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HEALTH, WEALTH & INNOVATION, SCOTLAND
Distribution of population by Subjective Happiness (on a scale from 0-10)
1. Have sufficient household income
2. Have sufficient household equipment and own land
3. Cultivate high positive emotions and low negative emotions,
4. Have good physical and mental health.
5. Practise meditation.
6. Do not over work yourself,
7. Socialize regularly with your family,
7. Be able to trust fellow citizens,
8. Have an age before or after the “mid-life crisis”.
9. Be married,
10. Strive to achieve post graduate degree
THE WHEEL AS HOLISTIC SYMBOL (HOLISTIC = wellbeing, global, multi-dimensional, timeless)
Changing National Accounts to Full Cost Accounts

- Economic Capital
- Cultural Capital
- Human Capital
- Social Capital
- Ecological Capital
- Human Capital
9 Domains of GNH

Measured in the GNH Index & GNH Screening Tools.

- Health
- Living Standard
- Education
- Ecological Diversity & Resilience
- Psychological well-being
- Community Vitality
- Good Governance
- Cultural Diversity & Resilience
- Time - Use
Quality of Life and GNH Dimensions

Stiglitz-Sen-Fitoussi
- Health
- Education
- Economic security
- Personal Security
- Balance of Time
- Voice & Governance
- Social Connections
- Environment
- Subjective measures of quality of life

Bhutan’s GNH
- Health
- Education
- Material Std of living
- Time Use
- Governance
- Community Vitality
- Ecological Diversity
- Culture & spirituality
- Emotional Well-being
CENTRE FOR BHUTAN STUDIES

Psychological Wellbeing
- Satisfaction
- Positive emotions
- Negative emotions
- Spirituality

Health
- Mental health
- Self-reported health status
- Healthy days
- Disability

Time Use
- Work
- Sleep

Living Standards
- Assets Indicator
- Housing Indicator
- Income

Ecological Diversity and Resilience
- Pollution Index
- Responsibility over natural environment
- Wildlife
- Public Transport access

Community Vitality
- Donations
- Community relationship
- Family
- Safety

Good Governance
- Performance Index
- Rights
- Service Index
- Political Participation

Education
- Literacy
- Educational Level
- Knowledge Index
- Value

Cultural Diversity
- Speak native Language
- Cultural Participation
- Artistic Skills
- Driglam Namzha

Living Standards
- Assets Indicator
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<table>
<thead>
<tr>
<th>Domain</th>
<th>No of Indicators</th>
<th>Subjective indicators</th>
<th>Objective indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological wellbeing</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Health</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Time use</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Education</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Cultural diversity and resilience</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Good Governance</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Community vitality</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Ecological diversity and resilience</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Living standards</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>24</td>
<td>9</td>
</tr>
</tbody>
</table>
Weighting:

- 9 domains are equally weighted
- There are 33 sub-domains
- Subjective sub-domains have light weights except in psych well-being
- Robustness tests are performed
1. Setting an alternative framework of development (but in what new direction?)
2. Providing indicators to sectors to guide development
3. Allocating resources in accordance with GNH targets and GNH screening tools
4. Measuring people’s happiness and well being
5. Measuring progress over time
SOCIAL TIME: 34 % of Bhutanese socialize every day, socializing with members of family for an average of 63 minutes and another 89 minutes with friends and neighbors and relatives.
TV TIME: 50% of Bhutanese watch TV. Rural Bhutanese watch it for 41 minutes. Urban Bhutanese does it for an imposing 174 minutes.

Mean time spent watching television and praying by age. The respondents are not same people; so time between these two groups cannot be added up.
Psychological wellbeing

