

GNH INDEX methodology



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LONG TERM ACTIONS: TO ACHIEVE HARMONY OF EXISTENCE

- Promote successful birth, living, aging and dying
- Reorganise structure of government from present service delivery system to GNH focused organisational development.
- Balance national consciousness between external sensation based stimuli and internal contemplation based stimuli
- Stabilize material affluence level to balance economy and ecology
- Restore purity of air, light, noise, water and soil
- Regenerate community and social life
- Protect biodiversity
- Influence the world to change, and be changed by good influences



MEDIUM TERM ACTIONS: TO ENTRENCH GNH INFLUENCE

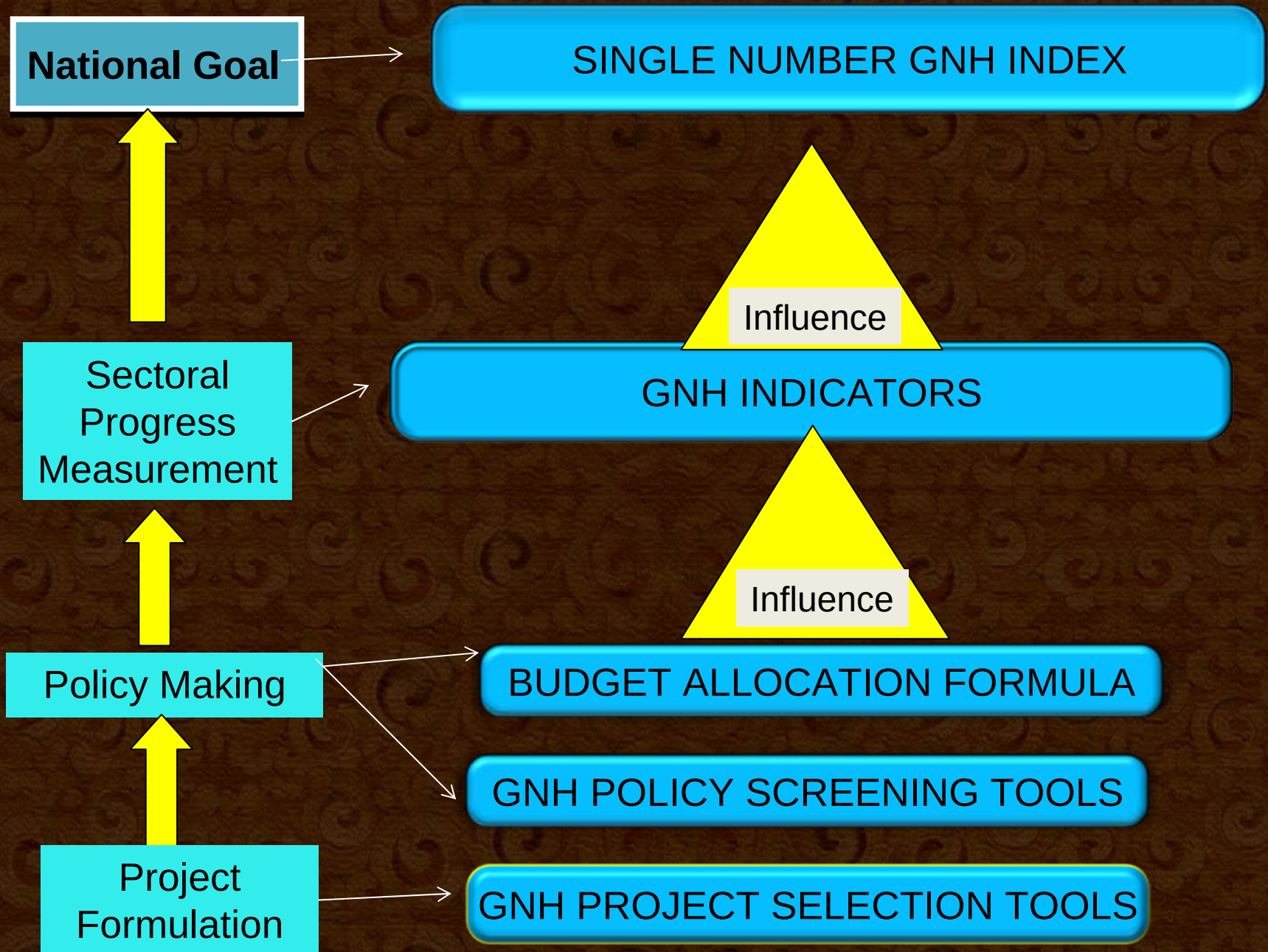
- Formulate fiscal system in harmony with GNH (budget allocation, tax and non-tax penalty system)
- Introduce full-cost national accounting and footprint analysis to complement GDP accounts
- Influence curriculum and media towards GNH
- Influence OD and HR towards GNH
- Influence transportation, industrial, financial and agriculture systems towards GNH

SHORT TERM ACTIONS: TO MOBILIZE CONSCIENCE

- Fix GNH indicators for baseline and targets
- Create budgets and programmes to achieve those targets
- Provide ongoing commentary on current issues from GNH perspective
- Disseminate GNH to promote unity of purpose
- Educate people on GNH for behavioural change: hold conferences, produce multi-lingual films

Why we need new indicators

- How to make the case to government officials, international agencies, conventional economists, donors
- From Statement of Principle (GNH>GDP) to Practicality, Policies and Programmes



Interdependence



~~“-”~~ sign: negative effect

Two lines: delay



- Clarifying ultimate ends
- Understanding interrelationships
 - Trade-offs
 - Tipping points (for breakouts and collapses)
 - Delayed consequences
- Understanding process and logical orders of changes
- Focusing management on controllable means instead of results which are often not controllable
- Identifying leverage points and important indicators



