

How happy elderly are? A case study of Dinhata Municipal Town, West Bengal, India

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ABSTRACT

Present study tries to assess the level of happiness of elderly at Dinhata municipal town in Cooch Behar district, West Bengal, India. For survey purpose 150 samples of elderly have been selected randomly and a set of questions comprising both qualitative and quantitative aspects have been used for analysis. To measure the happiness of elderly, Gross National Happiness Index (GNH Index) has been calculated. The study reveals that the level of happiness of elderly at Dinhata municipal town is mainly influenced by psychological factors and the facilities provided to them. In addition, it has been found out that better health care facilities, Govt. policies and programs, positive emotion, socio-cultural relationship and psychological medication may increase the feeling of happiness among the elderly.

Key Words : GNH Index, Happiness, Elderly, Psychological

INTRODUCTION

Ageing is a natural, biological and inevitable consequence of human life. According to World Health Organization (WHO), the persons who are of 60 years and above are considered as aged or elderly. Elderly means failing of health status both physically and mentally. With the changing vistas of societal landscape, the way of thinking and attitudes towards elderly has also got changed. Consequently, they often feel isolation from the society (Hess and Bacigalupo, 2011). The societal attitude towards the elderly is painful and a matter of great concern. This is the result of reduced level of physical and mental activity of elderly due to their old age and fall of domination over family and society (O'Connor *et al.*, 1993). With the growing consumeristic mentality of society, it seems that their situation is somehow controlled by their income as there is a close relationship between wealth and happiness. But always it is not true that money can buy happiness because, if there have clothes to wear, food to eat and roof over head, income influences a small on the sense of well-being (Diener, 2000). Actually, there is no exact definition of happiness as it is relative and varies individually. However, it just means feeling good, no worries. But it is true that elderly people, in most cases, are deprived of feeling happiness.

In order to identify the level of their happiness, 'Gross National Happiness' (GNH) introduced by the 4th King of Bhutan, King Jigme Singye Wangchuck, in 1972 has been used.

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In India, proportion of older people has increased 5.5 per cent in 1991, 7.7 in 2001 and projected 12 per cent in 2025 (Kumar, 2003). In Dinhata municipal town, where about 18 per cent people fall under old age group (60+), have been experiencing a lot of social, psychological and health related issues in the way of their happiness. In this context, this study has been conducted to assess the happiness and general wellbeing of the elderly people in Dinhata municipal town.

Objective :

The objective of the present study is to examine the level of happiness of elderly at Dinhata municipal town.

METHODOLOGY

To carry out the study, firstly, problems experiencing by the elderly people have been studied by consulting relevant literature. After identification of the problems, field visit was carried out with a set of structured and semi structured questions to get views from the elderly people of the area under study. Collected information was then tabulated, statistically represented using by GNH index and lastly comprehensive interpretation and conclusion has been placed. In GNH Index, Alkire Foster Method (2007, 2011) has been used with the help of nine domains such as psychological well being, health, education, time use, cultural diversity and resilience, good governance, community vitality, ecological diversity and resilience and living standards which identify the groups namely 'unhappy', 'narrowly happy', 'extensively happy' and 'deeply happy'. The index value ranges from 0 – 1.

GNH is calculated by,

$$\text{GNH index} = 1 - (\text{Headcount} \times \text{Breadth})$$

where,

Headcount = % of people who are happy.

Breadth = % of people not yet happy.

About the study area :

Dinhata municipal town is located in the southern part of Cooch Behar district which lies between 26°12'92" N to 89°46'65" E longitude. It is located 25 km towards south from District head quarter Cooch Behar. Dinhata is surrounded by Cooch behar block - I in north, Bangladesh in south, Assam in the east and Sitai block in the west. There are 15 wards in the municipality area. The total area of Dinhata is 248.5 sq. km. having 36124 populations with a population density of 7853 persons per km² as per census report, 2011.

