922	-0.383	0.710
Cultural Participation	1.147	0.151	7.62	0.000
R ²	0.853			
Adj. R ²	0.838			
S.E. of Est.	0.324			
DW	1.089			
F	58.04 (Sig. 0.000)			

Rural

Estimation and Model Summary

	B	S.E.	t	Sig.
Constant	-6.836	2.908	-2.351	0.043
Cultural Participation	1.827	0.389	4.698	0.001
R ²	0.710			
Adj. R ²	0.678			
S.E. of Est.	0.452			
DW	1.079			
F	22.07 (Sig. 0.001)			

Happiness and Cultural Identity

Urban

Estimation and Model Summary

	B	S.E.	t	Sig.
Constant	0.893	0.546	1.635	0.133
Cultural Identity	0.900	0.085	10.592	0.000
R ²	0.918			
Adj. R ²	0.910			
S.E. of Est.	0.242			
DW	1.02			
F	112.19 (Sig. 0.000)			

Rural

Estimation and Model Summary

	B	S.E.	t	Sig.
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Constant	-0.172	2.339	-0.73	0.943
Cultural Identity	0.967	0.323	2.994	0.015
R ²	0.499			
Adj. R ²	0.443			
S.E. of Est.	0.595			
DW	1.052			
F	8.96 (Sig. 0.015)			

Happiness and Religiosity

Urban

Estimation and Model Summary

	B	S.E.	t	Sig.
Constant	1.132	1.223	0.925	0.377
Religiosity	0.807	0.178	4.527	0.001
R ²	0.672			
Adj. R ²	0.639			
S.E. of Est.	0.485			
DW	0.698			
F	20.49(Sig. 0.001)			

Rural

Estimation and Model Summary

	B	S.E.	t	Sig.
Constant	-31.224	10.316	-3.027	0.014
Religiosity	4.975	1.349	3.688	0.005
R ²	0.602			
Adj. R ²	0.557			
S.E. of Est.	0.530			
DW	1.368			
F	13.59(Sig. 0.005)			

Conclusion

The observed happiness in the overall scale of zero to eight seems to be high. The estimation also points to an enhancement in happiness as the income moves up the scale. In the overall scale of happiness, rural people seem to be happier than urban people. However, the results differ across the

income groups. Under the 'low' income category, rural people are happier than urban, while this is not true for the 'middle' income group. The urban middle class is happier than the rural middle class. This reflects the attitude of the urban middle class with a strong preference for the 'urban life'. This also tends to explain the rural to urban migration of middle class people. The estimation suggests that the preference for the low and the high income groups are more towards cultural participation and religious practices, as these groups are found more contented in rural settings rather than urban. Further, the dis-aggregation of data clearly indicates that across rural-urban settings, it is the 'low' and 'high' income groups seeking more happiness in cultural participation and religious pursuits.

Overall, income does not appear as a significant variable for both rural and urban sector. The constant value is more than six in both the cases whereas the income coefficients are extremely insignificant. This shows that even if income is zero, the happiness scale would not suffer much downward from the average of 7.04 for the entire sample. The caution to be followed in this conclusion is that the R^2 values for both rural and urban are only moderate. Therefore, it would not be safe to say that income does not add to happiness at all. Rather, income perhaps does add to happiness but it is a weak variable.

Bhutan is a deeply religious country, so it is but natural that people would find happiness in such pursuit. This has been confirmed by the present survey results where cultural participation and religiosity have emerged as the strongest variables. However, these two variables have much more profound impact on the happiness of rural population vis-à-vis urban population. This could reflect the perceptual change in the urban population towards traditional values and modernisation

The urban population tends to attach more significance to health and education because of their awareness of the benefits of better health and education, which ultimately become the source of a 'better life'. This awareness is not as pervasive in rural areas. Once again, the migration process from rural to urban can be explained based on people's overt realization of the benefits of health and education. The coefficients of health and education are positive and higher for urban sector.

Decentralization factor as a source of happiness of people seems to be realized more by the rural population. This is, perhaps because the urban sector's experience with local level representative is not so direct as it is with the rural sector. For rural people, the local level representatives are doing fine and they are satisfied. The decentralization coefficient for the rural sector is more than double (1.8) than that of urban sector (0.7).

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