INDICATORS = Value of society

Most indicators are about market economy

**Change in indicators is a first step
towards changing or reflecting new values**

Living standard

Education

Community Vitality

Time – Use

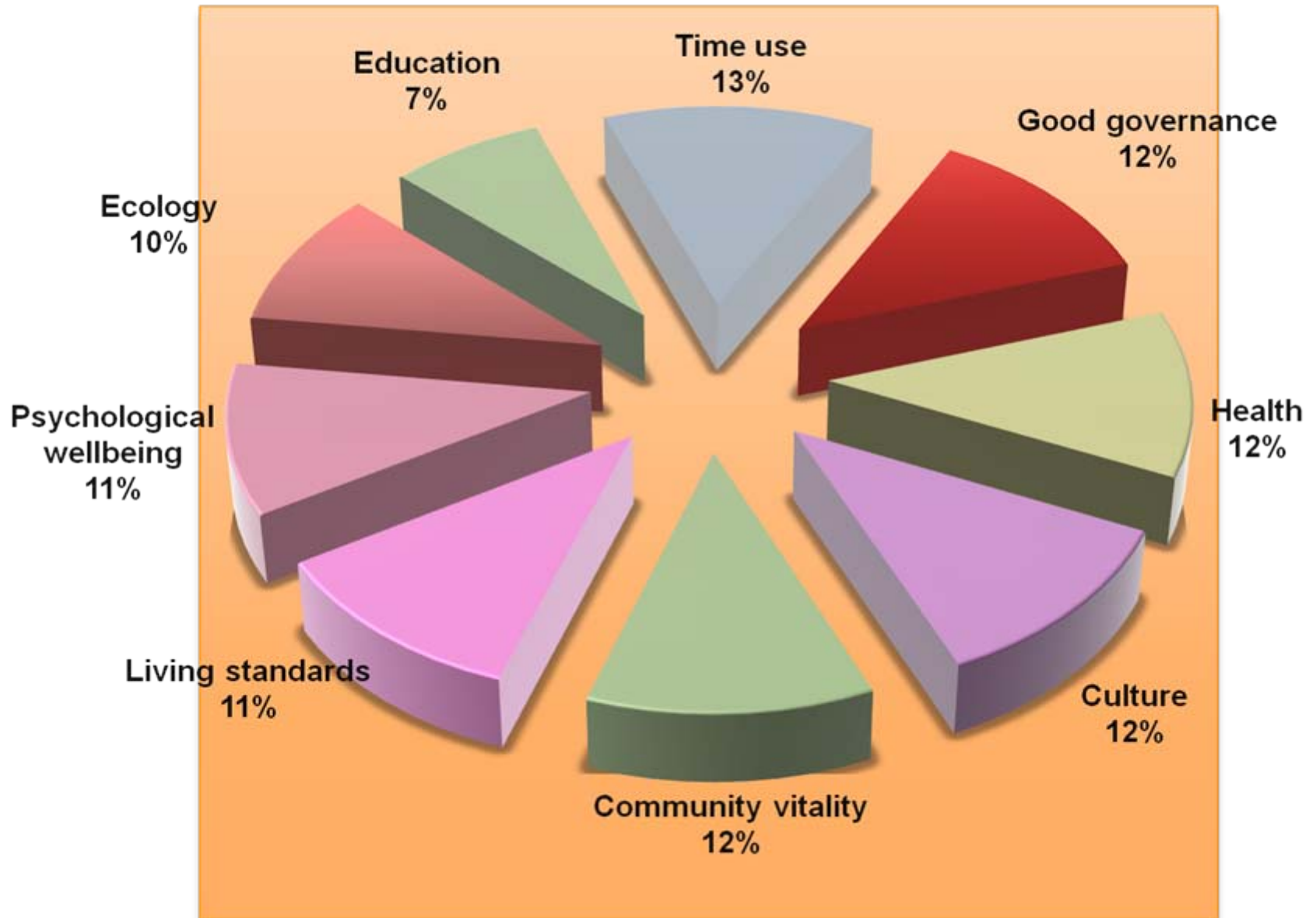
Cultural Resilience

Health

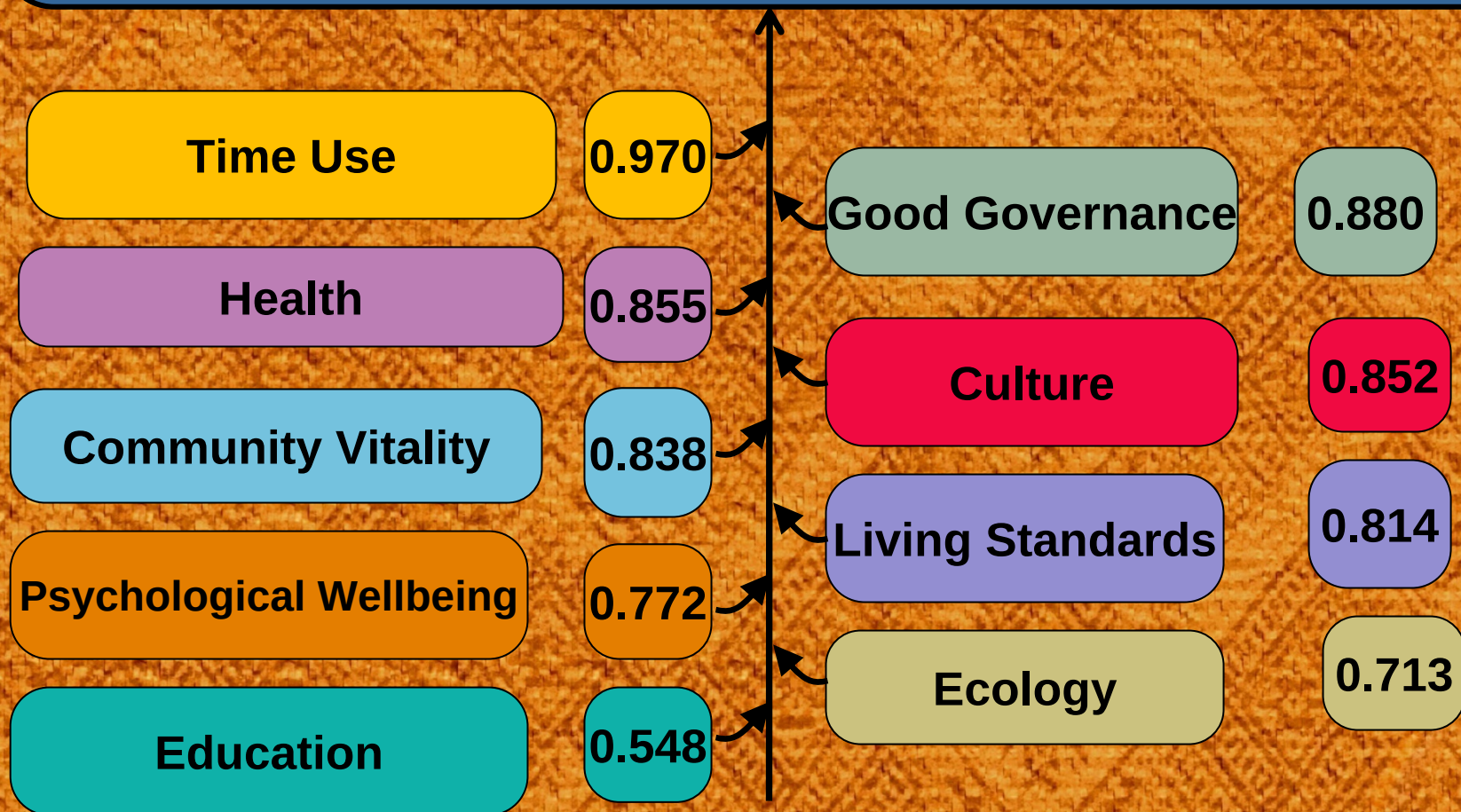
Good Governance

Ecological
Diversity

% contribution of weighted domains to GNH Index



Weighted GNH Index at domain level = .80



0.64

0.76

0.80

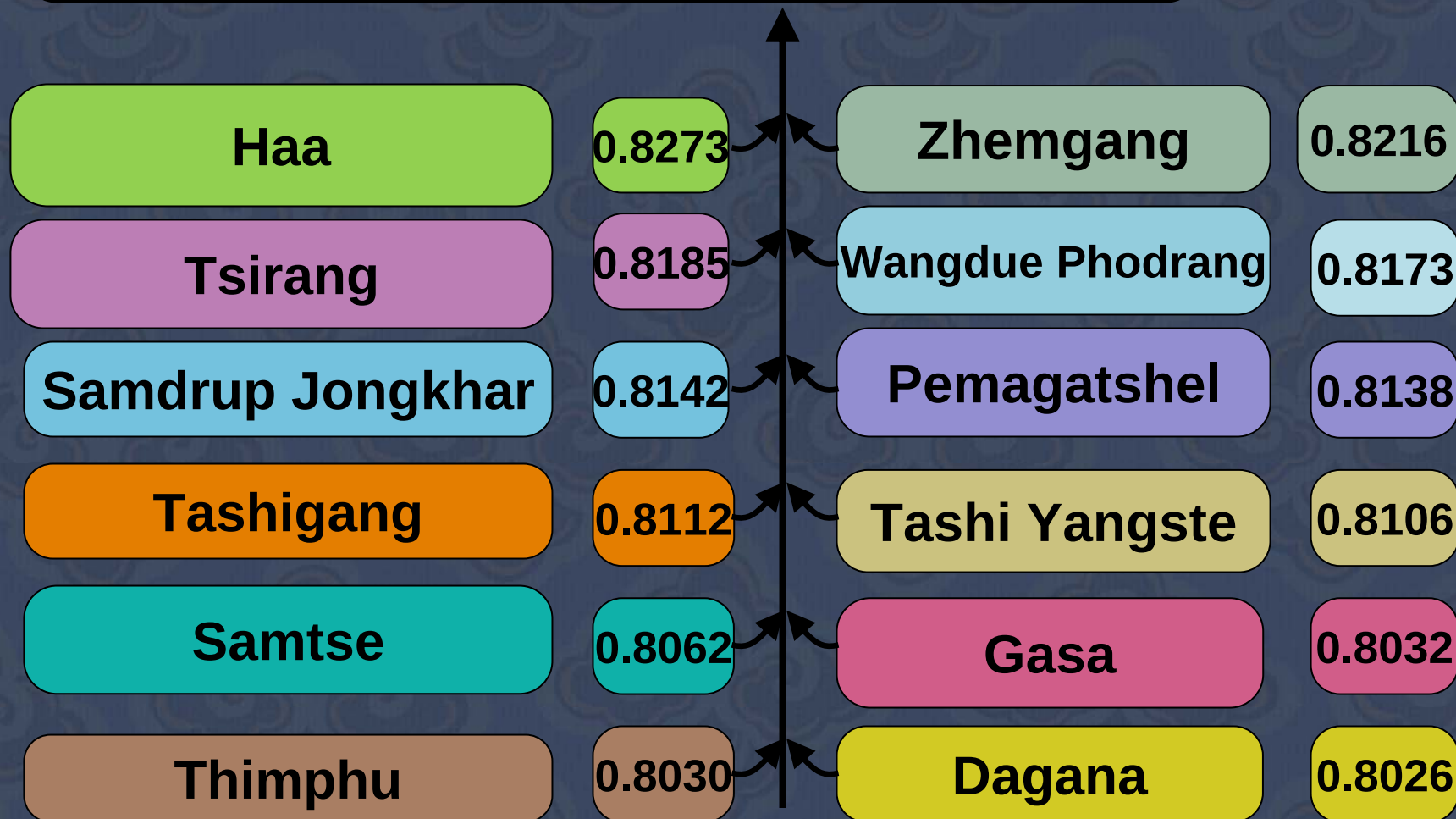
$$\text{BREADTH} = 0.64$$

$$\text{BREADTH} + \text{DEPTH} = 0.76$$