- Emotional Balance
  - Positive emotions
  - Negative emotions

- Mental Health
  - General health questionnaire

- Spirituality
  - Spiritual practice

- Life Satisfaction
  - Spiritual Belief
<table>
<thead>
<tr>
<th>Sl no</th>
<th>Indicator</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Uniqueness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Life quality</td>
<td>0.0575</td>
<td>0.4755</td>
<td>0.0685</td>
<td>0.0427</td>
<td>0.7641</td>
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<tr>
<td>2</td>
<td>Satisfaction with health</td>
<td>-0.0006</td>
<td>0.4784</td>
<td>0.1313</td>
<td>-0.0876</td>
<td>0.7463</td>
</tr>
<tr>
<td>3</td>
<td>Satisfaction with standard of living</td>
<td>0.0177</td>
<td>0.7169</td>
<td>0.1145</td>
<td>0.02</td>
<td>0.4722</td>
</tr>
<tr>
<td>4</td>
<td>Satisfaction with major occupation</td>
<td>0.0245</td>
<td>0.6355</td>
<td>0.1272</td>
<td>0.0317</td>
<td>0.5784</td>
</tr>
<tr>
<td>5</td>
<td>Satisfaction with family relationship</td>
<td>0.0568</td>
<td>0.433</td>
<td>0.1633</td>
<td>0.065</td>
<td>0.7783</td>
</tr>
<tr>
<td>6</td>
<td>Satisfaction with work life balance</td>
<td>0.1007</td>
<td>0.4726</td>
<td>0.1281</td>
<td>0.0107</td>
<td>0.75</td>
</tr>
<tr>
<td>7</td>
<td>Spirituality level</td>
<td>0.2202</td>
<td>0.0435</td>
<td>0.1115</td>
<td>0.6207</td>
<td>0.5519</td>
</tr>
<tr>
<td>8</td>
<td>Prayer recitation</td>
<td>0.1904</td>
<td>0.0103</td>
<td>0.0129</td>
<td>0.5613</td>
<td>0.6485</td>
</tr>
<tr>
<td>9</td>
<td>Consideration of Karma</td>
<td>0.146</td>
<td>0.0076</td>
<td>0.0839</td>
<td>0.3008</td>
<td>0.8811</td>
</tr>
<tr>
<td>10</td>
<td>Anger</td>
<td>-0.0039</td>
<td>0.0729</td>
<td>0.5947</td>
<td>0.0503</td>
<td>0.6384</td>
</tr>
<tr>
<td>11</td>
<td>Selfishness</td>
<td>-0.0392</td>
<td>0.0095</td>
<td>0.4583</td>
<td>0.2012</td>
<td>0.7478</td>
</tr>
<tr>
<td>12</td>
<td>Jealousy</td>
<td>-0.0401</td>
<td>-0.0102</td>
<td>0.4653</td>
<td>0.1924</td>
<td>0.7448</td>
</tr>
<tr>
<td>13</td>
<td>Frustration</td>
<td>-0.0144</td>
<td>0.1915</td>
<td>0.6963</td>
<td>0.0075</td>
<td>0.4782</td>
</tr>
<tr>
<td>14</td>
<td>Worry</td>
<td>-0.0339</td>
<td>0.2219</td>
<td>0.5725</td>
<td>-0.0084</td>
<td>0.6218</td>
</tr>
<tr>
<td>15</td>
<td>Calmness</td>
<td>0.4294</td>
<td>0.1493</td>
<td>0.136</td>
<td>-0.0213</td>
<td>0.7743</td>
</tr>
<tr>
<td>16</td>
<td>Compassion</td>
<td>0.764</td>
<td>0.0024</td>
<td>-0.0005</td>
<td>0.1061</td>
<td>0.4051</td>
</tr>
<tr>
<td>17</td>
<td>Forgiveness</td>
<td>0.6674</td>
<td>-0.0007</td>
<td>-0.028</td>
<td>0.0833</td>
<td>0.5469</td>
</tr>
<tr>
<td>18</td>
<td>Contentment</td>
<td>0.5159</td>
<td>0.091</td>
<td>-0.0278</td>
<td>0.0103</td>
<td>0.7246</td>
</tr>
<tr>
<td>19</td>
<td>Generosity</td>
<td>0.683</td>
<td>0.0359</td>
<td>-0.0573</td>
<td>0.1232</td>
<td>0.5137</td>
</tr>
</tbody>
</table>
Self-reported stress level

- Not at all stressful: 45.2%
- Somewhat stressful: 30.4%
- Moderately stressful: 13.2%
- Very stressful: 11.2%

Source: GNH Survey 2010
Suicidal ideation in past 12 months by stress

- Very stressful: 91.2% No, 8.8% Yes
- Moderately stressful: 95.6% No, 4.4% Yes
- Somewhat stressful: 96.4% No, 3.6% Yes
- Not at all stressful: 98.5% No, 1.5% Yes
- Don't know: 100.0% No