RESULTS AND DISCUSSION

There are three cut off points for measuring degree of happiness like 50%, 66% and 77%. The people achieved sufficiency in less than 50% are 'unhappy', 50%-65% 'narrowly happy', 66%-76% 'extensively happy' and more than 77% are 'deeply happy'. There are 9 main domains and 33 sub-domains for measuring happiness. In GNH index, there are also a 'sufficiency' cut off under each indicator. It has been set at a level which is suppose to 'sufficient' for most of the people in each indicator. If a person's achievements do exceed the 'sufficiency' cut off, he/she will achieve 'sufficiency' quality of life. The people who have not achieved sufficiency in those indicators under nine domains are identified as deprived and people who have achieved sufficiency in 66% of domains is identified as happy.

Psychological well-being:

Psychological well-being stands for how do people evaluate their lives. There are four main factors that affect the psychological well-being viz., life satisfaction, spirituality, positive emotion and negative emotion.

Life satisfaction: This indicator is related to health, family, occupation, work-life, standard of living of elderly etc. This score has been calculated by asking the respondents how they are satisfied or dissatisfied with the help of Likert scale (where, very dissatisfied (1) to very satisfied (5). The sum of the scores ranges from 5-25. Here, the highest satisfaction score is 25 and lowest is 5. The sufficiency score for life satisfaction has been set as per Happiness Index at score 19 and it is found that 40% people enjoy sufficiency in life satisfaction in the study area.

Spirituality: Spirituality is based on four sub-indicators like spirituality level, 'Karma' i.e. work in daily life, prayer recitation and meditation. Obtained score ranges here from 4-16, where 16 indicating higher degree of spirituality and 4 is lowest satisfaction score. The sufficiency score has been set as per at 12 and it is found that 58% of people enjoy sufficiency in the study area.

Emotional balance (positive and negative): Positive emotions are feelings of calmness, feeling of compassion, feeling of forgiveness, feeling of generosity whereas negative emotions include feelings of selfishness, feelings of jealousy, feelings of fear, feelings of anger. For both sets of emotions, respondents were asked to rate how they experienced from last few weeks and the obtained score ranges from 1 to 5 (never, rarely, sometimes, frequently, very much). The sufficiency threshold for positive emotion has been set as per at 15 and it is 12 for negative emotion. It is found that, 33% of respondents enjoy sufficiency for positive emotions and 58% are suffering from negative emotions.

Table 1 : Psychological Well Being of the Respondents

Psychological Well Being															
Happiness Scale (Degree of Happiness Cut off in %)															
Life Satisfaction				Spirituality				Positive Emotion				Negative Emotion			
Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)
21	39	27	13	18	24	37	21	31	36	18	15	19	23	31	27
Sufficiency Cut Off Score															
(*BSC=Below Sufficiency Cut Off, *ASC=Above Sufficiency Cut Off) Elderly in %															
19 -25				12 -16				15 - 25				12 -25			
*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC
60	40	42	58	67	33	42	58								

Source: Compiled by author

Health:

Health system always comprises both physical and mental health. The following factors influence health of the people in general.

Self reported health status: The rating score for health status ranges on a five point scale having very poor (1, bad (2), good (3), very good (4) and excellent (5) health. Persons who have

achieved the rating scale of very good and excellent are treated as sufficient and 27% people have achieved sufficiency.

Healthy days: Number of healthy days in the past 30 days has been included here. For threshold, including normal illness, the number of healthy days has been set at 24 days out of 30 days and 32% of respondents have achieved the sufficiency level under this indicator.

Disability: For long term disabilities, respondents were asked whether they had any disease or illness and if their answer was yes, (yes-1, no- 2) they were asked how much disabilities restricted their activities by using five point scale which ranges from all the time (1), frequently (2), some time (3), rare (4), and never (5). The sufficiency cut off has been set at 'rare' and 'never' and it is found that 27% respondents have achieved the sufficiency.