$$\text{BREADTH} + \text{DEPTH} + \text{SEVERITY} = 0.80$$

DZONGKHAG RANKING BY unweighted GNH INDEX

.80



Unweighted GNH INDEX BY GENDER

.81



Male

0.825



Female

0.796

=

IDENTIFICATION:

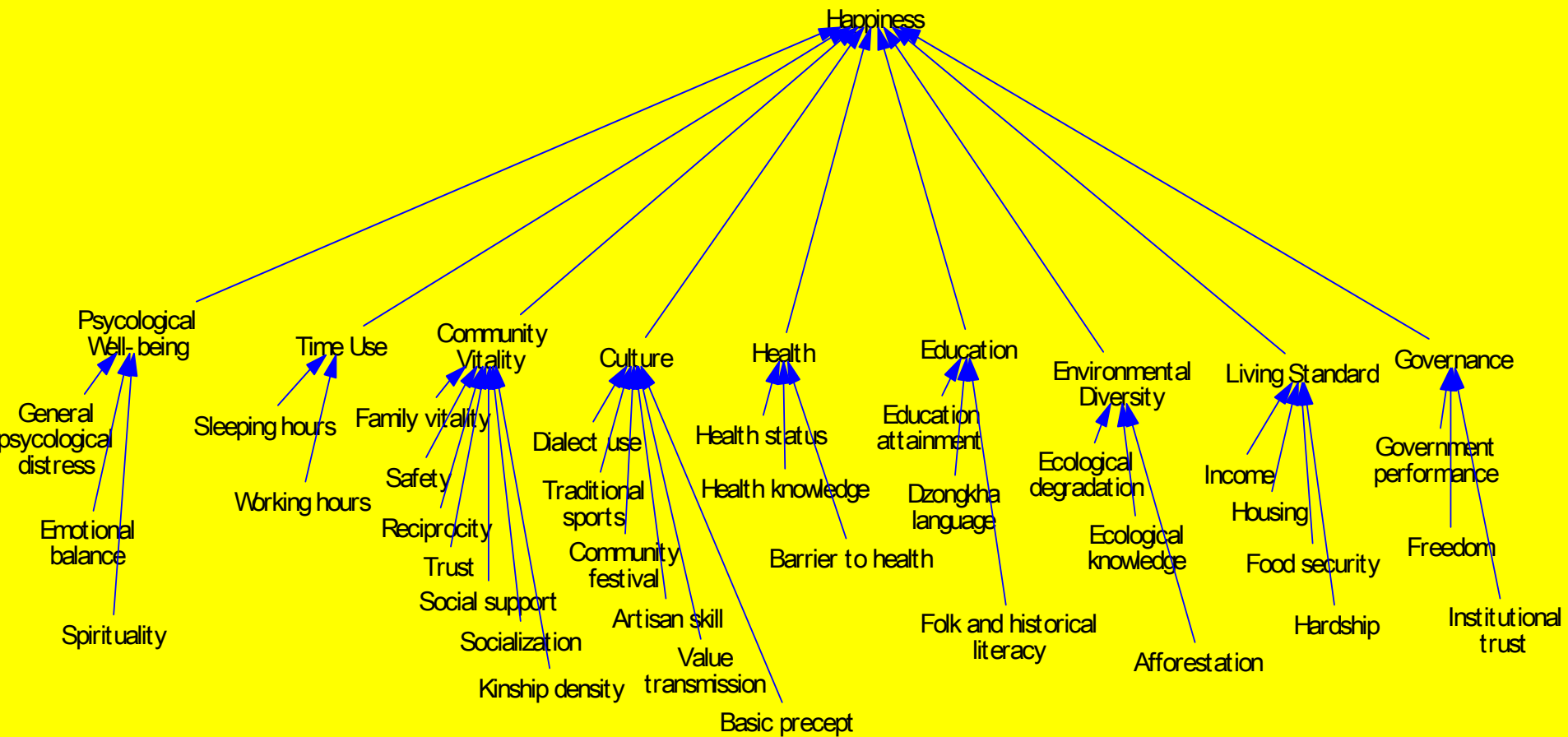
**72 variables out of
1000 plus variables**

Objective and Subjective Indicators

Subjective Objective	Good	Bad
Good	True Progress	Neurosis
Bad	False Consciousness	Misery

Alex Michelos – University of British Columbia

Relationships among Domains/Variables: A Deductive View



Psychological Wellbeing Index

- **Mental Health Indicators**
- **Spirituality Indicators**
- **Emotional Balance Indicators**

Emotional balance index

Positive emotions

- Compassion
- Calmness
- Generosity

Negative emotions

- Frustration
- Selfishness
- Jealousy



Time Use Index

- Total working hours per day 7 hours
- Sleep hours indicators 8 hours

- **Work activities**

1. Crop farming and kitchen gardening (agric)
2. Business, trade and services
3. Care of children and sick members of household
4. Construction and repairs
5. Craft related activities
6. Forestry and horticultural activities
7. Household maintenance
8. Livestock related activities
9. Processing of food and drinks
10. Quarrying work