Source: GNH Survey 2010
Experience of anger by area

1 Rural

- Often: 4.7%
- Sometimes: 42.6%
- Rarely: 19.8%
- Never: 32.9%

2 Urban

- Often: 6.9%
- Sometimes: 45.5%
- Rarely: 20.9%
- Never: 26.7%

Source: GNH Survey 2010
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Sub-indicator</th>
<th>Question</th>
<th>Response range (worst-best)</th>
<th>Sufficiency threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self reported health status</td>
<td>Self reported health status</td>
<td>In general, would you say your health is…</td>
<td>1 (Very poor)-5 (Excellent)</td>
<td>4 (Good) or 5 (Excellent)</td>
</tr>
<tr>
<td>Healthy days</td>
<td>Healthy days</td>
<td>Number of healthy days in the past 30 days</td>
<td>0 (Worst)-30(Best)</td>
<td>National average Above 26 days</td>
</tr>
<tr>
<td></td>
<td>Long term disability</td>
<td>Do you have any long term disabilities, health/mental problems?</td>
<td>1 (Yes)-2 (No)</td>
<td>2 (No)</td>
</tr>
<tr>
<td>Disability</td>
<td>Activity limitations</td>
<td>Does the long-term disability restrict your activities?</td>
<td>1 (All the time)-5 (Never)</td>
<td>3 (Rarely) or 4 (Never)</td>
</tr>
<tr>
<td>Mental health</td>
<td>12 item General health questionnaire</td>
<td>12 item General health questionnaire</td>
<td>0-15 (Severe distress)-21-36 (Normal mental wellbeing)</td>
<td>21-36 (Normal mental wellbeing)</td>
</tr>
</tbody>
</table>
Body mass index (n=1488)

- Normal weight: 67.4%
- Overweight: 21.6%
- Obesity: 5.1%
- Underweight: 6.0%

Source: GNH Survey 2010
Smoking in life and in past 12 months by Dzongkhag

The area under the green shade represents the proportion who have quitted the habit.
Alcohol consumption in life by sex

Male
- Yes: 76.8%
- No: 23.2%

Female
- Yes: 53.9%
- No: 46.1%

Source: GNH Survey 2010
Mean healthy days by age

Source: GNH Survey 2010
Socioeconomic Construction of Time / Experience

- SNA-Non SNA
- Paid-Unpaid
- Transcendental - conventional
- Employed-Unemployed
- Legal-Unregulated
- Work-Leisure
- Productive-Nonproductive
- Fast-Slow
- Event – Chronological time
- Alone-Together
- Free-Unfree
- Dranpa – dranmed (dzogchen)
Districts below (-) and above (+) the national mean work time 484 (in minutes)

-100 -80 -60 -40 -20 0 20 40 60 80 100

Tashi Yangste
Mongar
Tashigang
Samdrup Jongkhar
Pema Gatshel
Tsirang
Trongsa
Lhuntse
Gasa
Sarpang
Bumthang
Samtse
Haa
Chukha
Wangdue Phodrang
Zhempang
Dagana
Punakha
Thimphu
Paro
between 46 to 50, peaking at 518 minutes a day
<table>
<thead>
<tr>
<th>Activity</th>
<th>Urban M</th>
<th>Urban F</th>
<th>Urban Mean</th>
<th>Rural M</th>
<th>Rural F</th>
<th>Rural Mean</th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooking</td>
<td>67</td>
<td>114</td>
<td>103</td>
<td>74</td>
<td>117</td>
<td>101</td>
<td>102</td>
<td>57</td>
<td>5045</td>
</tr>
<tr>
<td>Care of children, old, sick and disabled</td>
<td>75</td>
<td>90</td>
<td>87</td>
<td>88</td>
<td>73</td>
<td>77</td>
<td>81</td>
<td>97</td>
<td>1764</td>
</tr>
<tr>
<td><strong>Total work</strong></td>
<td>425</td>
<td>449</td>
<td>439</td>
<td>474</td>
<td>531</td>
<td>501</td>
<td>484</td>
<td>200</td>
<td>6999</td>
</tr>
<tr>
<td>Socialising with family members</td>
<td>54</td>
<td>56</td>
<td>55</td>
<td>68</td>
<td>61</td>
<td>65</td>
<td>63</td>
<td>50</td>
<td>2563</td>
</tr>
<tr>
<td>Socialising with relatives, friends and neighbours</td>
<td>89</td>
<td>100</td>
<td>96</td>
<td>89</td>
<td>82</td>
<td>86</td>
<td>89</td>
<td>80</td>
<td>2296</td>
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<tr>
<td>Reciting prayers/mantras/counting beads</td>
<td>77</td>
<td>67</td>
<td>72</td>
<td>100</td>
<td>79</td>
<td>91</td>
<td>87</td>
<td>123</td>
<td>2894</td>
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<tr>
<td>Offering water/food/ incense/butter lamp</td>
<td>15</td>
<td>13</td>
<td>14</td>
<td>17</td>
<td>14</td>
<td>15</td>
<td>15</td>
<td>13</td>
<td>2427</td>
</tr>
<tr>
<td>Watching television and movies</td>
<td>170</td>
<td>177</td>
<td>174</td>
<td>152</td>
<td>154</td>
<td>153</td>
<td>165</td>
<td>116</td>
<td>2829</td>
</tr>
<tr>
<td>Washing/dressing/undressing/changing/grooming/using restroom</td>
<td>37</td>
<td>32</td>
<td>34</td>
<td>34</td>
<td>30</td>
<td>32</td>
<td>33</td>
<td>23</td>
<td>7043</td>
</tr>
<tr>
<td>Eating and drinking</td>
<td>81</td>
<td>75</td>
<td>78</td>
<td>93</td>
<td>87</td>
<td>90</td>
<td>87</td>
<td>41</td>
<td>7109</td>
</tr>
<tr>
<td>Travelling/commuting to/from work</td>
<td>73</td>
<td>56</td>
<td>64</td>
<td>95</td>
<td>66</td>
<td>82</td>
<td>77</td>
<td>88</td>
<td>5738</td>
</tr>
<tr>
<td><strong>Total non-work</strong></td>
<td>549</td>
<td>498</td>
<td>519</td>
<td>469</td>
<td>389</td>
<td>432</td>
<td>456</td>
<td>211</td>
<td>7114</td>
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<tr>
<td>Sleeping</td>
<td>481</td>
<td>496</td>
<td>490</td>
<td>510</td>
<td>523</td>
<td>516</td>
<td>509</td>
<td>97</td>
<td>7100</td>
</tr>
</tbody>
</table>
Women work longer than men both in town and villages, but work duration is lower in town for both men and women.
Eating and drinking takes 4.2 years in life; 87 minutes a day. Cooking 117 minutes a day, no rural urban difference.
A Bhutanese going to work in rural area