Mental health: In this indicator, there have been used Goldberg's 'General Health Questionnaire' (GHQ-12) which is consists of 12 questions and it varies from 0-36 marks (each answer caring 0 to 3 marks in 3 point scale). Response range 0-15 represents severe distress, 16-20 represents distress and 21-36 represents normal mental wellbeing. Sufficiency level has been set at 21-36 (normal) and it is found that 29 per cent of the respondent achieves sufficiency.

Table 2 : Health Status of the Respondents

Health															
Happiness Scale (Degree of Happiness Cut off in %)															
Self Reported Health Status				Healthy Days				Disability				Mental Health			
Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)
34	39	18	9	27	41	21	11	30	43	19	8	31	40	19	10
Sufficiency Cut Off Range															
(*BSC=Below Sufficiency Cut Off, *ASC=Above Sufficiency Cut Off) Elderly in %															
In five point scale - Very Poor to Excellent				24-30 days				Rare to Never				21-36 (normal mental wellbeing)			
*BSC		*ASC		*BSC		*ASC		*BSC		*ASC		*BSC		*ASC	
73		27		68		32		73		27		71		29	

Source: Compiled by author

Time use:

Time use data provides the information about how do people use their time in daily life. There are two sub domains that provide information about their lifestyle and occupation.

Working hours: In this indicator, 8 hours are considered here as sufficient and the result shows that 65 % of respondents have achieved sufficiency level.

Sleeping hours: In general, every adult need 8 hours for sleeping time for well-functioning of body so that sufficiency level have been set 8 hours per day and it is found that about 51 % of the respondents have achieved sufficiency.

Table 3 : Time Use of the Respondents							
Time use							
Happiness Scale (Degree of Happiness Cut off in %)							
Working Hours				Sleeping Hours			
Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)
9	26	44	21	16	33	34	17
Sufficiency Cut Off Range							
(*BSC=Below Sufficiency Cut Off, *ASC=Above Sufficiency Cut Off) Elderly in %							
8 hours out of 24 hours				8 hours out of 24 hours			
*BSC		*ASC		*BSC		*ASC	
35		65		49		51	

Source: Compiled by author

Education:

Education is an important indicator for leading life happily. Following four indicators influence this domain:

Literacy level: A person who can able to read and write is defined as literate. The respondents were asked whether they can read and write or not. The answer have been measured on the basis of yes and no where yes (2), no (1). The sufficiency level have been set on 'yes' and it is found that in the study area 52% of the respondents have achieved sufficiency.

Schooling: The range of schooling varies from 1-8 where no formal education' (1), primary (2), upper primary (3), secondary (4), higher secondary (5), graduation (6), post graduation (7) and PhD/others (8). The sufficiency level has been set at 'primary school' and 49% people have achieved the sufficiency in study area.

Table 4 : Educational Status of the Respondents															
Education															
Happiness Scale (Degree of Happiness Cut off in %)															
Literacy				Schooling				Knowledge				Value			
Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)
22	26	41	11	21	30	34	15	19	25	33	23	14	21	38	27
Sufficiency Cut Off Range															
(*BSC=Below Sufficiency Cut Off, *ASC=Above Sufficiency Cut Off) Elderly in %															
Sufficiency in 'yes'				2 (primary school)				19-25				14-15			
*BSC		*ASC		*BSC		*ASC		*BSC		*ASC		*BSC		*ASC	
48		58		51		49		44		56		35		65	

Source: Compiled by author

Knowledge: Knowledge is based on some sub indicators like knowledge on local legend and folk stories, knowledge on local culture, knowledge on traditional songs, knowledge on constitution, knowledge on HIV/AIDS transmission. Scores have been calculated on 5 point scale that ranges from 5 to 25 (where, lowest knowledge score (1); highest knowledge score (5). Score 19 has been selected as sufficiency level and about 56% respondents achieve this level.