- **Non-work activities**

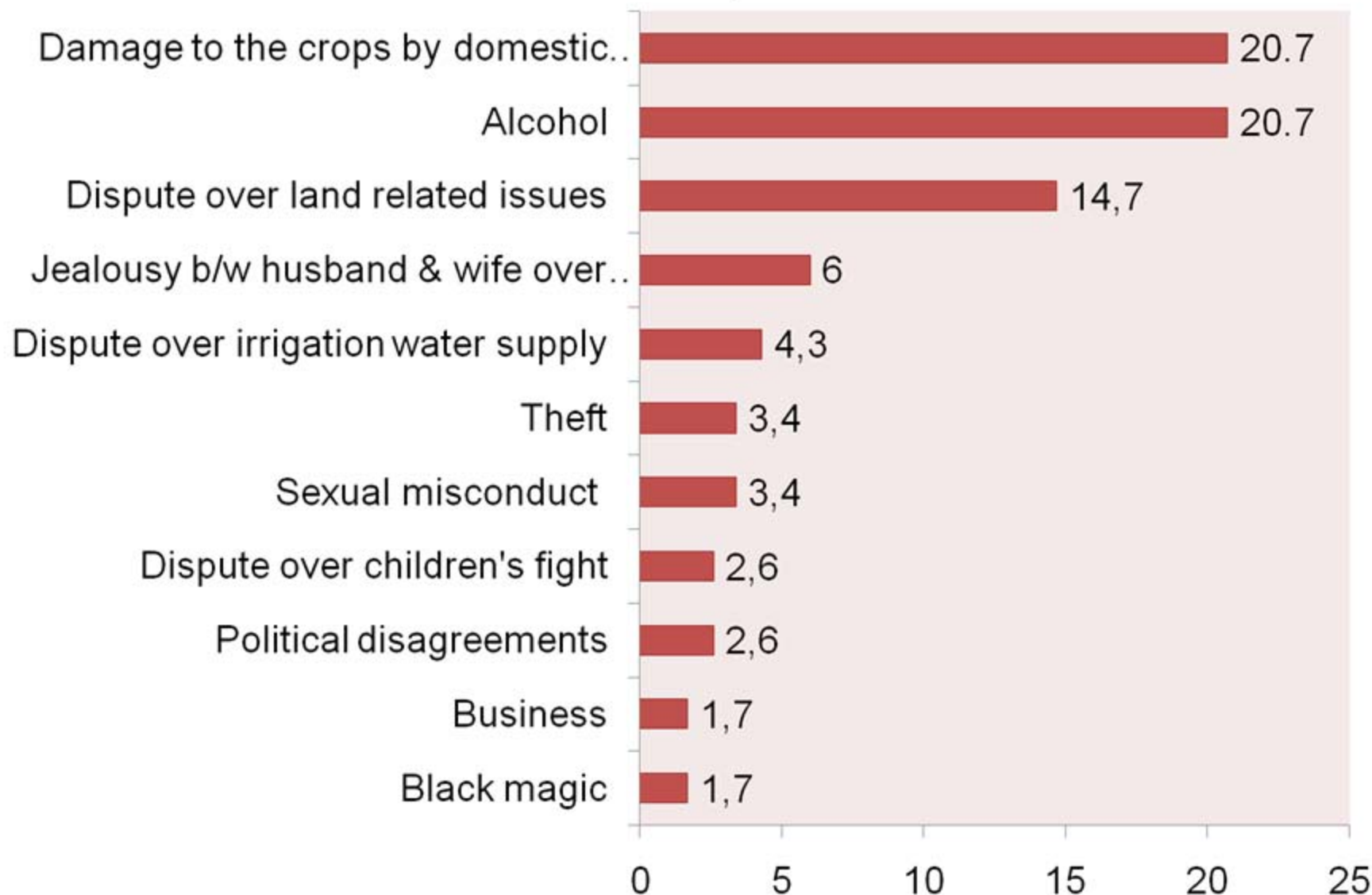
1. Community participation
2. Education and learning
3. Personal care
4. Religious activities
5. Social and cultural activities
6. Sports and leisure
7. Travel/commute
8. Waiting

Community Vitality Index

- Community trust indicators
- Social support indicators
- Reciprocity indicators
- Socialization indicators
- Family indicators
- Kinship indicators
- Safety indicators