Mean time spent travelling (both for work and leisure) by occupation

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Time (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housewife</td>
<td>52</td>
</tr>
<tr>
<td>Businessman</td>
<td>61</td>
</tr>
<tr>
<td>RBG/RBA/RBP</td>
<td>63</td>
</tr>
<tr>
<td>Others</td>
<td>71</td>
</tr>
<tr>
<td>Unemployed</td>
<td>71</td>
</tr>
<tr>
<td>Students</td>
<td>76</td>
</tr>
<tr>
<td>Corporate employee</td>
<td>79</td>
</tr>
<tr>
<td>Farmer</td>
<td>81</td>
</tr>
<tr>
<td>Civil servants</td>
<td>84</td>
</tr>
<tr>
<td>National Work Force</td>
<td>100</td>
</tr>
<tr>
<td>Monk/Animi/Com…</td>
<td>105</td>
</tr>
<tr>
<td>GVT/DVT member</td>
<td>128</td>
</tr>
</tbody>
</table>
CARE GIVING TIME: 25% of the population spend 81 spend minutes a day giving care to children, sick, old and the disabled. Housewives do most spending 51 minutes, others only 16 minutes.
PERSONAL CARE TIME: time spent on washing, dressing, undressing, changing, grooming, using restroom
Mean time spent on washing, dressing, undressing, changing, grooming, using restroom by occupation

Time (minutes)

- House wife: 28
- Monk/Anim/Gomchen: 29
- Farmer: 29
- Others: 31
- Businessman: 31
- Unemployed: 33
- National Work Force: 36
- Corporate employee: 39
- RBG/RBA/RB: 39
- Students: 40
- Civil servants: 43

Lines represent: red - Monday to Friday, blue - weekends.
SACRED TIME: 40% of Bhutanese pray (mystical and dialogic) on an average 79 minutes (SD. 109) every day; Religious people do it for 3 hours 48 minutes a day.

34% of Bhutan spend another 15 minutes making water and lamp offerings every day.
GNH in Policy Making

National Index

Progress Measurement

Policy Making

Project Formulation

SINGLE NUMBER GNH INDEX

Influence

GNH INDICATORS

Influence

GNH POLICY SCREENING TOOLS

GNH PROJECT SELECTION TOOLS
Increasing GNH

To increase happiness,

We have to identify people who are not yet happy.

And we have to ask, where do they lack sufficiency? What more must be done?

This analysis is of direct relevance for policy.
How much is enough to be happy?
The GNH Index uses two kinds of thresholds:

1. **Sufficiency thresholds**
   Shows how much a person needs in order to enjoy ‘sufficiency’ – how much is enough normally to create a happiness condition. Each indicator has a sufficiency threshold.

2. **Happiness threshold**
   Unhappy, narrowly happy, extensively happy and deeply happy depends on the number of variables you enjoy.
Results of GNH index for 2010,
10.4% of people were ‘unhappy’;
47.8% are ‘narrowly happy’,
32.6% are ‘extensively happy’; and
8.3% are ‘deeply happy’.