Value: This indicator consists of respondents' perception about crimes like killing, lying, creating disharmony in relationships, stealing and sexual misconduct by using 5 point scale. The scale ranging from 5-15 (where 15 is highest value score and 5 is lowest value). The sufficiency level have been set at score 14 and 65% respondents have achieved sufficiency.

Cultural diversity and resilience:

There are four various aspects of culture to assess the diversity:

Speak native language: It is measured by fluency level or ability to speak mother tongue which is measured by four point scale that ranges from not at all (1), partially (2), quite well (3) and very well (4) and sufficiency level has been set from quite well (3) to very well (4). It is found that, in the study area almost everyone have achieved the sufficiency level.

Socio-Cultural participation: In this indicator, there have been counted the number of days participated in any socio-cultural programs in past one year which is recorded in 5 point scale. The scale ranges none (1), less than 6 days (2), 6-12 days (3), 13-20 days (4) and more than 20 days (5) where, threshold has been set as 6-12 days (3) per year and people have achieved sufficiency about 40%.

Artisan skills: This indicator includes peoples' knowledge, interest on art and crafts. This scale ranges from worst (0) to best (13). The sufficiency level has been set at any one art skill they know and about 54% people achieve sufficiency.

Cultural practice: Here, the respondents were asked about the importance of traditional culture into 3 point scale where not important (1), very important (3) and how do they perceive the change in practice and observance in last few years by using 3 point scale (getting weaker 1, getting stronger 3). The sufficiency level has been set as 'very important' (3) to 'important' (2) and

Table 5 : Cultural Diversity and Resilience of the Respondents

Cultural Diversity And Resilience															
Happiness Scale (Degree of Happiness Cut off in %)															
Speak Native Language				Cultural Participation				Artisan Skills				Cultural Practice			
Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)
0	0	12	88	16	27	33	21	19	27	34	20	23	28	34	15
Sufficiency Cut Off Range															
(*BSC=Below Sufficiency Cut Off, *ASC=Above Sufficiency Cut Off) Elderly in %															
'quite well'(3) to 'very well'(4)				6-12 days per year				Know any one art skill				'very important' (3) to 'important' (2)			
*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC
0	100	43	54	46	54	51	49								

Source: Compiled by author

‘getting stronger’ (3), respectively where 49% respondents enjoy sufficiency.

Good governance:

There are four indicators that have been developed to measure the governance activities like government performance, fundamental rights, services, political participation.

Government performance: Respondents were asked for rating the performance of government in past one year. This performance is based on creating jobs, reducing gap between rich and poor, fighting corruption, preserving culture and traditions, protecting culture and traditions, protecting environment, providing educational needs and improving health services. Respondents rank have been counted on the basis of five point scale where highest govt. performance score is 35 and lowest is 7. Sufficiency score has been set as 28 point and 47% respondents have achieved sufficiency.

Fundamental rights: These indicators attempt to assess peoples’ rights in the society. Seven indicators have been included here which are related to political freedom like freedom of speech and opinion, right to vote, right to choose political party, equal access and opportunity to join public service, equal pay for equal value etc. All have two possible responses from 1-2 (yes and no). Sufficiency level has been set to ‘yes’ and 62% of respondents enjoy sufficiency.

Services: Service indicator comprises with five basic health care supply and these include access to - 1. Health care centre, 2. Electricity, 3. Method of waste disposal, 4. Source of water and 5. Quality of water. The scale ranges from very poor (1) to very good (5). The sufficiency level has been selected to ‘good’ (4) or ‘very good’ (5) in all service and 68% respondents have achieved sufficiency.

Political participation: This indicator is based on two factors like election and community meeting. Response categories have been divided into two categories: yes and no (yes 2, no 1). The threshold has been selected here at least attendance of one political meeting at a time. About 55% of respondents attended the sufficiency.