Enmity

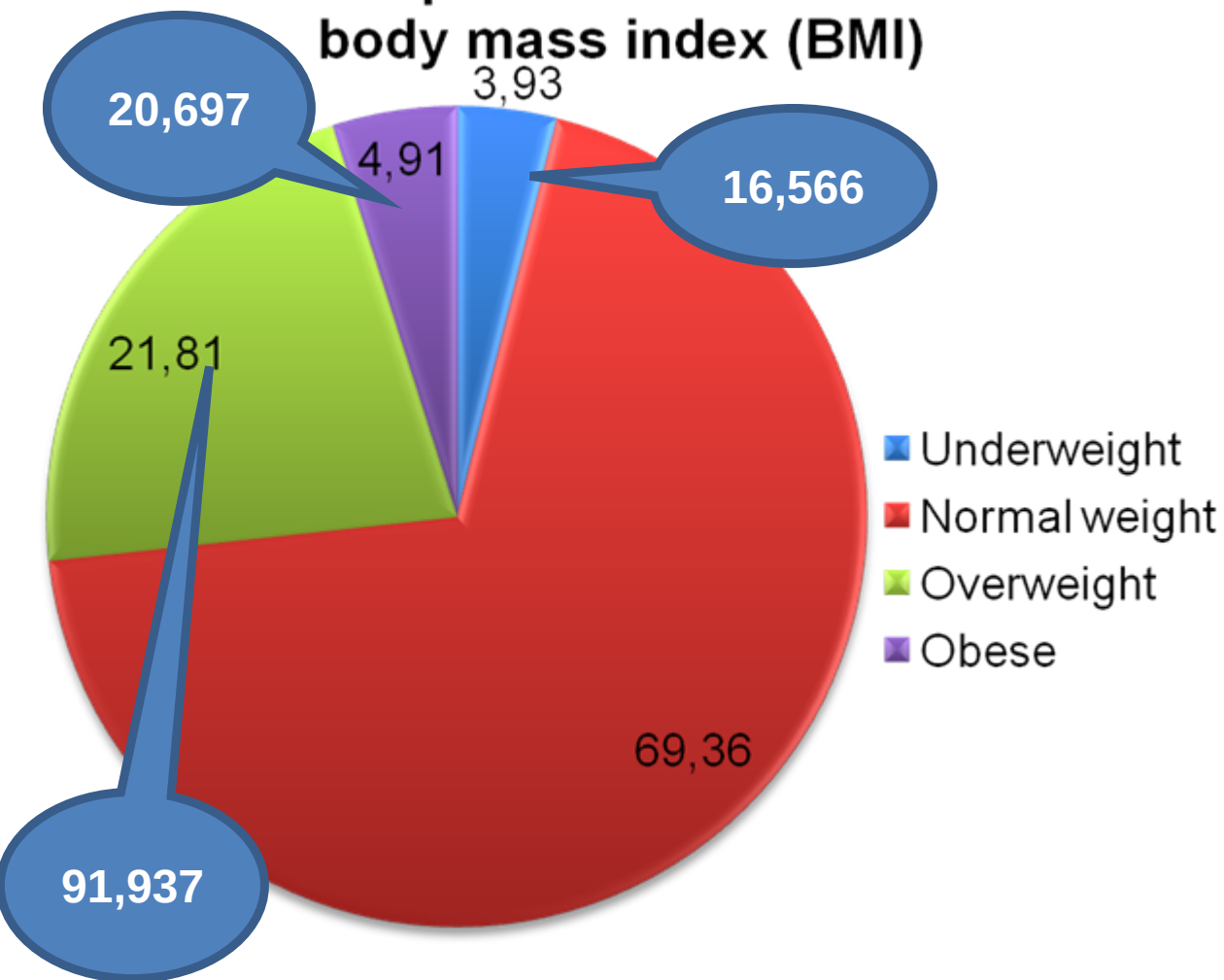


Health Index

- **Self reported health indicator**
- **Body Mass Index**
- **# of Healthy days in a month**
- **Long term disability indicator**
- **Health knowledge indicators**
- **Health barrier indicators**



% of respondents with different body mass index (BMI)



❖ BMI= weight (KG)/height (m²)