Table 6 : Good Governance															
Good Governance															
Happiness Scale (Degree of Happiness Cut off in %)															
Governance Performances				Fundamental Rights				Services				Political Participation			
Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)
16	37	29	18	15	23	36	26	21	27	49	19	14	31	37	18
Sufficiency Cut Off Range															
(*BSC=Below Sufficiency Cut Off, *ASC=Above Sufficiency Cut Off) Elderly in %															
28 to 35				Sufficiency in ‘yes’				‘good’ (4) or ‘very good’ (5)				At least attendance of one political meeting			
*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC	*BSC	*ASC
53	47	38	62	48	68	45	55								

Source: Compiled by author

Community vitality:

This indicator consists of four components such as donation, community relationships, family and victim of crime or about safety.

Donation: Rating of donation is calculated by counting the amount of money donated in last one year and number of days volunteered in a year. Threshold has been set at donation of 10% of annual household income and 3 days of voluntary service. About 26% people achieve sufficiency.

Community relationship: Community relationship consists of two components – ‘sense of belongingness in the community’ where the scale ranges from weak (1) to very strong (3) and trust in neighbor where the scale ranges trust none of them (1) to trust most of them (4). To achieve sufficiency, the range has been selected ‘very strong’ (3) and ‘trust most of them’ (4) and 52% achieved sufficiency.

Family: There are three-point scale for some sub indicators like family members care about each other, how they feel in their family, spending time with their family, family comfort where highest score *i.e.* 18 represents highest family relationship score and 6 represents lowest family relationship score. Threshold has been set at 16 (neutral) and about 43% of respondents enjoy sufficiency.

Safety: for this indicator, respondents are asked whether they have been facing any crime in last one year and there are two-point scale consisting of yes (1) and no (2). Sufficiency score has been selected on ‘no’. About 65% of respondents achieve sufficiency.

Table 7 : Community Vitality of the Respondents															
Community Vitality															
Happiness Scale (Degree of Happiness Cut off in %)															
Donation				Community Relationship				Family				Safety			
Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)
32	42	19	7	22	26	34	18	21	36	32	11	15	20	42	23
Sufficiency Cut Off Range															
10% of annual household income				‘very strong’ (3) and ‘trust most of them’ (4)				16 (‘neutral’)				Sufficiency in ‘no’ (2)			
*BSC		*ASC		*BSC		*ASC		*BSC		*ASC		*BSC		*ASC	
74		26		48		52		57		43		35		65	

Source: Compiled by author

Ecological diversity and resilience:

This indicator consists of following four components:

Ecological issues: This is a four-point scale ranging from major concern (1), some concern (2), minor concern (3) and no concern (4). The issues are; pollution of rivers and streams, air pollution, noise pollution, absence of waste disposal sites, draughts, soil erosion and floods. Sufficiency level has been set at ‘some concern’ to ‘not a concern’. In the study area it is found that 83% have achieved sufficiency.

Responsibility towards environment: This indicator is a four-point scale, ranging from highly

responsible (1) to not at all responsible (4) where threshold has been set at highly responsible (4) and 47% achieve sufficiency.

Wildlife damages: This indicator is consists of wildlife constraint and wild life damage. Both indicators are of four-point scale. For wild life constraint, the response scale is from major constraint (4) to not a constraint (1) and for wildlife damage, response ranges from a lot (1) to not at all (4). Sufficiency score have been selected major constraint (1) and a lot (1) or some (2), respectively. About 48% of respondents have achieved sufficiency.

Urban issues: Respondents were asked for ratings about urban issues like pollution, waste disposal, traffic congestion etc. on the basis of four-point scale, where 1 represents major concern and 4 represent not a concern. Threshold is set some concern (2) to not a concern (4) and 58% of the respondents have achieved sufficiency.