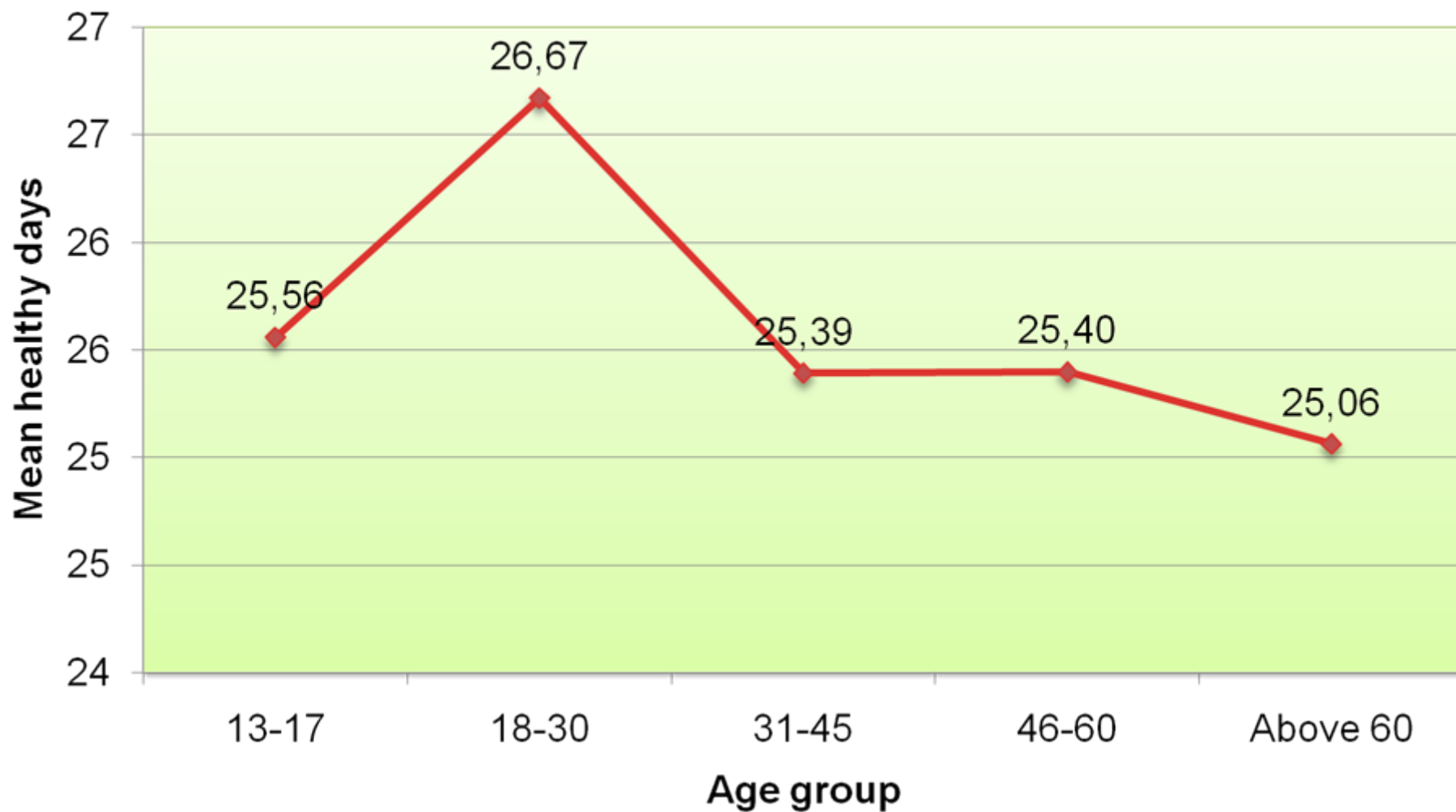
Under weight—
BMI <18.5

Normal weight—
BMI 18.5-24.9

Overweight—BMI
25.0-29.9

Obese—BMI
≥30.0

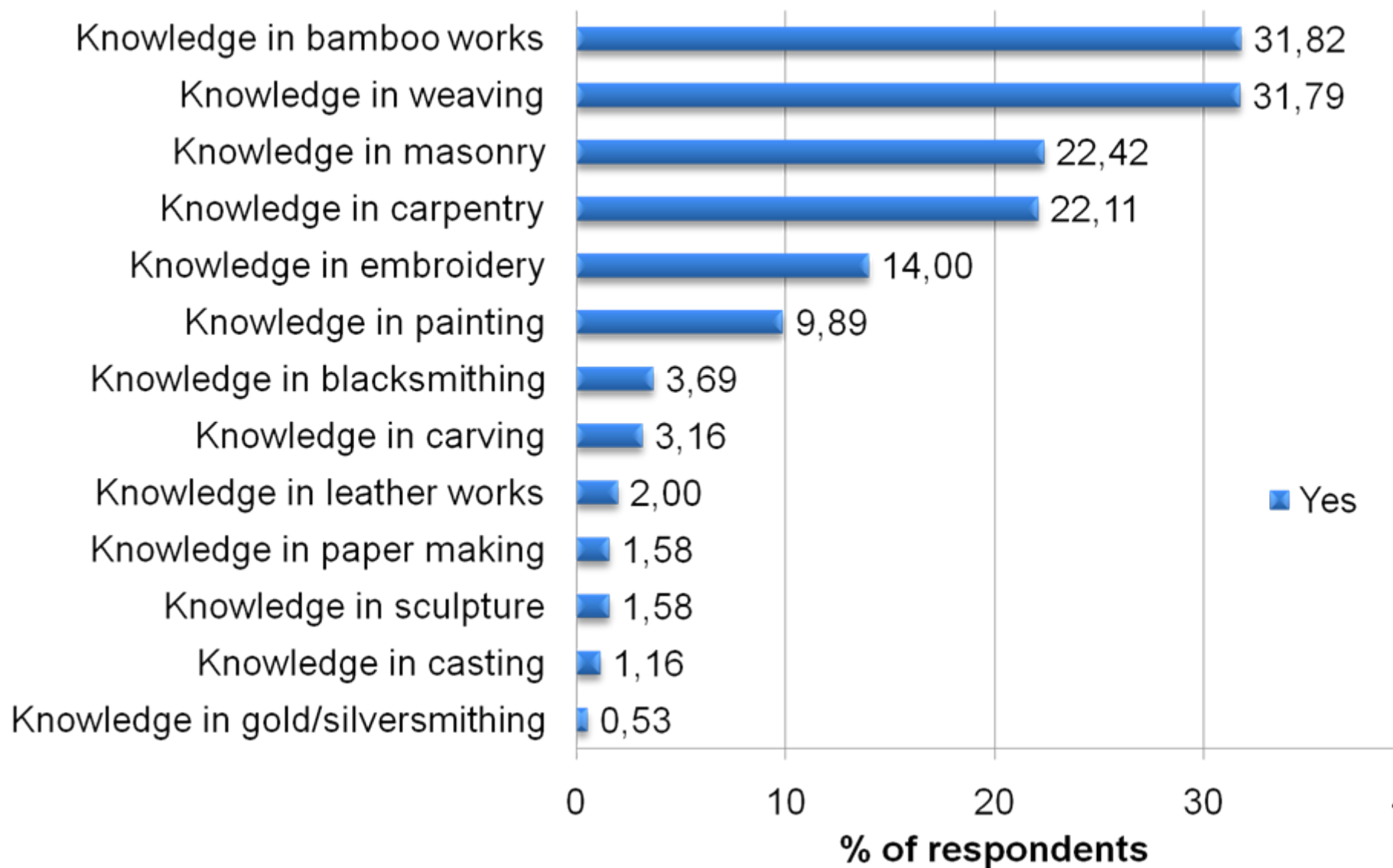
Mean healthy days by age group



Culture Index

- Dialect indicators
- Traditional recreational indicators
- Artisan skill indicators
- Value transmission indicators
- Community festival indicators
- Reciprocity indicators
- Basic Precept indicators

Knowledge in different arts and crafts



Education Index

- **Dzongkha language indicators**
- **Historical literacy indicators**
- **Literacy and education indicators**

Ecology Index

- Environmental degradation indicators**
- Ecological knowledge indicators**
- Afforestation indicators**

Good Governance Index

- **Government performance indicators**
- **Freedom indicators**
- **Institutional trust indicators**

Living Standard Index

**Household Income indicators
(absolute & relative)**

Food security indicator

**Housing indicators (room ratio +
ownership)**

Hardship indicators

Household maintenance by gender

Activities	Difference in frequency	
	Male	Female
Cooking	192	402
Dish washing	37	199
House cleaning	84	182
Laundry	25	84
Shopping	21	21
Other household activities	172	218

Difference in time	
Male	Female
1:23	1:50
0:25	0:36
0:55	0:46
1:02	1:22
1:25	1:48
0:29	0:32

Average Time
1:41
0:34
0:17
1:17
1:37
0:30

AGGREGATION

**DECOMPOSABLE
THRESHOLD
METHOD**

Example

Survey question:

How safe do you feel from human harm at night?