Table 8 : Ecological Diversity and Resilience of the Respondents															
Ecological Diversity and Resilience															
Happiness Scale (Degree of Happiness Cut off in %)															
Ecological Issues				Responsibility Towards Environment				Wild Life Damage				Urban Issues			
Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)
4	13	56	27	6	11	47	36	11	41	34	14	15	27	42	16
Sufficiency Cut Off Range															
(*BSC=Below Sufficiency Cut Off, *ASC=Above Sufficiency Cut Off) Elderly in %															
'some concern' (2) to 'not a concern' (4)				'highly responsible' (4)				'major constraint' (1) and 'a lot' (1) or 'some' (2)				'some concern' (2) to 'not a concern' (4)			
*BSC				*ASC				*BSC				*ASC			
17				83				17				83			

Source: Compiled by author

Living standards:

Living standards means how people are comfortable for living well and the included indicators are the following:

Asset: Asset indicators consist of some components like mobile phone, personal computer, refrigerator, colour T.V, washing machine, land, livestock etc. for measuring the indicators there are two point scale having yes (2) and no (1). Sufficiency has been set at 2 or more electrical equipment or 5 cultivated land or 3 livestock. It is found that, about 60% people enjoy sufficiency.

Housing: The quality of housing consists of three components which are type of toilet use, roof material, and room ratio. Scale ranges from good (2) to bad (1). Threshold has been selected on the basis of having good housing quality. About 61% have achieved sufficiency for housing quality.

Household per capita income: in this indicator respondents were asked what the total cash income was for their household during the past 12 months. The sufficiency level has been elected at 1.5 lacks per year and it is found that about 60% respondents have achieved sufficiency.

Table 9 : Living Standards of the Respondents											
Living Standards											
Happiness Scale (Degree of Happiness Cut off in %)											
Asset				Housing				Household per Capita Income			
Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)	Unhappy (<50%)	Narrowly Happy (50%-65%)	Extensively Happy (66%-76%)	Deeply Happy (>77%)
17	23	33	27	8	31	43	18	14	26	37	23
Sufficiency Cut Off Range											
(*BSC=Below Sufficiency Cut Off, *ASC=Above Sufficiency Cut Off) Elderly in %											
2 or more electrical equipment or 5 cultivated land or 3 livestock				'good' housing quality				1, 20,000 Rs./year			
*BSC		*ASC		*BSC		*ASC		*BSC		*ASC	
50		60		39		61		40		60	

Source: Compiled by author

Table 10 : Calculation for GNH Index				
Domains	Average % of Not Yet Happy People		Average % of Happy People	
	Unhappy	Narrow happy	Extensively happy	Deeply happy
Psychological wellbeing	22.25	30.5	28.25	19
Health	33	40.75	19.25	9.5
Time use	12.5	29.5	39	19
Education	14.5	20.5	28	36.25
Cultural diversity and resilience	14	28	37.75	20.25
Good governance	22.5	31	31.75	14.5
Community vitality	9	23	44.75	23.25
Ecological diversity and resilience	13	26.67	37.67	22.67
Living standards	19	25.5	36.5	19
Average	17.75	28.38	33.66	20.38
Total	46.13		54.04	

Source: Compiled by the author

$$\text{GNH Index} = 1 - (54.04 \times 46.13) = 0.751$$

$$\text{GNH INDEX} = 1 - (\text{Headcount} \times \text{Breadth})$$

[Headcount = % of Happy People and Breadth = % of Not Yet Happy People.]

Conclusion :

The GNH Index for urban elderly provides the information about how many people are fall under 'happy' and 'not yet happy' category where the GNH value of elderly in Dinhata municipal town is 0.75 that shows 54% of the people achieved happiness. According to GNH Index, people who achieve sufficiency in six out of nine domains identified as happy person. It is noticeable that, most of male elderly have an 'elderly group' for entertainment and their economic condition is also good but with the increasing of age group, the level of happiness decreases due to failing of health

both physically and mentally when they have to fully depends upon their children or other family members. However, GNH value can be very helpful for policy making, programs of elderly for better way of living.

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