Rarely safe	Usually safe	Always safe
1	2	3



Rarely safe	Usually safe	Always safe
Insufficient		Sufficient
1	1	0

Step 1. Apply sufficiency cutoff to obtain insufficiency headcounts

Matrix A:

	Compassion	Meditation	Healthy days	Socialization	Rights	Voluntary days	Income	Enmity	Food security
Person1	1	3	30	4	3	4	3	1	2
Person2	1	2	30	3	3	10	2	2	2
Person3	1	2	24	3	3	50	2	2	1
Person4	1	3	30	4	3	10	2	2	2

	Compassion	Meditation	Healthy days	Socialization	Rights	Voluntary days	Income	Enmity	Food security
Sufficiency cutoff	1	3	30	4	3	4	3	1	2



Matrix A:

	Compassion	Meditation	Healthy days	Socialization	Rights	Voluntary days	Income	Enmity	Food security
Person1	1	3	30	4	3	4	3	1	2
Person2	1	2	30	3	3	10	2	2	2
Person3	1	2	24	3	3	50	2	2	1
Person4	1	3	30	4	3	10	2	2	2



Matrix B:

	Compassion	Meditation	Healthy days	Socialization	Rights	Voluntary days	Income	Enmity	Food security
Person1	1	0	0	0	0	1	0	1	0
Person2	1	1	0	0	0	1	0	0	0
Person3	1	1	1	0	0	0	0	0	1
Person4	1	0	0	0	0	1	0	0	0

Matrix B:

	Compassion	Meditation	Healthy days	Socialization	Rights	Voluntary days	Income	Enmity	Food security
Person1	1	0	0	0	0	1	0	1	0
Person2	1	1	0	0	0	1	0	0	0
Person3	1	1	1	0	0	0	0	0	1
Person4	1	0	0	0	0	1	0	0	0



Insufficiency headcounts (HI)
= Number of insufficiencies / Total number of respondents



	Compassion	Meditation	Healthy days	Socialization	Rights	Voluntary days	Income	Enmity	Food security
HI	4/4	2/4	1/4	0	0	3/4	0	1/4	1/4

GNH Sufficiency Index = 1- Average Insufficiency headcounts (HI)

= 1 - (4/4+2/4+1/4+0+0+3/4+0+1/4+1/4)/9

= 0.64

Step 2. Calculation of distance from cutoff

$(\text{Sufficiency cutoff} - \text{actual}) \div (\text{Sufficiency cutoff} - \text{minimum})$

Rarely safe	Usually safe	Always safe
1	2	3
Insufficient		Sufficient
1	1	0
1	.5	0
100% negative score	50% negative score	Perfectly positive score



If respondent reports “usually safe”
 $(3 - 2) \div (3 - 1) = 0.5$

Matrix C:

	Comp assion	Meditation	Healthy days	Socialization	Rights	Voluntary days	Income	Enmity	Food security
Person1	1	0	0	0	0	0.64	0	1	0
Person2	1	0.50	0	0	0	0.09	0	0	0
Person3	1	0.50	0.08	0	0	0	0	0	1
Person4	1	0	0	0	0	0.09	0	0	0



Distance from cutoff
= (Sufficiency cutoff – actual) ÷ (Sufficiency cutoff - minimum)

	Compas sion	Meditation	Healthy days	Socialization	Rights	Voluntary days	Income	Enmity	Food security
HI	4/4	1/4	.08/4	0	0	.82/4	0	1/4	1/4

GNH Breadth + Depth Measure = 1- Average distance from cutoff
= 1 - (4/4+1/4+.08/4+0+0+.82/4+0+1/4+1/4)/9
=.88



Matrix C:

	Spirituality	Self reported health status	Healthy days	Attending community festivals	Rights	Voluntary days	Income	Enmity	Perception on pollution of rivers
Person 1	1	0	0	0	0	0.64	0	1	0
Person 2	1	0.50	0	0	0	0.09	0	0	0
Person 3	1	0.50	0.08	0	0	0	0	0	1
Person 4	1	0	0	0	0	0.09	0	0	0



Matrix D:

	Spirituality	Self reported health status	Healthy days	Attending community festivals	Rights	Voluntary days	Income	Enmity	Perception on pollution of rivers
Person1	1	0	0	0	0	0.40	0	1	0
Person2	1	0.25	0	0	0	0.01	0	0	0
Person3	1	0.25	0.01	0	0	0	0	0	1
Person4	1	0	0	0	0	0.01	0	0	0

Step 4. Computing GNH Index (Breadth + Depth + Inequality Measure)

Matrix D:

	Spirituality	Self reported health status	Healthy days	Attending community festivals	Rights	Voluntary days	Income	Enmity	Perception on pollution of rivers
Person1	1	0	0	0	0	0.40	0	1	0
Person2	1	0.25	0	0	0	0.01	0	0	0
Person3	1	0.25	0.01	0	0	0	0	0	1
Person4	1	0	0	0	0	0.01	0	0	0



Average squared distance from the cutoff



	Compassion	Meditation	Healthy days	Socialization	Rights	Voluntary days	Income	Enmity	Food security
HI	4/4	.5/4	.01/4	0	0	.42/4	0	1/4	1/4

GNH Index (Breadth+Depth+ Inequality Measure)
= 1- Average squared distance from the cutoff

= 1-(1+.5/4+.01/4+.42/4+1/4+1/4)/9= .81